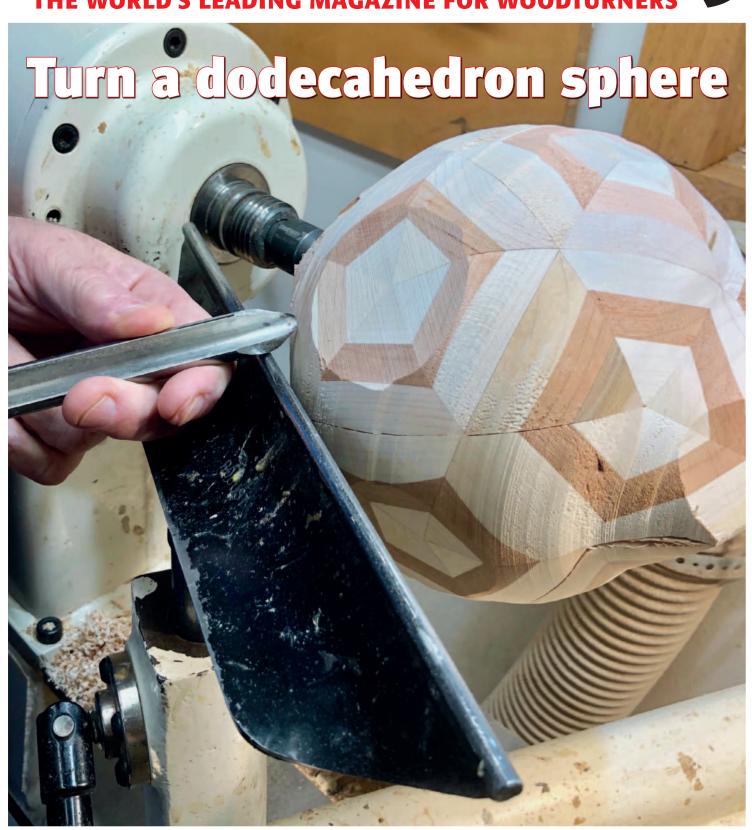
# Woodturning



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- Choosing the best timber Turning large bowls safely

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The very nature of publishing means that, because this is written before Christmas for you to read next year, a dark month now for us will be emerging into February 2021 for you. We hope it is filled with promise and positivity.

This issue, we share the wisdom of Alan Holtham to select the perfect timber for woodturning and Stewart Furini's talent for colouring, and turn Richard Findley's beautiful heart pendant for your love, in time for Valentine's Day.

Marty Kaminsky concludes his sharpening techniques series, as Andy Coates wraps up his articles on sovereign balls.

Explore the merits of pyrography on unusual shaped turning

as Les Symonds creates a stunning teapot based on a Clarice Cliffe-inspired design, and learn the technique of fuming for Steve Bisco's apothecary vase (pictured above).

In a technically complex and dramatic piece, we hope Art Glickman's dodecahedron will challenge you, and that Bob Chapman's sweet, carved stools for his grandchildren will enchant you.

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.







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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).



#### **NEWS, LATEST PRODUCTS, MAGAZINE UPLOADS & EVENTS**

can all be found on www.woodworkersinstitute.com. These all appear on the magazine homepage and you can see a bigger selection by scrolling down the page and clicking on the individual stories. We also have an extensive online archive for you to browse, or see us on Facebook & Twitter.



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# Tea for two, Clarice?

Les Symonds makes a tea-service for two, influenced by the work of Clarice Cliff



In this series, over a period of three months, we will be making a purely decorative tea service for two people, heavily influenced by the work in the 1920s and 30s of ceramic artist Clarice Cliff. She 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 Clarice 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.

We are going to start with the teapot, then in months two and three we will make two cups and saucers, two plates, a milk jug and a sugar bowl. I should stress from the outset that this is not a beginner's project – it is going to require a fair degree

of delicate tool control to produce some of the smaller components, especially the lid. Furthermore, a sound understanding of tool handling will be required for tasks such as parting the rear face off the main body of the pot and for some of the reverse turning procedures

When it comes to decorating your piece, check the wealth of images of Clarice's work online and choose a design for yourself, then adapt it to fit into the shapes of the various pieces.

#### Clarice Cliff

Clarice started work in the potteries at the age of just 13, gaining employment as a trainee then qualifying as a gilder, painting those fine, gold-line details favoured in early 20th-century ceramics. She attended night classes to learn more about artistic decoration of pottery, then moved to the Wilkinson factory in Buslem, to advance her career when she was still only 17. While there, she came to the attention of the owner, Colley Shorter, who helped her to develop her skills by sending her on sabbaticals to the Royal College of Art and to study in Paris (Colley Shorter also went

on to become her lover and then husband). In 1927, Wilkinson gave Clarice her own studio to develop her progressive style and ideas at the Newport Pottery next door. Here she used the seconds from Wilkinson to practise designs on. This led to a long and enormously successful career designing, making and decorating her own unique ranges of pottery, which remain sought-after today.

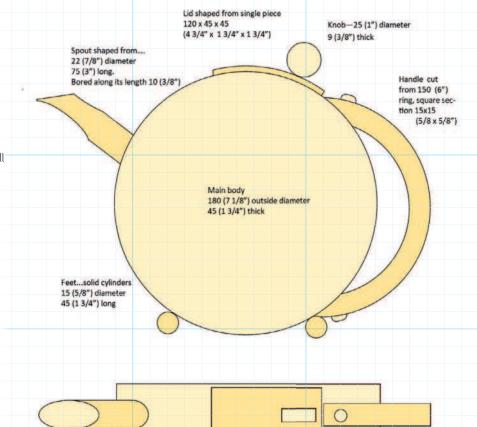
#### **EQUIPMENT USED**

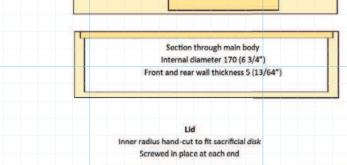
#### Tools

- PPE as appropriate
- Bowl gouge
- Parting tool
- Spindle gouges
- Skew chisel
- Chuck with 50mm and 90mm jaws
- Jacobs chuck to fit tailstock with 10mm drill
- Try square
- Steel rules
- · Fine-toothed saw and piercing-saw/pad-saw
- Assorted HSS drills from 2mm to 6mm
- 22mm Forstner drill
- Pyrography machine
- 2-part epoxy adhesive
- Masking and double-sided tapes
- Methylated spirits (DNA)
- Graphite pencil
- Bandsaw or heavy-duty scrollsaw
- Artist's paintbrush

#### Materials

- Sycamore used throughout
- Main body: 1 @ 200x200x70
- Spout: 1@ 100x25x25
- Handle: 1 @ 150x150x25
- Feet: 1 @ 150x25x25
- Lid: 1 @ 150x50x50
- Knob: 1@ 30x25x25
- Rivets: 1 @ 100x12x12
- Sacrificial disk: 1 @ 200x200x25
- Acrylic paints





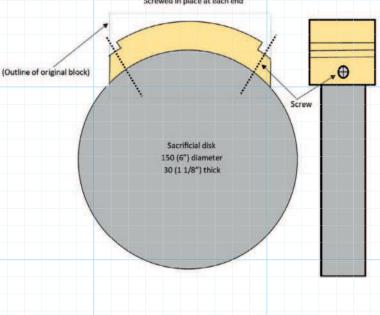
### **Health & Safety**

#### THIS PROJECT IS NOT SUITABLE FOR INEXPERIENCED TURNERS!

The use of the parting tool for deep-cutting grooves requires a good understanding of what causes the tool to bind in a cut and what precautions to take to avoid this.

The turning of the lid, affixed to the rim of the sacrificial disk, requires skilful tool control with the gouge, as does the cutting of the rebates on the lid's edges. Both of these processes need practice and can be helped by good lighting.

6 (1/4")



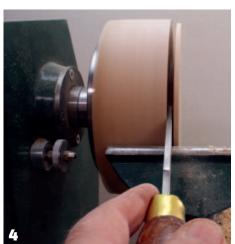
10 (3/8")

- 1 Select and prepare sufficient timber for the project, mount the main body on a faceplate and turn its outer edge to 180mm diameter, using shearing cuts with a bowl gouge. Turn its outer face, using a steel rule or suitable straightedge to ensure that it is flat.
- **2** Use a try-square to ensure that the edge is truly square to the outer face and make any adjustments necessary, then abrade both surfaces down to 400 grit.
- **3** From the corner of these two surfaces, mark two pencil lines, one on the outer face, 4mm back from the corner, and the other on the edge, again 4mm back from the corner. Next, cut a rebate 4mm deep and 4mm wide with a freshly sharpened parting tool.
- 4 With the toolrest set against the edge of the workpiece, use a parting tool to cut a deep groove immediately to the left of the rebate. Given the depth that you need to cut down to, you will need to make a second cut 1mm or so to the left of this groove to relieve any risk of the parting tool binding in the cut. When you have cut as deeply as you feel is safe, stop the lathe and use a handsaw to cut away the 4mm disk to the right of the groove. This disk will become the back panel of the main body.
- **5** Make another groove with your parting tool, leaving 45mm of timber plus a little spare for cleaning-up, on the edge of the workpiece, thus defining the thickness of the main body of the teapot. Any excess/ waste material to the left of this groove must be left in place at this stage, so make your groove just a few millimetres deep.
- **6** Hollow out the main body of the teapot, using a bowl gouge for the bulk of the work and the toe of a skew chisel to form a clean, sharp corner between the edge and the bottom face. Hollow the main body, leaving the outer wall about 6mm thick and to a depth of 41mm.
- **7** While hollowing, use a pair of steel rules regularly to check and refine the depth. Clean up and abrade the inside to 400 grit, then apply sanding sealer.
- **8** Next, cut a rebate that the back panel will be a snug fit into. If you have cut the back panel exactly as described in step 3, your rebate should start 4mm in from the outer edge and it should be 4mm deep, but always use the panel to ascertain this as it needs to be a good fit for gluing back into place.

