Woodturning

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PHOTOGRAPH BY RICHARD FINDLEY

The nature of publishing means that on this dark, wet and dreary day in February, we're thinking ahead with the hope of an early spring and Easter, which will be approaching by the time you are reading this issue.

In the UK, the clocks have gone forward, the days are longer, the daffodils are in bloom and the temperatures are rising. Now it's time to celebrate the changing of the seasons with a good session of woodturning.

With the end of winter, we also see the end of Stewart Furini's colour series, and Les Symonds completes his Clarice Cliffe-inspired tea set with the matching plates and milk jug.

Orkney-born RPT turner Michael Sinclair introduces us to his work, workshop and studio on the island, while from mainland Scotland, chairman of Strathclyde Woodturners Jim Pearson turns a special piece of burl in tribute to Mark Baker.

Pat Carroll continues the burl theme with a lid for his square box, Andy Coates tackles another difficult piece of wood and Jason Breach turns an attractive and practical lighthouse salt mill.

We've also packed in machine tests, Kurt Hertzog's Q&A, news and your letters and photos in From the Community.

As always, we love to hear from you and see your latest work, so please contact us at WTEditorial@thegmcgroup.com or on www.instagram.com/woodturning__magazine/

Happy turning

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

COVER IMAGE: Steve Bisco (see page 76)

Techniques

Projects

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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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Features

Community

Tea for two, Clarice?

Les Symonds makes the final parts of a tea service, influenced by the work of Clarice Cliff

In this series, over the space of three months we have been making a purely decorative tea service for two people, heavily influenced by ceramic artist Clarice Cliff's work of the 1920s and 1930s. Cliff was arguably one of the most influential designers of her time, her work being unlike anything that had preceded it.

Our tea service does not involve copies of the shape or decoration of any specific range of her work. Rather, we seek to use the general ideas that Cliff used, and to reproduce those ideas in our favoured medium. This will, of course, present challenges as we adapt the practical principles of woodturning to make the ceramic components of the tea service.

Over the previous two months we have made the tea pot, sugar bowl, cups and saucers, so this month we will make the plates and a milk jug. I should stress from the outset that this is not a beginner's project as it is going to require a fair degree of delicate tool control to produce some of the smaller components. Furthermore, a sound understanding of tool handling will be required for tasks such as parting the faces off the main body of the milk jug, for thin-walled turning, for blending the jug spout into the body and for some of the reverse-turning processes. Some of the outer shaping of the spout can be done on a bandsaw, but as the workpiece reduces in size, hand sawing will be essential for safety.

Use the decorative design that you settled on last month and develop aspects of it to fit the new shapes involved in this month's work.

Health & Safety

THIS PROJECT IS NOT SUITABLE FOR INEXPERIENCED TURNERS!

There are safety issues to consider in this exercise. The rotating spout of the jug while reverse-turning it will call for delicate tool work at slow speed, with care being taken not to extend a hand over the toolrest. Good lighting, well positioned, always helps when turning irregular shapes such as this.

The cutting-out and subsequent carving of the spout can safely commence on the bandsaw, but as the workpiece gets smaller, it is essential that this work is done by hand, using a coping saw with the wood held firmly in a vice.

PHOTOGRAPHS BY LES SYMONDS

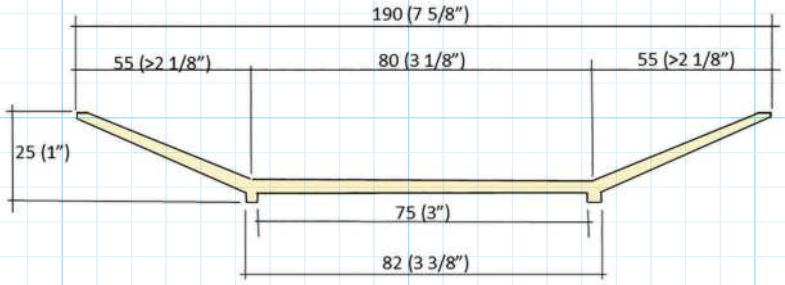
EQUIPMENT USED

Tools

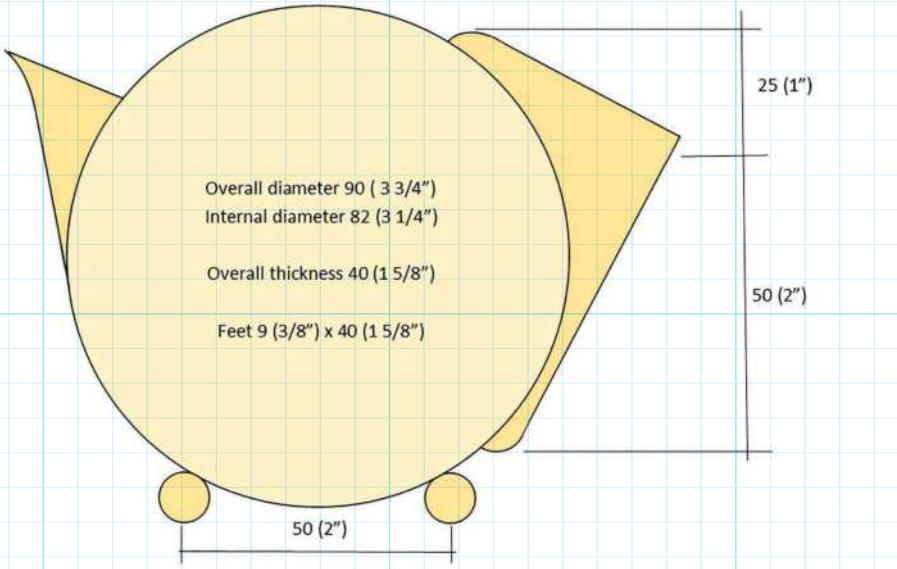
- PPE and RPE
- Lathe with spindle lock
- Bandsaw (optional)
- Bowl gouge
- Parting tool
- Spindle gouges
- Skew chisel
- Chuck with 50mm and 90mm jaws
- 75mm or 100mm faceplate
- Try square
- Steel rules
- Fine-toothed saw
- Coping saw
- Sanding drum (diameter around 50-80mm)
- Callipers (thickness and divider types)
- Pyrography machine
- 2-part Eepoxy adhesive (quick-set)
- CA (Superglue) adhesive
- Masking and double-sided tapes
- Methylated spirits (DNA)
- Graphite pencil
- Artist's paintbrush

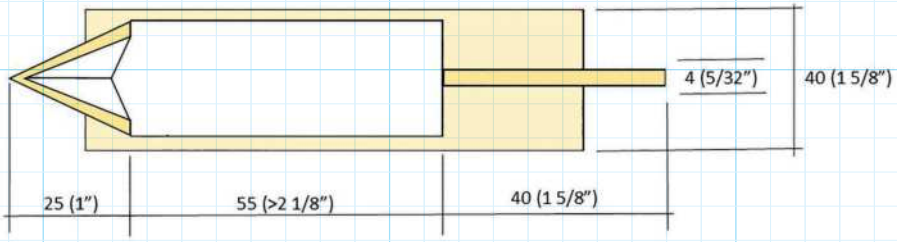
Materials

- Sycamore used throughout
- Plate, 2 at 200 x 200 x 36mm
- Milk jug, 1 at 100 x 100 x 65mm
- Handle, 1 at 120 x 50 x 4mm
- Spout, 1 at 120 x 32 x 60mm
- Feet, 1 at 120 x 12 x 12mm
- Sacrificial disks for reverse turning etc.
- Acrylic paints



Thickness.
Base of plate 4 (5/32")
..tapering to 3 (1/8") at rim





1 The making of the plates needs little explanation, so is being dealt with briefly here. Set a blank on to a small faceplate (no bigger than 100mm), skim its outer edge down to 190mm diameter and the surface facing the tailstock to a flat, clean surface, then cut a recess for your 50mm chuck jaws.

2 Clean up the surface facing the head-stock, from the outer edge right up to the faceplate using a heavy parting tool. The quality of finish is not important at this stage as we will be skimming a further 1mm off this surface at a later point in the process.

3 The surface just cleaned must be flat, so lay a steel rule or other suitable straight edge across the back of it, as close into the faceplate as you can access, then use a pair of thickness callipers to measure the overall thickness of the workpiece and make a note of this measurement for later reference.

4 On the surface facing the tailstock (the underside of the plate), mark a circle, 82mm in diameter, to show where the foot rim of the plate will be, then use a parting tool to cut a groove about 1mm outside the mark to allow for eventual cleaning up. Cut this groove to sufficient depth to leave 25mm of timber intact. You can calculate this by deducting 25mm from the thickness that you noted in the previous step.

5 Now use a bowl gouge to establish the taper on the underside of the rim of the plate, from the bottom of the groove just cut to the outer edge of the plate. This should be cut as a flat surface. Use a small spindle gouge to clean up the surface of the foot rim and abrade the whole of the underside to 400 grit.

6 Remove from the faceplate, set into your chuck and return it to the lathe, then start hollowing the top face of the plate, bearing in mind that we left a little spare material at the rim, in step 2, to allow for this.

7 Keep hollowing the plate and checking its depth regularly, stopping at 18mm depth. The shape of this surface is not crucial, it could be stepped from the rim into the bottom of the plate, or it could follow a gentle, continuous curve, but aim to achieve 3mm thickness at the rim and 4mm in the bottom of the plate, and then abrade to 400 grit.

Milk jug

8 Cut your blank to a 100mm diameter disk and, if you have a set of 90mm chuck jaws, mount it in these with whichever surface you choose to eventually be the front of the jug outermost, and then cut a chuck tenon on the surface facing the tailstock to fit into your 50mm chuck jaws. Remove the workpiece from the lathe, set your chuck with 50mm jaws on to the lathe with the workpiece in it and then clean off the outer edge to 90mm diameter.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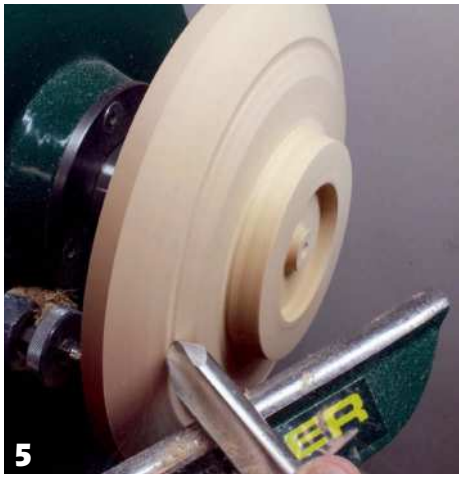
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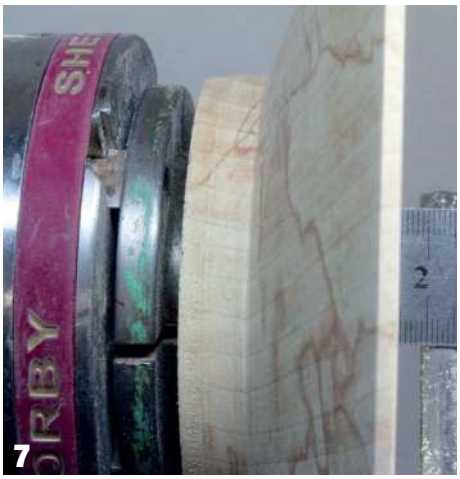
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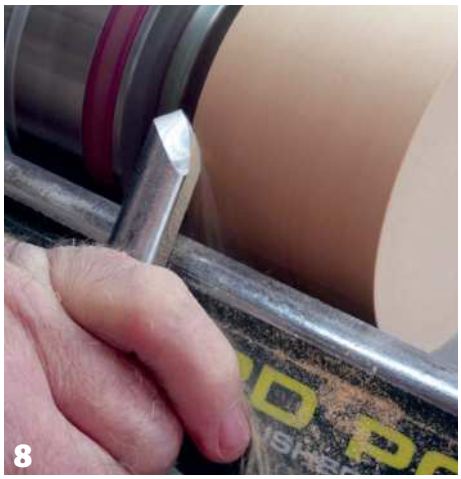
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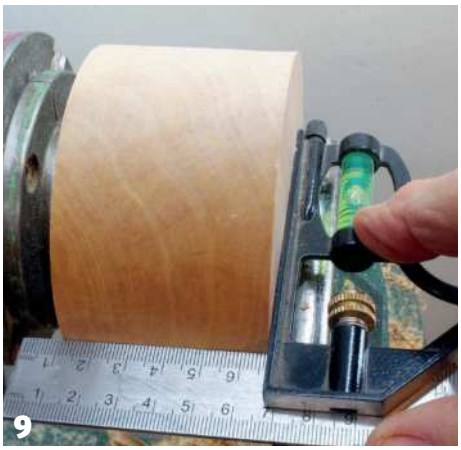
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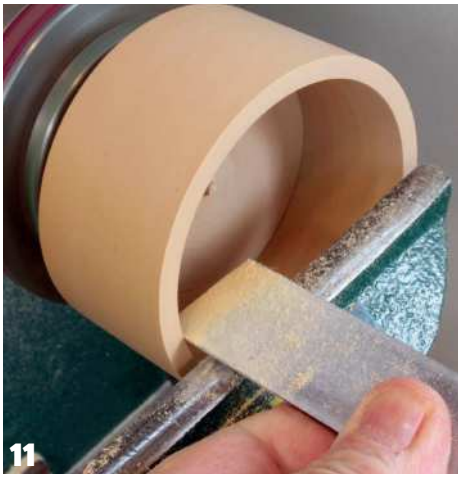
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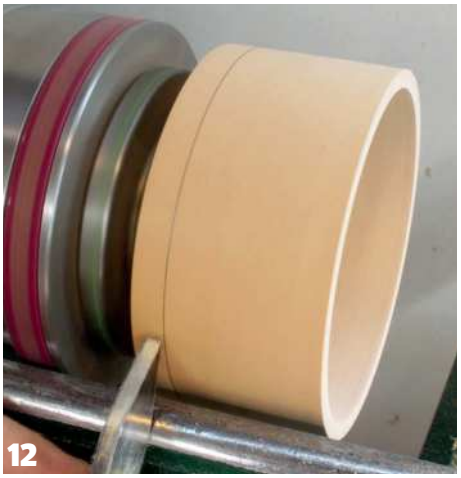
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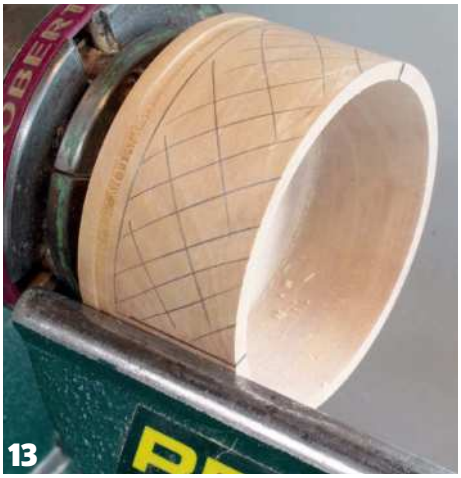
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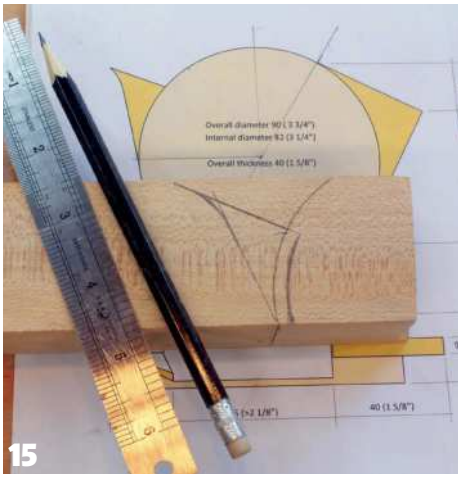
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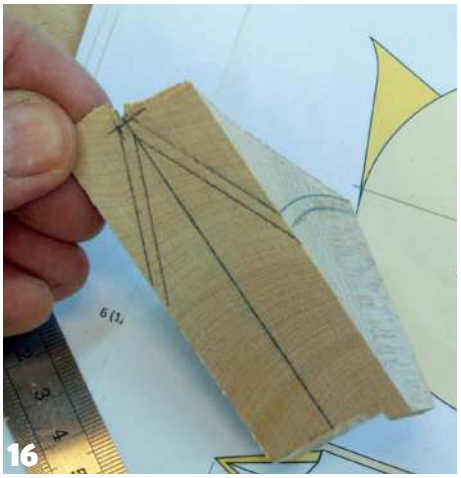
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9 Clean off the surface facing the tailstock and use a try square to ensure that the surfaces cut in steps 8 and 9 are truly flat and square to each other. This is an essential part of the process.

10 Now part off the back of the jug to 4mm thickness. This will be a deep cut for a parting tool, so commence the cut to a safe depth, remove the tool then re-insert it about 1mm to the left to widen the groove and thereby avoid the risk of the tool binding in the cut. Part the back off completely and set it aside.

11 Hollow the jug to a depth of a little over 32mm, leaving just enough to clean off any marks left by the parting tool when the back was parted off. Use the toe of a skew chisel to refine the inner surface, leaving the outer edge of the jug 4mm thick and the bottom perfectly flat. Abrade to 400 grit.

12 Move the toolrest to the outer edge and mark a pencil line around it, 36mm to the left of the right-hand rim. This will establish a 36mm body to the jug, plus 4mm for the back when it is glued into place, giving the overall 40mm for the jug body. Use a parting tool to commence a cut just to the left of the pencil line, but only a millimetre or two in depth.

13 Mark and cut out the opening in the jug. Decide which part of the body will be at the top and lock the lathe spindle, then make two pencil marks on the rim (facing the tailstock) at what would be 1 and 9 o'clock on a clock-face, then carry these pencil marks around the 36mm outer edge and finally draw a pencil line, 4mm in from the left-hand (headstock) edge, to join the two pencil marks together. This now defines the area to be cut away (see drawing).

14 Use a fine-toothed saw to cut away the area just marked out, then take the blank for the spout and set it into the jug with the jug's back panel held in place temporarily by the tailstock. Mark three pencil lines around the blank, one underneath and one on each outer face.

15 Take the blank out of the jug and, using the drawing for reference, draw on to it pencil lines indicating the side profile of the spout and the thickness of the jug's body. Much of the waste can now be cut away to establish the outer shape of the spout, but at this stage do not cut away from the blank the waste which will be inside the jug, as this will be needed to hold the workpiece in a vice at a later point.

16 Draw a centreline (see image) right around the spout, to indicate the profile as viewed from above and add a couple of pencil lines to indicate the finished thickness (3mm) of the top edges of the spout.

17 Hold the spout in a vice, as shown, and make a saw cut down along the internal centreline, leaving about 4mm wall thickness. Also, cut away the 'cheeks' either side of the spout. After this process, the spout will be rather delicate, so superglue a slither of wood into the saw cut, not into the whole cut, but just at the outer corner.

18 It is now time to skim off the inner face of the jug's back panel. This is a simple matter of making a jam chuck in a piece of scrap wood, but be sure to have a hole through the centre of the jam chuck to facilitate tapping the workpiece back out of it. Skim the panel's inner face and abrade to 400 grit.

19 The bulk of the waste material on the inner end of the spout can now be cut away with a coping saw. The spout can be held in a vice, the slither of wood mentioned in step 17 preventing the vice from snapping it. Clean up the saw cuts with a small sanding drum, then glue the spout into place with a quick-setting two-part epoxy. Do this in two stages. Tape the spout in place first and leave it several minutes then glue the back panel on to it. Be sparing with the adhesive to avoid excess seepage.

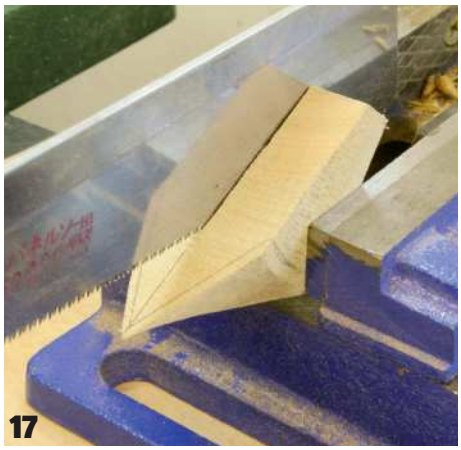
20 When the adhesive is fully cured, use a sharp 12mm bench chisel to pare-away the waste from the inside of the spout, establishing the hollow V shape. If you have cut your spout as shown in step 14, you will now be chiselling along the grain, so this is a slow, but not difficult, process.

21 To abrade the inside of the spout, wrap your abrasive around the rounded end of a 150mm steel rule. On the outside of the jug, all glue lines and all outer surfaces of the spout can now be abraded to 400 grit.

22 Using the jam chuck made for step 18, reverse-turn the jug to cut away the chucking point. WARNING....you will need to be fully aware of the rotating spout, so your hands must not extend over the toolrest at any time. The outer face of the front can now be cut, establishing a gentle convex curve to it so that it thickens-up towards the centre. Abrade to 400 grit, but do not remove the central cone where the tailstock is still holding the jug in place against the jam chuck.

23 Using your drawing for reference, set a pair of dividers to the overall width of the handle, then transfer that measurement, in pencil, on to the jug, from its top opening opposite the spout, downwards.

24 Mark a pencil line to indicate a centreline where the handle will be fixed, again extending from the opening downwards, as far as the pencil mark established in the last step. Apply masking tape 2mm either side of the centreline and across the position of the bottom of the handle. This tape will help reduce seepage of adhesive on to the outer faces of the jug when the handle is glued on. You can now remove the central cone of waste and abrade the front panel to 400 grit.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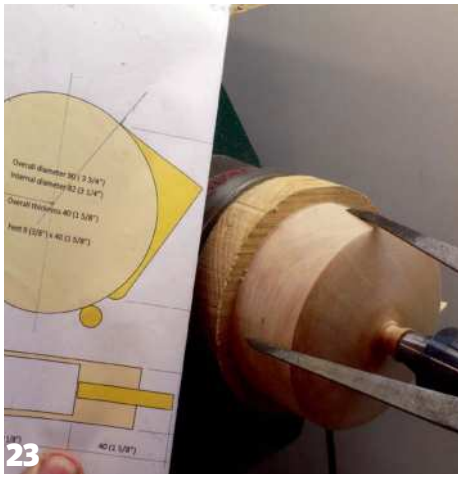
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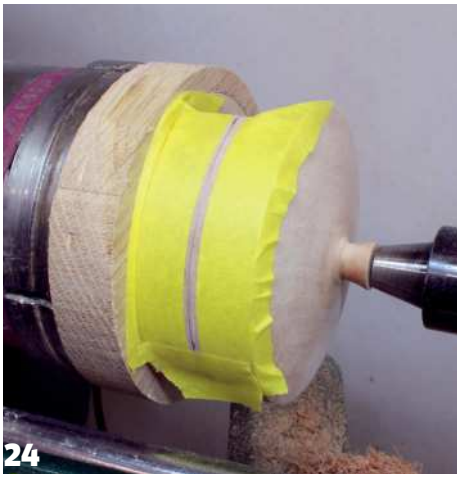
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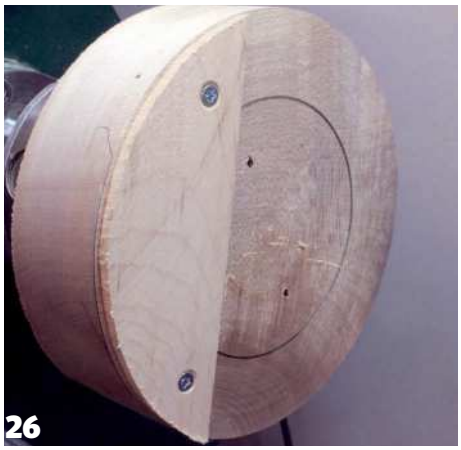
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25 Take a sacrificial piece of timber, about 20cm diameter, set it in a chuck, skim its surfaces and then mark a 90mm circle on its outer face. Use the dividers, still set to the measurement in step 23, and make two marks on the circle just drawn. This represents the diameter of the jug and the position of the handle.

26 Screw the blank for the handle on to the timber with two well countersunk screws positioned such that they will be outside the eventual outline of the handle. Mark the back of the handle blank with a line adjacent to the outer edge of the sacrificial piece, and then cut away the excess from the handle blank to make it safer when it is revolving.


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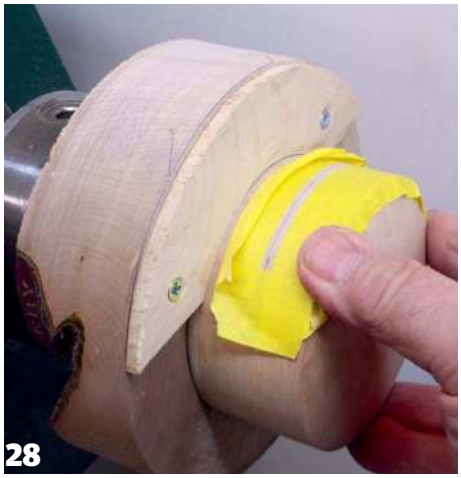
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27 With the workpiece rotating, the circular pencil line will be clearly visible, so use it as a guide to cut, with a parting tool, a couple of millimetres inside the line, then clean up with the toe of a skew chisel. This will establish a concave curve into which the jug will fit.

28 Try the jug for a fit against the handle and make any adjustments needed, again using the toe of a skew chisel. Clearly, in steps 26 and 27, err on the side of caution, cutting inside the line and slowly working outwards until the jug fits the curve that you have cut.