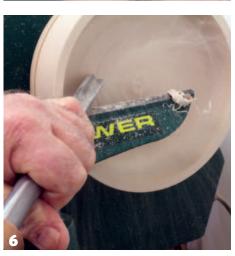




















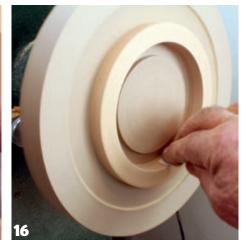












- **9** Reverse-turn the back panel to clean up its inner surface. This can be done against any suitable disk of timber set into a chuck and trued-up, or against a pressure-pad with material such as router matting on its outer face. Abrade as much of the panel as you can down to 400 grit. The final 'cone' of wood left at the live centre can be pared away with a bench chisel, then abraded and sealed.
- **10** Reverse-turn the main body to remove the waste wood where it was screwed to the faceplate. Take the sacrificial piece of timber referred to in the list of materials and cut into its face a recess for the main body to fit snugly into, with a layer or two of soft paper to prevent any scratching of the surface.
- 11 The outer surface is going to be the front of the teapot, so leave it slightly domed, gradually working from the groove cut in step 5 towards the live centre, where the workpiece needs to be 3-4mm thicker. At the outer edge, this front face will be just 4mm thick and will therefore be 7-8mm thick at the centre. Abrade down to 400 grit, remove from the lathe and use a bench chisel to pare away the central cone. Abrade to 400 grit again then put the workpiece back on the lathe and, after aligning the grain, glue the back panel into place with two-part epoxy adhesive, using the pressure pad and tailstock to hold them until cured.
- **12** Cutting the feet to the detail in the drawings is a very simple issue and needs no description here. When done, sand a small, flat surface along each foot so it sits well on a base board, apply double-sided tape to the base-board, press the feet down on it and carefully apply a line of two-part epoxy along each foot. Rest the main body on top of them and use a long strip of masking tape to hold the assembly secure until the glue dries.
- 13 Take the timber blank for the handle and screw it to a 100mm faceplate. Clean up its edge to 150mm diameter, clean up its outer face and mark a pencil line 15mm in from the edge. Set the toolrest back against the edge of the workpiece and use a parting tool to cut a groove marking its inner face, leaving the handle-disk just full of 15mm thick and remove any waste material to the left of the groove, down to the faceplate.
- **14** Set the toolrest against the outer face and cut a 12mm-deep groove from the inside of the pencil line. It may help to drill a 3mm hole in the bottom of the groove so that when this workpiece is reversed, the hole acts as a visible guide to where you will need to cut. Abrade all surfaces down to 400 grit.
- **15** Reverse-turn this piece by taking the sacrificial timber and cutting a recess into it as a jam-chuck. Set the workpiece into it and note the 3mm hole previously drilled. Cut very slowly with a sharp parting tool, through the 3mm of timber still holding the handle disk on to the workpiece.
- **16** When the central core comes away, clean up and abrade the handle disk down to 400 grit.



**17** Hold the handle ring against the back face of the teapot, allowing it to project outwards by about 35mm so the handle can be held comfortably. Make two pencil marks to indicate where the ring needs to be cut, then cut through on a bandsaw or scrollsaw.

**18** Place the sacrificial piece of timber in a chuck and turn it down to 150mm outside diameter. Take the timber blank for the lid and place it against the back of the disk such that a full 20mm of the blank stands above the rim of the disk and then make a pencil line along the blank, at the edge of the disk. Carefully cut along the pencil line on your bandsaw or scrollsaw.

**19** Cut a notch (rebate) on each end of the lid blank such that it can be screwed on to the outer edge of the sacrificial disk (refer to image). These rebates will allow the screw heads to be well below the surface to avoid contact while turning. It will also help if you remove much of the waste material from the top face of the lid by drawing a curve 15mm above the inner curve previously cut, then cutting the waste away.

**20** Use very light, shearing cuts with a bowl gouge to clean up the top surface and the edge nearest to the headstock. This will be a slow process as the workpiece will barely be visible while it is revolving, so a well-placed light source will be beneficial. Clean up the outer edge, leaving an overall width of about 42mm for the lid.

**21** Use a sharp parting tool to cut a rebate into the outer edge of the lid, 4mm down from the top surface and 4mm deep. Once again, use a well-positioned light source to help you to see the workpiece while it is revolving.

22 Check the dimensions of the rebate regularly and make any necessary adjustments, then unscrew the workpiece from the sacrificial disk, turn it around and screw it back into place, aligning the edge of the workpiece with the edge of the disk. Cut a rebate in the edge to match that cut in the previous step. Abrade as much of the lid as you can, with the lathe stopped, down to 400 grit.

23 Use a fine-toothed handsaw to make a cut on each end of the workpiece, under-cutting the top face, so that the rebates cut in steps 21 and 22 can run around the entire edge of the lid. Remove the lid from the lathe and rest it, upside-down, on a clean surface and hand-cut the waste away, leaving the lid rebate running around all four edges. Clean-up and abrade down to 400 grit.

**24** Making the knob is a simple matter of turning a 25mm disk, 9mm thick, on the end of the blank. Part it off and reverse-turn it by setting it into a 25mm recess, which you can cut in the centre of the sacrificial disk. All surfaces are abraded down to 400 grit during this process.



















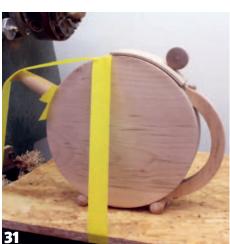














- 25 Set the blank for the spout into a chuck and drill a 10mm hole down the length of its core to at least a depth of 70mm, but right through if your chuck allows it. Turn it down to a 22mm cylinder and square-off the end.
- **26** Use a sharp spindle gouge to achieve the profile shown in the drawing and to blend the 10mm hole into the tip-end of the spout. Abrade the whole spout down to 400 grit.
- **27** Use a fine-toothed saw to cut the end of the spout away at an angle of about 45°, then use a range of abrasives down to 400 grit to remove any saw-tooth marks and to blend all surfaces together.
- **28** With the teapot still standing on its base-board, held by the double-sided tape under the feet, use masking tape to hold the handle, lid and spout in position, adjusting the positions as you feel necessary to achieve a balanced appearance. Make pencil marks to note the position of each item and then remove the masking tape. Drill a 2mm hole at the centre of the spout-hole, then use a 22mm Forstner bit to drill through.
- 29 Turn the two small 'rivets' to the profile in the drawing. Tape the handle firmly in place and drill a 2mm hole where each 'rivet' will be placed. Make the holes quite square to the surface of the handle, and then open the holes up to their finished size of 6mm diameter, by using a series of drills, working upwards from 2mm to 6mm to reduce any risk of tear-out at the surface.
- **30** Use a fine pad-saw to cut away the aperture for the lid, having drilled suitable sized holes, one in each corner. Keep the drill and the saw quite square to the surface to avoid marking the inner faces of the body of the teapot.
- **31** Repeat step 28, using two-part epoxy adhesive to glue the handle and the lid into place, gently tapping the 'rivets' through the handle and taping the whole assembly down on to the base-board to dry.
- 32 Develop your design for the teapot, sketch it out and draw it on the front face with a soft, graphite pencil. You may also choose to make a small drawing around the spout and on the lid – this is optional and is done to your taste. Pyrograph the outline and remove any remaining pencil lines with methylated spirit. If you wish to add colour, use acrylic paints. Finally, finish the whole teapot with a few spray coats of acrylic lacquer.

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# Sharpening woodturning tools

If you want to be a good woodturner, become a great sharpener. Parts 1-3 of this series guided you through the techniques to sharpen all your turning tools. With just a modest modification in your set-up and technique, sharpening can be made even easier.

The Wolverine/Vari-Grind system has three settings: tool protrusion distance, Vari-Grind arm angle, and vee-pocket arm distance (or, in the case of the Vari-Grind 2, the pivot support arm distance) – the distance the arm is extended from its base. Instructions for the Vari-Grind tell you to standardise the protrusion distance at 13/4 in (45mm). The key to making your gouge sharpening Easy-Peasy is to standardise all three settings by making fixtures that allow you to easily and quickly

set up your grinding system for each of your favourite gouges.

I primarily use four grinds: a 60° bowl gouge with swept-back wings, a 40° bowl gouge with short wings, a 40° detail gouge, and a 40° spindle gouge. The swept-back wing style of grind is often called an Ellsworth or Irish grind, and the spindle and detail gouges have fingernail profiles. Probably, like me, most turners use only a very few grinds. It's easy to adapt the Wolverine system to quickly produce your favourite grinds precisely, every time, even when switching among grinds.

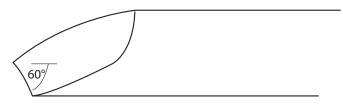
The only argument I've ever heard for freehand grinding (except for Stuart Batty's 40/40 grind) is that it is faster than jig grinding. I'll go as far as to say that,

using the improvements described in this article, I suspect I can sharpen a gouge nearly as fast as any freehand grinder. And get a perfect and identical grind every time.

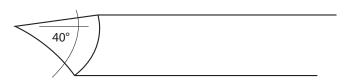
So much for boasting (or, as someone said: 'It ain't braggin' if it's true.').

The first thing you must do is produce each type of grind that you like as a 'go-by' – a tool sharpened just the way you want it. Then, for each of your favourite grinds, make gauges to set the Vari-Grind angle and the vee-pocket distance (or in the case of the Vari-Grind 2, the pivot arm support distance). Your tools should look like the illustrations below.

Some turners prefer that the cutting edge to be straight instead of convex, as in these illustrations, but never concave.



60° bowl gouge with swept back wings



40° detail gouge

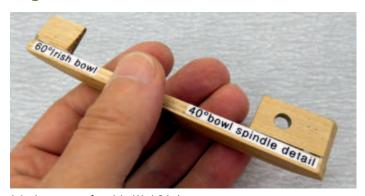


40° bowl gouge, short wings



40° spindle gouge

#### **Original Vari-Grind**



1: Angle arm gauge for original Vari-Grind



2: Another view of the angle arm gauge



3: Setting the angle arm with the gauge



4: Using the gauge to set the angle arm

Once you've got the Vari-Grind arm angle and veepocket distance set up correctly for one of your favourite grinds, make a spacer gauge as shown in photos 1, 2, 3, and 4 that fills the slot space in the arm angle adjustment. This allows you to quickly set the angle.

Then cut a strip of wood that fits the distance of the extension of the vee-pocket arm (photos 5, 6, and 7). Note that this only works for CBN grinding wheels. Since the CBN wheel diameter remains constant with use, the veepocket distance also remains constant. If you're using aluminium oxide wheels, cut a piece of wood (photo 8) so that the vee-pocket distance references the distance to the wheel as the wheel gets smaller with use.

Put a rare-earth magnet recessed in your stick gauge (photo 6) and store it conveniently on your grinder motor housing.

Now do the same thing for each of your other favourite grinds. You'll end up with a set of gauging sticks that you should carefully label.



5: Vee-pocket spacers for my favourite grinds



6: Magnet on one side of vee-pocket spacer



7: Setting the vee-pocket position with a gauge stick



8: Setting the vee-pocket position with a wood block when using an aluminium oxide wheel (shown on a CBN wheel)

#### Vari-Grind 2

The Vari-Grind 2 uses a fixture that captures the gouge being sharpened, keeping it safely restrained in the centre of the wheel, eliminating the chance for the tool to slip off the wheel's edge. If you like the safety that the Vari-Grind 2 offers, you can make gauges providing the same easy set-up as I've described for the original Vari-Grind. The Vari-Grind 2 does not use a vee-pocket as the original does, instead it uses a pivot support arm assembly that the V2 rides in. The pivot support arm slides in the Wolverine base and the distance it extends from its base is adjustable, just like the vee-pocket.

Using your properly ground 'go-by' gouge installed in the Vari-Grind 2 you can make gauges for the pivot support arm distance (photos 9, 10, and 11) and the V2 angle arm position (photos 12, 13, and 14). If you have both the original and V2 jigs (as I do, for no good reason other than to be able to write this article, since they both do the same thing), the same grind will require a different gauge stick for each iig. Again, as with the original Vari-Grind, if you're using aluminium oxide wheels, you have to set the pivot support arm distance

with a chunk of wood instead of a stick (similar as is shown in photo 8). On the V2 the stick must be placed on an underside surface of the pivot support arm to avoid a hex nut (see the arrow pointing to it in photo 11). Also, a relief chamfer (photo 10 on left side of lower gauge) must be shaped in one end of the stick to avoid the weld where the pivot support is attached to the adjusting arm.

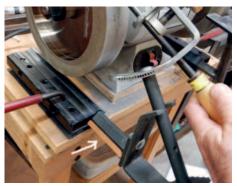
In the next section I'll show you how to eliminate the need for both the angle arm position gauge and the pivot support arm distance gage.



9: V2 pivot arm spacer gauges for two of my favourite grinds



10: Reverse side of spacer gauge showing magnet and chamfer for weld clearance



11: Vari-Grind 2 spacer (arrow pointing to it) installed on underside of pivot arm extension



12: Vari-Grind 2 angle arm position gauge



13: Setting the Vari-Grind 2 angle arm with the gauge



14: Setting the Vari-Grind 2 angle arm with the gauge

#### Even better

In the previous sections I've explained how to make gauging sticks to make your Wolverine system setup Easy-Peasy for each of your favourite grinds. In this section I'll show a way to do away with the

sticks, if you are comfortable with doing some light metal work. NB: Please note that altering the jigs in this fashion may void any warranty/guarantee that remains on the jig.

#### Original Vari-Grind jig

To provide discrete set-points for the angle arm I drilled a series of holes through the angle arm into the body of the Vari-Grind jig (photo 15 and 16). I used a number 38 drill bit (2.58mm) because it corresponds to the diameter of an 8d (8 penny) nail used as a pin to set the arm position. I drilled a total of 10 holes into the jig body using the first hole drilled into the angle arm as a guide. Holes were labelled 1 through 10 with a vibrating engraver (photo 16).



15: Holes drilled in Vari-Grind jig



16: Holes numbered with engraver

Move the angle arm to one extreme end of the slot and lock it with the wing nut.

Using a No.38 bit, drill a hole (use a drill press) through the angle arm and through the body of the Vari-Grind jig (photo 17). Make sure the hole position is far enough away from the pivot screw that you don't drill into the washer on the back side. (Note: support the Vari-Grind with a piece of <sup>3</sup>/<sub>4</sub>in (18mm) scrap with a 1<sup>1</sup>/<sub>4</sub>in (32mm) hole in it to accommodate the wing nut.)

Move the angle arm to the opposite extreme, lock it, and drill through the already established hole in the angle arm through the Vari-Grind body.

Now, putting the 8d nail or some other pointy sharp implement into the angle arm hole, scribe a line of the path of the angle arm as you move it from one extreme to the other (photo 18).

Mark eight equally spaced positions between the already drilled holes on the scribed line. Using the hole drilled in the angle arm as a guide for the drill bit, drill a hole at each position you've marked on the Vari-Grind body. On the opposite side of the jig body number each hole – I used a vibrating engraver (photo 16). Now, only if you are using CBN wheels, modify the vee-pocket shaft with a double row of

holes (again with an number 38 drill bit) to provide setpoints for the vee-pocket distance (Photo 20).

Okay, I told you to drill some holes in the shaft, but I didn't tell you where. Here's how you determine where to place the holes: Set up your Vari-Grind angle arm and vee-arm length for each of your 'goby' gouges – gouges ground just the way you want them. For each gouge mark the spot on the vee-pocket arm where the arm exits the base. Those are places where you need holes. Make evenly spaced holes between and extended on either side of the marked spots.



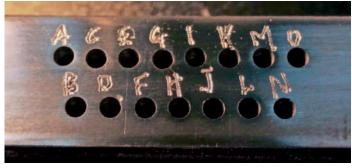
17:Drilling first hole in Vari-Grind jig



18: Line scored along the path of angle arm. Here's the process to modify the Vari-Grind jig:



19: Drilling the gauging holes in the vee-pocket shaft

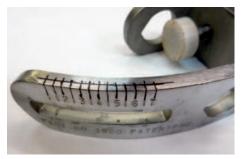


20: Holes drilled and labelled in the vee-pocket shaft

#### Vari-Grind 2 jig

To provide discrete stops for the Vari-Grind 2 angle arm I drilled a series of holes that correspond to the stamped position numbers already on the jig, through one side of the device's angle arm track (Photos 21 and 22). I used a No.38 drill bit, which corresponds to the diameter of an 8d nail.

Modify the Vari-Grind 2 pivot arm shaft (only if using CBN wheels) by drilling a double row of holes in its shaft in a fashion similar to that described in modifying the vee-pocket shaft.





21: Layout for holes to be drilled into the V2 RIGHT: 22: Drilling holes in V2 for arm position pin at full and half intervals stamped on jig

#### Setting pin

Make what I'll call an 'setting pin' by cutting off the head of an 8d nail, then rounding one end, and mount it in a nicely turned handle with a rare-earth magnet recessed in the top as shown.



#### The Easy-Peasy chart

For each of your gouges determine which hole number in the Vari-Grind jig and which hole letter in the vee-arm shaft (original Vari-Grind jig) or pivot arm shaft (Vari-Grind 2) corresponds with the desired grind setting for that gouge. Make up a chart showing the settings for each gouge as in chart 1, which are my settings. Your settings will be different because each grinder configuration is different. Alternatively, you could label the handle of each of your gouges with its Easy-Peasy

At this point you've 'digitised' your sharpening system. Now, sharpening a gouge takes only a few moments to set up.

#### **ORIGINAL VERI-GRIND**

	60°	40°	4°
	Ellsworth bowl	Ellsworth bowl	spindle, detail
Angle arm	6	3	3
Vee-pocket distance	E	F	F
C hart 1			
		VERI-GRIND 2	
	60°	40°	40°
	Ellsworth bowl	Ellsworth bowl	spindle, detail
Angle arm	2	5	4.5
Vee-pocket distance	E	l	M

My Easy-Peasy settings

#### Using your modified grinding system



Stop block to set 13/4in (45mm) protrusion of the gouge beyond the Vari-Grind





- 1 Put the gouge in the Vari-Grind jig and set it to 13/4in (45mm) extension using a set-up block with a 13/4in (45mm) hole in it or a stop block  $1^{3}/_{4in}$  (45mm) from the edge of a table.
- 2 Set your Vari-Grind jig using the setting pin in the proper numbered hole in accordance with your chart and tighten the angle arm.
- **3** Set the vee-arm or pivot arm extension to the proper letter hole with the setting pin according to your chart.
- 4 Sharpen. Easy-Peasy.

#### OTHER RESOURCES

The internet provides an abundance of sharpening advice in articles and YouTube videos. Google topics such as 'sharpening woodturning gouges' or 'grinding woodturning gouges'. Also, check out the AAW (American Association of Woodturners) website and forum and other woodturning forums.

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Setting the vee-pocket arm or the pivot arm position

sharp tools. Stay sharp, my friends. I want to thank Bill Berry, Janice Levi, and Ed Piney from the Gulf Coast Woodturners Association in Houston,

Texas for their valuable suggestions used in this article, and although Bill says he's taught me everything he knows, I still think he's holding out on me. •



Graeme and Mel with their Sweet 16

"And we like to think that's why people choose Robust lathes. The ergonomics, the build quality and the sturdiness allow you to concentrate on your work, and not the limitations of your tools."

Brent English, owner and designer, Robust Tools.

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And we like to think that's why people choose Robust lathes. The ergonomics, the build quality and the sturdiness allow you to concentrate on your work, and not the limitations of your tools.

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#### COPING WITH LOCKDOWN

Although, as for so many others, the Covid-19 crisis and lockdown caused Bobby anxiety and impacted on his business, he says the extra time it gave him was positive. 'I'm keen to work through this challenge as best I can,' he says. 'I'm fortunate that I work alone in a rural setting so I can work on personal pieces if commissions slow down. I'm mostly trying to focus on the positives, as it's given me time to reflect and be thankful, which is harder with the fast pace of normal life. I'm very fortunate to have the support of my clients, who have helped me get through, so I'll remain optimistic for the future.'

#### FORM AND FUNCTION

Stools and vessels form the core of Bobby's collection. 'For me a three-legged stool is the perfect example of form and function,' he says. 'They are like sculptures, beautiful objects, and so useful. A three-legged stool will be level and sturdy wherever it sits, and is incredibly robust. I find there is endless scope to play with the form of the top to create something that blurs the lines between art and craft.'

He adds: 'Vessels allow me to really explore a piece of wood. Each pass with

the gouge reveals another layer of grain and character. A vessel allows for a piece of wood to be preserved in a sculptural state for centuries to come and stands with a natural presence like a tree.'

Bobby takes inspiration from his English father and his mother's Danish family, his surroundings where he grew up in Sussex and his new home in Devon. 'My work reflects my English and Danish heritage for its raw, stripped-back aesthetic, while maintaining a refined design. Using my traditional English techniques and materials, I look to strike the balance between form and function. I grew up surrounded by many Danish pieces passed down through my mother's family, and always loved the simple, functional designs.'

He goes on: 'My inspiration comes from a few places. First the trees, with their centuries of growth and the landscapes they stand in. Then there is the feeling of making. We are programmed to make things, and I find the act of making very inspiring in itself.

'I recently relocated to North Devon to set up my own workshop and the area heavily impacts my work on several levels. It's a wonderful place to be – we are 65oft above sea level and have the Atlantic ocean just to the west. We are the first hills the storms and winds hit, having travelled across the ocean, creating a climate perfect for thriving life. The deep valleys are thick with ferns, moss and lichens, old oaks and water meadows. There are dramatic cliffs and long sandy beaches and the surf is great all year round. Outside my workshop time I spend a lot of time running in the hills or surfing, which helps maintain a good state of mind.

'It also heavily influences the materials I use. I source a lot of my wood for my turning from temperate rainforest woodland a short walk from my workshop. It's a wonderful place – damp, steamy and thick with moss and lichens. It's ancient woodland.

'Sussex country is still very special to me and I return on a regular basis for my materials. I have a particular soft spot for Sussex oak and enjoy working its nuanced character into furniture pieces.'

#### SOLID FOUNDATIONS

Bobby learned his craft by helping his father fix and maintain old buildings near their Sussex home using traditional techniques and hand tools. 'This gave me a good foundation in understanding tools and materials,' he says. 'I haven't received any formal woodworking training, but draw on this practical foundation. I spent a week with a fantastic local chairmaker in Sussex, James Mursell. I built a rocking



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chair with him, and he passed on so much knowledge, which I'm very grateful for.'

Bobby's first project was a beehive stand for the farm where he was renting a cottage at the time in Sussex. 'The farmer told me of a stash of oak he had in a barn. He said it was an almighty tree that had stood close by, and was locally known as honey oak for its mellow brown colour. I made him two beehive stands with the wood and continue to use the wood to this day as I slowly expand my Tuckmans Collection.' The collection includes a number of three-legged stools, all made from the wood of that one oak tree, which stood for more than 350 years.

It was a chance meeting that gave Bobby the confidence to set up his own workshop, allowing him the space and freedom to make the work he had dreamed up into a reality.

'By chance I met two woodworkers in Thetford - Harriet, who was 93 years old, and her apprentice Tilly. Their workshop was a series of ramshackle, tin-roofed sheds: breezy, full of character and with a wood burner for the winter. I realised that I didn't need a fancy unit or a big space full of machines, so I set out and created my own little space filled with just the tools I needed to create the work I wanted to. It was an achievable way for me to get going.'

He has been in his first workshop for 15 months. 'It's small, but big enough for now,' he says. 'I'm taking on bigger projects with bigger pieces of wood, so I think in time I will find a larger space. But for now it's just right and I make it work. It has old stone walls and a wooden floor, a hawthorn tree hangs over the roof with birdsong humming all day. There's a small wood burner that my kind neighbour gave me to keep the damp and chill out of the air, and a mouse lives in one of the walls. much to the dismay of my cat. I have a tool wall with most of my tools accessible just by turning around, my lathe and old noisy pillar drill in the corner.'