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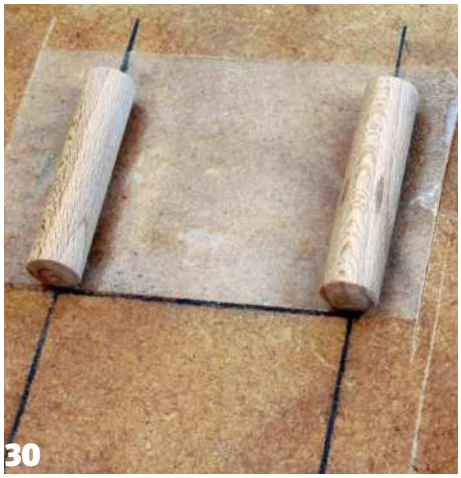
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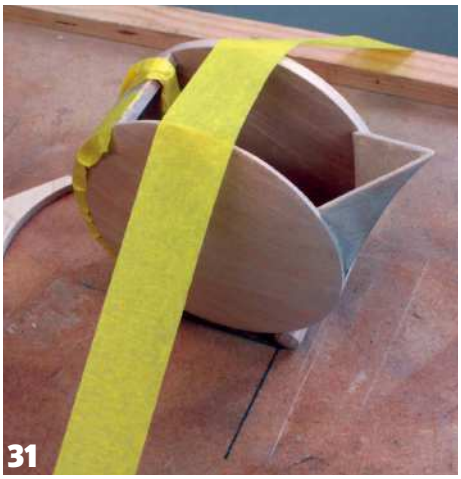
29 Remove from the lathe, rest the jug in place and mark out, with pencil, the outer edges of the handle. Note that the top edge of the handle follows the top edge of the spout and the outer corner is an angle of 90°. Cut this shape out with a bandsaw or coping saw and abrade all surfaces except the curve to 400 grit.

30 Turning the feet does not require any explanation here, so just use the drawing for reference. On a piece of board or table-top, mark two pencil lines, 50mm apart, to indicate the positions for the feet, then use double-sided tape to hold them in position.

31 Apply, sparingly, two-part epoxy adhesive along the top edges of the feet, rest the jug on top and tape it into position.

32 As in step 31, apply adhesive along the curve of the handle and use strips of masking tape to hold it in position while the adhesive dries. When dry, abrade to 400 grit, decorate as in the previous parts of this article and apply a few spray coats of satin lacquer. ●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BE INSPIRED, BE CREATIVE

Colouring – the finishing touches

Coming to the end of his series on colouring woodturning, Stewart Furini looks at some ways to finish and protect your colouring

A range of finishing products

The final stage of making your coloured item is the finishing. This stage is as important as all the rest as a finish that is not applied well can ruin all your efforts. Patience is probably the watch word when it comes to finishing. It can't be rushed or hurried or else the results will not be the best they can be, and who likes a sloppy finish? It's not unusual for the finishing stage to take as long, or even longer, as the turning and colouring. Admittedly, some of this time may be waiting for a coat of finish to dry to the point where another coat can be applied or some buffing can be done or some wax added. But if that time is not taken, it has definitely been my experience that the end product has been disappointing. There are also health and safety considerations to be aware of. Before we go any further though, what finishes are available and what should you use?

Finishing products

Your main choice when it comes to putting a finish on your colouring falls broadly into three types: lacquer, oil and wax. What you use will in part depend upon what colouring media you have used. Over paint your choices are restricted to lacquer or wax; over stain, you can use any of these three types of finish. If you want to combine finishes, then you can put wax over both lacquer and oil once they are fully cured. I wouldn't recommend putting wax over an oiled finish in case you ever wanted to oil it again at a future date – it wouldn't like being put on over the old coat of wax. A fourth choice is a polish, such as French polish or friction polish. I haven't used French polish on turned items but I have used friction polish. It's not as resilient as the other choices of finish and is best used for smaller items. Some lacquers and oils will offer some UV protection as well, which is good for the longevity of your colouring media.

PHOTOGRAPHS COURTESY OF STEWART FURINI

Sanding sealer – do you or don't you?

If you have used stains, then in effect, your wood is still bare and will need to be sealed before you add a finish, unless you are going for an oil finish. I mostly use acrylic sanding sealer over spirit stains, which I apply from an aerosol can. This prevents the colours being moved around, which can happen if the sealer is applied with a piece of safety cloth or paper towel. Cellulose or shellac sanding sealer can also be used. If you do put sealer on with a cloth, then do a practice piece first – it's not uncommon for some of the colour to come off but this might not have a detrimental effect, especially if you haven't gone for an intricate air-brushed design. Over cellulose sanding sealer, I use melamine lacquer, again from an aerosol can. My usual finish, though, is an acrylic lacquer over acrylic sanding sealer.

Wipe-on or spray-on sanding sealers

A range of waxes for use as a finishing coat

A wax finish

You will find many different types of waxes offered as finishes, with varying degrees of shine. Experiment and find the one you like best. Blended waxes are made up of several different waxes, that may include beeswax or carnauba wax, and a solvent. You will come across the terms paste wax and embellishing wax, which are also blended waxes. These can be used as well for the finish coat. The hardest-wearing blended wax is microcrystalline wax.

Application of wax is simple – wipe a coat on, leave it for any solvents to evaporate (follow the manufacturer's instructions), then buff to a shine. Buffing in this scenario for me is using a piece of safety cloth to bring the wax to a shine or using a plain buffing wheel or pad on the lathe, on a buffing machine or in a hand drill. I don't mean buffing with polishing compounds, we'll get to that later. If you are going to buff with a cloth you must do this with the lathe switched off – using a piece of cloth on a spinning piece of wood is fraught with the danger of serious injury. For textured work, you will find buffing with a brush gives better results than a cloth. These can be drill-mounted brushes or hand brushes. Further coats of wax can be applied to build up a deeper shine and lustre. If you ever need to revive a wax finish, you can just add another coat over the existing finish.

WAX TYPES

There are three main waxes used by turners: beeswax, carnauba and microcrystalline. Paste waxes are made by blending some of these waxes with other additives and solvents; check manufacturers' websites for the composition of their waxes – not all of them will contain beeswax. Beeswax is the softest of these waxes; carnauba, extracted from leaves of the carnauba tree, is the hardest-wearing wax; microcrystalline wax is derived from crude oil and provides better protection than beeswax due to its higher melting point. It is blended with other waxes and additives, whereas beeswax and carnauba wax are available without any other additives. Microcrystalline wax is great for not showing handling marks when work is picked up or touched. Waxes are available in stick form or in tins. The stick form can be used by holding it against the spinning work or on buffing wheels.

Solid waxes: beeswax, carnauba and microcrystalline

Lacquer

Lacquer is my usual finish over the coloured parts of my turnings, whether that is paint or stain, or, in some cases, both. The natural wood is usually finished with wax as I prefer the softer lustre this gives as opposed to the tougher coat of a lacquer. While it can be applied by brush, I prefer to use aerosol versions. Using a full spraying set-up is outside the scope of this article. Of the three finishes covered in this article, lacquer is the trickiest to apply. There are a number of potential pitfalls: if too thick a layer is sprayed on it can leave runs in the finish; if your workshop is too cold it won't cure properly; too much humidity will also affect the curing; if the wood is not fully seasoned you may get white blooms in the dried lacquer; a damp atmosphere will also cause blooming. As a rule of thumb, I don't use lacquer below 16°C or if the humidity is above 65%. It can be tedious, but you'll get better results from aerosol can lacquer by making sure you shake the can for a couple of minutes before spraying. A gentle warming of the can in a jug of warm water can help if it is cold. Never apply heat directly to an aerosol can.

When spraying lacquer from aerosol cans, it is much better to apply several thin layers. The time between layers is covered by the manufacturer's instructions, but is usually between 15 and 20 minutes for acrylic lacquer. Spraying is easier with an aerosol can trigger or gun which clips on to the top of the can – it also keeps your fingers lacquer-free from the aerosol nozzle. Some lacquers have a choice of cone spray nozzle or a flat spray nozzle.

If you have used sanding sealer, make sure it is dry before your lacquer goes on. Then apply your first coat – you are looking for a gentle wetting of the surface. Leave this coat for the required time before adding a further coat. Some lacquers will have an optimum number of coats which shouldn't be exceeded, others may allow you to add more – just follow the instructions on the can. Make sure your workspace is well-ventilated and you have personal protective and respiratory equipment on. If you are concerned about dust falling on your lacquer, then placing it in a cardboard box on its side can offer the wet lacquer some protection from this.

Spray gun: two spray gun designs – I mostly use the black and red ones

Spraying lacquer: applying lacquer while work is on the lathe

Painted rim ready for lacquer

First coat of lacquer applied – notice how the colours brighten and 'pop'

You can improve the look of lacquer in a number of ways, as long as you have left it long enough to be fully cured. It's usually best to leave it for a few days. Melamine lacquer takes longer to fully cure than acrylic lacquer. To add some protection to the finish, a coat of microcrystalline wax can be added. A burnishing cream can be used to improve the shine. For a glass-like finish you could consider flatting back the lacquer with wet and dry paper or a rubbing compound before polishing it back to a more even shine with buffing compounds or car polishes. A protective layer of wax can be added over this as a final stage.

Burnishing: Improve lacquer with rubbing compound or burnishing cream

Polishing: Drill-mounted polishing sponges

HEALTH AND SAFETY

- Wear appropriate eye and respiratory protection – a dust mask isn't sufficient to protect against vapours from aerosols.
- Never buff with a piece of cloth held in the hands against a spinning piece of work – if it catches on the work, it can pull your fingers or hand into the work with extremely serious consequences.
- Allow oily rags to dry flat before disposing of them – there is a danger of crumpled oily rags self-combusting.

Protect your health with PPE and RPE

Oiling up

Finishing oil, Danish oil, or hard wax oil can all be used over stains. There is no need to seal the stain if it is being oiled. Danish oil and finishing oil are very similar – they will usually contain tung oil or linseed oil. These oils are available neat, but when blended as a finishing oil with additives such as driers and thinners they dry more quickly and can be easier to apply in thin coats. When dry, the oil will form a protective coating with some water resistance. Hard wax oil is a combination of oil and wax, just as the name suggests. Application is the same as for any other oil and you can build up a more saturated finish by applying a number of coats. An oil finish will get glossier when further coats are added. Application can be by foam brush, bristle brush, rag, safety cloth or paper towel. After adding a coat of oil, any excess will need to be wiped off and then you will need to wait the required time before applying a further coat – this can be anything from about four to 24 hours, depending on the oil you have used. When the oil has cured a coat of wax can be added, but I tend not to do this. If you want to create a more lustrous shine, then it can be buffed to a higher gloss level after the oil has cured.

A selection of oils

Oil on: adding oil to stained rim with a foam brush


Oil finish on a stained piece of ash

BUFFING

Buffing is a way to bring a coating to a smoother, shinier finish. For best results, wait until whatever coating you have used, lacquer or oil, has cured. You can buy complete buffing systems with wheels and compounds which will save you from researching different compounds and wheel grades. In these systems, the first compounds are usually fine abrasives that get the surface ready for the final compound which will polish it to a deep shine. Most systems use carnauba or microcrystalline wax as this final stage. The abrasive compounds use firmer wheels than the final polishing wheel which is the softest of the wheels used. Keep a wheel for each compound you use so that they don't become contaminated with the other compounds. You only need to add a little of the compound or wax to the buffing wheels. A speed of about 1000-1200 rpm is generally the optimum speed to use with 8 inch wheels. When buffing, use the bottom portion of the wheel and keep a grip on your work – if you present the wood to the wheel incorrectly it can be pulled from your hand: you need to have the wood trailing against the buffing wheel for the safest presentation. In addition to wheels, you can also get dome shaped buffs and polishing brushes. As with all endeavours, practice will be needed so get used to how the buffing works before tackling your beautifully coloured platter.


A buffing system for improved finishing – mandrel, mops and compounds


Soft: unbuffed lacquer finish


Hard: a brighter shine from a buffed lacquer finish

The end

With this article, we reach the end of this series on colouring woodturning. I hope you will get the opportunity to try out some of these ideas and experiment for yourselves. I know colouring is not for everyone, but perhaps everyone could try it at least once – you may be surprised by how much fun you have. ●

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Living the island dream

We discuss turning with Orkney-born Michael Sinclair, RPT

Hello Michael, tell us about your background and training

I am a native Orcadian. On leaving school I went to sea on one of the local ferries. From there I spent 10 years in the fishing industry, from trawlers to small shellfish boats. I then moved on to the tugs in Scapa Flow, dealing with the oil tankers loading at the Flotta oil terminal.

I am completely self-taught, but always remember my father having a metal turning lathe, which he used to help scratch build model steam engines. So therefore, as a youngster I did have some insight into the workings of a lathe, albeit in metal turning.

I bought my first woodturning lathe in the early nineties. I mainly learnt from books and videos as the internet was not much of a resource at the time. I read books and watched videos by Ray Key, Mick O'Donnell, also John Jordan and Allan Batty (especially for the thread chasing). Also, Bill Jones books have been a great inspiration and resource.

What led you to make a business out of woodturning?

My leave pattern from work gave me the time to have longer spells in the workshop and work on my hobby.

After a time, a local jewellery designer took my pieces to sell in her small gallery. I also sold a few pieces from the workshop at home.

After a hiatus to build our house, new workshop and gallery it became a lifestyle choice to stay ashore and try to make a full-time living from the woodturning. I had most of the equipment already and basically just had to upgrade to a larger dust extraction system.

Orkney has quite a tradition of small craft businesses, including jewellers, artists, potters and Orkney chair makers. There is a local Creative Trail, which has a guidebook and encourages tourists to visit producers at their own gallery/workshop and meet the makers in person. We successfully joined this local group, and it has helped our sales considerably.

After two years of full-time turning, I was accepted on to the Register of Professional Turners, which was something I had always wanted to achieve.

How do you like to work and what inspires your designs?

We buy whole logs from mainland Scotland and cut them up with our own sawmill, which was purchased with the proceeds of selling my Triumph motorbike. The logs are usually cut into 4in or 6in slabs and then further processed into suitable diameter blanks on the bandsaw. I prefer turning unseasoned wood, but some of the blanks will have air dried to an extent over the time they have been cut. As I mostly turn ornamental and non-functional pieces, I tend to turn from start to finish in one session. It is then left to dry and distort from between a few days to a few months depending on the size. Once totally dry and after a final sanding the chucking point is removed and the base trued up. At this point it is ready to be decorated and embellished. This may be pyrography, colouring or hand and power carving. Or may even be a combination of them all.

I don't really have a sketch book for designs, but I do like to look at pottery and woodturning online, which can be very inspirational. I do have a photographic record of all the pieces I have made over the years, which is useful to look back over. I am heavily influenced by the Neolithic pottery found in Orkney. I have been lucky enough to see close at hand Neolithic discoveries from the Ness of Brodgar dig, which is just a few miles across the loch from where we live. These include decorated stones and pottery shards, some even with imprints of cloth. Many of my pieces reflect this in their decoration and shape. I think this will continue to be an inspiration to me for some time to come.

Neolithic sites are prevalent in Orkney and I remember seeing pottery finds and replicas in the local museum when I was a boy. This seems to have stuck with me over the years and the influence can now

Photography by Sara Sinclair

be seen in a lot of my work. Unstan ware and Grooved ware pottery bowls are also a great inspiration. I find the Neolithic Petrospheres (decorated stone balls) fascinating. These have been found around Orkney, mainland Scotland and also at the well-known Neolithic site of Skara Brae. I make the wooden version of these from English boxwood and lignum vitae, which is sourced from old bowling balls. They have the right weight to them and also can take fine detail.

I wouldn't say I have a favourite tool, but I wouldn't like to be without my chucks. I have quite a number now, most of which I have bought second hand.

Describe your workshop and its set-up

Twelve years ago we built a 10 x 6m shed on site to build the kit of the house in. Two years later, when the house was finished, I set up the turning equipment in it. Unfortunately, I shared it with too many other 'necessary' household pieces of equipment – lawn mowers, bicycles, cement mixer and the like. So I decided to add on a smaller 7 x 4m dedicated workshop which I put my three lathes in – a short-bed Union Graduate, which was bought second hand from the Exchange & Mart in the mid '90s, a short-bed VB36 bought new in 2000, and the most recent one, a Stratus XL which I bought new four years ago. There is also a 12in bandsaw, two slow-speed grinders with 8in CBN wheels and a ceiling-mounted air filter. There is a 3hp chip and dust extractor housed in the large shed next door, which helps to reduce the noise, and ducted through to the lathes. I also have a large variety of hand tools. As part of my PPE I use a 3M Versaflo respirator.

Which woods do you most like working with and why?

I enjoy working with sycamore as it lends itself to colouring and pyrography.

Although trees are scarce in Orkney, sycamore does grow to a reasonable size and it is nice to use local-grown timber. Scottish elm also gives good results when it is distressed with a blowlamp – it can take on the look of leather, which I like. Boxwood is great for thread chasing and I have gathered a nice stock over the years.

Do you work with other materials as well and how do they compare?

I also use tagua nuts, which give a lovely contrast when used with darker woods and they hold a thread really well.

I embellish some of my pieces with bronze or silver staples and also use thin bronze sheet material to make patches. These are used like a repair over natural defects.

For the silver I registered my maker's mark in 2000 with the Assay office in Edinburgh. This means the silver has my mark and also the Edinburgh hallmark on it, which is a nice touch for the customers.

What sort of finishes do you prefer and why?

I use Danish oil on most of my pieces as it was a readily available finish up here on Orkney when I started turning. I find it very easy to use and it gives a durable finish. I usually use a three-wheel buffing system to give it a final sheen. On really dense woods I use cellulose sanding sealer and wax.

What is the favourite piece and what is your most challenging piece?

I made a sovereign box from Bill Jones's instructions in his book. At the time I hadn't seen one being made and it was quite a challenge to do it from his writing alone. I felt it gave me a connection to the bygone days of woodturning. Bill Jones's methods also reminded me of the way my father worked in his shed.

'I don't really have a sketch book for designs, but I do like to look at pottery and woodturning online, which can be very inspirational'

How has Covid-19 affected your work?

We went into lockdown in 2020, just before the start of the tourist season, and the physical sales from our gallery dropped to zero. During the height of lockdown, I took the opportunity to build a polytunnel and do some rearranging in the workshop along with quite a few other domestic jobs that needed sorting. We processed some logs on the sawmill, but my production of finished pieces was not very high. We then decided to promote our online sales as lockdown continued and Sara has continued to develop this. Compared to previous years, the run-up to Christmas 2020 saw an improvement of our online sales. Personally, we believe that internet sales will become a larger part of our business, which we don't have a problem with.

What are your aspirations for the future?

We are quite excited to continue developing our online presence. I would like to think I can continue to make a living solely from woodturning and would hope that it will see me to retirement.

What do you do when you are not woodturning?

I enjoy all kinds of cooking, especially outdoors using various barbecues and smokers. I also try a little fly fishing for sea trout around the island. I enjoy spending time with our granddaughter, who is currently 18 months old.

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Lighthouse salt mill

Jason Breach turns an attractive and useful kitchen gadget

PHOTOGRAPHS BY JASON BREACH

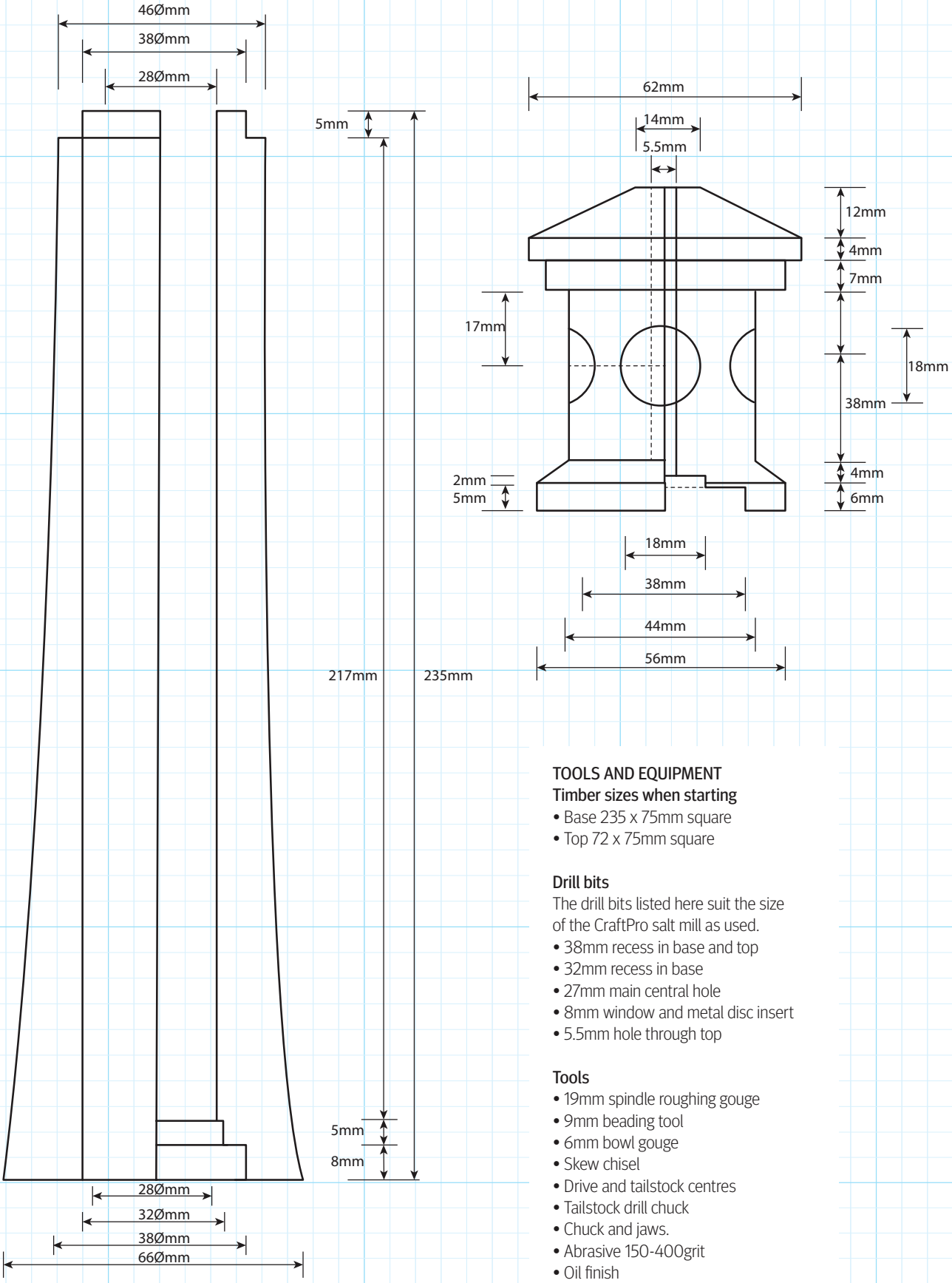
Funny what a screensaver picture can remind you of. I travelled around Australia and visited Byron Bay, the most westerly point of mainland Oz. There, on the cliffs overlooking the beach, is a beautiful lighthouse. I kept a diary on this trip and made notes and drawings of ideas, possible things to make. This lighthouse was one such inspiration, a salt or pepper mill shape being the idea and a recent Google screen shot the reminder.

For this project the timber needs to be dry and free of splits and cracks. I used some English ash and sweet chestnut; it is possible to get this out of a 305mm (12in) length, but it is tight. The mill mechanism is the threaded bar type. These are a CraftPro ceramic salt mill mechanism kit – the CrushGrind mills will not work as the plastic insert that goes into the top section interferes with the window holes. I cut the timber to lengths on the bandsaw then mounted them on the lathe and turned to cylinders.

There is a lot of drilling involved, so sorry about this. The sawtooth bits need to be sharp, these can easily be sharpened with a diamond file. When drilling reduce the lathe speed – yes it will take you a little longer, but it will put you in control and help reduce heat damage to the drill bit and the timber. Holding and supporting the drill chuck when drilling is a good idea, and again the speed helps with this. Clear the waste, especially on the deeper holes, as if this is not done waste can build up behind the drill and cause it to bind in the hole. Removing the toolrest also helps by providing better access to the task involved. Some lathes have a measurement scale on the tailstock barrel, which can help with drilling the depth of holes. If your lathe does not, use a fine marker pen as a way of setting up a measurement point.

To form the window holes the lathe will require some form of indexing. If the lathe does not have this facility, there are some good indexing plates that can easily be fitted on to the lathe to allow projects like this to be completed. I found that six holes looked good and divides easily into 24 or 36, the most common division on the indexing. When setting this up, unplug the lathe. It is a little embarrassing when your brain thinks go, and you start the lathe and not the trigger on the drill!

When reversing the top, I held this on the material that had been shaped, with a couple of layers of paper towel to protect the wood. I made sure that the size and shape of the base of the top match to that of the profile of the jaws being used. This limits any marking, and you might need to adjust my dimensions to suit the chuck that you are using. The painted finish adds a little bit of colour. This is optional – I wanted something that looks a bit shabby, used or worn, if you like. An oil finish was used to complete these. Now I have just got to think of ideas for a pepper mill.



TOOLS AND EQUIPMENT

Timber sizes when starting

- Base 235 x 75mm square
- Top 72 x 75mm square

Drill bits

The drill bits listed here suit the size of the CraftPro salt mill as used.

- 38mm recess in base and top
- 32mm recess in base
- 27mm main central hole
- 8mm window and metal disc insert
- 5.5mm hole through top

Tools

- 19mm spindle roughing gouge
- 9mm beading tool
- 6mm bowl gouge
- Skew chisel
- Drive and tailstock centres
- Tailstock drill chuck
- Chuck and jaws.
- Abrasive 150-400grit
- Oil finish
- Paint tester pot

1 Cut the timber to the required lengths and mark the top of each section with a T showing the grain orientation. Mount between centres and turn to a cylinder with a 19mm spindle roughening gouge. Cut a spigot on either end of the long section and on the top of the short section using a 9mm beading tool.

2 Hold the top of the base section in the chuck and use a sharp 6mm bowl gouge to clean up the base, working from outside towards the centre. Take light cuts, as the length of the section puts a lot of leverage on the chuck. This can be sanded at his stage.

3 Using the point of a skew, cut a small V in the centre to guide the drill point. Start with the largest size as this allows the smaller bits to align with the central point mark left from the drill tip and drill the first recess 9mm deep. Slow the lathe speed down for this.

4 Drill the next recess 32mm diameter and 5mm deep. Change to the 27mm bit, drill out the main central hole, working in short bursts, then withdraw to remove the waste. When about halfway down the length, reverse the workpiece in the chuck and continue drilling so that the holes meet.

5 Load the short section in the chuck, clean up the face using a 6mm bowl gouge, then cut a small V in the centre and drill a 38mm hole 5mm deep. This recess is one part of the joint between the top and base.