'I'm keen to work through this challenge as best I can. I'm fortunate that I work alone in a rural setting, so I can work on personal pieces if commissions slow down. I'm mostly trying to focus on the positives as it's given me time to reflect and be thankful, which is harder with the fast pace of normal life'



#### **GUIDED BY HAND**

Hand tools are key to his work. 'I'll shape with a farrier rasp and drawknife to remove a lot of material, a travisher is handy, spokeshaves and cabinet scrapers. My lathe is a crucial tool for me. I turn spindles with it, make dowels, legs and stretchers and turn all of my vessels and bowls with it. Although it simply turns a piece of wood, I find it's such a versatile tool and suits my wider techniques and methods. All of my mortising and drilling is done by eye. Instead of making jigs upon jigs to set and measure angles perfectly, I opted to work by eye and respond to each action I make.'

The wood itself directs Bobby's design process, which he describes as 'very responsive'. 'I always react to the wood and the pieces come directly from the wood. I'll intuitively shape a bench or table, working with the grain patterns while being guided by my hands. Importantly I'll work on one piece at a time from start to finish. This might sound like the opposite of efficient, but for me it means I can give all of my energy to that piece. It also makes each piece an individual object, with every component consciously made for it. No set of legs is the same, stretchers are made referencing the overall design to get the right form and aesthetic weight, and I can change things as and when I see fit throughout the process.'

He works in much the same way when he has been commissioned, with clients, including a gallery he works with, trusting him to fulfil their wishes without digressing from his own signature style. 'I don't work from plans, so I rely on trust from my clients, but I do make the odd sketch here and there,' he says. 'It can be helpful for both the client and me, while still keeping the design and final piece somewhat open. I think my work has a fairly clear style and I find that the clients it attracts are happy to invest in my open, responsive approach. With this every single piece I make is a one-off and can't be repeated, a bit like each piece of wood is totally individual.'

Bobby uses a range of woods, including oak, walnut and lime, and always turns while the wood is still high in moisture. 'As each piece dries it then settles into wonderful natural forms,' he says. 'I mainly work with oak, English or Scottish. I have a great love for its warmth and layered character. It's very strong, and if used with continuous grain in the right areas can be really refined into elegant designs. I've lately had the pleasure of working with 40-year-old English walnut, which has been fantastic. It's lovely to work with

hand tools, and the wood itself is truly magnificent. Every type of wood has its own working character. I enjoy turning burr oak and using it for furniture pieces, but it's incredibly tough, especially kiln-dried burr for furniture. The endless knots and pips take their toll on the tools, but taking the time to keep them sharp really helps.'

He prefers to use a natural finish. 'I use hard wax oil on all of my furniture, but with barely any shine. Wood isn't shiny by nature, so I use a finish that is sympatric to the natural aesthetic of wood. For me, I want a finish that lifts the wood without changing it.'

The most enthralling – and most challenging – project he has worked on so far is a bench he made with a piece of 400-year-old English walnut. 'To find this wood was incredible, to see it, to study its grain, to think about the size and beauty of the tree from which it came. It was a pleasure to work, and the size of it allowed me to find a design that I was very happy with. I complemented the dark walnut tones with the warm golden tones of English oak for the undercarriage and spindles. I couldn't have been happier with the final piece.

'While it was the most rewarding,

the walnut bench was also the most challenging. Its scale was difficult to manage on my own for one thing, but the responsibility of celebrating this piece of wood was on my mind. It cost a huge amount in itself and I had to be very aware that every move I made was removing wood, and I would have stop working it at just the right time.'

His current projects include a collection of English walnut vessels with an accompanying oak shelf display piece for the seven forms to sit on. 'Then I'm moving on to a burr oak coffee table, and I look forward to turning some big pieces of lime I've just received from the rainforest woodland down the road. I'm always looking to get the balance between commissioned work and personal pieces,' he says.

Looking to the future, he is working off-plan, just as he does in his workshop. 'I'm following my nose and developing as a woodworker, and designs are evolving as part of the process. I'm interested in creating larger bodies of work in future to see how furniture pieces and vessels might begin to come together in a single space,' he says.

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Andy Coates continues his look at Sovereign balls in this third article in the series

In part two of this series we completed a Sovereign box, and in part three we move on to look at decorative enhancement. I had intended to make a version with a threaded lid to the hidden box, but wood supply problems during lockdown put paid to that. However, not to be completely defeated, I decided to go through the threading options using some artificial-ivory rod. Ideally if adding pewter bosses, the wood chosen ought to be dark to provide a good contrast between the wood and the pewter, the jewels on the ball. But using bog oak made it difficult to discern detail in the photographs, so sycamore is used for the ball turned to illustrate the process. It could, of course, be stained after completion.

The other decorative enhancement is to add a further eight decorative bosses between the six main features. This can be tricky as little of the original surface remains to ensure a close fit in the sphere jig, but the result is worth the effort.

Pyrography is also a great way to add interest and value to a completed Sovereign ball, but as is ever the case with after-lathe work, the concern is

that you make a mistake and all your work has been for nothing. So, whichever decorative path you decide to take, go slowly and plan out what you want to do and how you will achieve it.

We need a Sovereign ball to start and we've already covered the making process, so I will make another to add the pewter features to and we can begin, but first we will look at threading the box lid. This is only an overview of chasing the threads to illustrate a further option for fitting the lid. Much fuller explanations of thread chasing would require several articles.

### Threading the box

The process here is slightly different to how it would be on the actual box of your Sovereign ball because I am using a piece of alternative ivory, simply to illustrate the technique. Other than this the threading process would be exactly the same.

The first step is to mount the blank for the hidden box, take it down to size and abrade to a finish. The blank is divided into either thirds or fifths and a 2:1 or 3:2 ratio respectively is used to create the top and bottom. Remember that the actual box for the Sovereign ball also has a half-inch tenon on the base, so do not include that in your sizing.

The chasing tool for making the internal, or female, thread is used on a supplementary armrest held firmly on the toolrest.

I prefer to turn the internal thread on the lid section first, so the blank is marked up and parted, leaving the lid section in the chuck. The lid is hollowed with a 25mm Forstner bit in a Jacobs chuck and then a recess cut 5mm deep. A modified tool with a tiny cranked scraper end is used to cut a 1mm-wide recess to 1mm deep into the wall at the base of the recess. This is a relief cut to allow the threading tool to stop cutting. A small chamfer is cut on the interior leading edge of the recess – some people do not find this necessary and begin threading directly on to the wall.

A 16tpi thread chaser and armrest is used to make the threads. Thread chasing seems to be viewed as something of a dark art, but with practice and the right material



Parting off the lid section



Hollowing the interior



Cutting a relief slot at the base of the recess



Cutting a chamfer on the lip

it really isn't that difficult to achieve. Very close-grained species, such as box, African blackwood and some other exotics, are by far the best wood species to use – I had none of any suitable dimensions in stock and was unable to get any delivered due to lockdown closures, hence the Ivory compromise. But some other species can be chased if the wood

is hardened with CA prior to chasing.
The lathe speed can be as low as your lathe will allow, but 100rpm is more than enough; slower is even better.
Even rotating the lathe by hand is fine.
The first tooth of the chaser must take the initial cut, the strike, which is made at an angle to the chamfer. The chaser is essentially rotated in a flat, circular plane, clockwise through the cut. As the

first tooth begins to form the first thread the tool handle is pushed towards the lathe bed and the tool's teeth become parallel to the recess wall. The teeth will begin to follow in the threads quite naturally. The tool will stop cutting when it reaches the relief cut at the base of the recess. The motion of the tool on the chasing rest is circular and clockwise. Try to keep the motion fluid and regular.



Starting to chase the internal thread



Using a Sorby chasing gauge to determine the tenon size



Checking the tenon size



Striking the external thread

Once the internal thread is completed we move on to the external, or male, thread. A thread-chasing gauge can be a useful tool if you are new to chasing. The internal legs measure the inside of the box lid and the tool is then reversed to provide a gauge for sizing the external tenon. The tenon is cut accurately and a 1mm relief slot cut at its base, with a small chamfer cut on the leading edge. The external chaser is used at an angle to strike the first thread at the chamfer, and the tool handle pulled slowly in the direction of the headstock as the thread progresses. Once again, you should feel the tool naturally travel along the thread as you progress.

Once both threads are chased a little soft paste wax on the threads will help them run smoothly. If you're using wood then the grain is unlikely to match, but this can be easily resolved. Make a pencil mark on the box section at a point where there is an obvious grain feature (I was able to do this on the resin block), rotate the lid until it

matches and mark the lid. Remove the lid and use a scraper to take a whisker off the leading edge.

Re-fit the lid and you should note that the two marks are now closer together. Repeat the process until the marks meet. If you overshoot you have to continue all the way around again.

Once the grain is matched the threading is complete and you can move on to the next stage... which we have already covered in article two.



Marking the misalignment



Taking a shaving off the top edge



'Grain' realigned

#### Alternative method of threading the box

If you still feel hand chasing is not for you, there are alternative methods which you may find easier. There are a number of threading jigs available and to some extent they all work very well, although like most things in life some are better than others. You get what you pay for seems to apply here.

Most of them work by utilising a 60° end cutter and some system of progressing a mandrel that holds a chuck with the workpiece held in it. The cutter is held in a separate chuck on the headstock. They can be fiddly jigs to set up but practice makes perfect, and they do work extremely well, so may be an option you would like to investigate.



Thread-cutting jig

#### Preparing the Sovereign ball for decorating

The next stage is to mark the ball up to form the six circular bosses. The first step is predetermined by the necessity to hide the cut lines at the two poles. As each boss needs to be the same in appearance we need a ½in detail and a ½in detail at both of the box-end poles, and these need to copied at the remaining four facets. Any details you add in or around these two need also to be copied, so keep it simple. In order to assist positioning some pencil lines are added using a compass.

Make the two ½ in and ½ in circles first, then add the inner circles. Using the pole dead centre for the point of the compass make a circle somewhere between the 1½in circle and the approximate equator of the ball and repeat from the opposite pole. Now measure the gap, divide by two and mark this point (the exact equator), extending the compass so the pencil tip hits the mark, and scribe the equator in.

Put the compass point anywhere on the equator and scribe the opposing equator – it should pass directly through the poles. You now have two more points on the equator where the lines bisect. Turn the ball through 45°, scribe a further equator and you now have the four bosses marked. Copy the ½in and ½in circles about these centres.

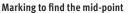
The next step is to mount the Sovereign ball in a sphere chuck

and turn the features, but before we begin we need to prepare the pewter buttons to inset.



Marking the poles







Finding the centre line



Marking the centre line

#### **SAFETY**

Before continuing it is perhaps wise to underscore the particular safety considerations involved in working with pewter.

- Pewter purchased as new should comply with the relevant controls for your country in the UK, BS EN611-1:1996
- Reclaimed pewter should be certified as 'lead free'
- Appropriately rated safety eye-wear should be used at all times
- Long-sleeved, heat-rated gloves and forearm protection is advisable
- Clothing and footwear should be appropriate to

protect against splashes of molten material

- Work area should be free of combustible materials
- A fire extinguisher should be sited close to the work area
- Work in a well-ventilated area, and a fume extractor is advisable if available
- When pouring molten pewter always ensure the mould is flat and stable
- Remember to turn the heat off after pouring



Work area ready to start



Pouring the molten pewter into the cast



Breaking the mould

I have covered casting pewter in previous articles and space does not allow for a full explanation here, but please see the safety panel for further information. At this point some prior understanding and preparation is assumed.

Ensure the work area is clear of flammable materials and that all appropriate safety measures have been put into place prior to

commencing. A scrap piece of cedar was used to drill four 70mm deep 13mm holes to serve as moulds. The pewter is melted and poured into the mould and left to fully cool down. Use an infrared thermometer to ascertain the temperature of the casting. The mould is broken open with a chisel and the cast rod retrieved.



Roughing down the cast rod with a carbide tool



Blacking the rod for marking out



Abrading the turned button

The cast rod is held in engineering jaws, roughed down to a clean 8mm cylinder and the end cleaned up with a carbide-tipped tool. The rod can be blacked with a marker pen to enable marking out with a scribe. Mark 5mm back from the end face and turn a button from this mark. Using a small parting

tool, cut a tenon behind the button, 3mm in diameter and only 2mm long. The button can be abraded with 240 grit as a first step. Be very careful to not let the abrasive snag.

Make a small, very tight, wad of oooo wire wool and carefully abrade the button. Extreme care must be taken to ensure

the wire wool does not catch. If in doubt abrade with the lathe off. Repeat with superfine wire wool. The button can be polished with metal polish paste and a piece of workshop paper. Part the button off and repeat until you have six matching buttons.



Abrading with a pad of oooo wire wool



Polishing with metal polish



Six completed buttons

#### Turning the bosses

Mount the Sovereign ball in a sphere chuck – chucking options for spheres have been detailed in previous article. The centre marks from the compass can be used to align with the revolving centre to ensure the sphere runs true. The central ½in circle, on each facet, needs to be coved and an 8mm recess turned with a 3mm central recess in the bottom to take the tenon on the button. Aim for a depth that brings the top of the button in line with the curvature of the sovereign ball.

Turn any other features you require within the scope of the

1½in circle. Remember that they need to be exactly the same on each boss. I turned a simple, shallow cove, 8mm in from the outer circle, and three V-cuts.

Installing the buttons is fiddly, and a sack placed across the bed bars will save you hours of trawling through shavings looking for an AWOL button... trust me. The bosses are glued into place with thick CA glue and finger pressure applied until the glue cures. Reposition the sphere and repeat five more times.



Centring the Sovereign ball in the jig



Turning the 1/2 in cove



First pewter boss installed

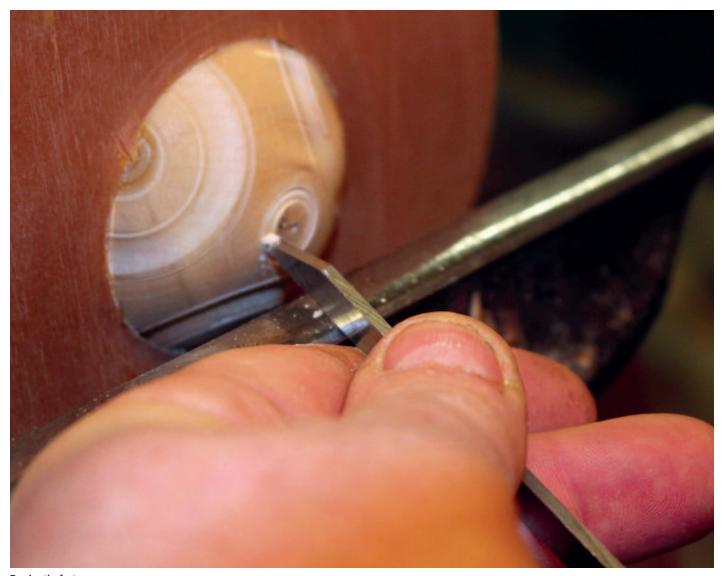
#### Last detail

You will notice the roughly triangular feature left between every three circular bosses, there being eight in total. These offer the opportunity to take the turning to a further level. You can use a compass to find the exact centre of these sections, or, as I usually do, mark each point with an awl by approximation. You'll find it's not too difficult to get them accurately marked.

Remount the sphere in the chuck and turn a ½in diameter boss feature with a simple 1mm bead and a shallow cove. Repeat seven more times.







Turning the feature

#### **Conclusions**

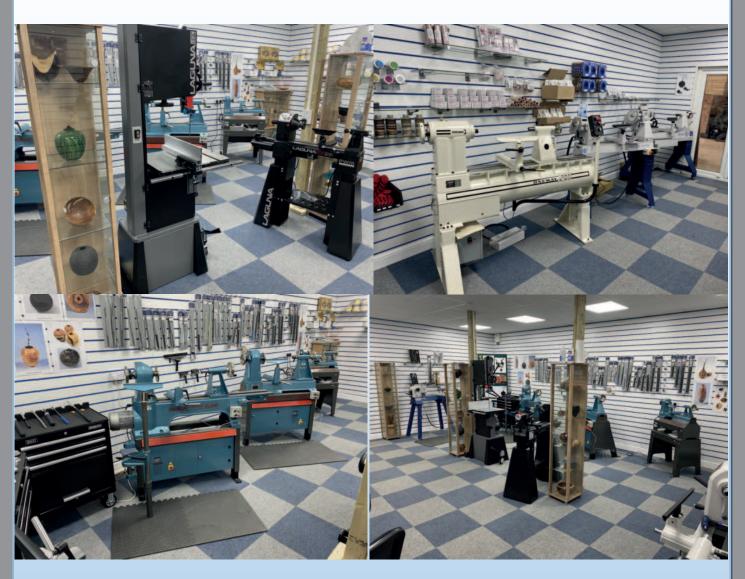
The Sovereign box is now completed but for cleaning up the glue around the buttons, finishing and possibly even further decoration with pyrography, painting, or whatever grabs your fancy. On the larger bog oak version above I also pyrographed a series of patterns to further enhance the box.

Sovereign boxes really are a joy to make. They can be challenging, frustrating, time consuming, and require

concentration over and above almost anything else I've ever turned, but they really are a wonderful project, having advantages of being functional and yet highly decorative, a novelty and yet fundamentally practical object to hide your treasure in.

Another 10 years and I reckon I'll be knocking them out as fast as Jones, Batty and Berkeley did. ●

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# Hosting a disabled turner

Emiliano Achaval explains the practicalities of accommodating Troy Grimwood



When my friend Troy Grimwood, one of New Zealand's best upcoming artists, contacted me to inquire about the possibility of visiting Maui and doing a demo, I had some apprehensions.

In 2008, Troy was in a rock-climbing accident that left him paralysed from the waist down. After spending a few days with him and his lovely wife, Debbie, I have learned a lot about woodturning and also have a new and more in-depth understanding of what it takes to host a disabled woodturner.

I met Troy in person at the AAW symposium in Raleigh, NC. For some reason, I was nervous about asking him if he was going to be able to turn on my taller-than-most lathes. My friend Alan Zenreich was hosting a special lunch interest group about turners with disabilities. Troy was one of the panellists.

I had confided in Alan about my worries

and he invited me to come over and ask Troy what I could do to make him comfortable and be able to turn in my shop. His answer was simple: build a platform with two pallets. Some businesses in your local town will have lots of good pallets, usually in the back, as is the case with our local big-box Home Depot. Yours for the taking, free of charge. I asked the manager first.

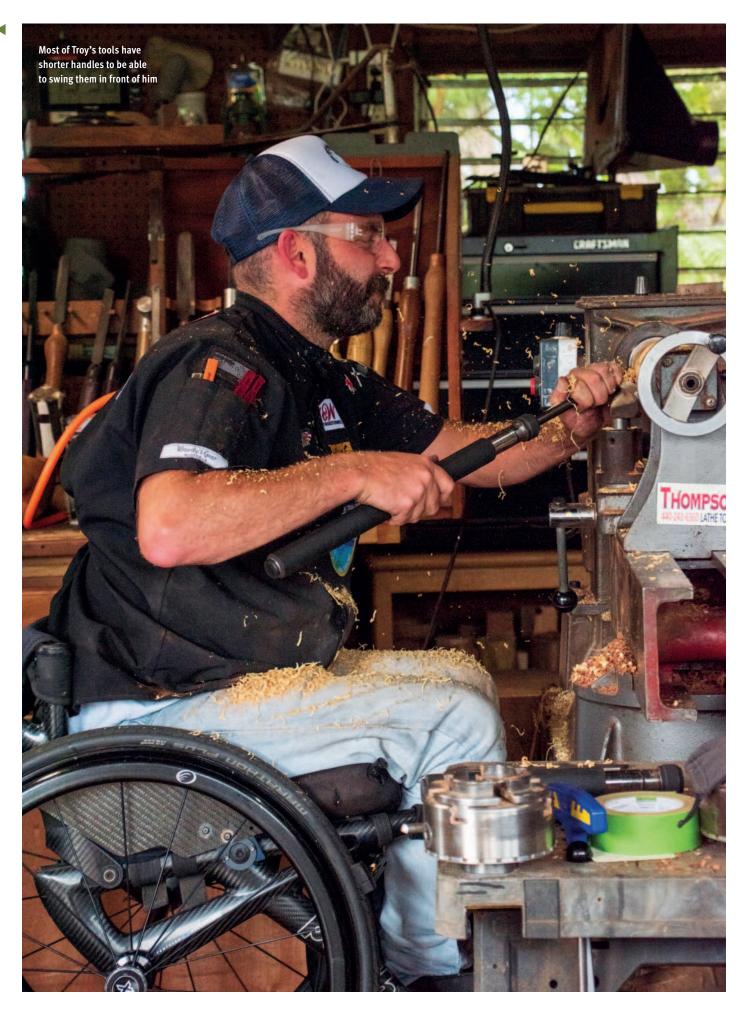
When it was time to pick up Troy at Kahului, Maui, airport, I took the van I use with my wife. Due to some health reasons, she is also in a wheelchair, and the van has a lift in it. With high confidence, I told Troy to wait and let me get the lift out. He quickly replied that he didn't need one, proceeded to open the front door of the van and lifted himself on to the seat effortlessly, with rock-climbing agility.

I had asked Troy if he wanted me to install bars around the house to help him. I was specifically worried

about the bathroom and the two small steps to enter the cottage where he was going to spend a few days. He told me he didn't need any bars, nor did I have to worry about access to the house.

When we reached my house, on the slopes on the extinct volcano Haleakala, Troy transferred himself to the ultra-light carbon wheelchair he uses, spun around, and went to the first 'obstacle' a 6in step to enter the deck. He went up to it like nothing, instantly.

The next morning, we started construction of the ramp. Lucky for me, Troy is a trained and certified carpenter. Not that you need one for this straightforward project, but, hey, I'm a woodturner, and I welcomed the help. The pallets, as I mentioned, were free. I had some old two-by-fours laying around, a ply board leftover from building a chicken coop several years ago.





In under an hour, mainly because we kept getting sidetracked by woodturning talk, Troy had a respectable-looking platform constructed next to my Omega Stubby 750 lathe. He went up to it and discovered that he needed just a little more height. He cut some two-by-fours, which we wedged under each corner of the pallets. That proved to be just the right height. To make sure he was going to be okay, we put some wood on the lathe and he turned a beautiful box as a gift to my wife.