6 Next, drill the hole to take the metal disc, 18mm in diameter and 2mm deep. This can then be followed with a 5.5mm, drilling as far as this will go.

7 Shape the exterior of the top using a 9mm beading tool. Use a set of ring callipers to accurately size this – remember the drilled recess, reducing the diameter too much will cut into it.

8 The taper edge can be cut with the beading tool in the same way as a skew would be used. With this the shaping is complete, so sand to a finish.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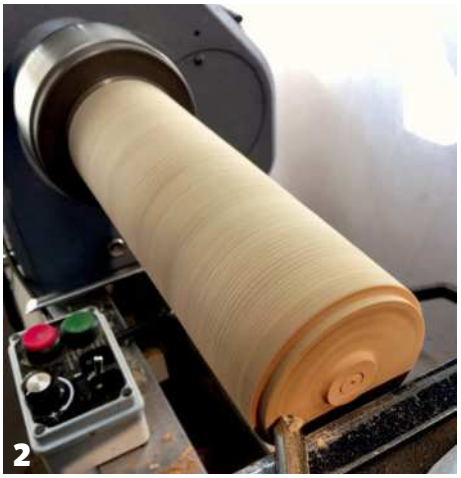
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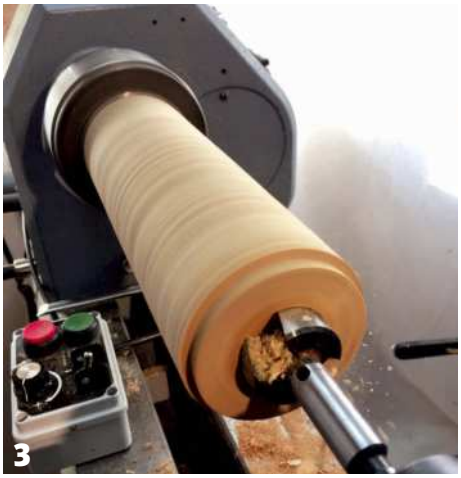
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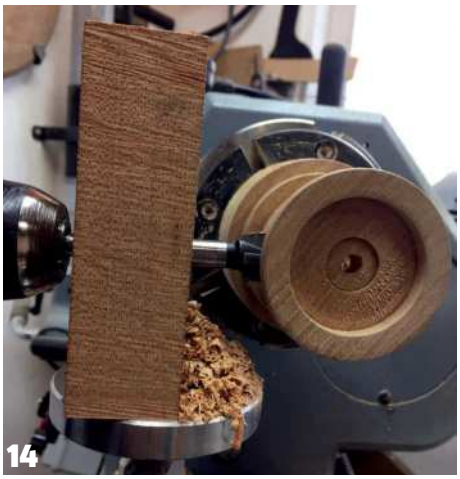
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9 To liven these up I painted some of the top, this can be done now or later. I used a brass brush to clean out the grain pores and then painted with tester paints, wiping back the excess paint with paper towel.

10 Make up a drilling block to fit into the banjo. The hole in the block needs to match the size of the shank on the sawtooth bit and the drilling tip of the drill needs to be set at central height to the lathe.

11 Unplug the lathe and set up the indexing. It can be worth using a pencil to mark out the position on the work and check they look equal. This needs to be located as near to the work as possible but ensure that the drill tip does not mark the work when rotated to the next index location.

12 I played around with a how many holes – six works nicely as most lathe indexing will divide by six. I looked at four holes, but this did not create the effect that I wanted, five would be nice but not easy to lay out. Adding a 12mm dowel up the centre brought strength, but spoilt the effect.

13 I also tried using different size drill bits for this – 20mm left a thin section between the holes, 2mm that tapers towards the centre. This worried me due to the strength of this – would it snap if forced? 18mm leaves a little more and saves buying another drill size.

14 Set up the drill block and drill the holes. Do not be too forceful with this. Ensure that the indexing is locked in the correct position and work around the locations, adjusting the amount of shank held in the drill chuck, which will act as a depth stop/adjuster.

15 To clean up the interior of the holes, make up a simple sanding stick using a length of dowel and some double-sided tape, this is easier to do with it held on the lathe.

16 To shape the roof section use some paper towel and hold the work directly in the chuck jaws. Gently tighten the jaws – the paper will minimise any marking – and bring up the tailstock centre to add support.

17 Using the 6mm bowl gouge, cut the taper, using light cuts and working larger to smaller. Aim to get a straight taper – this will take a number of cuts. Do not be too aggressive with this as the window hole reduces the strength. Withdraw the tailstock for the last few cuts.

18 Create a small flat section on the top. This needs to be about the same size as the chrome knob. With this done, cut a small V and drill the 5.5mm hole through the top to meet the hole drilled from the other end. Sand and paint (if required).

19 To turn the base to shape, make a jam chuck to fit the drilled recess within the base of the mill. This Jam chuck needs to fit firmly as the friction from this is what is going to drive the work. Mount the base on to this and bring up the tailstock, ensuring the tailstock centre will support the work and not fit into the drilled hole.

20 Measure the diameter of the recess within the base of the top, and use the 9mm beading tool to carefully cut a spigot on the tailstock end of the timber. Try to match the length of this to the depth of the recess. (Tailstock withdrawn for picture).

21 Check that the two parts fit together. They need to be loose but not sloppy and there should be no gap between the two parts. If there is a gap then the spigot is too long and will need adjusting.

22 Shape the base of the mill. Use the 19mm roughing gouge to remove the bulk, working larger to smaller. Do not taper the shape into the spigot as cut in 20 there should be a small step in diameter to provide a seating area of where the top of the mill joins the base. With this shaped, sand and then polish. I used an oil finish.

23 With all the turning done assemble the salt mill parts. I pilot drilled the holes and screwed the screws in place by hand. The threaded section on the top can be cut to allow a small amount of adjustment. Hand oil to a finish.

24 The completed mills. Colours (if required). ●


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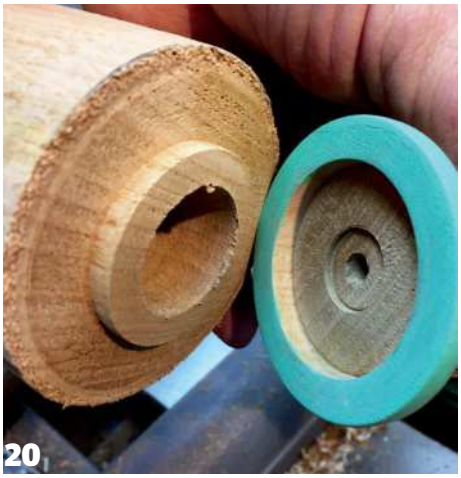
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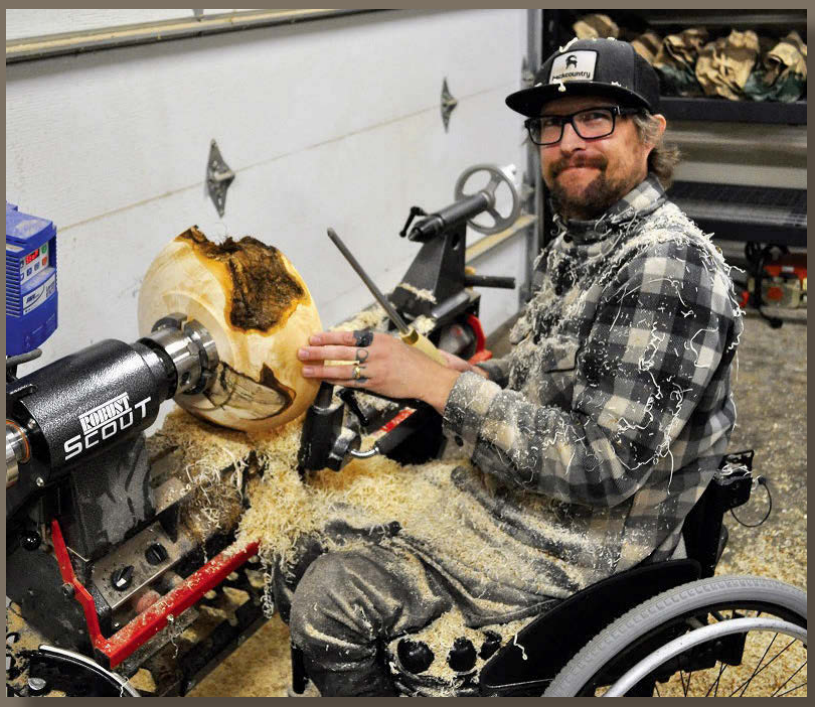

John Briggs and his Scout set up for seated turning.

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Use your Brain

Jim Pearson bends the rules tackling a tricky brain burr

This is a little project which I dreamt up and discussed with Mark Baker a few years ago. I feel a bit guilty that I never got round to actually carrying it through. Now, as a small tribute to Mark, I have finally got round to doing it. It was inspired by a burr approximately the shape and size of a human brain. I have had it for so long that I cannot remember where I acquired it. OK, I admit that it is not actually my brain, as mine is probably considerably smaller, and it does continue to work (sometimes), so it must still be inside my head.

PHOTOGRAPHY BY JIM PEARSON

1 The bottom of my brain, sorry, burr, was uneven, so I had to work out a safe way of preparing it for mounting in the chuck. I made up a sacrificial wooden sled with glued-on wedges to hold it in a more or less vertical position to go through the bandsaw.

2 A 50mm-diameter recess was bored on the top of the burr with a saw-toothed bit, to suit the mid-sized O'Donnell jaws, and with a flattened surround to ensure the jaws seated flush.

3 This was the first bending of the rules. The O'Donnell jaws are dovetailed, so the recess should be dovetailed for a sure grip. However, there is no way a dovetail can be formed with a saw-tooth bit. Actually, this is my normal method of holding when turning bowls or platters, and I have never had any problems. However, if it is possible, I always bring up the tailstock centre, before truing up the base with a half inch bowl gouge.

4 There is another rule which should not be broken or bent. Keep your tools sharp. Very sharp. For this project the only tool used was a half-inch bowl gouge. This has a swept-back grind with the bevel approximately 45° and has the heel of the bevel softened.

SHARPENING_SYSTEM

My homemade tool sharpening system normally sits on my castor-mounted tool cabinet so can be positioned very readily to hand. It is not too heavy, and it has a carrying handle, so can easily be transported if I am turning on another lathe. The 240-grit aluminium oxide belt is quite worn, acting rather like a hone, putting a polished edge on the tool.

If really necessary, or for reshaping, I can very quickly change to a coarser grit, but this is only occasionally necessary. I know that some turners prefer a serrated edge on their tools, but my method works for me, and touching up the edge takes only a few seconds. I can switch between

sharpening gouges and skews without altering any of the infinitely variable settings. There is a magnet at the base of the belt to catch any metal dust.

I can also hone gouge flutes, or skews, on the cloth wheel at the other end of the motor, again without altering any other settings.


3


4


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6


7


8

5 I trued up the base using a pull cut, initially without the bevel rubbing until I had removed all the unevenness, then switched to bevel rubbing to obtain a good finish. The speed was kept relatively low, around 1000rpm, in case, this being a rather dodgy and worm-eaten burr, there were any loose bits which could fly off.

6 I slightly dished the surface to ensure that the piece would sit steadily on the outer edge. The tail centre was only removed to get rid of the last little centre piece.

7 As the 50mm saw-tooth bit was lying handy, this was used to form a chucking recess in the base. I would normally form a dovetail recess and a couple of decorative rings using my 10mm skew. However, despite working with my brain, I forgot to form the dovetail. An unintentional bending of the rules, but as I noted above, it's my normal holding method for starting to turn bowls or platters, and it works for me.

8 The sharp gouge had left a good surface, so I started sanding with 180 grit, then 240, 320 and 400. Now, when I started woodturning, the advice given was to sand at low speed, using minimum pressure and moving the abrasive around to avoid any overheating. Also, if there were irregular edges, for example a winged bowl, or an uneven edge, you should hand sand.

That can be very tedious and time consuming, so very quickly I learned to bend some of these rules. I use a 2in-long neck mini angle grinder, which runs at 1300rpm, and in this case the lathe was run at 1000rpm. I still use a light touch and I still keep the sanding disc moving.

I also make sure that I am sanding off, and not on to, any uneven edges. An excellent surface is very quickly obtained, and there is no heat built up.

I use two hands to hold the grinder and rest my forearm on the toolrest for steadiness. And I make sure that the sanding disc is always trailing, so it cannot get caught.

Next, I coat the sanded surface with cellulose sanding sealer, thinned down with cellulose thinners. While it is still wet, I buff it up with paper.

9 Never use cloth. Be ultra-careful with ragged or winged edges.

10 The burr could now be reversed in the chuck, the tailstock brought up for security, and the outside shaped. As with the base, using a slicing draw cut, and the same half-inch bowl gouge, I started without the bevel rubbing to achieve the approximate shape.

11 Then switched to rubbing the bevel and taking lighter cuts.

12 This was a rather crumbly burr so lathe speed was kept to a modest 1000rpm, and I made sure that the dust extraction was switched full on and I was wearing the respirator and face mask. With a sharp gouge, a very good finish was obtained straight off the tool. Nevertheless, the outside got a quick sanding through the grits, making sure I was trailing the sanding disc and my arms were supported on the toolrest.

13 Then some diluted sanding sealer, wiped off with paper.


14


15


16


17

14 The tailstock could now be removed and the inside of the bowl hollowed out. With any bowl, but especially with one having a ragged edge like this one, it is essential to start hollowing with the gouge flute pointing to 3 o'clock, and the bevel lining up at right angles to the face. If this is not done, the gouge will skate off at an angle and knock off all the jagged peaks.

15 After the gouge has cut down to the root of the peaks, it can be rotated, with the flute pointing to 1 or 2 o'clock, and a smooth sweep made toward the centre. As the centre is approached, at the desired depth, the gouge should be moved forward carefully and slowly, stopping at dead centre. This will make sure that you avoid making pimples or dimples.

16 As with the outside, a good finish was obtained from the sharp bowl gouge, and only a light sanding was required. This was again done with the lathe running at 1000rpm and the long-neck grinder at 13000rpm. Again, this was bending the rules. In fact, this was actually breaking the rules, as I have removed the safety guard. My original long-neck grinder did have a removable guard, but the replacement Merlin had a non-removable guard. I found that this inhibited its use especially when sanding inside very small bowls, so I cut it off (invalidating the warranty!). However, sanding is relatively safe and the guard from my previous unit can be fitted if I am using the mini chainsaw. Then diluted sanding sealer was applied and buffed off with paper. This left a very good finish.

NOTE FROM THE EDITOR:
While removing the safety guard from an angle grinder cannot be condoned, doing so when the grinder is used as a sanding tool makes the tool no more dangerous in use than a sanding arbor in a rotary drill. It should always be in place when cutting discs are used on the machine.

Using any powered sanding tool on rotating work with natural or flawed edges is generally inadvisable, especially for novice turners, and should only be undertaken when the user has sufficient understanding of the materials, procedure, and potential dangers involved.

17 All that now remained to be done was to buff up with Tripoli compound, White Diamond compound, and microcrystalline wax, which left a nice satin finish.
I hope that the bending of some rules has enabled me to end up with a more attractive brain than I started out with. I also hope that Mark would have approved. ●

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2 Apply the wax to a sealed surface using a cloth. Use it as sparingly as possible; the wax stays wet for about five minutes making it easy to spread in a thin, even coat. Allow 20 minutes before polishing.

3 Microcrystalline Wax buffs well by hand; here we've buffed the left hand side of the bowl only. Useful to know if you're working on a non-turned project.

4 But it's easier to let the lathe do the work for you if you can, so using a Safety Cloth polish the wax with the lathe running.

5 Microcrystalline Wax is toy-safe and is ideal for any item that might get water splashed on it or will be handled a lot and you want the finish to stand the test of time.

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Turning from difficult stock

Andy Coates continues his look at how to turn safely and successfully using difficult and problematic stock

PHOTOGRAPHS BY ANDY COATES

It can often seem that life is a series of poor choices, which is unsettling to say the least, and as I prepared for the second part of this series I was unsettled. The logs I had earmarked as potential candidates for part two were unexpectedly buried under 2ft of snow drift and so could not be used... it was really cold and they'd be soaking wet. Poor choices. So, I looked around at the wood I had stored inside for a likely lump of problematic wood. I found one in the sacks of firewood stored near the large stump I use for indoor chainsaw cutting. I recalled discarding it because it was such poor material, and not at all what I preferred. It was a piece of ash containing ripple, deep fissures, burr, possibly canker, splits, and was irregular in shape due to being an offcut rather than a cut blank, and it was bone dry. Too dry, really – 9% MC to be precise. Ideal.

Having retrieved it and taken a good look over the nasty lump my reservations began to gather around me. Was it suitable? Should I look for something else? I knew instinctively that this would be a tricky piece to work and the words 'poor choice' popped into my head again. Then I realised that this article was about problematic blanks – not ideal blanks, not iffy blanks, but problematic blanks. So it was ideal. A novice turner might well come across a discarded lump like this and consider it ideal, they might even end up with something similar if they have made an early decision to cut their own blanks using a chainsaw without really knowing how best to process a log.

Before you begin with any such material ask one question: can I do this safely?

Assessing the wood

I put the lump on the bench for a more in-depth examination. There was no point in measuring it; nominally it was around 10 x 9 x 5in, but each face and edge was of a different size and length and the blank was tapered in two directions. One face had some appeal, having some interesting areas of burr/canker, but the reverse face had a full-length split and was plain, with one edge suffering from a large area on inclusion. Both end grain faces had severe cracks, inclusions and voids, and the side grain edges had loose bark and splits.

I discounted cutting it into an end grain blank because, while it could have produced one it would not have best served the purpose of the article, so that left a bowl blank as being the best option.

The next question then is, which face is upper? The obvious choice was to make the face with the interesting inclusions the upper face, hoping that they would extend deep into the blank and provide an interesting surface on the interior of the bowl, and this would also potentially allow the removal of some of the extreme faults on the lower face and edges to be turned away. So a plan was forming. Next step would be to mark the largest circle possible on the upper face and cut the disc on the bandsaw.

This decision was rendered null and void after the first few seconds at the bandsaw; there was no easy way to level the lump for safe cutting, and a short exploratory cut on a corner the wood proved to be incredibly hard and the blade actually jammed in the cut, throwing it off the bandsaw wheel. Choices...

The best face

Severe faults on the base and edges

Roughing the lump to a blank

I decided that the best course of action was to mount the lump between centres and to form the blank using the TurboPlane fitted to the angle grinder. Safety is always the prime concern so gloves, full-face mask and a securely locked lathe spindle and tailstock support are called for. This is always a lathe switched-off activity.

Using the scribed circle on the headstock side of the lump as a guide, the waste is removed one sector at a time. Once an area is close to round the angle grinder is switched off and the spindle lock released to spin the blank to the next area to be dealt with.

This is a noisy, messy, and aggressive process, but patience and care are required if you are to complete the task safely and satisfactorily. If you do not have an angle grinder and cutting disc of some description then the same results could be achieved with a bowsaw.

Once a rough blank was achieved the blank needed to be brought more into the round. This is not a job for a spindle roughing gouge. Not ever. Do not let the fact that the wood is between centres convince you otherwise. This is a job for the largest bowl gouge you have. If you only have a 10mm bowl gouge then you will find it highly aggressive and physically demanding, but with the lightest of cuts and patience you will prevail. With a much larger bowl gouge – I used a 19mm Robert Sorby bowl gouge with a straight grind and a 30in handle – while still aggressive, it was more controllable and the blank slowly came to order.

This process is slow, and needs to be for safety. Because the wood is so fissured and burred the usual tell-tale sounds indicative of potential problems will not be heard. You need to stop the lathe repeatedly and examine the wood. Are there any potential dangers? Is the wood splitting more? Are the faults increasing in size? Is the blank unstable, tight, moving in the hold? And if the answer to any of those is yes, then you need to decide if it is safe to continue, or if it is possible to mitigate against the danger. It could be that you need to alter the mounting position of the blank and start the process over. Moving the centres can allow the removal of particularly bad areas of wood, for instance. It will result in a smaller eventual bowl but you will get there much more safely.

I adjusted the lump twice to remove particularly poor areas of wood, and eventually some shape began to form, but the fissures continued to grow in size and I began to hear that word again...choices.

Roughing down with the spindle locked


Using a large bowl gouge to rough down


The faults getting worse


Some shape appearing

Bringing the blank to order

The ragged edge towards the base of the blank needed tidying up so a mark was made at the first clean point after it and the blank turned down to this point. This was not intended to be the extent of the base, only as a guide for removing the ragged material and faults within it. Once this was achieved the shaping could continue and a more appropriate size for the base be decided upon. In the case of this blank there were also the remnants of an inclusion to remove which might reduce the strength of the mounting tenon.

One issue with problematic wood of this nature is the uneven hardness of the wood. When the gouge hits a hard section it can cause the bevel to bounce, and as the tool returns to the wood it is momentarily uncontrolled and can result in tear-out or worse damage. Firm control of a very sharp tool is the best defence, but even then you will see evidence of this occurring, with patches of torn grain, and possibly even bruising caused by the heel of the bevel burnishing the wood due to the increased pressure applied to the tool in order to control it. Practice will improve your ability to minimise this type of damage.

Stopping the lathe regularly to assess the surface is very important. You need to be aware of the faults, not only to be aware of how they impact the shape and form, but also to ensure that there are no potential dangers about to be exposed. On this blank everything seems fine from a safety perspective, but there were some faults that could not be turned away that would require some rectification later.


Turned to the mark


Pulled grain and heel bruising


Small fractures at the end of the inclusion

SETTING THE BASE SIZE OF BOWLS

The base of a bowl is the area on which the bowl will sit on a surface. If your bowl is intended to be for utility use, as a fruit bowl, for instance, then you will want a base approximately ⅓ of the overall diameter of the bowl. This will ensure that the bowl is stable in use. If you intend to make a decorative bowl then the base size should complement the form, and may be tiny or even non-existent in the case of a round-bottomed bowl. The mounting method, tenon or recess that you decided upon should not be considered in this decision. These are simply artefacts of the making process and should at the very least be disguised and at best removed after the bowl is completed. To my eye there are few things as ugly as a bowl on which the recess or tenon is left on the finished piece.

Dealing with torn and damaged grain

Dealing with torn grain on a less problematic blank may be as simple as taking a shearing cut with a long-ground gouge, and depending on how bad the surface of your problematic blank is the same remedy may solve the problem. On this piece that was unlikely due to the wild grain, ripple, and (effectively) end-grain faults, so a negative-rake scraper is often the tool for the job.

Just like any scraper the negative-rake scraper requires sharpening, or at least honing, before use. With the belt running in reverse, dragging a burr up over the cutting edge, the tool is refreshed and ready for use. However, after watching Eric Lofstrom on a D-Way Tools video a few years ago I became a convert to further stages of preparing the tool for use. A hone is passed over the edge a few times to remove the grinder burr and then the 'hook' is raised with a carbide rod. The tool is now ready to deal with the most difficult of torn grain and fibres. A few passes with the prepared negative-rake tool and the surface is vastly improved.

Another technique that can be useful for wild grain, especially when related to ripple feature, is turning in reverse. This is something you should only attempt if your chuck can be mechanically locked to the lathe mandrel by use of machine screws. Your lathe will obviously need to have a reverse function.

When you cut wild grain in the conventional manner it is likely that the bevel simply lays some of the wild fibres flat, not cutting all of them. By turning and cutting in the opposite direction you double the chances of cutting more of the wild torn grain than in one direction only, so it is always worth trying if you have the facility to do so. The same applies to abrading areas of torn and wild grain.

Touching up a negative-rake scraper

Raising a burr

Negative-rake scraping

The improved surface

SCRAPER TOOLS AND THE BURR

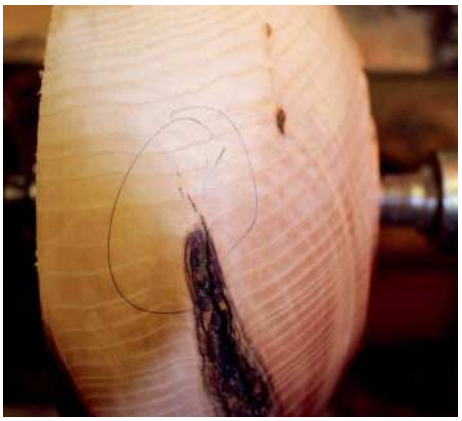
Scrapers have changed in recent years, and the old idea of a flat-topped tool with a single ground bevel has been pretty much usurped by the negative-rake versions. The negative-rake tool is not a new idea in any sense; it's been around for a long, long time, but modern tool steels, grinding equipment, and techniques have served to resurrect this old ivory turner's technique. While conventional scrapers still work, and can work very well, the NR tools offer another level of cutting refinement.

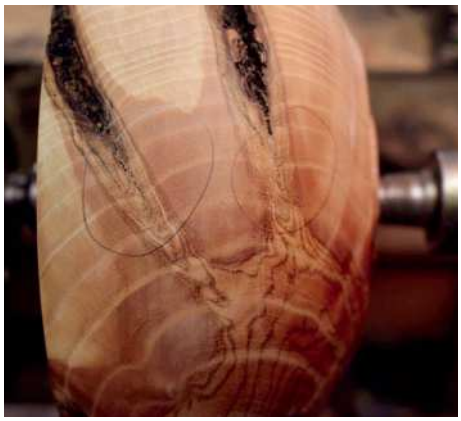
NR scrapers rely on a burr (or hook) edge, much as a conventional scraper does, to effect a cut on the wood. The main difference between the two is that the NR scraper is far more controllable and less likely to grab. The burr edge can be produced on a grinding wheel, conventional or CBN/Diamond, and that can be enough, but grinding the tool upside down as compared to the conventional method will drag the burr up over the cutting edge of the tool, placing it where it needs to be to work better. This change in sharpening practice alone can reap huge benefits to you, even for conventional scrapers. By further preparing the tool by honing to remove the burr created on the grinder followed by using a carbide ticketing rod to draw a 'hook' over the working edge the tool it will cut even better, leaving a surface ready for abrasive at least several grades less aggressive than you might routinely use. Imagine starting to abrade at 240 grit instead of 80 grit; you will save a fortune in abrasives.

NB: When discussing scrapers the word 'bevel' is not synonymous with the bevel of a spindle or bowl gouge. On these tools the bevel is rubbed on the surface of the wood and supports the cutting edge. The bevel on a scraper is not rubbed and does not support the cutting edge. The bevel on a scraper is simply the angled surface left after grinding away material to produce the edge. We do not rub this surface. It does not contact the wood at any stage.

Checking progress

Checking the blank throughout the turning process should become second nature when using problematic wood; your safety could depend upon it, but also the success of the finished piece depends in this level of vigilance and attention. Having sorted out the torn grain the lathe was stopped and a fault was obvious. The fissures and inclusions had caused small cracks to appear at the ends of these features. This is perfectly normal, they are simply small fractures caused by the inclusions. However, on a finished piece the cracks can appear ugly and be viewed as a missed fault, or as cracks that have appeared after turning the object. The inclusions will not be viewed in the same way because they look like they were meant to be there; obviously part of the flaw that makes the wood interesting. So we need to deal with small faults like this. First, mark any that require treatment so that you don't miss them later.





Cracks caused by the burr and inclusions

Turning and stabilising the log

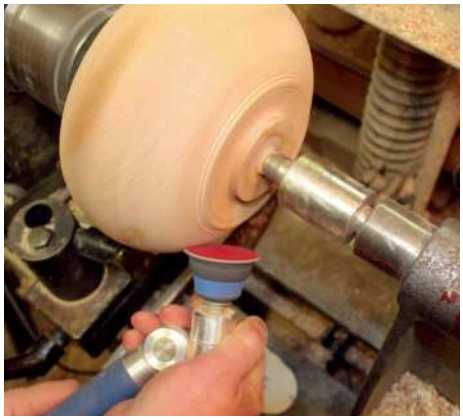
The first job is to clean the cracks out. Quite often they have torn wood fibres in them which makes dealing with them difficult. A dental pick is a good tool for this. Do not worry about widening the cracks; the important thing is to leave a crack that is clear and clean and can be filled in.

What you fill the cracks with is entirely up to you. You may prefer something highly decorative like crushed turquoise, but I prefer, at least in this case, a simple black infill. Ebony or bog oak wood dust and CA glue is used to form a paste filler and a carved chopstick is used to work the paste into the cracks until it stands just proud of the surface. This is allowed to cure naturally before taking a couple of passes with the negative-rake tool to level the surface. And the crack problem is solved. The bowl can now be abraded to your finish and the first coat of sealer applied.

Widening and cleaning the cracks

Applying the filler

Checking the infill after a pass with a negative-rake tool



Abrading the bowl

What to do when the rot's set in

Applying sealer to a surface that is anything but even and unblemished can be a nightmare. The sealer can fill voids, pool, and cure in hard lumps and bumps, and this doesn't lead to a good finish. Apply with a paper pad and rub into the grain gently – you do not want to cause friction heat which will dry the sealer too quickly – and make sure it is worked into all the wild grain. Allow the sealer to cure properly and then lightly abrade with a 400 grit abrasive. Do not apply pressure

to the abrasive, just let it work. You will notice the excess solids from the sealer clogging the abrasive up as you work. Clean the abrasive with a bronze brush to prevent this hardened residue scratching the wood. This same process can be done two or three times further for the best finish. Check the voids for lumps of dried sealer and remove with the pick if required.


Applying cellulose sealer

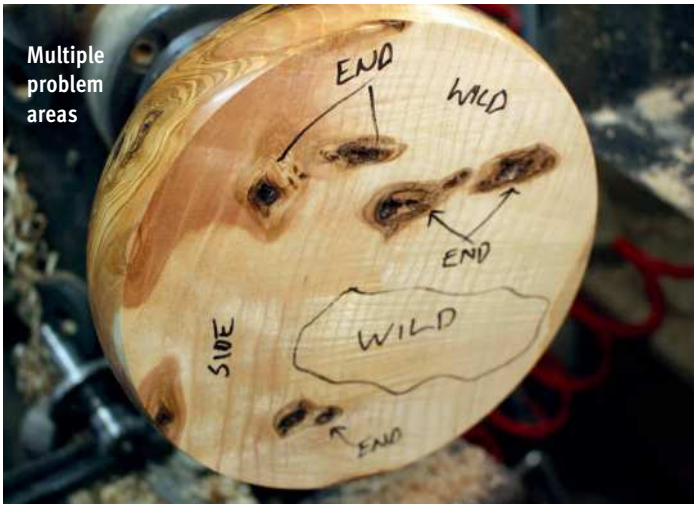

Abrading the first coat


The cellulose on the abrasive


The finished surface

The problem with problematic wood

Re-mounted on the tenon, and the face having been cleaned up, the blank displays most of the problems associated with such blanks. This is a side-grain blank, no different to a bowl blank you might have purchased from a blank supplier. But this one has multiple potential problems. The ripple has caused a long band of wild grain through the face of the blank, and while being an attractive feature it can be problematic to turn. The areas of bark inclusion/burr are effectively areas of end grain in a side-grain surface. And there are areas of clean, typical ash grain and olive ash grain, which have different hardnesses. All of which will contribute to making this potentially difficult to turn.



Multiple problem areas

Tool size and how it relates to the cut

Turning burrs, wood with difficult grain, and especially large voids, can be difficult, especially for novices. The size of the gouge used can alleviate some of these problems. A smaller gouge is more prone to falling into voids than a large gouge because the bevel is shorter. However, while a larger gouge with its larger bevel may help to ride over voids and inclusions it can be difficult to make the turn around the curve to the base. So it is a compromise at best. The larger gouge, however, has the added advantage of absorbing vibration far better and so helping with control. So it may be worth trying both if you have them and see which suits you best.


10mm bowl gouge


19mm bowl gouge

Conclusion

All we have achieved so far is to make a blank from an ugly and previously rejected lump and to turn the exterior shape and already we have found many potential problems that you may be faced with. Most, if not all, are essentially related to the problems caused by wild grain, differing hardnesses and voids and inclusions. All these problems can be overcome with sharp tools, a light touch, and good control of the tool. When we get to the interior in the next article we will see how this affects our ability to turn the concave curves efficiently.

Fruit

Alan Holtham shows off the beauty of decorative timbers by turning fruit that begs to be handled

Everybody loves the tactile quality of wood and a nicely polished sample just has to be handled. I used to make wooden eggs for just this purpose, but even their popularity has now been overtaken by wooden fruits that have all the same appeal but are possibly more decorative.

The fruit can be made from attractive timbers and then polished to highlight the grain, or made from a plain timber and then painted to resemble real fruit. It can also be made from branch wood, particularly those species such as yew or laburnum with a stark contrast between the heartwood and sapwood, as the smooth rounded shape accentuates this perfectly.

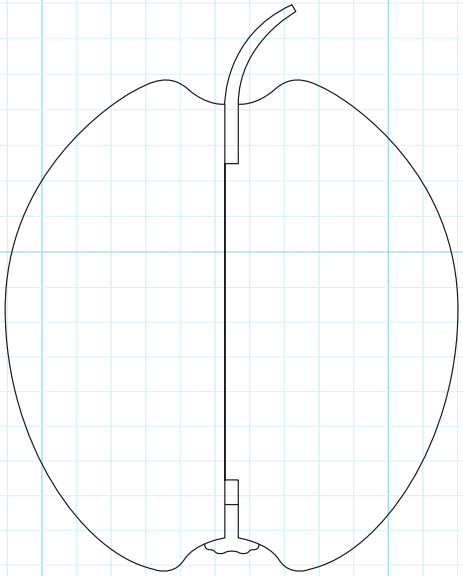
I cannot see the virtue of mimicking the real thing by painting plain timbers – for me the attraction is using really decorative timber and polishing it to a fine finish.

As natural fruit varies tremendously in shape and size, wooden examples are very easy to turn and you can use offcuts of any size, even tiny bits for grapes and plums. Generally, apples and pears need to be turned from 3 x 3in (76 x 76mm) timber, but use what you have. Miniature or half-scale versions can be just as attractive.

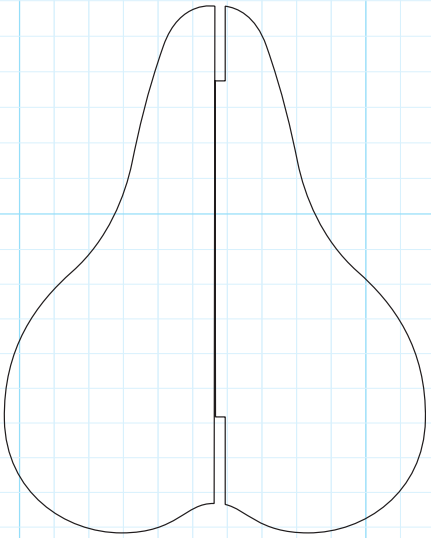
For this project I use just two tools. You can buy special chucks for holding the work, but a simple screw chuck is all you really need and you can easily make this yourself as I shall show you.

TOOLS USED

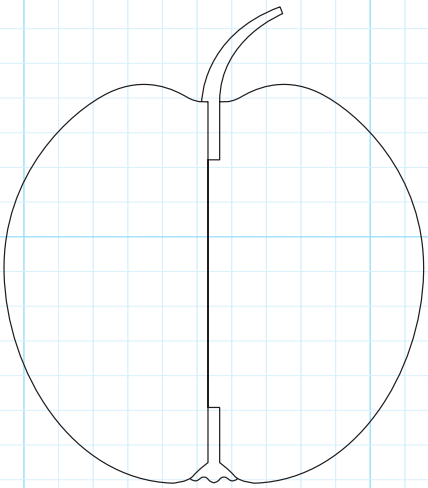
1 ¾in (19mm) spindle roughing gouge **2** ⅜in (10mm) spindle gouge **3** homemade screw chuck



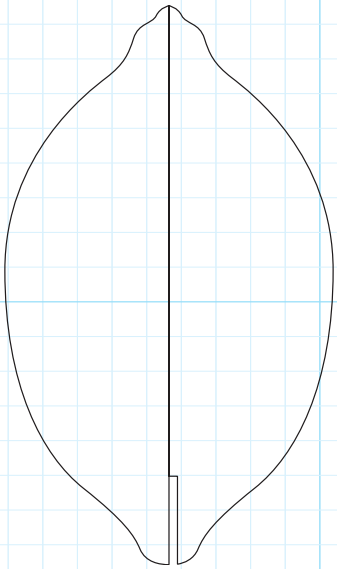
Apple 1



Pear



Apple 2

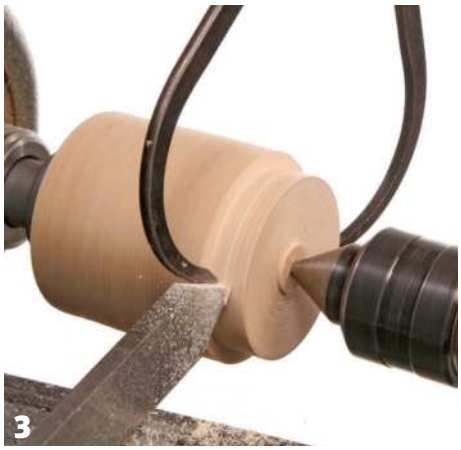


Lemon

1 I keep a special box with blanks for making fruit and whenever I cut down a longer spindle blank, the offcut gets stored in this box for use when I have a fruit-making session.

TIP: You could use a standard screw chuck, but these tend to be a bit big and bulky, so it is better to make a lighter, dedicated one. All you need is a block of any hardwood about 2 x 2 x 2in (51 x 51 x 51mm) and a suitable No.6 or 8 screw.

1



2 Start by turning the blank down to a cylinder, holding it between the centres.

3 Form a chucking spigot on one end, slightly larger in diameter than the closed diameter of your chuck jaws. This ensures it re-centres accurately every time you use it, and so stops the fruit from wobbling about when you swap it end-to-end later in the turning process.

4 Grip the blank on this spigot and turn the free end to a slight hollow so that the fruit blank will seat down on it properly and not vibrate.

5 Use the drill chuck in the lathe to bore a central hole right through the blank. This hole needs to be slightly smaller in diameter than the diameter of the screw.

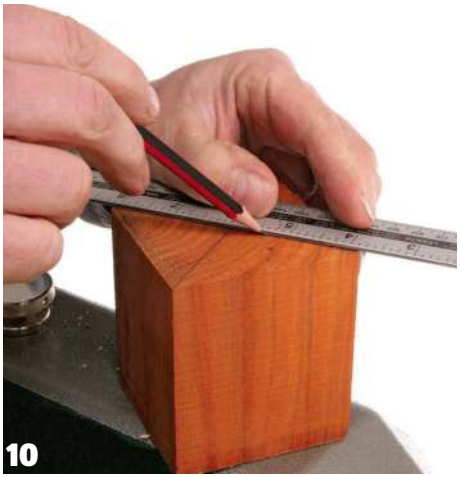
6 On the outside of the blank mark the amount the head needs to be countersunk to get the required screw projection – about ¾in (19mm) sticking out. The holes will be disguised in the final stage, so the deeper the better.

7 Counterbore a hole large enough to take the head to the measured depth.

8 Smear the screw with epoxy glue and screw it in firmly until it bottoms in the counterbore.

9 When the glue has set, taper down the projecting end of the screw chuck to allow better access when turning the fruit.

10 Find the centre of your fruit blanks in the conventional way, by drawing in the diagonals.



11 As the screw chuck hold is not very tight, I remove as much of the waste as possible by sawing off the corners on the bandsaw.

12 Drill a suitable pilot hole to take the woodscrew chuck screw. Make sure this is plenty deep enough – you cannot overdo it.

13 Screw the blank up tight on to the rim of the screw chuck; you can see now why it is better to make this face slightly concave.

14 Bring up the tailstock for some additional support during the initial shaping stages.

15 A lot of shaping can be carried out with the spindle roughing gouge, but use a 3/8in (10mm) spindle gouge for the final profiling.

16 Apples and pears have a dimple in the bottom end, so remove the tailstock and form this shape carefully with the gouge.

17 The top end can only be shaped so far round before you foul on the screw chuck, so just go as far as you can.

18 Use the tailstock chuck again to drill the same-sized pilot hole for the screw in the bottom of the fruit.


19


20

TIP: A coat of friction polish will leave a super-high shine, but this will dull down a little with a lot of handling, so finish off with a light application of carnauba wax on top that can be buffed to a really high gloss.


21


22


23

19 The fruit must be really well finished and polished to exploit its tactile qualities to the full, so first sand the bottom thoroughly to remove tool marks, working down the grades of abrasive to finish at about 600 grit.

20 Seal the surface with cellulose sanding sealer rubbed in with a cloth while the lathe is stationary. After several coats, denib the surface with fine abrasive and then burnish it with 0000 wire wool.

21 Reverse the finished bottom end on to the wood screw chuck. Sandwich a piece of cardboard/rubber between the face of the chuck and blank to stop it marking.

22 Now shape the top of the fruit. Again, most fruits have a dimpled top which is easily formed with the spindle gouge, initially using the tailstock for support.

23 Final cuts are made with the tailstock removed.

24 Sand and polish the top area to match the rest of the polished surface. With care, the two can be blended together without a visible 'join' in the finish.

25 Pears are turned in the same way, but you will need a slightly longer blank, something like 4½ x 3 x 3in (114 x 76 x 76mm).


24


25

26

27

28

29

30

26 This time the shape is more concave than convex. Laburnum branch wood makes particularly striking pears.

27 Stylised lemons can be made in any timber, but for the best yellow effect use satinwood or boxwood.

28 Complete the illusion of real fruit by tidying up the two ends and hiding the screw holes. A clove is a good match for the flower remains at the bottom.

29 Enlarge the drilled hole slightly with a bradawl and then superglue the clove in position.

30 For the stalk, carve your own, salvage real stalks from fruit, or find some fine tree twigs like birch, snip off short lengths and glue them in place.

31 The finished fruit. ●

31

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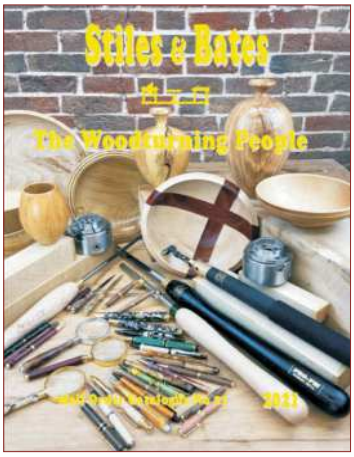

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Kurt's clinic Kurt Hertzog answers some readers' questions

Why is turning rings such a big thing?

Question: I see that rings are becoming a big thing in the turning crowd. I'm not certain I want to take the plunge yet. Do you turn rings? What are your thoughts on where the current interest in rings is going? Suggestions to get my feet wet with minimal expense?

Some necessities for doing rings. Measuring finger sizes and ring sizes will be key to achieving proper sizing to standards

Answer: Rings have been around for a while and recently become a popular and fast-growing project among the turning community. Yes, I've turned rings for many years, starting before the advent of kits for rings. I don't turn many but I keep a dish full of them to pass around at my turning demos and use them for teaching aids, particularly the work-holding aspects. I think the interest and demand for rings will continue to grow and be with us for many years, much like turned pens have grown and hung on.

Rings are quick and easy to do on smaller lathes, and can span the range from a beginner's project through to the very high-end collectables. You can get started with rings with no out-of-pocket expense except for the kit if you go down that path. The work holding can be done with easily shop turned mandrels using shop scraps. You can refer to *WT294* (July 2016), Turning Wearable Rings, and *WT296* (Sept 2016), Fundamentals of Turning Bracelets, for methods of work holding that will work well. That said, there are many excellent mandrels available at reasonable cost. Either way, you can get into rings, and for all practical purposes large rings known as bracelets and bangles, for minimal investment.

The kits, really a metal core, available from nearly all of the retailers, bricks-and-mortar or internet, are similar, differing slightly in design but mainly materials and certainly quality. If you turn rings without an internal metal core, you'll be faced with strength of materials issues and grain orientation considerations, though it's certainly doable. If you use a core, you'll be able to use virtually any material, from grained woods to pours and cast, the metal core being the final wearer sizing and material support feature.

Your path on mandrels, sizing tools, and ring cores will largely depend on your end goal. Are you going to turn rings for a few giveaways or gifts or to get into rings for sale in any quantity? If you are in it as a saleable item, bear in mind that each ring needs to be correctly sized for the final customer. You'll either have to have a range of sizes in whatever design(s) you are offering or measure the fit for the end user and turn that piece to fit. If you decide to do commissions, my recommendation is that you do the measurements on the person with your ring size gauge rather than accept their supposed ring size. The end fit is so important and personal that minor differences change from a perfect fit to unacceptable.

One of the facts that most people and ring creators don't think too much about is that everyone's finger sizes change during the year. The size variations from summer to winter can be minor or dramatic. Depending on when they are sized and bought, the wearability could be an issue when the seasons change. Also, your competition, exactly like the pen turning arena, will range all over the map from those trying to make a decent return on their efforts to those literally giving them away to partially recoup their material cost. Your competition in rings, like pens, ranges from folks just banging out results that are of questionable use and quality to high-end, artistic jewellery level pieces of art. Once you dive in, your place on the curve will be based on your turning and finishing expertise, along with attention to detail.

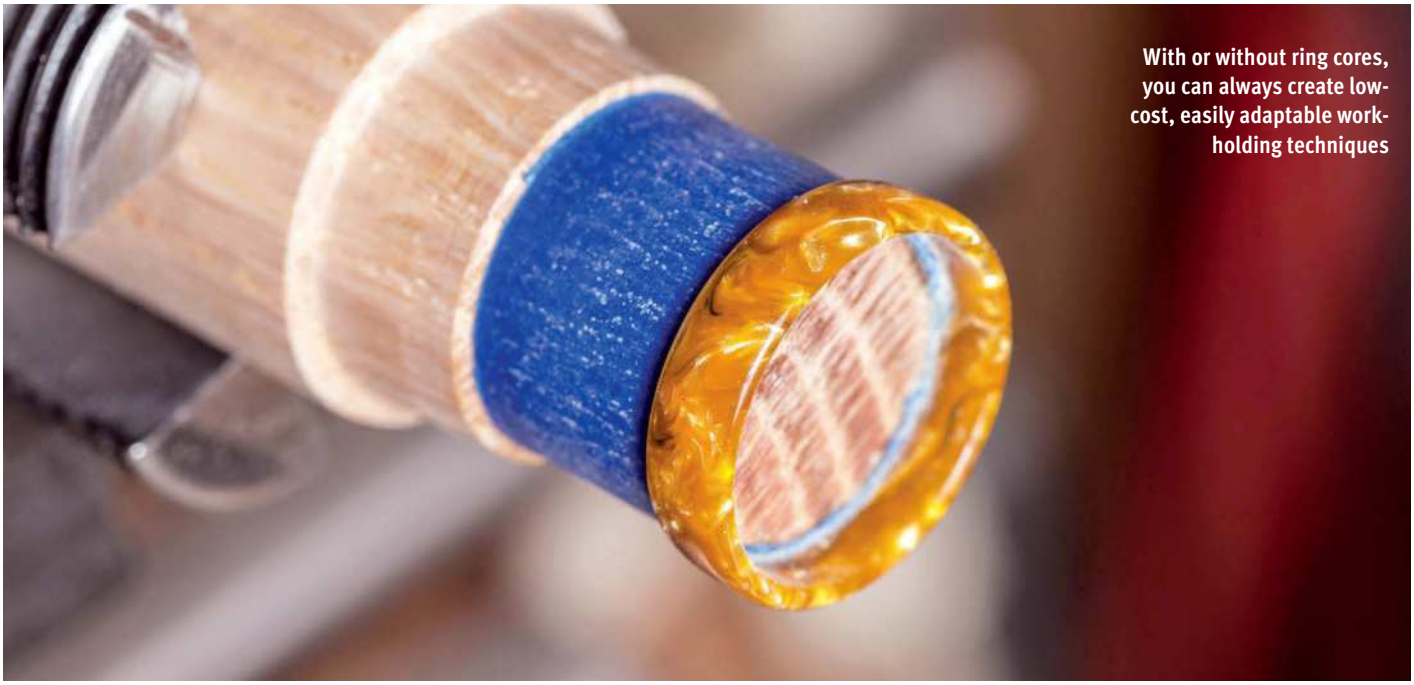
If you need inspiration, techniques or recommendations on tools and supplies, there is at least one Facebook group that is dedicated to rings. As with many information sources on the internet, there is a wealth of valuable and accurate knowledge along with some dodgy stuff. You need to be able to ferret out the good from the not so good. Like all turning learning, give rings a try and enjoy the journey.

I enjoy making rings without the modern hardware. Once set up, you can produce a bunch in a short time

Ring materials can be just about anything from woods to plastics to cast materials to precious metals

Modern mandrels for ring-making, typically using ring cores. The left mandrel is universal sizing and the right uses bushing sets

PHOTOGRAPHS BY KURT HERTZOG



With or without ring cores, you can always create low-cost, easily adaptable work-holding techniques

Methods for delicate finials?

Question: I really enjoy your delicate finials on your hanging shell ornaments. How do you get them turned so delicate? What do you finish the finials with?

My go-to finial species is African blackwood, but on occasion when shorter and less demanding I'll use some rosewood species

Learn to support the spindle from behind as you cut. You are in essence squeezing the spindle between the tool and your finger

Answer: Turning thin and delicate finials, or any other thin spindle turning, does take some practice. Accept the failures that will come with that practice as you develop the technique and tool control that will get the results you want. That said, in my opinion a large part of the battle begins right at material selection. Not only is the species critical but also the individual piece selected for use. For my finials, I use African blackwood almost exclusively. Others may tout different materials, wood and otherwise, my experience has shown that blackwood works better than all else I've tried.

Although not really and totally black, the colouration goes nicely with just about everything. Close examination of African blackwood will show the spectrum of colours, including black, grey, purple, browns, tans, and more. To me, the most important characteristic is the tight, dense grain structure that allows crisp details and features that, while very thin, are incredibly strong. Before I even start, I may examine many blanks to find one I will use. Blanks with great figure, off-axis grain, or other 'defects' from my finial criteria don't ever go to waste. With the cost of blackwood, every bit of my stock ultimately finds a use. Either cut into shorter lengths that won't encompass the undesirable features, used as pen blanks, or lidded box stock, there is no

Like the very thin, long stem goblet shaft, you work in sections completely finishing each short section and then moving on to the left

If you aren't comfortable 'catching' your finial as you part it off, use this trick to safely enclose and catch your prize as you separate it

wasted material. Blackwood has exquisite colourations and grain when closely examined. I love that but avoid it like the plague. I want perfectly straight grain that runs the full length of my intended finial. That will turn well and have great strength in the slender areas. On the rare occasion that I use a different wood, I follow the same selection process. I have used various rosewoods a few times. The straightness of the grain, especially in the thinner shaft areas, trumps all the other potential grain beauty. The finial turning is a single-ended mount and turned from the thin end in. I usually turn the selected blank between centres to round the stock and put a mounting tenon on one end. Once accomplished, the finial blank is mounted from that tenon and the tailstock is removed. The unsupported end will be the most delicate part so the turning begins there and progresses toward the tenon. All sanding and finishing is progressively done in short lengths from the thin, unsupported end towards the headstock. It is turned, sanded, and finished if desired in short lengths, much like the technique used for making long-stem goblets.

A technique that is worth developing is turning one handed and supporting the finial with the other hand. You essentially are 'squeezing' the work between the tool's cutting edge and your support directly opposite the force of the cutter. Care needs to be taken but it is easily learned. Just be certain that your watch, smock sleeves/cuffs, and any other potential catchable materials are well clear of the rotating machinery, or removed. Once a short section is completed, it is done. You won't be going back there because progressing up the finial will weaken the support for the thinner end portions. Deciding to make additional cuts or sanding in a finished area once you've progressed up the finial is usually a breakage waiting to happen.