We were all set for the demo. The only small problem was that if he needed to sharpen, he was going to have to come down off the platform, down the ramp and around the lathe to reach my Baldor grinder. I offered to be his assistant and sharpen as needed. An option would have been to add another platform to reach the grinder. If he were to teach a hands-on or a week-long class, I would have done the extension.

It didn't take long for me to start seeing Troy not as a disabled person, but another fully-able, capable-of-anything woodturner. In this day and age of political correctness, I was worried about saying the wrong thing, calling him something I wasn't supposed to. I did not need to worry about it – Troy helped me along, taught me, and educated me. If I did say the wrong thing, he wasn't offended by it. He did tell me that in New Zealand, it is not okay to call him 'handicapped', but that is the word I see used around here, at least in Hawaii. The placard for my wife's van says: Handicap Parking. So, I'm guessing the word might differ from country to country.

Troy wants to travel the world. One of his goals is to be able to demo and pass his knowledge around the United States and Europe. I would not hesitate to host him again. His demos in Raleigh were well received and we loved it here in Maui.

Once clubs start meeting up again, don't let his disability deter you from inviting him to demo. Send him an email or give him a call. Look past his disabilities, he's a great artist and teacher, he's one of us, another woodturner. After he leaves, you'll be glad you invited him, and you'll realise you have made a friend for life. I know I did. Aloha.



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# Choosing timber for turning

Alan Holtham discusses how to pick the best wood for your project

Having finally chosen and installed your lathe and its accessories, the time has come to get turning and for this you obviously need some timber. But all is not as simple as it seems in the world of wood. There are many variables with this most natural material and you can become disappointed and frustrated if all your best efforts are thwarted, not only by your unfamiliar tools or faltering

#### technique, but by the very material you are trying to fashion.

However, if you follow some basic rules, you can minimise the problems and in reality you can make the timber side of woodturning as simple or as complicated as you want. But beware, the whole process of gathering and preparing your own timber can become almost as obsessive as the process of turning it on the lathe.



Prepared blanks

#### **Buying blanks**

The easiest way to acquire wood is to simply go to a specialist retailer and buy ready-prepared blanks off the shelf. These are usually perfect as regards quality, and should be dried to a state that allows them to be used immediately. They may appear expensive at first glance, and you might be reluctant to spend a lot of money in the early stages of your turning career. However, bear in mind that you are paying for the waste material that has been cut away to prepare such a perfect piece, as well as the storage and drying time – all very significant factors, as you will find if you start preparing your own.

Beginners are often recommended to start by buying cheap softwood to practise on, but this advice must be tempered with a note of caution. Softwood is notoriously difficult to turn well, even with years of experience, and it is easy to become disheartened if this is all you use. Certainly don't spend a fortune on highly exotic blanks until you have become



Softwood blanks

reasonably proficient, but do buy some cheaper prepared blanks of sycamore or beech. Although relatively plain as regards figure, these turn really well and you will soon be experiencing that wonderful 'hiss' as a sharp tool peels away the shape. This will inspire you to continue, whereas the torn and dusty grain of softwood will not.

If you are an occasional turner, you can quite happily spend your turning career using ready-prepared blanks. However, once the bug has bitten and your demand for timber becomes more voracious, you will probably want to start sourcing and



Beech being turned

preparing your own stock. This may not be a much cheaper route, though. If you price in all the time and costs involved in finding the raw material, handling it, cutting it up, drying it and then throwing half of it away, the shop-bought blanks are not that overpriced after all. Preparing your own timber gives you much better control, as you can cut the sizes you need in the way you like. But, while it is eventually less expensive in monetary terms, it takes a while to get there and, because converting and drying timber is such an inexact science, the only true guide is experience.

#### Tree surgeons

Tree surgeons are a good source of timber, as they often deal with more unusual varieties and are glad to get rid of what they regard as waste material. Such small garden trees and prunings are a rich source of decorative material, and thin branches of species such as yew and laburnum can be worked in the round, but they have to be dried thoroughly before they can be used.

In order to convert the larger trunks into more manageable

pieces you will need to invest in a small chainsaw. I use an electric one around the workshop and a bigger one outside for larger branches, which makes short work of slicing up the wet trunks. Alternatively, even a small bandsaw will cope with a lot of the conversion work, just make sure that log sections are securely held on the table and never try to cross-cut logs, or they will roll dangerously.



Branch wood suitable for turning



Small trunks suitable for producing turning blanks from



Converting a section of log into a blank

#### Seasoning



Dry section of Laburnum

Applying wax sealer



Rough-turning a bowl

Fresh-cut wood like this contains a huge amount of water and, although very easy to work in this state, it may subsequently crack and warp unless thin-walled vessels are turned. and this can take experience. The water, therefore, must be removed before the wood is ready for using, which will involve the difficult and lengthy process of seasoning.

You can store small log sections to dry as they are, a process that will take several years to complete. They will crack and split on the end, often to quite a depth, particularly on fine-grained ornamental species such as laburnum. You can minimise this splitting by coating the ends with some sort of sealer to slow down the drying process. Hot paraffin wax is the traditional method, but you can also buy liquid wax to brush on cold and this is much easier to use. The remnants of household paints can also be used to provide a degree of end-grain sealing, with the sole intention being simply to reduce the rate at which moisture is lost from the wood. This may seem counterintuitive but it is the best way to reduce drying stresses that cause cracking and checking in drying wood.

Another way of seasoning your own timber is to rough-turn it while it's wet. In this process you turn away a lot of the waste timber to the approximate shape of the final item. This way you minimise the amount left to dry, which significantly speeds up the seasoning process. Even with this method, the end grain needs to be sealed thoroughly and you will still get failures. The amount of water contained in even a small piece of wet timber is quite amazing; in reality it is just like a sponge. A moisture meter will give you an immediate reading, but bear in mind that this is only accurate at the point of penetration of the probe, it may be much wetter further in. A more accurate but less immediate answer is to keep weighing the blanks until their weight remains constant.

Although at this point they are not necessarily dry, they are in equilibrium with their surrounding environment. Remember the sponge analogy: wood



A good quality moisture meter

38

will soak up water from the atmosphere if it is wet, as well as releasing it when conditions are dry. It is very difficult to beat nature by speeding up the drying process too quickly, so you just have to be patient.

The ideal drying situation is a cool, shaded area with good air flow where there are no dramatic or sudden fluctuations of temperature. Somewhere sheltered outside will remove the initial moisture, but then the timber should be brought inside to finally condition it.

The only possible short-cut for the home

seasoner is to try microwaving turned items. You can do this in a normal kitchen microwave oven. NB: You may wish to buy a cheap or second-hand microwave for this purpose rather than use the household one.

The process is relatively simple, though not foolproof. Small blanks of wet wood should be weighed and the weight recorded. The blank is then microwaved on the defrost setting for between two and three minutes. The blank is left to cool and then weighed and recorded again. This process is repeated until the blank loses

no more weight over three cycles. It can then be considered to be in equilibrium with its environment, and so 'dry'. This is not an exact science, and results will vary, but the process does work. Do no leave the microwave unattended during its operating cycles and do not consider increasing the power setting to speed the cycle up – you could cause the wood to ignite on the inside. A small household fire extinguisher or a bucket of water to dunk a suspect blank into are wise precautions to take, but with a patient approach no such poor luck should cause concern.



Boards stacked to air dry



Turned bowl after microwaving dry



Board with severe cracks from drying



Movement in poorly dried wood caused marble insert to crack under movement forces

#### Avoiding cracks and splits



PEG being mixed



Bandmill

The process of drying timber often builds up huge stresses within the cell structure and these may show up in a board as major cracks and splits, often severe enough to almost divide it into two. While annoying, these defects can be worked around. The more frustrating ones are those that only show up after the wood has been worked and finished. Bowls may warp or crack and the force is such that it can even crack inserts of marble or tile. Never underestimate the strength of these drying stresses and remember that they are always the result of inadequate or faulty drying methods.

One method of ensuring complete dimensional stability was developed initially by gun-stock makers, but has

since been much used by woodturners. The process relies on replacing the water within the wood with PEG (polyethylene glycol), a substance which is completely impervious to changes in atmospheric conditions and therefore renders the wood inert. Although quite feasible for the smallscale user, it is a rather messy process and the raw material is expensive. You need to cut and turn your blanks out of very fresh-sawn timber, as partly dry material is no use. The rough-turned blanks are then soaked in a vat of the warm PEG solution, often for several weeks. After a thorough soaking they can be force-dried and then finish-turned in the conventional way.

On a commercial scale, timber has to be treated in much the same way, but the logs are broken down on a bandmill. This works on the same principle as your home bandsaw, but has a blade of up to 12in (305mm) wide to deal with the logs, which are somewhat larger. The resulting boards are stacked outside to start the drying process, and may be left as whole trees with waney edges, or resawn with square



Interior of kiln building

#### Kiln-dried timber

There is not time to air-dry most basic timbers, so the process is speeded up by kilning. Kiln-dried timber is ready for immediate use and sold with a specified moisture content, so you are reasonably sure that it will be stable. The drying kilns are like huge ovens, but with both the temperature and humidity closely controlled by highly sophisticated monitoring equipment. The contents can be dried in days or weeks rather than months or years, the exact timescale depending on species, thickness and initial moisture content.

If you use a lot of timber you can actually build your own kiln for bulk drying. Although on a smaller scale than commercial kilns, these home units can turn out some very acceptable results. They work on the dehumidifying principle, with a small drying unit being placed in an enclosed chamber with the stack of timber. You can either build the kiln from



Logs waiting to be processed at a mill

edges, depending on the final application. Really thick material will take several years to air-dry outside and this time span is



Small drying unit

scratch, or convert something like an old refrigerator lorry body. They are well worth the relatively modest investment if you are a serious turner and have both the space and access to plenty of fresh timber.

#### Exotic timber

Many of the home-grown timbers are relatively bland and colourless; it is only when you get into the exotics that the highly decorative and colourful species appear. Notoriously expensive, these imported exotics are often only available in small sizes, primarily due to the quality of the logs. Even 'good' logs of species like African blackwood and tulipwood will be full of rot and shakes, making conversion into dimensions extremely wasteful.

Many of the species are effectively scrub trees and large sizes are rare, but some exotics do grow into big straight trees. Species such as padauk, ovangkol and purpleheart are available in large dimensions, but such logs often have huge



Milled logs 'in stick' for air drying or awaiting kilning



Commercial kiln

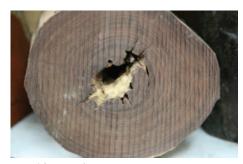
always reflected in the increased premium you have to pay when buying thickersection blanks.



Repurposed refrigerated truck body kiln



**Exotic timbers** 



Log with rotten heart

bands of contrasting lighter sapwood, which may or may not be considered a decorative feature. In home-grown timbers like yew, you can use the light sapwood to good effect, but it is amazing how this varies in both shape and quantity from tree to tree.

Look out for other features that will provide unusual timber suitable for turning. Branches joining the main trunk

of a tree provide crotch figure where the normal growth structure becomes more convoluted, or a series of small branches create burr-like figures. Turning timber from this area provides wonderfully rich and varied patterns, though it is sometimes a little more difficult to work. Also look out for partially rotted or spalted timber, which can be quite magnificent when turned.

There is so much to learn about wood that

you will never get to know it all. The material itself is diverse and variable, but as a woodturner you can learn to use virtually any piece of timber, even tiny offcuts for items such as pens and light pulls. The skill is in using form and shape to exploit and enhance the natural characteristics. The fun is not only in the turning but also in the hunt for that special piece you can later bring to life on the lathe.



Milled exotic with large sapwood areas



Yew crotch



Vase turned from yew



Spalted beech





 $Small\ blanks\ cut\ from\ more\ interesting\ wood\ species$ 

A burr



Turned bowl in spalted wood



### Using Burnishing Cream on Sanding Sealer.



1 Burnishing Cream is a creamy liquid which contains a very mild abrasive; so mild that it will cut back a finish and leave a shine. Always shake the bottle well to mix the abrasive into the liquid.



2 Prepare your work as normal and apply sanding sealer. Cellulose Sanding Sealer is best for this (Acrylic Sanding Sealer and Shellac Sanding Sealer can be used provided sufficient time has been left for the sealer to harden). Cellulose Sanding Sealer is ready for burnishing within minutes.



3 Use Burnishing Cream sparingly, don't over lubricate the surface. Use Safety Cloth to apply it with the lathe running, using a firm (not hard) pressure to maintain contact between the timber and the cloth.



A Continue the process, adding more Burnishing Cream to the cloth if necessary (still sparingly). Carry on until you see the shine grow. If too much Burnishing Cream is applied use a dry cloth to bring up a higher sheen.



5 The piece should now feel silky smooth to the touch. For best results and protection overcoat with any of the waxes in our range or Friction Polish.

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# IOTOGRAPHS COURTESY OF STEWART FURINI

# Fire up the compressor — it's time for airbrushing

Get your vapour mask on as Stewart Furini shows a few airbrushing techniques to decorate your woodturning



This month, it's time to get your airbrush into action as we look at a range of techniques you can use to add colour to bowls and platters and spindle work. At its simplest, we can use an airbrush to add a single colour. Moving beyond that, we can make colour gradients with two or more colours. Beyond gradients, we can achieve a range of effects using stencils, templates and masking - simple, single steps that build up to a more complex and interesting design. I'm not going to be showing what might be called artistic airbrushing. Instead, these are decorative techniques which only require basic hand and eye co-ordination, rather than artistic flair and talent. I'll be using stains and

dyes in these examples rather than paint, mostly because I find it easier to use in the dusty environment of my workshop. The clean-up when using stains in an airbrush is also easier than when using acrylic paints. I also like the way that the wood's grain can still come through when stain is applied. This isn't always the case with paints unless you use transparent colours.

Before we get started with the airbrushing, let me say that, for the more complex patterns, I prefer to use these on plainer woods, and use simpler techniques for wood that is highly figured, spalted or burred, if I colour them at all. Finally, these are just quick workshop demonstrations of different techniques, complete with the

odd smudge – there are no final pieces here, just a collection of ideas to try out.

#### **Basic airbrushing**

You can create different effects with your airbrush depending upon how close you hold the tip of the brush to the wood. The nearer the brush is to the wood, the finer the line of colour you can paint and you get the deepest colour possible. As you move the brush further away the line gets less defined and has softer edges, and the colour saturation is lessened. The amount of air you allow through the brush, and how far you pull back the trigger to control the amount of paint released, will also affect the way the colour looks. In

terms of adding stains to wood using the techniques I show, this fine level of control is not really needed. Don't forget about making use of the spin of the

Fine lines of colour can be achieved with the tip held close to the wood

lathe for some of your airbrushing. This is the easiest way to achieve a good blending of your colours when you are creating a colour gradient.



Wider, less saturated and defined lines are achieved just by moving the airbrush further back from the wood

Keep your airbrush tip some distance from the wood to avoid creating a hardedged line of colour, which will ruin the gradient effect.



Blending colours together to create a gradient

#### Simple templates

A template made from a piece of card is about as simple as you can get – you can use the straightedge or create a shape by cutting or tearing. Either put down a base colour and then use your template over that base, or use the template to add colour around the whole rim. It's easier to use a template against a flatter rim than on a curved surface, but if you make your templates from something flexible, this will make it easier if the effect you want is clear, sharp lines. Other everyday objects can be used to great effect as well – I have used empty plastic food pots, cardboard tubes, jam jar lids, and even small-denomination coins. Next on the list of things to try are nuts (not the edible sort, but you never know), washers and cogs. If you use a range of different templates or overlap the same template, you can create some more intricate designs that create a more complex geometric look or something more chaotic (I think you can guess where my sensibilities lie on this spectrum). You can use curved stencils to create more flowing designs, including a simulated flame effect. There are plenty of videos online if you feel drawn to

this. I haven't used a great deal of care with the demo piece for this technique, so check out my top tips for getting a cleaner finish.



Cardboard is a great material for making inexpensive templates



A piece of torn card being used as a template



Several layers of colour added with the same template



An effective pattern can be created with a straight edge of cardboard



Using a plastic cat food pot as a template



Using a V-shaped piece of card

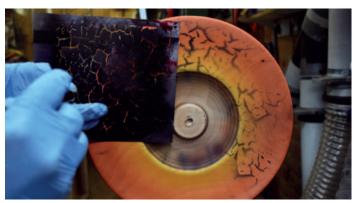


The final sampler, complete with a few smudges, ready for sanding back to bare wood

#### Stencilling

Stencils are another great way to add more detail to your airbrushing. There are many commercially available stencils, covering simple shapes to more elaborate designs. These designs make it easier to create repeating patterns – they might be a collection of geometric shapes or something more free-form. You can also get stencils of flowers and butterflies, fish bones and skulls... the choice is pretty limitless. I buy my stencils from craft and art supply shops and from online retailers.

You can also use objects from around your home and workshop as inexpensive stencils – router mat makes a good choice, a paper doily is more intricate, and if you've outgrown the use of your comb, that makes a great stencil too. You can make a decent stencil from hot-melt glue and you can also buy stencilling film (sometimes known as frisket) if you want to create your own stencils – just use a sharp craft knife or scalpel to cut out your design. If you have the artistic flair for it, you can cut a series



A crackle-effect stencil used over a gradient background



Don't throw out your old comb - it makes a great stencil too



You can never have enough stencils

of stencils that fit with each other to build up a multi-coloured image, much like screen printing.

You can make the stencilled image look sharp by holding the stencil firmly against the wood and spraying with the nozzle close to the stencil. For a softer, blurred look, hold the stencil just off the surface and hold the gun further back from the stencil when spraying.



The finished stencilling – notice the blurry parts against the sharper parts helping to add depth  $\,$ 



A stencil made out of swirls of hot-melt glue

#### **Top tips for minimising smudging**

When you're using a template or stencil, avoid putting it on top of an area you have just coloured in case you cause the stain or paint to smudge. When I use a template to put a pattern on a platter rim, I rotate the platter clockwise to move the freshly sprayed area away from the template; by the time I get all the way round the rim, the colour is dry and won't be smudged. You can also get smudges from a build-up of wet colour on the stencil or template, so keep a cloth nearby to dry off your stencils and templates as you work. For good preventative measures, do this after every three or four uses. If you do get a smudge, it needn't signal the ruin of your colouring — just add a few more smudges around the rim or circumference and no one will know it wasn't meant to be like that all along. And if that doesn't do it, remember that a bit of judicious splattering can often save the day.



Wipe your stencil clean to avoid smudges



Tapes and stickers used for simple masking

#### Masking

The final technique for this article is the use of masking – covering up parts of your work with tape to mask them off from the colour that is being applied. I mostly use masking tape to do this,

though if you want greater neatness with your edges you might want to try one of the specialist paint tapes or automotive tapes that are available. You can get tapes in a variety of different widths, so don't just stick to one size. You can also get tapes that are easy to stick down in curves rather than straight lines. I also use shaped stickers to mask off different areas. Masking lets you create different blocks of colour (think of unleashing your inner Mondrian) or adding a three-dimensional look to your colouring, as well as creating more dramatic and involved designs. There is so much potential here to build up interesting and unique designs. Space only allows us a brief look at the potential of this technique.

#### **Health & Safety**

Don't forget to wear your PPE and RPE when you are working with airbrushes. There will be fumes you won't want to breathe in, so wear a mask that protects against fumes and vapours; and you should always be wearing eye protection. Gloves will protect your skin from paint and stains.



Protect yourself



Use painter tape or masking tape to protect the top layer of colour



Darken the exposed part of the rim



Use black along the edge of the tape to add a 3-D shadow effect



Repeat these three steps to create a second layer of ribbons under the first layer



Remove the tape to reveal the 3-D effect

#### Final thoughts

While there hasn't been a completed project in this article, I hope these different techniques are helpful in suggesting ways you can use an airbrush to bring some colour into your workshop. They are not mutually exclusive techniques either – you might want to combine several of them on one piece. As always, there are no rules or right-or-wrong with this and I encourage you to just give

it a go. If you've seen one of my demos in person, when that was possible, or via an interactive remote demo, you'll know how easy it is to remove something that you don't like from the surface of your wood and then have another go. In fact, all the technique pictures from this article are of the same piece of wood — and there's still enough of it left to make a finished item.

#### Airbrushed gallery

Here are some finished pieces, coloured using the techniques mentioned in this article, where more care was taken – and a finish was applied. The finish always lifts the colouring another notch or two. I'll be covering finishing in a couple of months' time.



Next month

We get into a real spin with centrifugal colouring fun-it's more than just slapping some paint on while the wood whirls round.





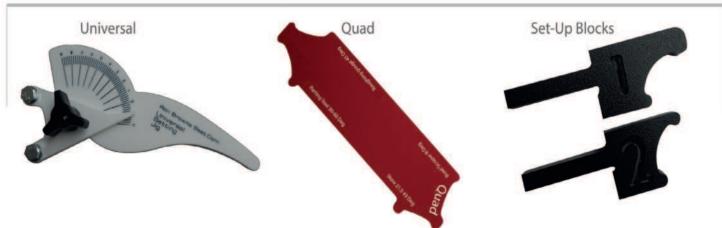
# 



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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Two Technologies Giving Unequalled Performance

# Apothecary vase

Steve Bisco delves into the dark art of fuming oak

There is something about the word 'apothecary' that conjures up the image of an ancient sorcerer pouring steaming potions from a dark vase, broad and bulbous at the base and narrow at the neck, with a stopper to keep in the magic. Well, in this project we are going to use a little sorcery to turn a pale piece of ordinary oak into something dark, mysterious and ancient-looking. There are no wizard wands or magic words involved (unless you feel so inclined) but you will see the oak, sealed inside a transparent container, change colour before your very eyes in the space of a few hours.

This strange alchemy is achieved by the process of fuming with ammonia. The oak is sealed in a container with some liquid ammonia, from which the gas given off reacts with the tannin in the oak, causing it to become much darker. This replicates the process of ageing that occurs naturally in the wood, but at the rate of about a century an hour. In a few hours our pale new oak will be back in the Dark Ages. The colour will be the same all over, unlike the effect provided by wood stains, which tend to soak into end grain and give an uneven colour.