Blackwood, properly turned and sanded, really doesn't require a finish since it polishes up beautifully. When I feel that a higher gloss is appropriate, I use a product called EEE-Ultra Shine made by U-Beaut in Australia. I believe it is really is a wax infused with tripoli abrasive. It takes the sanding to the next step and leaves a high-gloss shine. Since the finial will rarely, if ever, be touched, I'm unconcerned about a durable finish and this finish serves very nicely to punch up the looks. At completion, the spindle, a.k.a. finial, is parted off again, supporting it with your one hand to prevent it from sailing into space and being damaged on landing. Holding it with your one hand loosely will capture it safely once it is parted off. I find that V-cuts with a skew chisel are the best way to part off a finial. Give finials a try with less expensive stock as you learn. You won't be able to achieve the same thin sections or hold the same crisp detail but you'll be able to learn less expensively as you refine your technique. Best of luck as you progress.

I find the turning characteristics, the ability to hold detail, and the pleasing look of African blackwood make it the best choice for finials

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

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Community letters

What have you been turning? Please email your images to WTEditorial@thegmcgroup.com

Northumbrian Woodturners Association club bulletin

I thought other readers may be interested to know we have a weekly bulletin and possibly be encouraged to do similar to help keep interest in their club.
We started doing this during the first lockdown, as a means of keeping interest in the club and members in touch – we are now up to issue 48,

Everyone in the club can (most do) contribute all and anything of interest. We do not limit content to woodturning matters only, which does help fill pages although it may be a while before *Woodturning* has to worry about the competition. Many thanks for a lot of good reading – keep it up and stay safe.
Kind Regards, Stan Oakey, Northumbrian Woodturners Association

Editorial: Thanks Stan, that's a great idea. We couldn't reproduce the newsletter here, but as well as turning, it includes a weekly quiz, general woodwork, advice and chat.

Some clubs, for example Strathclyde Woodturners, have a monthly challenge they call Turn & Tell, with a theme. We recently published two entries to the 'It's not round, but not square' challenge.

Pierced perfect

Ralph Nisbet from Strathclyde Woodturners submitted photos of this lovely piece for its February newsletter, saying: 'I'm afraid I don't know what type of wood it is, possibly sycamore. It is 140 x 60mm and finished with Chestnut gloss lacquer.'

A letter to Mark Palma

I'm not sure if I should thank you or use appropriate words regarding your quick chuck tune-up. I have four chucks (probably less then most turners) and have been turning for over 25 years. Never wanted to take the time to clean up the equipment, rather I would spend time turning.

Your article inspired me to clean up my chucks, which have not been cleaned in over 10 years. It is amazing how much hardened wood dust had accumulated in the chucks.

Peter Lederer – member of Rocky Mountain Woodturners

Cryptex clues

Some weeks ago, I read the article in *Woodturning 341* about Mike Macey, entitled A Turning Journey. It showed a photo of a Cryptex he had made so I thought I would give it a try.

No details were shown so after making many drawings and realising they would not work I put the project aside as I thought it was beyond my ability. I am very much an amateur turner but lockdown works wonders for your courage, so I produced a working drawing and, after many hours, the attached photos show the end product. The 'rattle' is produced using a 10mm ball I machined with a homemade jig.

Then, to my surprise, I saw Richard Findley's Editor's Challenge in issue 348. Well done Richard but I beat you to it! Many thanks for an excellent magazine. *David Kirkman*

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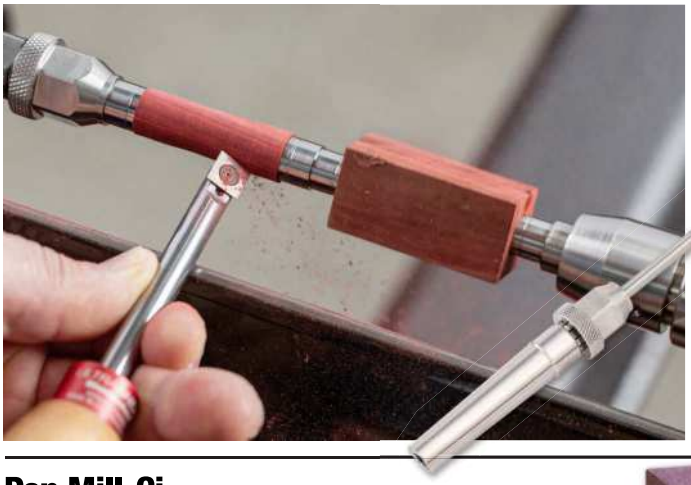

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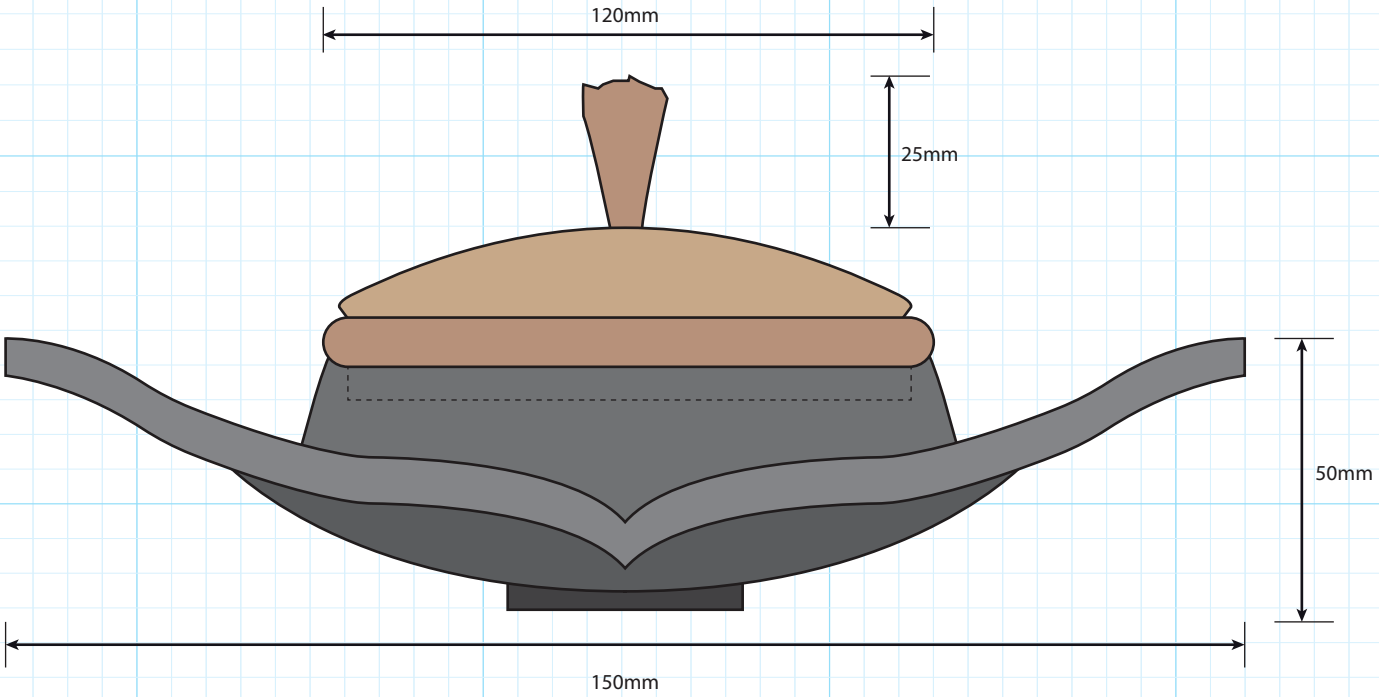
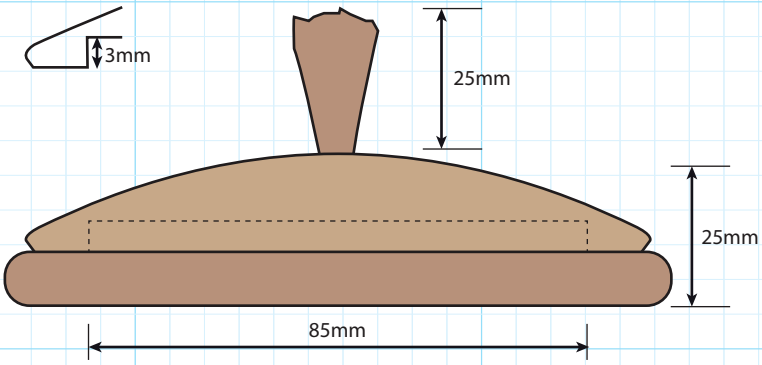
Burl lid box

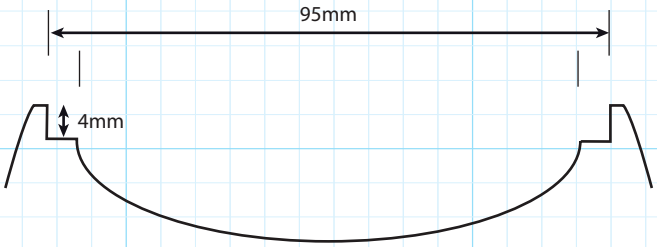
Pat Carroll makes a square lidded box

PHOTOGRAPHS COURTESY OF PAT CARROLL (AUTHOR) PICTURES OF FINISHED PIECE BY KRISTIN GRAY PHOTOGRAPHY

This box is based on projects I have created in the past. The first of these was made under the tuition of Jimmy Clewes and also had a square lid approximately two-thirds the size of the body of the box. My intention was to make the lid the same shape and size as the base. As the old adage says, 'fail to prepare, prepare to fail'. And my first downside to this project was to choose substandard wood. It looked great but the spalting had gone a little too far and compromised the integrity of the wood. But I persevered with the hope the beautiful wood would save the day. The project will show how the piece developed and why the changes were made to the burl lid. As I work as a builder carpenter, I have machinery to square and plane wood to exact tolerances. For this article it was simply cut on the bandsaw to show the options to woodturners who are not equipped with or have the need for the same machinery.







EQUIPMENT USED

Tools

- PPE
- Pencil
- Rule
- Dividers
- Chuck
- Screw chuck
- Drill bit
- 10mm swept-back grind bowl gouge
- 10mm micro bevel bowl gouge
- 10mm bedan
- 4mm parting tool
- 10mm spindle gouge
- Black gesso
- Satin lacquer

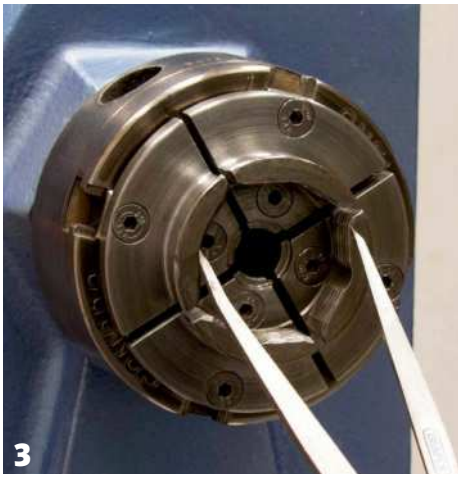
Materials

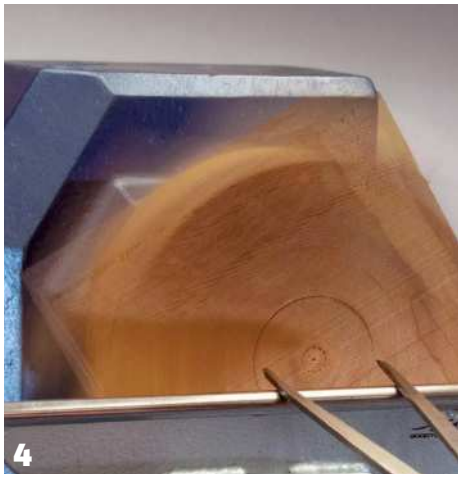
- Kiln-dried beech, 150 x 150 x 40mm
- Jarrah burl, 100 x 40mm
- Guideline measurements, create to your ability, requirements and lathe capacity

1 The piece of beech selected, cut down the middle on the bandsaw. The centres are located by drawing diagonal lines.

2 The square blanks are to be held on a screw chuck. Using a bradpoint drill bit will help ensure the location of the drill bit as close to centre of the intersecting lines as possible. A piece of tape on the drill bit as a depth gauge helps ensure the correct depth.

3 Be sure to get an accurate measurement of your chuck jaw size before securing the wood, as removing the wood from the screw chuck too many times can damage the gripping power of the threads.



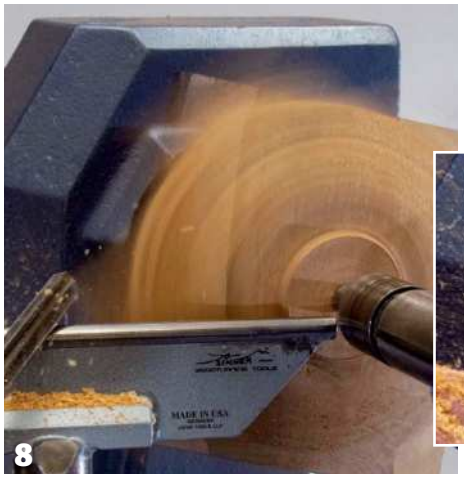


4 The dividers are used to mark the foot, in this case with the piece rotating. If you are not comfortable with this technique be sure to mark the diameter with a rule and pencil while the lathe is stationary. Only the left side of the callipers touches the wood and with the callipers sitting on the toolrest the left side gently touches the wood, ensuring the right side corresponds for an accurate fit in the chuck.

5 As with turning any square object, there is a period of time during which the tool will be in negative space. Minimising this time helps ensure a cleaner cut. The tailstock is brought into place and gives added security to the holding of the work. Wearing full PPE, gradually increase the speed is to a safe, suitable working speed. A freshly sharpened 10mm swept-back bowl gouge takes the initial cut with the lower wing of the tool. The flute of the gouge is open by only a few degrees.

6 Taking very light passes across the wood the shape is gradually worked and the shape of the tenon established. Ensure your hand never enters into the negative space as when rotating at high speed the corners may seem invisible.

7 As the cuts progress the quality of the wood begins to shine through. This will add extra time to the project and have a detrimental effect on my original design. The paler white area of the wood is more decayed than anticipated.



8 As the outer rim of the square section drops downward, cutting in favour of the grain direction, the 10mm bowl gouge is used cutting in both directions ensuring the cleanest cuts.

9 The curve under the rim is refined using a 25mm round-nose scraper. The tool handle held slightly higher than the tip gives a trailing action for safety and to improve the quality of the finish. The tool is worked towards the bottom of the curve in favour of the grain alignment.

10 The tailstock is removed and the security of the piece is checked on the screw chuck before continuing. Using a 10mm angled bedan tool the tenon is now trued up, ensuring there is a 90° corner for the straight serrated jaws of the chuck to fit to accurately.

11 With the box stationary, a piece of round dowel with sandpaper wrapped around it – slightly smaller than the curve of the rim – is used to sand the outer area of the box. Using full PPE, the piece is sanded from 150 grit through to 400 grit. Taking great care, the internal part of the box may be sanded with the piece rotating at a lower speed.

12 The piece is now secured in the chuck and the proposed centre is marked out with a pencil. Using the freshly sharpened 10mm bowl gouge, once again very light cuts are taken, working the rim area of the box initially and gradually working inwards.

13 I opted to sand the exterior area of the box before removing the interior. My doubts about the integrity of the wood were still on my mind so I felt it best to work the piece this way. A small pad sander was used with the piece stationary to sand the outer wings and the straight sides of the box. The sanding was part of the demise of this project, as will be explained in further steps.

14 With the outside sanded the centre of the box is removed with a 10mm bowl gouge. This tool has a 70° bevel and the heel ground back, which gives a secondary bevel, otherwise known as a micro bevel. This tool enables me to create shallow curves with minimal sanding afterwards.

15 The interior is sanded with a 50mm sanding arbor, which has a secondary flexible soft pad fitted. This follows the curvature nicely, sanding all of the surface equally. The recess is now cut to accept the tenon of the proposed lid. This was not cut prior to sanding so as to maintain crisp, clean edges. Using a sharp 4mm parting tool the recess is cut with very light cuts and requires only minimal sanding with finer grits of sandpaper.

16 The second piece which was to be the proposed lid, is turned and fitted to the chuck in the same way as in step No.1 through to step No.4. A tenon is created to accept the base of the box and the foot is trued up with a 6mm spindle gouge. The area of the foot is now sanded through the grits to the desired finish.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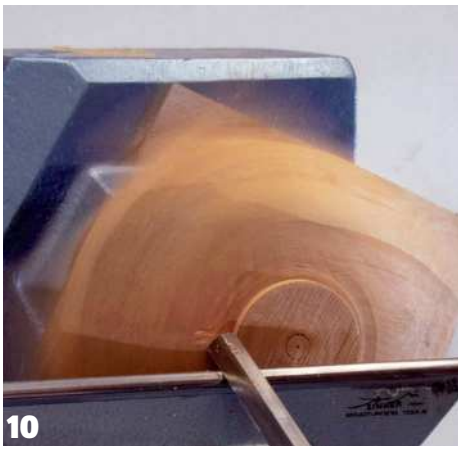
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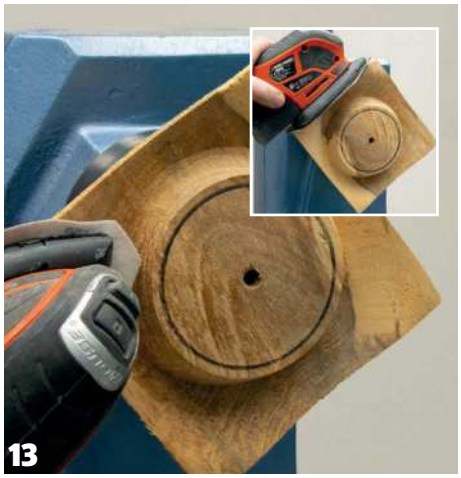
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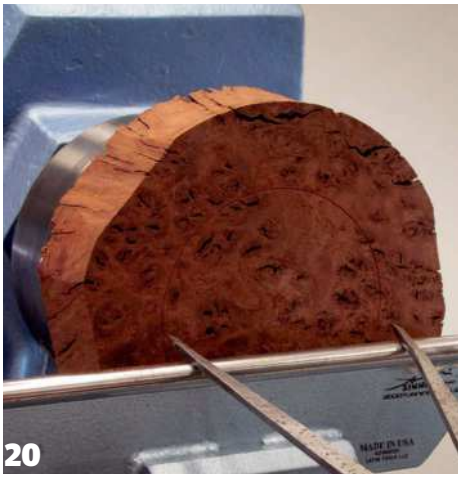
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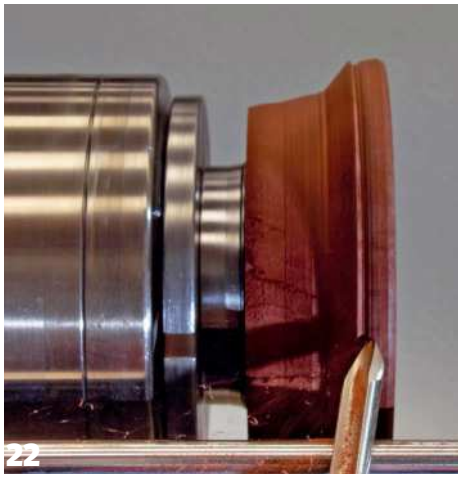
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17 The distance is measured from the top of the box to the bottom of the lid, and a guideline is marked for reference of the shape. This is where the design changes. Due to the wood being softer in areas, I had not realised how much the shape had been altered with sanding and distortion. Look carefully at the top where the lid intersects. The gap varied a little on each side and I thought it best to change the design.

18 Originally I had intended to have the top of the box fitting with a matching curve to the base. This was now not possible. The solution was to use a piece of very hard jarrah. So, I have gone from a softer wood to a very hard wood, which will dull the tools quickly but will add a new element to the box through contrast.

19 The burl is secured on the screw chuck as the body of the box was, with the tailstock in place for security, Safety is first and foremost. Trued up with the 10mm bowl gouge, cuts are taken from the outside towards the centre. As this is a burl, there is no favourable way to cut the grain as it is so multi-directional.

20 The tenon is marked and formed to fit the chuck. As this is a burl, make the tenon the maximum depth that the chuck can accommodate without touching the bottom of the jaws. The piece must be seated against the top area of the jaws.

21 The shaping of the underside of the lid can now commence. Frequently sharpening tools is necessary due to the hard nature of jarrah. Light cuts form the shape and once shaping is completed, sanding through the grits 150 to 400 grit, may take place

22 Shaping of the outer area is completed as much as possible before the piece is turned around to finish the top. A 10mm spindle gouge allows the tip of the tool to get into the transition area between the bead and flat area of the lid.

23 Using a jam chuck made from a scrap piece of wood, the lid is help with friction supported by the tailstock. The shape is refined and checked periodically for a suitable wall thickness.

24 At this time, I decided the natural edge of the final complemented the burl and it was shaped with the 10mm spindle gouge and sanded from 150 to 400 grit sandpaper.

25 The box is now coloured. Black Gesso was used and with three coats applied, de-nibbing between each coat with 320 sandpaper. The final finish is several light coats of satin lacquer, once again denibbed between coats with 320 grit sandpaper. ●

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Product test and review

Les Symonds reviews the Pad-o-vac Dustless Power Sanding System

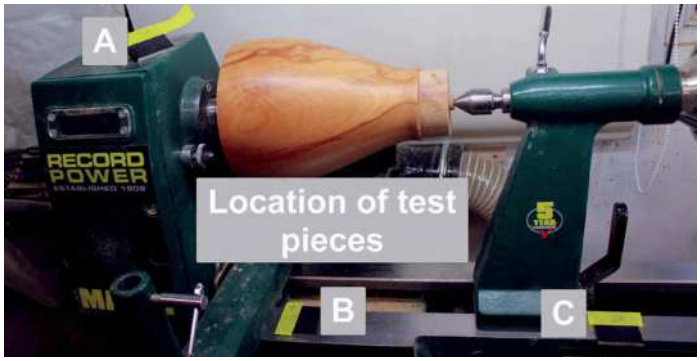
As a professional woodturner who has been trained by the British Safety Council in assessing hazards in the workplace I am acutely aware of the danger to my health of airborne dust, be it toxic or merely of a nuisance in its composition. I therefore approached the testing of this product in as close to a scientific manner as my workshop practices would accommodate.

The product

Pad-o-vac is marketed as a 'dustless power sanding system' and comprises a single main component, that being a hand-held unit resembling a small power drill. The body of the unit has a shaft running through it, a hexagonal arbor projecting from its rear end and a hook-and-loop-faced sanding pad at its front end. Its sideways projecting handle is hollow and has a connection port to accept a 30mm suction hose. For power sanding at the lathe, its hexagonal arbor is set into the chuck of any power drill, while a standard 30mm suction hose connects it to a workshop vacuum cleaner or dust extraction system. When the suction is switched on, a hollow, conical collar which surrounds the back of its sanding pad directs the suction around the entire edge of the pad and backwards into the unit's body, where it is then drawn down into the suction hose and away to the suction source. Thus, a hand-held power drill (preferably battery powered) and a suction source are needed. As for the connection to the suction source; the unit's standard 30mm diameter port, as found on a wide range of powered hand tools, such as routers, sanders, planers and saws, also fits many standard-sized vacuum cleaner hoses. A dust extraction system with a 100mm hose will benefit from a user-supplied reducer and a short length of 30mm hose fitted.

Preparation for the test

To ensure that there wasn't any airborne dust already present in the workshop, the workpiece (air-dried beech at 15% moisture content) was pre-turned to its external shape and then the workshop was thoroughly cleaned the night before the test and left unused until the test began the next morning. Throughout



PHOTOGRAPHY BY LES SYMONDS

The test set-up

the test, all doors and windows were kept closed to avoid any disturbance of air-flow and all other forms of dust extraction and air filtration were isolated and remained unused unless they featured in the test, Three tests were carried out under as near-identical conditions as could be achieved.

Test (a) involved power sanding the outside of the workpiece with a battery powered hand drill and a 50mm, 120-grit sanding disk, as supplied by the maker. Sanding continued for one minute. Throughout the test, four pieces of plywood had been positioned at strategic points to collect any outfall of dust. These 'register' pieces were 50mm square, painted matt black with a strip of 25mm masking tape fixed along one side of each.

Piece 1 was positioned on the headrest, tilted by a few degrees towards the workpiece

Piece 2 was positioned on the lathe bed, directly beneath the workpiece

Piece 3 was positioned on the lathe bed, just beyond the tailstock

Piece 4 had double-sided tape on its rear and was fastened to my shoulder

Following test (a), the register pieces had the strips of masking tape removed and were photographed, then the dust cleaned

away. The lathe was cleaned down and the workshop left unused for an hour to allow any dust to settle before a second wipe-down of the lathe and the repositioning of the register pieces under identical conditions as reported for test (a).

Test (b) involved a repeat of test (a), but with my Record Power DX1000 dust extractor working, its 100mm extraction hose positioned directly behind the workpiece, with a hopper-type terminal fitted to it. A fresh sanding pad was used, of the same type and for the same duration as in test (a). At the end of the test the register pieces were again collated and photographed.

Test (c) involved a repeat of test (a), but with the Pad-o-vac employed as described above. A fresh sanding pad was used, of the same type and for the same duration as in test (a). At the end of the test the register pieces showed such a minor contamination with dust that the test was allowed to run for a further two minutes, then the register pieces were again collated and photographed.

The result

The photographs of the four register pieces speak for themselves. The amount of airborne dust was dramatically reduced to the point that, as mentioned above, the test involving the Pad-o-vac was extended to give a visible result. Indeed, you might notice that while the dust extractor coped admirably with fine, airborne dust, occasional clusters of dust fell to the lathe bed and remained there, as did finer airborne dust which travelled as far as the register pieces on my shoulder and behind the tailstock. Thus, the unit achieves its primary function admirably and is therefore advantageous to any woodturner.

At first, I found the experience of holding what amounts to two drills in-line a little strange and was concerned that it might be cumbersome. However, this did not prove to be the case. The near-doubling of length of the hand-held system effectively gave more control, just as the longer handle of a large bowl gouge gives greater control than would be experienced with a short-handled tool.

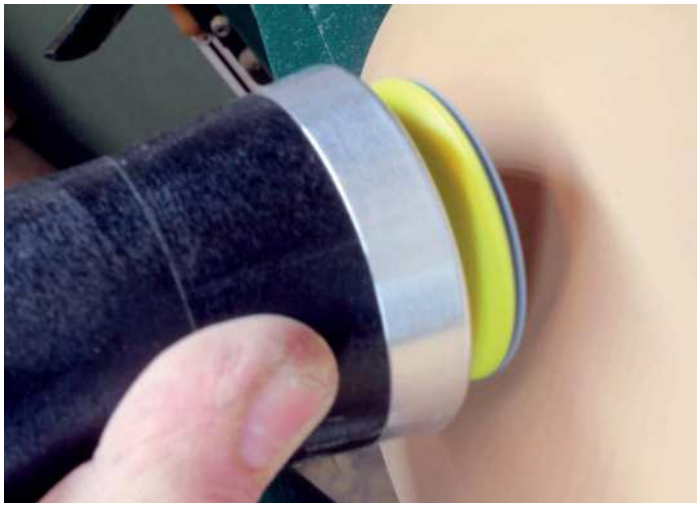
I was expecting to have to tape the end of the suction-hose on to the port of the unit, but this proved unnecessary as the vacuum caused when my vacuum cleaner was switched on held the hose in place securely. When switched off, the unit and the hose separated themselves, which some people might consider to be a slight nuisance, especially if further sanding needs to take place, but this can easily be overcome.

Internal bowl sanding

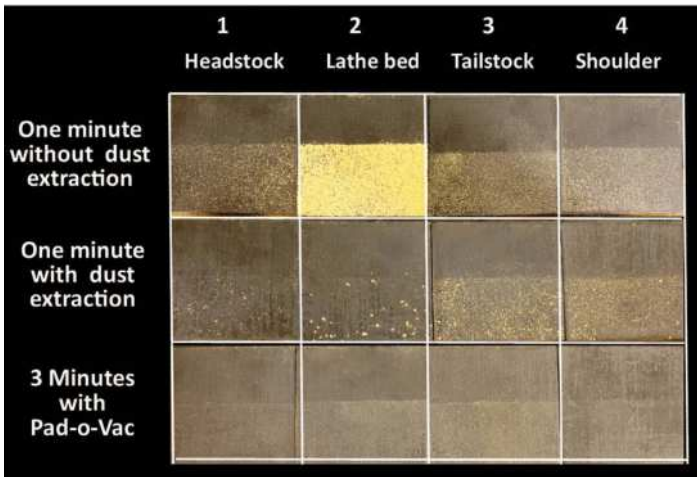
Following the success of the three tests on the exterior of the bowl, I then hollowed a yew bowl and tried the Pad-o-vac unit on its inside. This bowl was approximately 18cm diameter x 8cm deep, with a live edge. As before, the handle was swung through the same arc, but the increased length of the combined unit and hand drill took me a few moments to familiarise with, otherwise, there were no great differences in use. Arguably, the smaller diameter of the body of the unit, compared to the body of my hand drill, afforded a little extra close working when sanding up to the rim, which I was able to achieve comfortably, to the point where the live edge commenced.

Conclusion

That the Pad-o-vac achieved its claim of being a 'dustless' system cannot reasonably be argued against, as the amount of dust on the four register pieces was effectively nil. I concede that the system feels a little strange when first used, but no more so than the use of a traditional unpowered sanding system was when I first used one, nor of a powered system when I first swapped to that. Given that the unit swings through little more than 90° when used either inside or outside a bowl, my 30mm extraction hose did not prove cumbersome at all, but I am sure that those turners using a 100mm hose will need to fit a reducer and short length of hose, as previously mentioned.



No visible dust



The test results

Internal bowl sanding

More information available from https://www.padovac.co.uk/ 07410 963 046.

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Miriam Jones

TV appearance for The Worshipful Company of Turners Bursary Award winner Miriam Jones

This year of the pandemic has been hard for many, but woodturner Miriam Jones has managed to not only survive, but thrive. After her amazing lockdown candle success, she was asked to take part in a Welsh TV Craft show *Y Stiwdio Grefftau*, or *The Craft Studio*. Three crafts people competed each week having been given a brief presented by a client who then chose the best design. The programme was first aired on 1 December on S4C, and is available now to watch on BBC iPlayer, with Miriam featuring in the programme on 15 December.

Miriam's brief from Snowdonia Park was to make a stargazing bench, and to do this she lazered mirrored plastic into the ends of the dowels so that the bench would glisten at night. Plastic weaving was used to create the effect of a nest, and the wood used came from offcuts and discarded timber from a timber yard.

After the programme was aired, Miriam was told some exciting news: 'I am so happy to announce that the bench has a home, and a special home, in Yr Ysgwrn, Hedd Wyn's home, Trawsfynydd. The famous Welsh poet lost his life during battle in WW1 and had won the prestigious National Eisteddfod chair in 1917. It is the first time in history for a winning poet to be unable to sit in his bardic chair after it was awarded. The chair was therefore draped in black sheet in his honour.

'My bench will be part of Welsh history and heritage, which is incredible. Snowdonia Park told me straight away after the show that my bench was more like art, and had an aura and statement to it, and they believed the Ysgwrn was a more fitting home, as well as the poem from Hedd Wyn etched on its chair.'

Other lockdown successes

At a point where Miriam was worried about her business and had no clue where to go next, she made a little rainbow tealight holder. She said: 'I never thought it would be so popular. It has carried and helped me and others in so many ways this year and inspired new colourways. I light mine up often to reflect and hope for future.

'I've made some lovely connections with local businesses and collaborated with them on their products.

'The Worshipful Company of Woodturners have been amazing this year, their support and my mentor Joey Richardson support has been invaluable.

'I was honoured to have the chance to take part in their Wizardy in Wood Zoom evening and discuss what I'd been doing through lockdown. I was gutted that my training at the start of the year had to be postponed but I have tried to perservere on my own.

'The opportunity to take part in *The Craft Studio* on s4c was such a brilliant experience and challenge. I still can't believe I made a bench in a month!

'It has turned into the age of online shopping. I cannot thank you all enough for your support this year, it has forced me to understand my website, and every order has meant a lot to me.

'I feel very lucky to be able to say I had many positives come out of this year, even though it increased my anxieties, worries and stress at times.'

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Teapot

This month, Richard Findley is challenged to make a decorative wooden teapot

A few years ago, mostly in the US, there seemed to be a huge trend for wooden teapots. Teapots of all shapes and sizes. Some plain wood and some highly decorated, but teapots, nonetheless. I have to admit that I never 'got it'. Obviously, these teapots are never going to be used as teapots, they are purely decorative, artistic items and while I can appreciate the huge amount of skill and time that goes into making one, the trend never really piqued my interest. When the challenge arrived in my inbox this month, I was more than a little apprehensive about it, but I have undertaken 36 previous challenges, largely successfully, and I'm not about to fail one now.

PHOTOGRAPHS BY RICHARD FINDLEY

Teapots

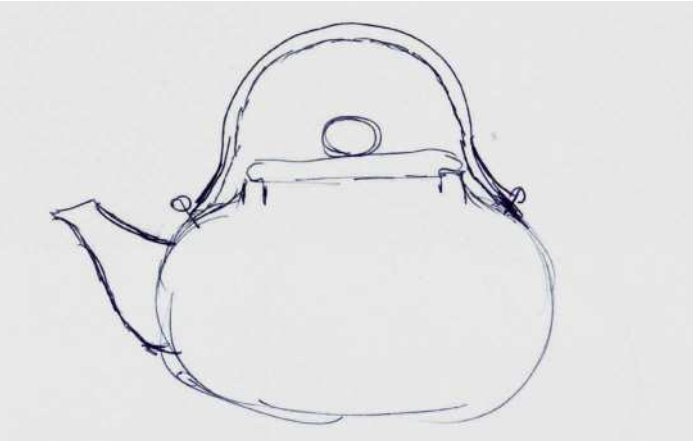
I'm not a big tea drinker but growing up in a house that still used loose-leaf in a teapot, I am more than familiar with them, at least with the traditional ceramic teapot found in kitchens up and down the UK. Running the idea of making one through my head, I can imagine making the body and lid much like a lidded bowl or box and adding a spout, which may need some carving to achieve the shape. The main stumbling block in my head is the handle. There are ways of bending wood, either with steam or by lamination, but there are limits to the size of curve that is achievable. Cutting the handle from a solid block would be possible but would leave some very short grain and so considerable weakness. I need more inspiration, so I turn to the internet.

Image searches for 'turned wooden teapot', 'wooden teapot' and just simply 'teapot' bring up a huge range of pictures to feed my imagination. As I scroll, I make a few sketches. I want to keep it mostly traditional in shape and it must look obviously like a teapot, so someone looking at it can be in no doubt as to what it is. I realise that, if I want to bend the wood for the handle, a top handle is going to be the best route to take, rather than the handle opposite the spout, as I had initially imagined. I see some Japanese teapots which have a straight handle coming from the side of the teapot, at 90° to the spout, which appeals to me

purely from a simplicity point of view. Turning a straight, tapered handle and fixing it to the side would be incredibly simple compared to all other options that I'm imagining but goes against my 'must be easily recognisable' rule and would probably need some explaining, so I discount that idea.

The top handle, made from bent laminations, would be possible, so after a few sketches, I settle on a design. I select some 100mm thick oak, which seems to be a good choice to give me a full-sized teapot. I could make a miniature or small teapot, but I wonder if that is going to make the handle bending more difficult?

The oak is 200mm wide and after drawing a few circles on the board, I cut a piece from which I hope to be able to cut the teapot, the lid, the spout and the handle. I carefully cut out the discs for the teapot and lid on the bandsaw and I'm ready to begin.



My sketch on which the teapot is based

Making full use of the wood

Hollowing

I begin with the teapot itself. I mount it on a screw chuck and treat it as a bowl to begin with, turning the outside shape and a chucking tenon on the base. The shape is not one I would naturally use for a bowl, but I'm pleased with the flowing curves, which I refine using a shearing cut with my bowl gouge, before sanding to 320 grit and finishing with a red abrasive pad.

I flip it around, now holding it in the chuck and begin hollowing, initially with my 10mm bowl gouge (12mm bar) and stepping up to my 12mm bowl gouge (16mm bar) as the depth increases. The undercut is way too much for a bowl gouge though, so I move on to my carbide probe tool, which is fitted with an 8mm carbide cup cutter.

With this, I am able to access the undercut of the teapot and shape the wall to an even 10mm thickness. I also use a curved negative rake scraper to smooth and refine the walls before sanding. I have a small magnetic LED light that attaches to my toolrest to help illuminate the inside of the pot as I work. I realise that a 10mm wall is thicker than this kind of item might usually be left, but I am aware that I need to fix the handle and spout, which will need some additional shaping and possibly drilling, so the 10mm wall seems reasonable. I carefully sand the inside to match the outside surface.

Shear cutting to refine the surface of the teapot

Beginning to hollow with my bowl gouge

Working deeper with the carbide probe

Lid

Shaping the bead on the lid

Drilling the lid

Sanding the underside of the lid

Satisfied with the body of the teapot, I can move on to the lid. This needs to be a simple flat top with a bead, and a straight section which will sit inside the rim of the teapot. The wood, at 100mm thick, is too thick for the lid, but I intend to use the waste part to turn a ball as a separate knob for the lid.

I mount the disc between centres initially and cut a chucking tenon. Once held securely in the chuck I can turn the bead and roughly size the straight section.

I then drill the top of the lid with an 8mm bit fitted in a drill chuck in the tailstock. This allows me to hold the lid on a screw chuck and will double as a mortice for the knob to be fitted to. The lid is sanded before remounting on the screw chuck.

Turning the ball

Ready to glue into the lid

The lidded pot, so far

I part off the excess wood and put it safely aside and size the straight section of the lid so it is an easy fit into the body of the teapot, hollowing the underside somewhat as well.

I mount the waste block between centres, this time as a spindle blank – both the teapot and the lid are cross-grain, like a bowl – and turn a 25mm ball with an 8mm tenon.

I sand it and part it off, before glueing it into the lid.

At this point, I have quite an attractive lidded bowl or pot, but my aim is for a teapot, so I must continue.

Handle

I have decided to use bent laminations for the top handle on the teapot. The principle of bent laminations is that a 10mm thick strip of oak will not bend, but a 1mm thick strip will, so 10 x 1mm pieces, bent into a former with glue will form a new curved and solid shape once the glue has cured.

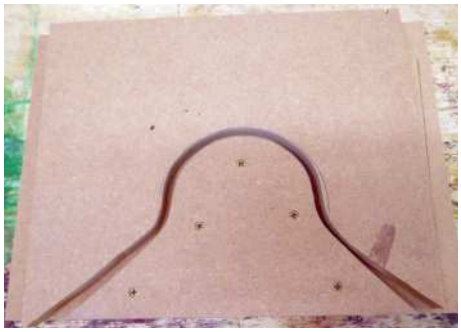
I have done this a couple of times before with some success, so I am optimistic about how this will turn out. First, I need to work out the size that I need my handle to be. After a few sketches and a little measuring with callipers, I settle on a size. The photo shows my less than scientific representation of how it should look.

I cut two boards of 18mm MDF, 250mm x 380mm. One will be a base board, the other will become the former. Having drawn my curve on to the board, I draw a second line, 10mm above the first.

I take the MDF over to the bandsaw and carefully follow my lines. The two pieces now have a perfectly matched pair of curves with a 10mm space between them.

I screw the board with the inner curve on to the second MDF board and then thoroughly wax any surface that glue might touch. This should allow everything to come apart easily once the glue has cured.

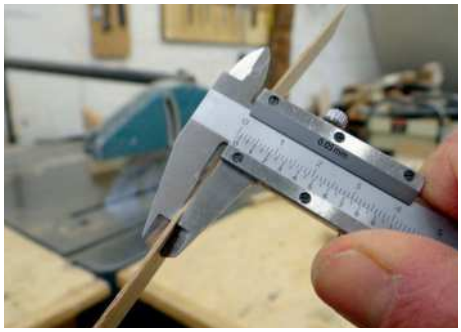
This gives an idea of how the handle will sit and look



The former ready to use

Waxing the former to prevent sticking

Laminations



Each layer is exactly 1mm thick

Ripping the 1mm strips

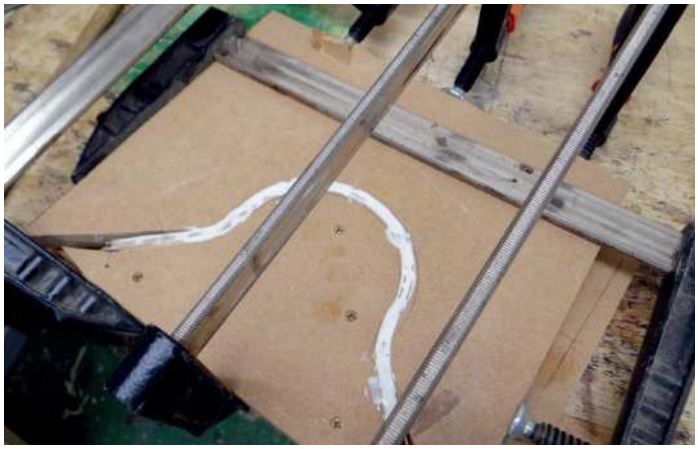
Plane between rips to ensure the smoothest surface

From the timber I have left, I can cut strips 18mm wide, from which I can rip the laminates. I set up my saw bench with the 96 tooth fine cutting blade, which leaves an excellent surface. I add a low wooden sacrificial fence which allows me to safely set a 1mm gap between the blade and fence. I then take a test cut from one of the 18mm oak strips. I test it on the former and I am pleased to find that it bends around the shape without putting up too much of a fight, and most importantly, without snapping.

Happy with the sample, I cut another 10 strips. Between rips, I plane the fresh surface to ensure I have the neatest possible glue lines. The 1mm strips can't be planed, but the cut surface is acceptable because of the fine saw I'm using. With the 10 strips stacked together, I check them with my Vernier callipers, and I'm pleased to see they're exactly 10mm thick. Now I'm ready for the glue-up.

I always find complex glue-ups a little stressful so I lay out everything I will need, ready, to help things go as smoothly as possible. I take a deep breath and make a start. The first strip needs no glue. Each one that follows gets glued on one side and added to the jig. I use my usual white wood glue and spread with a brush. Once all 10 are glued and laying against the former, I bring in the top, outer portion of the jig and begin bringing them together. I push them as far as I can by hand before bringing in a cramp. After a little wrestling but not too many swear words, I have four cramps fitted to the jig and everything held together tightly. I leave it alone to fully dry overnight.

The glue-up begins



In cramps and left aside to dry

Spout

While I've been working on the other parts I have been mulling over ways to make the spout. I had imagined having to carve and rasp it to shape but I am always acutely aware that this is a woodturning magazine and so people want to read about woodturning techniques, not how something was shaped using a rasp. I think there will need to be some additional shaping but I wonder if it would be possible to turn a spout, perhaps off-centre?

I get some pine from my timber pile and begin to experiment. I need to produce an external curve on the underside of the spout but have an internal curve on the top. After four experimental pieces, which improve with each attempt, I have a shape that I am happy with and notes on the steps I need to take to repeat it.

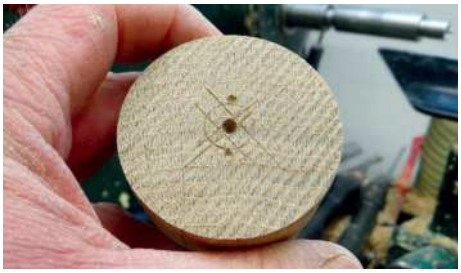
I cut the remaining piece of oak into a spindle blank 110mm long and 55mm square, initially mounting it on centres at each end. I turn a shape that resembles a dumpy bottle with a slender neck and flared opening at the drive end, around 80mm long. I then sand to match the rest of the teapot. I'm holding it between an Axminster Evolution drive in the headstock and a ring centre in the tail, which gives secure grip even when the wood isn't dead on centre. I check the grain pattern and mark new centres at the tailstock end around 10mm above and below the actual centre, with the grain running horizontally.

With the wood held on the new centre, I cut a sweeping cove from the high point down to the slender neck, removing the shadow of off-centre wood at the neck and sand again. I then place it on the third centre, marking the high point with a pencil, and part down to a small nub with a thin parting tool.

The final bit of shaping required is done on my belt sander jig which I have shown before. The jig safely holds the belt sander on its side, making it into a versatile edge sander (you could also use a disc sander). I use this to add a curve to the narrow end of the spout, which really identifies it as a spout of a teapot.

Practice spouts in pine before using my oak


The first stage of turning the spout looks like a bottle


Marking the new centres


After turning a cove on the second centre


On the third centre, marked ready for parting


Shaping the spout on the sander

Fixing the spout

I need to work out how to fix the spout to the pot. Obviously, it doesn't need to pour or hold water, but it needs a neat and tight join between the two parts. I hold the spout on to the pot in the position I feel looks best and roughly draw around it. This isn't particularly easy or accurate but gives a good enough idea to work with. I take the pot to my sander jig and begin flattening the highlighted area. I check my progress regularly and adjust to make sure my flat area is as close to my markings as possible.

I now need to stick the two parts together. Some sort of dowel inside the join would help to line things up and hold it in place while glue sets. I could turn some wooden dowels but while thinking through my options I remember that I have some brass rod left over from the walnut Constellation bowl I made a few months ago. This will be ideal. I nip off a couple of pieces and drill two 2mm holes in the back of the spout. By pressing the spout against the pot in the correct position, the brass rods mark the pot and show me where to drill. You can see from the picture that it lined up on my second attempt. I use epoxy resin to fix the dowels and spout in place. The fit of the brass rods is tight enough to hold it perfectly while it dries.


Marking the position of the spout


Sanding a flat on the pot


Brass rods used to fit the spout to the pot


Just the handle left to do


The handle needs a little tidying

Back to the handle

Having spent the night in the former, the laminated handle can be released. The wax has done its job and everything pops apart with a light tap from my mallet. I am very pleased with how the laminations look, without a single gap.

I find my first major problem when I go to sit the handle over the teapot as a dry fit. Even taking into account that the laminations are over-long and will be cut down, the handle will not fit in the small space above the spout. After a few choice swear words I am faced with two options: either remake the handle or fix it differently. With my schedule and several looming deadlines (including the one for this article), I decide remaking is out of the question, so how can I fit it differently? The answer is obvious – rather than running front to back as most teapots do, it can run side to side. I'm certain we used to have a large metal teapot at my Dad's factory with a standard handle opposite the spout and a side to side handle as well. While my planned handle arrangement would make an actual teapot difficult to pour, I think it looks quite good and would solve my problem, so I choose to exercise my right to 'artistic licence' and fix it side to side. After all, this is a purely decorative and artistic piece and not an actual teapot.

I had imagined shaping the handle somewhat, but now it is out of the former and I have cleaned the glue off with a block plane, I actually quite like the rectangular profile. I run it over my belt sander to clean the surfaces of glue and marks, then soften the edges so it fits the hand better. I then take it over to the teapot to mark the ends of the handle. I use the 2mm brass rod again, this time like a pin, and fix the handle to the sides of the teapot with a little epoxy. I sketch a kind of Gothic arch on to the end of the handle and return to the sander to shape them.

Satisfied with the look of it all, I hand sand the handle with 240 and 320 grit to smooth it out further and match the rest of the teapot.

I snip off two pieces of the brass rod and mix up a small puddle of epoxy. I add a dab of epoxy to the side of the teapot and dip the brass rod in epoxy, before pushing the pins into place, tapping them home with my pin hammer.

As with the spout, working on curved surfaces is tricky and having a third hand would be useful, but I manage to drill the first 2mm hole through the handle and into the teapot. I push the brass rod in to locate it, which makes it much easier to drill the second hole.

Once the epoxy is dry, I power sand the small protruding pieces of brass level with the oak surface, apply four coats of hardwax oil to the teapot and it is done.

Refining the handle on the sander

Tapping the fixing rod in place

The finished oak teapot

Conclusion

I had been dreading making this project, but I enjoyed it once I got started. There are several elements to making it beyond straightforward turning, which I always enjoy. I am disappointed with my planning for the handle but think it does look good how I fitted it, even if it would make it difficult to pour as a real teapot.

I have left the spout solid, perhaps I should, or maybe I will, drill it out somewhat and hollow it to make it look like it actually pours, but for the decorative piece that it is, I'm not sure how necessary that is.

I find it interesting how the proportions of it have visually changed from when it was a lidded bowl, when it looked quite tall and upright, to now, with its handle and spout fitted, it looks far more squat and rounded. I am pleased with the look of the finished teapot and hope that I have met the challenge set.

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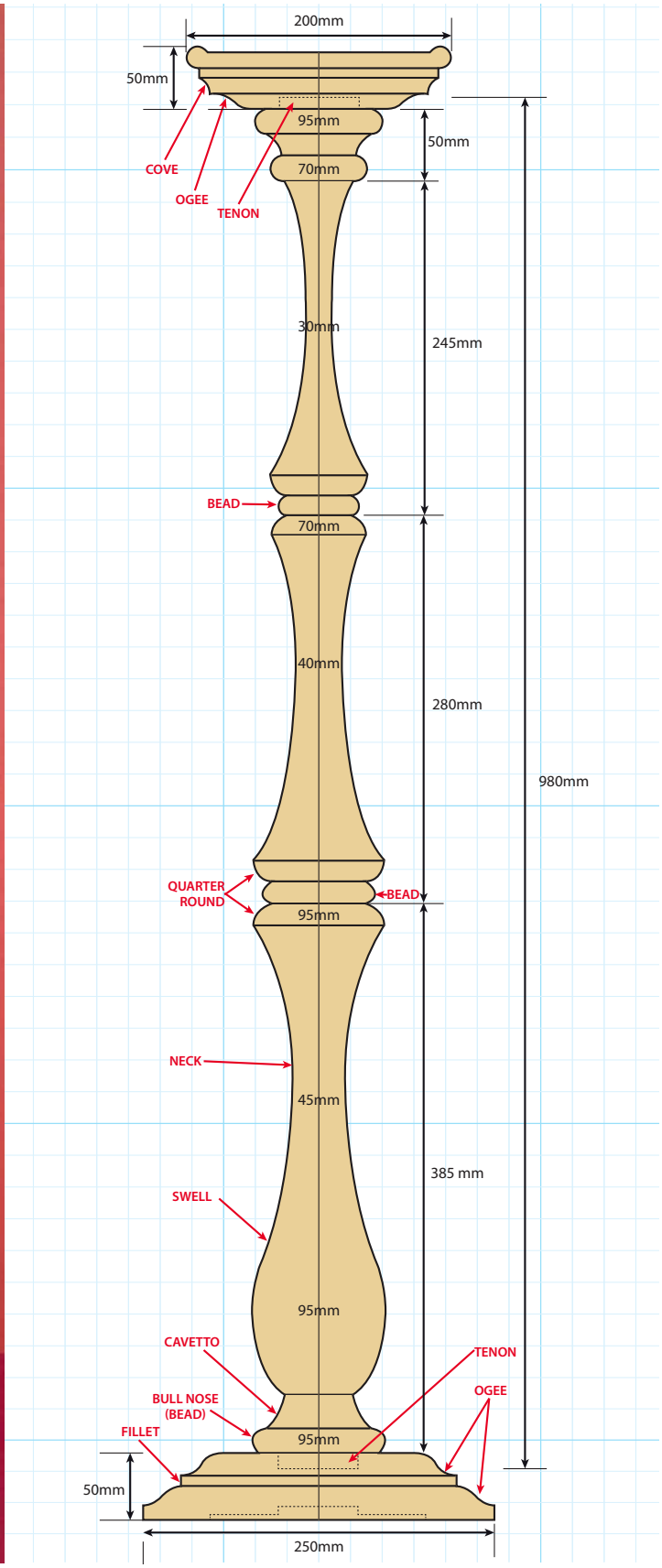
TALL PLANT STAND

Steve Bisco reveals the joys of long spindle turning with this attractive project

PHOTOGRAPHS BY STEVE BISCO



Lathes traditionally come with a long bed for spindle turning, but with bowl turning being the main focus for most hobby turners, the long bed often lies neglected and unloved. This is a pity, as long spindle turning is just as much fun as faceplate work and can produce attractive furniture and fittings without even using a chuck. And you don't have to have a big expensive lathe. Even my budget benchtop lathe can comfortably handle 'a yard of 4 x 4', and more, between centres.

This project creates a tall plant stand with an overall height of 1.06m, consisting of a 250mm diameter base, a spindle 980mm long (including tenons) and a 200mm diameter top. If your lathe can't accommodate the full 980mm, you can make it a bit shorter to fit your lathe or, if you have a much shorter bed, you could make the stem in three sections joining with mortise and tenons at the bull-nose mouldings.

Tall stands like this have been used for centuries to display trailing pot plants, vases (with or without flowers) and statuary busts. The Victorians loved them for displaying ferns. They are just as popular today and can brighten up any corner, preferably where energetic dogs and rumbustious children will not knock them over.

I have used pine (see below), which is a popular and traditional wood for 'furniture' items. It is fairly cheap and easily obtainable from good timber merchants, which is an important consideration when working in large sizes. Knots are considered an attractive feature in pine, but just make sure they are not in the wrong places and so big that they could compromise the structure of the stem. Pine has a fairly coarse grain, and very small beadings can crumble when turned, so I have kept the mouldings to a size and shape that can cope with the grain. For finish, I have used a clear wood wax to preserve the pale creamy colour of the pine.

As a woodcarver who also turns, I prefer to use tools that have a cutting edge similar to the shape I'm trying to form, rather than the more difficult skew chisel and spindle gouge. This works for me but use whatever suits you best. After roughing out with a roughing gouge, most of my external shaping was done with flat 'scraper' tools.

EQUIPMENT USED

Tools

- 30mm straight edge scraper
- 13mm straight edge scraper
- 25mm shallow curved edge scraper
- 13mm bull-nose edge scraper
- 18mm side cutting tool
- Spindle roughing gouge
- Wear the appropriate PPE for dust protection, eye protection and face protection

Materials

- Pine/Scandinavian redwood:
- **Stem:** 1m x 95mm square (4in nominal)
- **Top:** 200mm dia x 50mm
- **Base:** 250mm dia x 50mm
- uPVA wood adhesive
- Acrylic sander/sealer
- Clear wax

PINE/SCANDINAVIAN REDWOOD

Pine is commonly known in the UK as Scots pine, but timber suppliers use several different names related to its country of origin. This is because the rate of summer growth of this softwood conifer tree varies considerably depending on the climate it is grown in, and this affects the width of the soft 'earlywood' and harder 'latewood' in the annual growth rings. The better quality pine grown in the cooler climates of Scandinavia is sold by timber merchants as Scandinavian redwood, although it is the same tree as Scots pine and is not related to the giant Redwoods of North America. Scandinavian redwood's grain is straight and the wood is medium density and even-textured. It works easily with both hand and machine tools and its even texture gives a smooth, clean finish. It is easily obtainable at good timber merchants in the UK and elsewhere.

MAKING A LONG TOOLREST

When you are turning long spindles it helps to have a long toolrest so you can run along a greater length of wood in one sweep. Most standard toolrests are about 150mm long, but you can buy 300mm toolrests as an accessory. However, for a longer run you can make your own toolrest out of plywood with an angle-iron runner on the top. My homemade one, illustrated here, is 550mm long, which set beside the standard 150mm toolrest gives a continuous run of 700mm. It has bolts that pass through the middle of the lathe rails into smaller pieces of plywood underneath and are fastened with butterfly nuts. It has a small amount of adjustment so you can move it in and out slightly, and from one end to another.

You can easily and cheaply make a long toolrest to fit your lathe

The homemade toolrest can be bolted through your lathe bed with long bolts

Preparations

1 You will need three pieces of pine/Scandinavian redwood, 1m x 95mm square (4in nominal) for the main stem, and two circular blanks, 200mm dia x 50mm for the top, and 250mm dia x 50mm for the base. For reasons of economy I made up the base blank by laminating together two 25mm thick pieces of Douglas fir, which is another member of the pine family.

Turning the spindle

2 Cut the spindle section to 980mm long, or as long as your lathe will accommodate, and mark the centres on the ends. Set it up on your lathe and turn it to a cylinder 95mm in diameter using a spindle roughing gouge. You will have a large lump of wood on your lathe rotating at speed, with a few knots that may throw off hard chunks, so wear the appropriate PPE for dust protection, and eye/full-face protection.

3 Turn a tenon 10mm deep at each end. These will need to fit the mortise in the top of the base section and the underside of the top section, so the diameter will need to relate to the minimum diameter of your chuck jaws in expansion mode. Your chuck jaws must be able to fit in the mortise and the tenon must fit the mortise exactly.

4 Turn the lower segment of the stem, which is a sort of vase shape. There is a bull-nose bead moulding 95mm in diameter at the bottom, then a cavetto, and above that the vase swells out to the full 95mm of the wood, then narrows to 45mm in the neck, before returning to 95mm at the first of the triple mouldings. Work the tools back and forth along the toolrest and check the diameters with callipers.

5 Repeat the process on the middle section, which starts at 95mm, narrows to 40mm and widens again to 70mm at the second set of triple mouldings.

6 Carefully shape the two sets of triple mouldings between the sections, which consist of a bull-nose bead between two quarter rounds. The lower set is 95mm dia and the upper set is 70mm. The fairly sharp edge where the quarter rounds meets the long sections has the highest risk of crumbling, so work up to the edge very gently.

7 Now shape the upper section and the top mouldings. This section starts at 70mm dia at the triple mouldings, narrows to 30mm at the neck, then widens to a bull-nose moulding 70mm dia. Finally, it widens in a cavetto to a final bull-nose bead moulding 95mm dia at the very top.

8 Pine is a softwood with a coarse grain, so it is not easy to get a smooth finish on side grain straight from the tools, but to compensate for this it is a very easy wood to sand. Give it a thorough sanding on the lathe with 180-grit abrasive and it will come up to the smoothness you expect from pine furniture. Here is the finished stem.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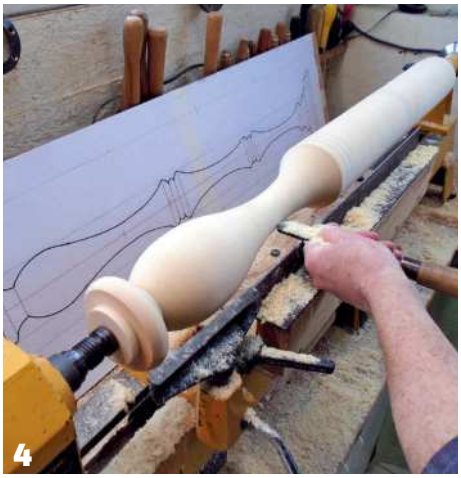
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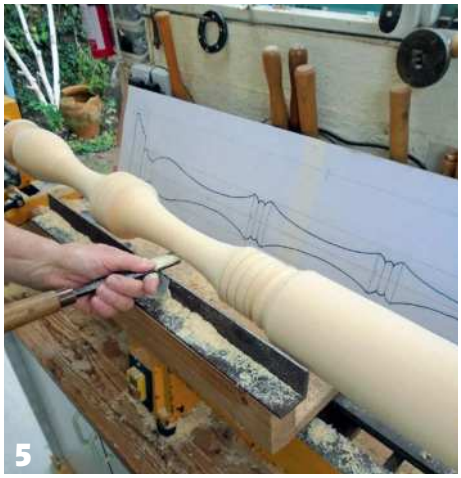
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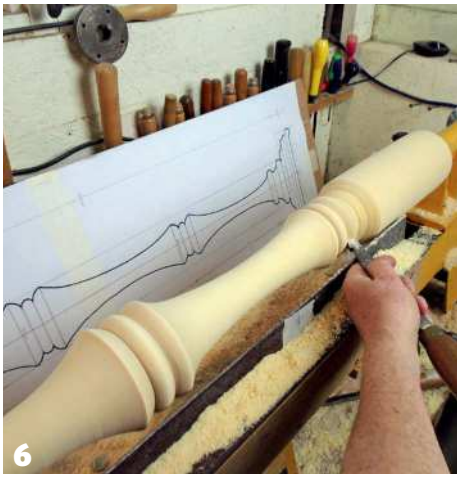
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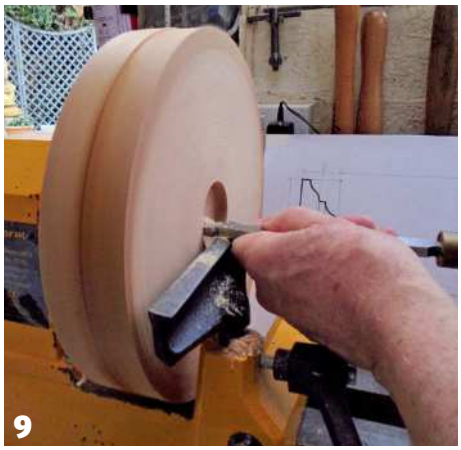
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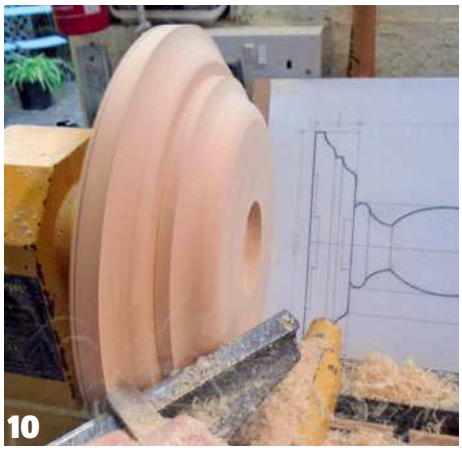
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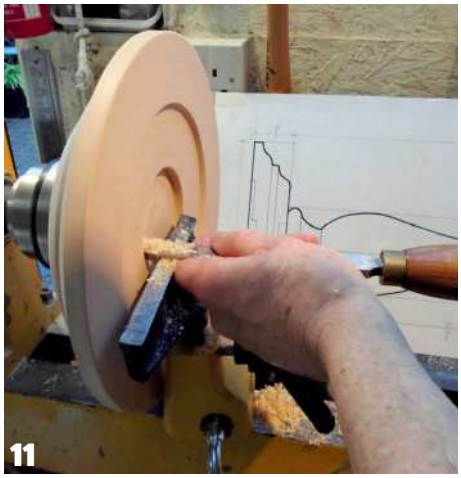
Base section

9 Fix a faceplate to the underside of the base blank and mount it on the lathe. Level off the upper face and cut a mortise recess. This must be an exact fit for the tenon on the lower end of the stem (see step 3). Test the fit before proceeding further.

10 Now turn the two ogee mouldings on the sides of the base and refine the outer rim.

11 Remount the base on to your chuck using the mortise recess you made in the upper face. Make sure the chuck is flat on the upper face as it is essential to get the upper and lower faces exactly parallel, otherwise your plant stand will lean like the Tower of Pisa. Level off the underside, then hollow the middle to a depth of about 6mm to create a rim about 38-40mm wide that the plant stand will stand on. In the centre of the base it is a good idea to create another recess so you can mount this on the chuck if you need to do any more work on the top of the base.

12 Here is the finished base, sanded smooth.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Top section

13 The upper face of the top section will form the 'table top' and needs to be clear of any screw holes or chuck recesses, so glue a piece of scrap wood onto the face to attach a faceplate. Make sure it is centred on the blank.

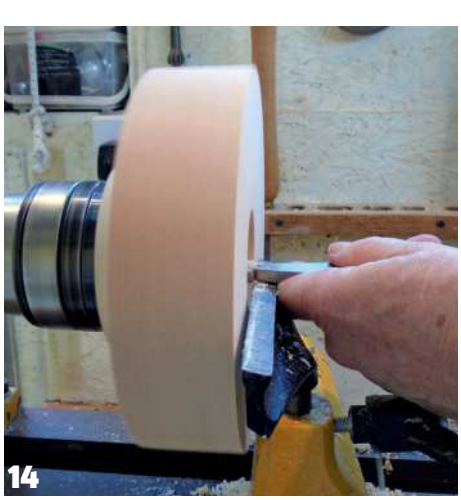
14 Cut a mortise recess into the underside. This needs to fit the tenon at the top of the stem, so test the fit as before. Level off the underside to make sure it will sit straight.

15 The mouldings on the underside of the top are a bit more complex than the base, so it is best to block out the width and depth of each one first.

16 Now, moving outwards from the centre, you can shape the ogee, cavetto, filet and round bead that form the mouldings of the top section.

17 Reverse the top piece on to the chuck and check that it sits straight. Turn away the waste block that the faceplate was attached to. Turn the outer rim so it 'rolls' over from the underside on to the top face. Cut the area inside the rim down by about 3-5mm, then use a flat scraper to make it perfectly flat and smooth.


13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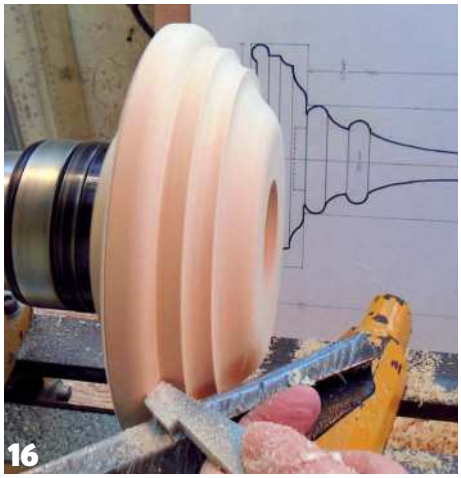
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17

18 Here is the finished top, sanded smooth.

Finishing

19 Give all the surfaces a coat of sander-sealer. This is best done by remounting each piece on the lathe and turning it by hand as you apply the sealer. When the sealer is fully dry, give the wood another light sanding with 400 grit abrasive, with the lathe spinning, so it has a smooth clean finish.

20 Apply a clear wax polish and buff it up to a soft sheen using a dry cloth with the lathe spinning. Hold the cloth loosely between fingers and thumb so it will safely snatch out of your hand if it catches. Do not wrap it around your fingers.

21 With everything finished you can glue the three pieces together with a good uPVA adhesive. The plant stand is now finished and ready to stand tall and proud in your home.


18


19


20


21

BAD VIBRATIONS

When turning long spindles you may sometimes find that the thinner sections start to flex and vibrate a bit as they rotate. This can cause an uneven shape and finish. If you do a lot of thin spindle turning it may be worth investing in a gadget called a 'steady' (either 'fixed' or 'travelling') which has an arrangement of wheels that clasp around the spindle to keep it steady. However, you can reduce the problem simply by exerting a bit less pressure on the wood in the thin sections and gently skimming the tool along the surface. In this project, the thinnest part of the spindle is 30mm, so vibrations should not be much of a problem.

TOP TIPS

- Turning a complex shape with several mouldings is much easier if you make a full-size drawing of the piece and mount it on a board behind the lathe. You can then use it as a visual guide while shaping, and also measure diameters from the drawing. You may not want to go to the trouble of making a full-size drawing on such a large scale, but even if you just scan and print out the measured drawing from this article and mount it behind the lathe it will be a great help.
- When you are turning a large object, you will create a much greater quantity of shavings than you would with a small bowl. If you don't clear these away frequently you will soon be up to your knees in them. This creates a safety hazard, so keep the broom close by and use it to clear up the mess every time you pause for a breather. ●

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Ron Brown's Best

40/40 Grind Set Up-Block

Stuart Batty is an internationally known woodturner who popularized a bowl gouge grind knows as the 40/40 grind. Stuart teaches this grind as a platform only grind that does not use jigs or fixtures other than the platform on a OneWay Wolverine Jig System. Until now, the only way to achieve a 40/40 grind was by hand. I have developed a system that uses the OneWay VariGrind 1 or 2 tool holding fixture and a setup block to achieve the traditional 40/40 grind. Results are much more consistent and it is much easier to grind a single facet. The Nose Angle and the Wing Angles will be 40 degrees every time just as one would get with Stuart's manual grinding method.

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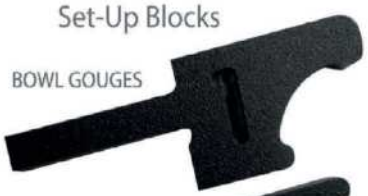

SPINDLE GOUGE

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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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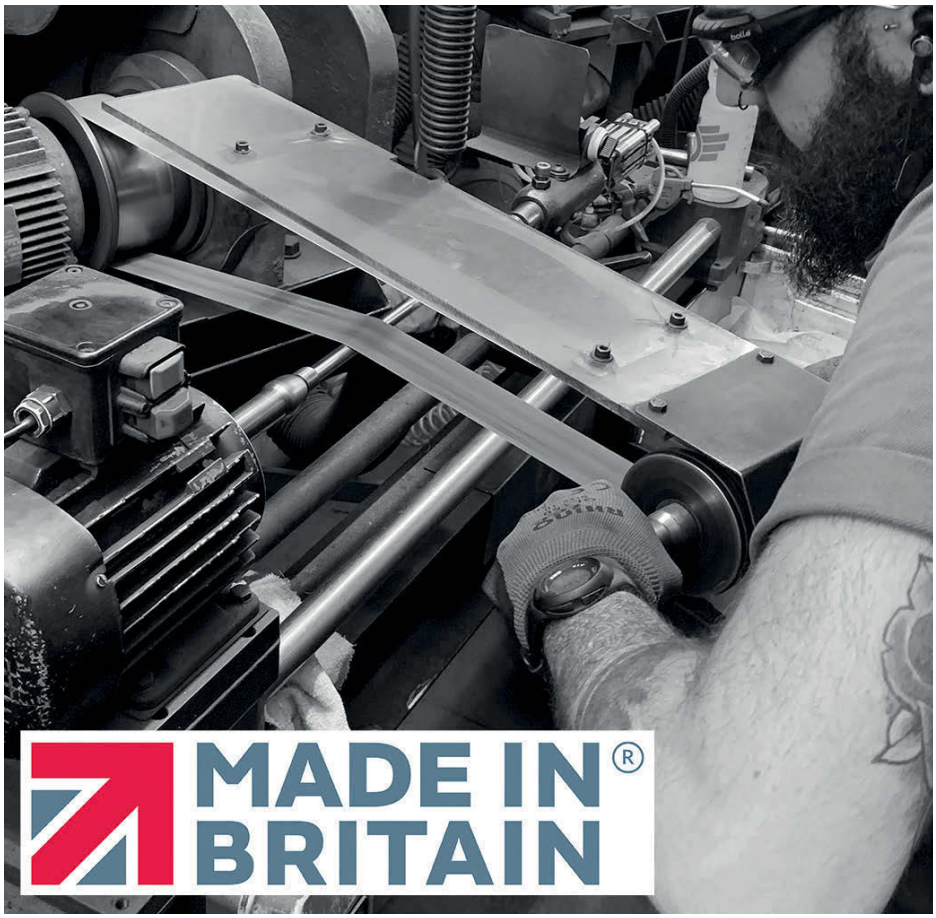
Community news

Robert Sorby celebrates being granted Made in Britain membership



Robert Sorby has been accredited as a member of Made in Britain. The company's adoption of the official, protected mark (right) will help buyers recognise its products as good quality, great value and British-made.

The mark also lets customers know that Robert Sorby is a trusted company that values transparency, sustainability and ethical business practices. Consumers are increasingly recognising the Made in Britain mark as a mark of confidence.

'We are extremely proud to be accredited the mark and become part of this great community of British-made products,' said Ian Finkill, general manager of Robert Sorby.

John Pearce, chief executive of Made in Britain, said: 'We're delighted that Robert Sorby has joined the community of more than 1200 British manufacturers. The more the mark is used and seen, the more it is recognised as a mark of quality. In addition to getting access to the official protected mark, Robert Sorby will also start to enjoy the many other benefits membership of Made in Britain brings, including support in sales, marketing, PR/comms and export. We look forward to watching Robert Sorby grow with our help and support.'

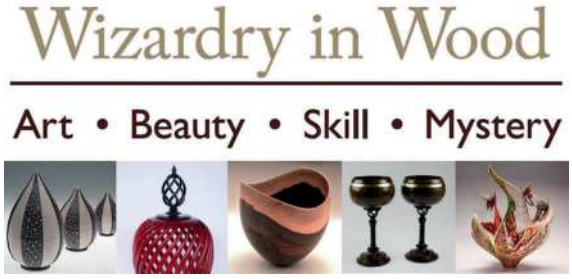
https://www.robert-sorby.co.uk/

About Made in Britain

The Made in Britain organisation helps Britain's manufacturers to grow. It provides support to its members in sales, marketing, PR and export.

Members of Made in Britain can be found in a searchable directory at madeinbritain.org, which gives detailed information about their manufacturing businesses, including company news and links to their websites and social media activity. Buyers and procurement professionals use the Made in Britain directory to find suppliers.

For more information about Made in Britain visit: madeinbritain.org



About Wizardry in Wood 2021

Some of the UK's leading turners will be exhibiting, including Sally Burnett, Margaret Garrard, Mick Hanbury, Louise Hibbert, Simon Hope, Phil Irons, Tobias Kaye, Richard Kennedy, Carlyn Lindsay, Stuart Mortimer, Gary Rance, Joey Richardson, Mark Sanger and Les Thorne.

In addition, there will be exhibitions of 400 years of turning in music, turning in magic and prehistoric turning, as well as curated talks on specialist turning subjects. There will be demonstrations of plain turning, ornamental turning and pole lathe turning, and all entries to the Company's 2021 Competitions will be displayed. The AWGB will display its travelling exhibition, and the Register of Professional Turners' stand will include a retrospective of the work of Master Turner Ray Key.

Contacts and links:

More information on the 2021 competitions: turnersco.com/turning/turning-competitions-2021/
Wizardry in Wood: turnersco.com/turning/wiw/

Re-launch of Europe's largest woodturning competitions – call for entries

The Worshipful Company of Turners announces the competitions postponed from October 2020, will now go ahead at Carpenters' Hall in the City of London on 12 October 2021.

Emerging from over a year of pandemic and lockdowns, this event will be a beacon of hope for woodturners and woodturning enthusiasts alike.

With categories for all levels of interest, skill and turning speciality, including plenty for young turners in schools and colleges, it is the largest competition of its kind in Europe, attracting entries from the UK and abroad.

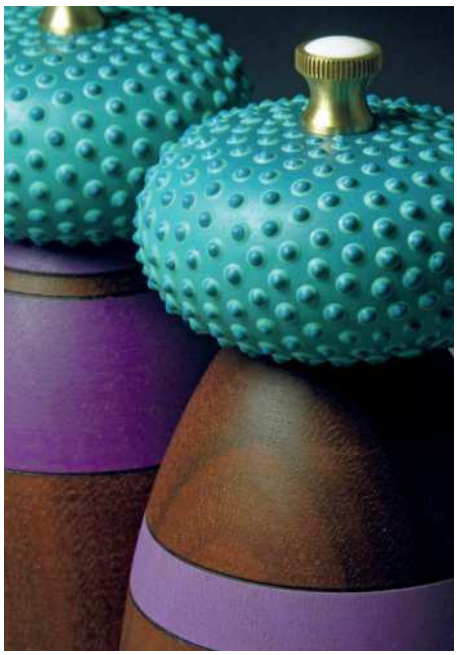
All entries registered with the Turners' Company by Monday 4 October and received by Monday 11 October will be exhibited as part of Wizardry in Wood, the Company's major exhibition from 13-16 October, which usually attracts over 2000 visitors. Competition entries can be offered for sale as part of the Love View Buy theme.

Held every four years, up until the 2020 pandemic, Wizardry in Wood was launched by the Turners' Company in 2004 on the 400th anniversary of the granting of the its Royal Charter in 1604.

Melissa Scott, Master of the Turners' Company, said: 'The Turners' Company competitions are now firmly embedded in the turning community's calendar, and we're excited to provide a platform that reveals the very best in contemporary turning as well as an opportunity for turners new to the craft. Simply by entering, their work will be seen by turners, art lovers and the curious public who decide to come to Wizardry in Wood and be amazed at our time-honoured craft.' Please enter – and remember, there really is a competition for everyone.

How to enter the competitions

The competitions are run in association with the Association of Woodturners of Great Britain, the Association of Pole Lathe Turners and Greenwood Workers, and the Society of Ornamental Turners. Full details are at: https://turnersco.com/turning/turning-competitions-2021/. There are 13 categories, including those requiring special turning techniques, such as combining two species of wood, or special themes such as creating a piece depicting 'music'. There are categories for young turners, and several where you can just enter whatever you like. The top prizes are worth over £1,000, along with sponsors' prizes of tools.



Make a garden dibber using a pole-lathe

Green woodworking expert Peter Wood shows just how easy it really is to fashion a garden dibber on the pole-lathe

In this issue, I'd like to take you through, step-by-step, the process of turning a simple item on a pole-lathe. I've chosen a garden dibber as I use this as a starting point for my courses, partly because I've turned literally thousands but also because it's a fun way to familiarise yourself with how the lathe works. In the process, you'll have a chance to master each of the four basic turning tools, a little cleaving and some drawknife work.

Forgive me if I get a little technical in this article but as the pole-lathe is only powered by your energy, correct technique saves a lot of work and makes the process a good experience rather than a struggle.

I like to have everything to hand when working, with a good height chopping block that doubles up as somewhere to put your turning tools within easy reach, a shavehorse and your lathe. Here I'm using a bungee-powered lathe.

While I prefer to use a springy ash sapling, the bungee allows for an easy set-up both inside a garage or outside in a garden.

PHOTOGRAPHS BY PETER WOOD

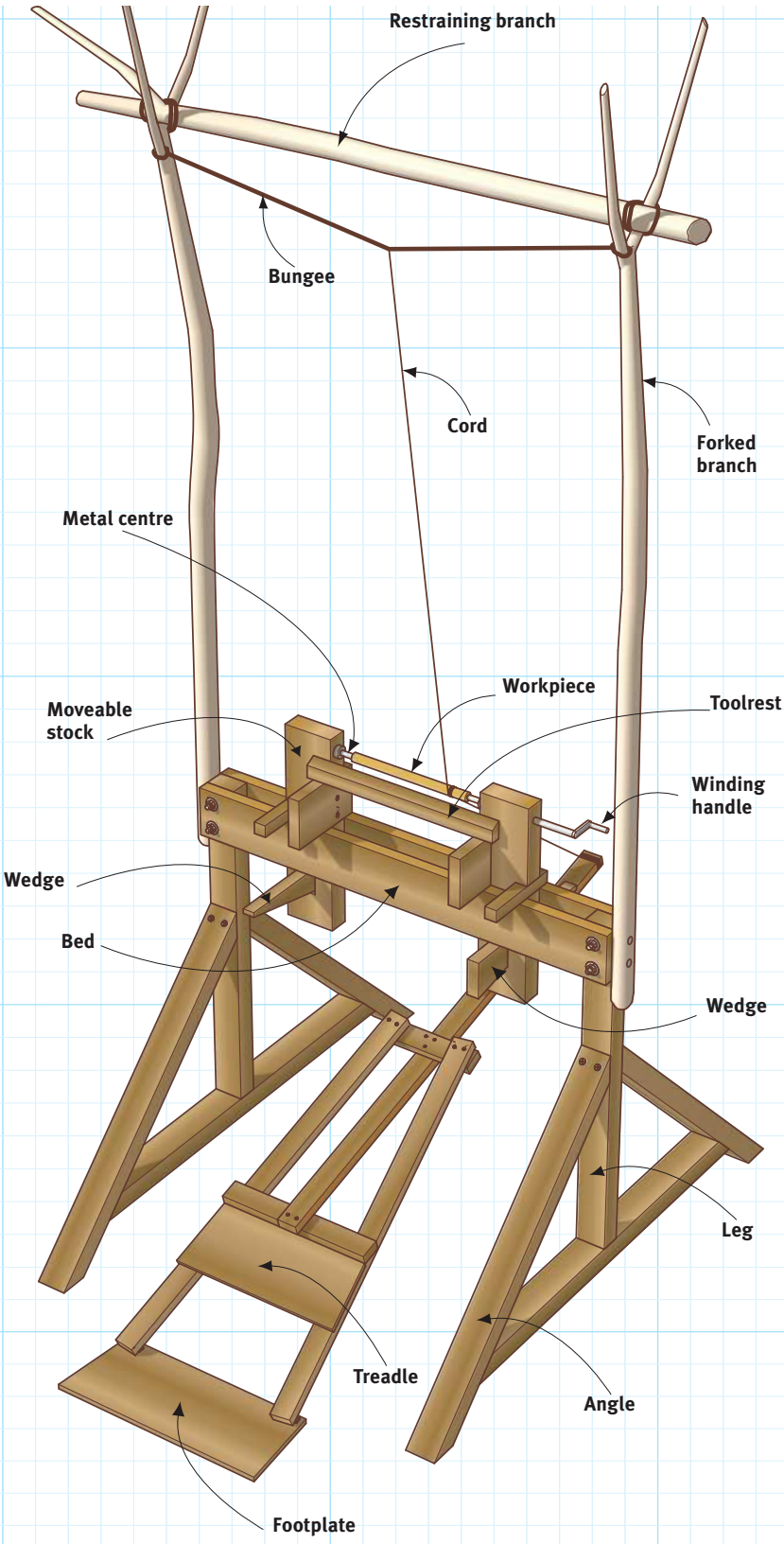
A good garden set-up: bungee lathe, high chopping block and simple shavehorse, all within easy reach

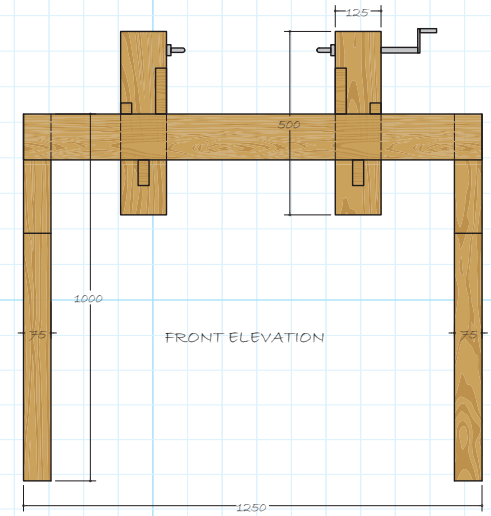
EQUIPMENT USED

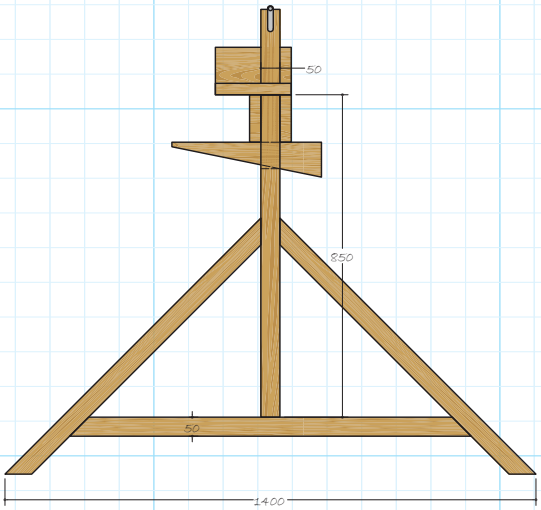
Tools

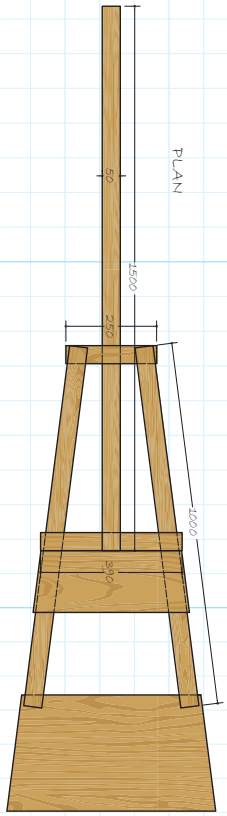
- PPE and RPE
- Pole-lathe
- Axe
- Shavehorse
- Vice
- Oil
- Rouging gouge
- Spindle gouge
- Skew chisel
- Cleaver
- Drawknife

The lathe shown in this article is a version of the pole-lathe, which comes in several types. This one is technically a bungee pole-lathe as it uses two branches attached to the ends of the lathe with a bungee fixed to them and then by cord down to the treadle mechanism. The treadle is hinged to a board, which you place one foot on and the other on the treadle plate. With the cord wrapped around the workpiece on the lathe several times you then press down firmly on the treadle to rotate the workpiece in one direction, when you lift your foot the bungee pulls the cord up and thus rotates the workpiece in the other direction. You can only cut when the workpiece is rotating towards you.









1 The first stage is to get your billet on to the lathe. I'll cover cleaving in more detail in a later article but, for now, select a straight piece of freshly felled ash, quickly grown, free of knots and relatively straight. As there's no machinery to help the process, choosing an easily worked piece of wood saves time and energy. Save the character wood for later.

2 The next step is to place an axe where you want to split the wood to get the right size billet; this may involve cleaving in quarters, sixths or more depending on log size. Always cleave to the size you want – it's tempting to leave yourself extra size in case of mistakes, but this exponentially adds to your workload.

3 Once you've split to size, axe the corners away leaving a rough hexagonal shape along the length. Be careful when axing: always cut below your fingers, and if your wrists are hurting or you're getting tired, move on to a different process.

4 I like to make small cuts, working from the bottom upwards. Once I reach just over halfway up, I'll then trim off these small cuts. Finish one half, then turn the billet over, always keeping your fingers above the axe cuts. It doesn't have to be too fine but the closer to size you get with the axe, the less work with the drawknife.

5 Once you're happy with your axe work, it's time for the drawknife.

6 Sit astride your shavehorse, or if you've no horse, hold the axed billet in a vice. I find the drawknife is the key to speeding the turning on the lathe. If you're accurate in shaping the billet, it's a simple process to centre and rough out your work.

7 As you're cutting, pay attention to the overall shape otherwise you could either end up following the potentially curved grain of the wood, resulting in a banana shape, which means more work roughing out. If you favour only part of the billet, it's easy to end up with an oval cylinder, which again adds to the work roughing out.

8 Once you're happy with the billet, centre it on the lathe. Don't forget to wrap the string around the work – one wrap tends to slip and you lose power so add an extra wrap of string. A little oil on the centres reduces friction and you're ready to go. Here are a couple of common mistakes when starting. The lathe needs to be tight enough to prevent the piece of wood flying off and, more importantly, to stop it rattling as you're turning, but you don't want it so tight that you can't turn the wood, so there needs to be a balance between the two. You need to find a happy medium. Make sure your string is on the right way round – this sounds simple, but wrap it on the wrong way and when you push down, the workpiece turns away from you and therefore generates no power. When you're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treadling, make sure you push your foot all the way down and allow it to come all the way back up. If you don't lift your foot up, then you can easily reduce the lathe's efficiency by half or more.

9 The hardest part of turning on the lathe is to rough out the wood, removing all the corners created by the axe and drawknife until you're left with a smoothish cylinder. Remember that when you push down on the treadle, the work will turn towards you, enabling you to cut. Then, lift up your foot and the workpiece revolves in the opposite direction. As the workpiece is revolving away from you, take your chisel off the workpiece so it doesn't rub – 12mm will do.

10 Rest your roughing gouge against the toolrest, one hand holding the very end of the handle for maximum leverage. Your other hand rests on the toolrest while holding the tool near the edge. Make sure you are taking the finest of cuts, with the chisel held so the cutting edge just skims over the top of your workpiece. The chisel should cut, not scrape, and if you take a light cut, it's easy to control. If you try to take too much wood off in one go, the chisel will bounce and dig into the work, thus creating more work. Once you're producing long shavings, start to increase the pushing power from your foot and push harder with the chisel – you'll be amazed how much wood you can remove, but wait until you are cutting all around the workpiece before you start increasing the gouge's pressure. You can now use this gouge to create all the shapes you want.

11 Start by turning the handle, a nice wide and deep curve and round over the end. Remember though: always cut from large to small – that is, work your way down into the hollow. If you cut from large to small – downhill – you get a smooth finish. If you try to cut from small to large – uphill – you rough up the wood. The analogy is stroking fur: one way smoothes and the other roughs up.

12 If you want to make deep, narrow grooves or round the end to a better shape, you'll need to use a spindle gouge. The process and theory is the same as the larger gouge but it is easy to catch the corners of the chisel, so angle the corners away from where you are cutting.

13 The next rule is always keep your bevel in contact with the wood. As soon as you lose contact with the bevel your chisel will dig in, so roll the cutting edge as you move through your cut. Think of the spindle gouge as another roughing tool, creating shapes ready to be smoothed by the skew chisel. While you can use the skew chisel to initially shape things, I tend to use the skew to smooth after the shape has been defined by the spindle gouge. Keep the skew at a very low angle. When starting, it's best to rest the tool on the work without it cutting and slowly raise your 'back' hand until the tool starts cutting. You want the finest of cuts so that you keep control.

14 Use the middle of the blade, avoiding the heel and the toe and smoothing the curves created by the gouge. As you twist the skew, ensure you keep the bevel in contact with the work otherwise the skew will spiral across your work.

15-16 To get a nice crisp bottom on your curve, use either the tip or heel of the skew – be careful, though.

17 That's one end finished. Now either turn the workpiece around so the string runs around the handle you've finished, or simply move the string over so you can use the large gouge to taper the pointy end.

Work from large to small and soon you'll have a taper. Use the tip of the skew to make some lines on the dibber – that'll tell you how deep you're planting.

18 Run a wide, flat chisel along the taper, which will give you a silky smooth finish. Just make sure your cutting keeps well away from the corners of your chisel. The problem with the flat chisel is that the narrower the cut – hold the chisel at more of an angle for this – the easier it is to control, but gives a poor finish. The flatter the chisel is to the work, the wider the cut, the quicker you can work and the finish is improved, but there's a much greater chance of 'digging in'. Some bodgers used flat chisels up to 75mm-wide for greater efficiency, but I'm happy up to 50mm.

19 Hold a handful of shavings on to the wood while turning – this will burnish the dibber giving an almost polished finish. Don't part the waste end off at the moment – leave it on for a few days; this will reduce the chance of splitting when drying. When dry, cut the end off with a saw and pare the end smooth with a sharp chisel.

Congratulations. Hopefully you've turned a successful dibber and learnt a lot along the way. Now practise to increase your speed – the average speed for turning a dibber is about three minutes. ●


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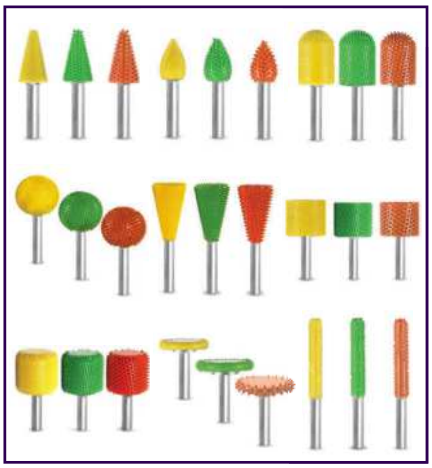

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Success with epoxy

Mark F Palma examines the use of this adhesive

Woodturners have access to many great adhesives that allow the creation of projects in shops when joining dissimilar materials, or joints that will be subject to high levels of stress. Epoxy is perhaps the strongest adhesive available to us. With a few tips, the joints created by epoxy will be the strongest possible. The cake plate pictured above was an excellent application for epoxy since the piece is composed of wood and solid surface countertop material.

An overview of epoxy

Epoxy is a two-part adhesive, with all epoxies comprising a catalyst and a hardener. Unlike most adhesives, epoxy does not dry when exposed to air, it cures chemically when the two parts are mixed in correct proportions. So, if the two parts are improperly mixed epoxy will never cure, no matter how long you wait.

Epoxies come in both liquid and stick form, with the liquid varieties most often used as an adhesive and the stick forms used as a hardening modelling clay. Liquid epoxy often comes in two-part tubes with a plunger that dispenses each part in the correct formula or in bottles requiring you to measure the mixture. Epoxy is typically labelled in working times, such as 'five-minute epoxy', 'slow-set epoxy' and 'one-hour epoxy'. Generally, the longer the working time (and longer the cure time), the stronger the epoxy. Some are clear, others opaque or coloured. Working time is measured from the time the two parts first touch, not when you finish mixing. So, with a five-minute epoxy, figure on 1-1½ minutes for mixing and 2-3 minutes for finishing your glue up. For that reason, consider slow-set epoxy whenever possible. That allows more time for mixing and positioning your work. Most epoxies cure in 24 hours.

Epoxy has a shelf life of six months after opening and 12 months from the date of manufacture when unopened. Epoxy performs best within specified temperature and humidity ranges, which will be stated on the packaging. Optimal epoxy temperature conditions are from 20-25°C (68-77°F). Heat increases the speed of curing and cold weather slows down that curing process.

Examples of epoxy

PHOTOGRAPHS BY MARK F PALMA

SAFE HANDLING OF EPOXY

Always wear eye protection in your shop. Protect your hands with disposable gloves, your clothes with a shop apron, and put something on your workbench to capture any spills. Epoxy creates fumes so use in a well-ventilated area. One area of special concern is that epoxy generates heat as part of the curing process so understand and plan for this trait. As the volume of epoxy increases, the heat generated can increase exponentially and become a potential hazard. Most manufacturers recommend not to mix epoxy in batches that exceed 3oz (88ml) at one time to avoid risk of causing a fire.

Equipment and supplies

Supplies and preparation

Planning helps for success with epoxy projects. Have a clean, organised space. Use clean containers and mixing sticks to avoid contamination. Graduations on your mixing containers may help when using epoxy from bottles. Medicine cups work for smaller jobs, and silicone beakers work for the heat of larger mixes. For very small jobs a cereal box makes a great surface for mixing.

Epoxy requires thorough mixing. Choose stout mixing sticks – lolly sticks and coffee stirrers work well. Better yet are the metal strips from windshield wipers (cut into convenient lengths) or short pieces of stainless-steel rod. These are stronger, and with a quick wipe on a rag, reusable indefinitely.

Organise your work and rehearse your glue-up before mixing any epoxy. Use masking tape to protect areas that should avoid glue squeeze out. Test fit each piece and think through your steps before you start. Have kitchen towel ready to attack any spills or squeeze-out.

Organise so you can work

Measure and mix with care

Put on your gloves and know that the source of most epoxy mistakes happens right now – in measuring and mixing. Really read the instructions as to the ratio of the two parts. With plunger-style epoxies your measuring is set by the package. With larger bottles consider weighing the resin and catalyst on a small digital scale rather than eyeing the mixture. A piece of wax paper or cereal box on the scale will help keep spills from ruining the scale. Accuracy is the key, especially with small batches. Measure each part into separate containers and combine into a third. Scrape the sides of the two containers so that your ratios remain accurate.

Measuring epoxy

Plan on mixing for a minute or two. Mix slowly to avoid trapping air in the mix. Scrape the sides and bottom of the container thoroughly. With slow-set epoxy transfer the mix to a second new container and scrape the first into it to get the most complete mix. Watch your time but avoid rushing. Add any necessary clamps. That is why rehearsal is key. Stay within the recommended mixing time. If you need more epoxy, do not reuse the containers – start afresh to avoid introducing epoxy at the end of its pot life into a fresh batch.

Thoroughly mix epoxy

Exercise patience with curing

Most epoxies do not reach full strength for 24 hours. Try to leave the work alone for the full curing time. As this is a chemical curing process, respect that it needs time to achieve your goal. During the curing time maintain the recommended temperature requirements. After two hours remove any squeeze-out if you can do so without upsetting the joint. A razor blade or small chisel works well. Remove the masking tape, leave it alone for the remaining cure time and you will have a sound, permanent joint.

Kurt Hertzog puts this piece of Woodpeckers' kit to the test

Woodpeckers' Ultra-Shear Pen Mandrel System

Shortcomings

I have some very critical opinions about the design, manufacture, and inherent shortcomings of pen turning equipment. Nearly every pen turning product offered is designed and manufactured to sell at the lowest price possible. Several very key features suffer with this approach.

By design, the use of the tailcentre point to support the end of the mandrel shaft is troublesome. This fit, or often misfit, of the point can be a source of wobble, vibration, shaft bending, and drives using excessive headstock clamp pressure. Fixing this fundamental physics problem requires a mandrel saver. A mandrel saver is a tailcentre that 'swallows' the mandrel shaft end. By pushing on the stack of bushings and pen blanks with its face, the needed compression is accomplished. The mandrel shaft is properly supported inside the mandrel saver with zero end force on the mandrel shaft itself.

The mandrel savers that are available usually suffer the same 'lowest cost' approach. Their bearings are inexpensive, noisy, and have a limited lifetime.

Other shortcomings pertain to pen turning bushings. I recommend using bushings only to hold things in place to turn and the crudest of sizing. Actual measurement is used for the proper finished size. Most pen turners still use the bushings to size their completed turned blanks. Even if bushings are initially accurate, repeated sanding reduces the diameter of the bushings. Smaller bushings produce smaller parts until fits are lousy. Another bushing shortcoming is the lack of identification. Unless you have a great organisation system, you'll wind up with confusion among various bushings.

A pen mandrel system that solved problems

The Ultra Shear Pen Mandrel System from Woodpeckers is just that – a system. This is a complete system with a specially designed headstock and mandrel saver tailstock to complement Woodpeckers' mandrel shaft and user-friendly designed and marked bushings. All of the system is machine tool grade materials and manufacture. Uniquely driven by solving problems and providing the highest quality rather than lowest price point, I feel it solves the shortcomings of the current pen turning mandrel systems.

The Woodpeckers' Ultra-Shear Pen Mandrel System is a headstock morse taper clamp, a ball bearing, mandrel saver function revolving tailcenter, and ground mandrel shaft

Revolving tailstock mandrel saver

In my opinion, an absolute key to quality pen turning is using a high-quality mandrel saver. The Woodpeckers' mandrel system includes a cleverly designed mandrel saver tailcentre as part of its system. Their tailcentre uses the same 12-jaw collet clamp design as its headstock clamp, although the tailcentre uses a nose cone providing collet clamp compression. The shaft of the mandrel is centred by the collet fingers with the collet closure controlled by a fixed compression provided by the tailcentre nose cone. The face of the tailstock nose cone functions as the mandrel saver face to push on the pen bushing. Quality bearings are used in the mandrel saver tailcentre, being precise, durable and virtually noiseless. The problem of tailcentre point to mandrel shaft end and usual need to overtighten the headstock clamp solved.

Headstock clamp and mandrel shaft

Other pen mandrels use a four-jaw design collet in the headstock clamp, usually with limited mandrel contact area. Their soft mandrel shaft materials are easily scored with overtightening. The mandrel saver tailcentre of the Woodpeckers' Ultra-Shear system eliminates the need for large headstock clamp force. The headstock 12-jaw collet clamp design provides excellent clamping force without needing to be excessive or digging into the mandrel shaft. The shaft is accurately centred on the lathe centreline axis every time with minimal clamp force required, since all of the bushing and blank compression force is totally eliminated from the mandrel shaft. I tighten my headstock mandrel clamp lightly finger tight.

The headstock clamp, a CNC machined 303 stainless steel with a No.2 Morse taper, a 12-jaw collet clamp and a threaded knurled compression nut with wrench flats

The No.2 MT mandrel saving function revolving tailcentre uses ABEC1 bearings, is CNC machined 303 stainless steel with a 12-jaw collet clamp compression controlled by a mandrel saving nose piece

User-friendly bushing system

The Woodpeckers' mandrel system will work with any bushings of the proper diameter that you already own. That said, I suggest you skip using anyone else's bushings and purchase the Woodpeckers' bushings. Buy them one set at a time or the complete set package. All I.D. bearing surfaces are 50% longer than usual. This extra length provides better support and guidance for the tube of the pen blank. While not a critical function, it is certainly a directionally correct change to the traditional bushing design. Two features illustrate their attention to problem solving. Each bushing is marked with a number, indicating which pen kit it works with. The family of 11 pen bushing sets – numbered one to 12, leaving the number six unused for obvious reasons – covers every kit I'm aware of. A provided chart indicates which number bushings belong to which kit. No more mystery bushings in the shop. With differing diameters, the U(pper) and L(ower) or C(ap) and B(arrel) is also marked on appropriate bushings. You'll immediately know the correct orientation. Another clever feature of the Ultra-Shear bushings is the integrated minimum diameter wear indicator. A groove in every bushing indicates the minimum diameter for that barrel end. If the groove cut into your bushing shows, you are still proud of the minimum dimension. When you've sanded the bushing so much that wear indicator grove disappears, replace the bushing or you'll make undersized parts.

Each package of bushings indicates the kits that the bushings are designed for. Notice the C(ap) and B(arrel) markings added to the bushing numbers to indicate orientation

Conclusions

Woodpeckers' Ultra-Shear Pen Mandrel System is top shelf throughout; a total system that solves the existing products' shortcomings as I see them. Using 4140 ChroMoly steel, 303 stainless steel, and ABEC1 bearings and fabricated on CNC machining and grinding equipment, Woodpeckers provides a machine tool grade pen turning product. You may eventually wear down its 4140 bushings, but they will last far longer and provide better service than others.

While it certainly isn't the most inexpensive pen turning mandrel system available on the market, the Woodpeckers' mandrel system is a once-in-a-lifetime purchase. Much like buying a woodturning chuck, you get what you pay for. You can enjoy many years of using a well-built, high-quality tool or forever curse the shortcomings of a lowest-cost, bargain purchase. I highly recommend you investigate and consider the Woodpeckers' Ultra-Shear Pen Mandrel System. You can find more information, helpful videos, and ordering information on the Woodpeckers' website at **www.woodpeck.com.**

Woodturners need wood

Pete Moncrieff-Jury tracks down timber to turn

Woodturners need wood. An obvious statement perhaps, but one that evokes a number of questions. What wood is good for turning? Where can I source wood? Is it OK to just help yourself to wood from the roadside? Is it OK to use recycled wood? I perhaps can't speak for turners outside the UK as the laws may be different, but one thing that amazes me is how often these questions get asked on social media and the result is a bevy of answers that at worst encourage theft and at best could potentially be dangerous. Let's look at them one at a time.

What wood is good for turning? The simple answer is that it depends on what you are going to make. Basically, there are a few woods that are pretty much a waste of time, usually because they warp and split far too much to be of use, but most woods can be used in some way or other. Care needs to be taken regarding the suitability of woods for different purposes and it is advisable for anyone who is involved in any form of woodwork to do a bit of research into the different woods and their properties. Don't just take the word of the self-appointed experts online mind. Research via appropriate sources.

Wood can be sourced from a load of different places, not just those shops and stores that specialise in wood for woodworkers. Wood can be expensive, especially if you are going to buy pre-cut blanks for either spindle or face work, and so many of us prefer to try to source our wood in different ways. One popular source is local tree surgeons and gardeners. Some will sell the wood; others actually give it away. Timber yards who sell wood in plank form are a good, cheaper source and it is well worth finding your local merchant and getting to know them. I also keep my eye open at boot sales and junk shops as they can often yield some interesting timbers in old furniture.

Is it OK to just help yourself to wood lying around? This may vary from country to country but certainly in the UK it is theft, pure and simple. It doesn't belong to you and to help yourself is stealing someone else's property. Permission should be sought before taking any wood found. Many landowners will prosecute in the UK if they find someone just helping themselves but will happily give permission if asked.

Recycled wood is a trickier matter. If it is wood that has a lot of preservative in it then, personally, I would advise leaving it, especially if it is older as the chemicals used in days gone by are pretty nasty and toxic. Same applies to older furniture as paints in the past often contained lead so care should be taken when stripping any finishes off them. Old furniture in particular can often yield woods that are now unavailable or very expensive and can be a good source of unusual timbers. Structural wood usually is oak or pine. Old pine is great, unlike the fast-grown stuff you get today. Again, be aware that it may have had toxic preservatives on it in the past. Also remember that recycled wood may well have nails, screws, even wire, and other odd things embedded in it. A magnet can be useful for iron but just being diligent can save the cost of a new tool.

As initially said, what wood you use depends on what you want to make and whether it is green, kiln dried, old, recycled or pre-cut blanks, the main things are to obtain it legally and get to know the characteristics of different woods. It is, after all, the main ingredient of what turners do and so ignorance of it can lead to disaster, disappointment and danger.

PHOTOGRAPHS BY PETE MONCRIEFF-JURY

Different woods

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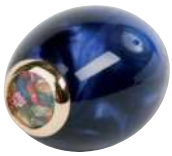

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