In case you are worried, the ammonia we use for this project is household ammonia – not the industrial stuff. It is sold in hardware stores as a domestic cleaning fluid and is generally between 5% and 10% ammonia. It is strong enough to darken oak but is safe to use if you follow the manufacturer's safety instructions. Just use it in a well-ventilated space, wear eye protection and gloves to protect from splashes, and stand at arm's length to avoid breathing in the fumes.

Making the apothecary vase starts by turning the outside of the vase and its stopper as one piece, then the stopper is parted off. The vase is hollowed through the narrow neck, first by drilling with a 13mm drill in a Jacobs chuck, then using a spindle gouge and a ring tool to open out the inside. The vase in its natural oak colour looks 'pale and interesting', but with the aid of a household cleaning product (or magic if you prefer) we turn it into something 'dark and mysterious'.



#### **EQUIPMENT USED**

#### Materials

- Oak, 95mm square x 200mm
- Household ammonia
- Brown wax polish

#### Tools

- Spindle roughing gouge
- Spindle gouge (with 'lady's finger' grind)
- Beading tool
- Flat and round-nosed scrapers
- Ring tool
- 13mm drill

#### **SOURCING OAK**

I have used 95mm square oak (4in nominal) for this project. It is not easy to source anything thicker as kiln-drying only works up to 4in thick. If you can get some air-dried oak in a larger size, by all means make it bigger. Green oak that has been air-dried for at least three years is much nicer to work than fully-dried oak, but it has a tendency to carry on shrinking, warping and splitting when brought indoors, so you have to decide how much of that you are prepared to allow. If you use old oak from fence or gate posts (as I did), plane the surface and check carefully for nails, staples and anything else that may damage you or your tools.

#### SAFETY

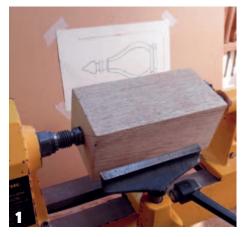
- Ammonia is an irritating and corrosive chemical and even at low dilutions can cause irritation to the respiratory tract and skin. Any splashes to the skin should be washed immediately with copious amounts of water. Splashes to the eye should be cleaned using a First Aid kit eye wash and medical attention should be sought.
- Children are particularly susceptible to respiratory damage from inhaling ammonia.
- Ensure the chemical is never mixed into any liquid bleach or chlorine-containing products as a toxic gas may result.
- Appropriate PPE is a must when working with ammonia products.

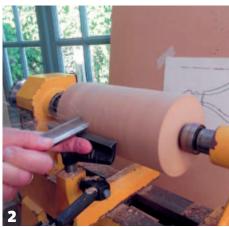
# 63mm 200mm 137mm 95mm

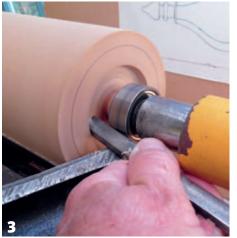
#### **DID YOU KNOW?**

The effect of ammonia fumes on oak was discovered many years ago when people noticed that oak beams in stables and pigsties darkened much more quickly than oak used in houses. It was realised that the fumes from the animals' urine, rich in ammonia, were the cause. The Victorians liked their woodwork to look dark and ancient, so they took to exposing new oak to ammonia fumes to achieve the medieval look they so desired.

Only wood that is high in tannin will respond to fuming with ammonia. The sapwood of oak - the whiter and softer outer layer near the bark - has no tannin and will remain pale, so make sure your oak is all heartwood. However, you can get some very interesting mottled effects by fuming oak burs that have swirls of sapwood among the heartwood and then turning them into bowls.

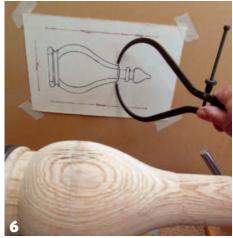
















#### Shaping up

- **1** Get a piece of oak (free of sapwood) 95mm square x 200mm and mark the centres at the ends. Mount between centres on the lathe. Make a full-size copy of the drawing and put it on a board behind your lathe. You can then follow the curves as you turn, and you can measure off lengths and diameters from the drawing.
- **2** With the spindle roughing gouge, turn the block to a 95mm cylinder and square off the ends.
- **3** Cut a chucking mortise in the base to fit your chuck and draw the diameter of the base on the end.
- **4** Reduce the base area to the required diameter and turn a 10mm bead for the foot (I use a bead former for beads). Afterwards, take the work off the lathe and remove the nib in the chucking mortise with a chisel.
- **5** Re-mount the base of the vase in the chuck and steady the 'stopper' end with the tailstock. Rough out the shape of the vase and continue up to the stopper end with a cylinder of the neck diameter.

#### Turning the detail

- **6** Check the diameter of each section against the drawing with callipers, then work the feature down to fit the callipers.
- **7** Work the vase to its final finish and cut in the cove between the foot bead and the vase body. Next, cut out the tapering part of the stopper that will go into the vase neck. Measure its diameter carefully and measure off its length from the drawing.
- **8** Shape the bead, cove and ogee that make up the rest of the stopper. Keep the tailstock in place to steady it, and then withdraw the tailstock to finish the point.
- **9** Now is the time to sand down the vase body and stopper, working down from 180 to 400 grit. Oak is a coarse-grained wood so don't expect the mirror finish you get with fine-grained woods. The vase is meant to look old and worn, so the visible grain is part of its charm.



- **10** Now part off the stopper from the vase neck. This is best done with a fine saw as a parting tool would waste some of the wood and may send the stopper flying off.
  - 11 To hollow out the vase, working on end grain through a narrow neck, it is best to drill out the centre with a 13mm drill in a Jacobs chuck. Check the length of the drill against the length of the vase so you get near to the bottom of the vase without going through it. Keep withdrawing the drill to clear the shavings.
  - **12** Use a side-cutting tool to open out the neck of the vase to fit the taper on the stopper. Try to get a tight fit.
  - 13 Open out the inside of the neck with a narrow spindle gouge in 'lady's finger' grind and start hollowing the interior. Switch to a ring hollowing tool when the neck is wide enough to get it in. You don't need to be too fussy with the hollowing because no one can see inside through the narrow neck without using a torch. As you can only guess at where the end of your hollowing tool is, the most important thing is not to come through the side of the vase.
  - **14** Here is the vase at the end of the turning phase. It has the required shape of an apothecary vase, but in its pale, new oak colour it lacks any of the drama we would associate with that name. It's time to embark on some hocus-pocus with our magic potion sorry, household cleaning product.

#### **Fuming**

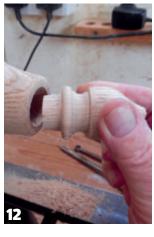
- **15** Get a suitable container that can be made airtight with the vase inside it, such as this plastic tub. Pour about 50ml of household ammonia into a dish and put it in the bottom of the tub. Stand the vase and the stopper on a support that will keep them out of the liquid and allow the fumes to circulate freely. Seal the lid so it is airtight. The ammonia is safe if you follow the manufacturer's instructions, but be sure to wear eye protection and gloves.
- 16 After one hour the oak is darker, but it needs four to 12 hours to reach its full darkness, depending on temperature, the strength and volume of the ammonia and the amount of tannin in your oak. If it is slow to darken, add more ammonia. You can leave it in the fumes for 24 hours, but it probably won't get any darker after that.
- 17 When it is dark enough, open the tub and stand back while the fumes clear, then take out the vase and stopper. They will be a bit whiffy for a few hours, so leave them to stand in the air.

#### **Finishing**

- **18** The fumed oak will have a dull matt finish so will be in need of a good wax polish. Remount the vase and stopper on the lathe. Apply the polish (I use Antiquax Brown) using a cloth with the lathe rotating. Hold the cloth between fingers and thumb so it will snatch out of your hand if it catches do not wrap it around your fingers. Repeat with a dry cloth to buff it to a soft sheen.
- 19 The finished apothecary vase, looking suitably medieval although it is only a day old. Compare it to photo 14 to see the difference.





















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# Success and safety with larger bowls

Mark Palma explains the technicalities of turning bigger



At some point in every turner's life the desire to go from smaller work to larger pieces occurs. It may be driven by a bigger lathe or access to a larger piece of timber, but whatever the motivation, the transition can be more successful and safer if a few suggestions are followed.

#### Larger work deserves respect

The physics of larger work spinning on the lathe deserves your respect. Use a strong face shield, consider safety glasses under the shield, and use safe practices when it comes to your stance and staying out of the line of fire. Inspect large blanks of timber carefully for cracks or defects that could cause it them come loose and fly off the lathe.

Understand that revolutions per minute on a small bowl is not transferable to larger work. The surface speed of the work spinning at the rim is significantly faster than the turning of the work as you near the centre. Start slow and get a feel

for the work so that you are not turning it too fast. You want the tip of the tool to be addressing the work at the right speed, not worrying about what the rpm scale says.

### Bigger pieces are physically demanding

Rarely with smaller work do we think about the physical demands of our turning on our bodies. With large bowls you are not only committing to a longer session at the lathe, but also to using more strength and stamina to turn it. Stretch before you start and have a plan to take some breaks if needed so that you can do your best work from the start through the end. If you get tired, you may be tempted to cut a corner, take a risk or not stop to sharpen a tool when needed.

The height of your toolrest and the overhang of the tool off the rest become more critical with larger work. It is easy to get in the zone and extend the tool further and further off the rest. Stop the lathe,



Stop switch

adjust the rest, and test it to make sure it clears the work by giving it a spin with your hand before returning to turning. The leverage exerted when a tool hangs even an extra inch or two can make the job far more taxing on your body.

#### Stout tools are helpful for bigger work

As bowl diameter increases, the forces that are imposed on the tool increase. Strong tools have their shafts deeper into the handles, have longer and stronger handles and larger tool shaft diameters. Do not underestimate the leverage exerted on a turning tool as you go deeper into a bowl. Scrapers for big bowls are thicker in profile to minimise flutter. You do not need a lot of big tools, but a larger bowl gouge and a thick radiused scraper can be a great help in achieving success safely.



#### Use mounting strategies commensurate with the scale of the work

Choose stout and strong mounting methods. Invest in a strong faceplate that has a larger diameter and thicker cross section. Make sure you are mounting the faceplate to a blank milled as flat as possible. The flat milled area actually adds support and grip to the work. Use larger

screws and fill every available hole in the faceplate. The difference in cross section between a No.10 and No.12 screw doubles the available strength.

Not all chucks are created equal. Chucks are made specifically to turn larger work. Larger chucks have stouter jaws and are

made to take the forces of bigger pieces. Resist the urge to overextend your chuck jaws, or undersize a tenon to match your chuck's capacity. Cut the tenon with extra care and understand that the tenon is what keeps you safe when you are hollowing out the bowl.







Faceplate sizes

No.12 vs No.10 screws

Stronghold vs talon chuck

#### Support your work from two directions whenever possible

One area where turners take a risk on larger work is when hollowing out the inside of the bowl once the work is mounted on a chuck. Hollowing creates stresses on the tenon. A catch can throw the bowl right out of the chuck, particularly nearer to the top third of the rim. So, consider a strategy to remove some of the bulk of the bowl without relying solely on the chuck. You can modify your initial hollowing strategy to keep the tailstock in place as long as possible. Also, commercial supplemental

supports are sold to provide external support on large bowls. These supports can mar the work, so plan on some final sanding in the contact area so that the bowl looks great at the end.

Also remember to check that the tenon remains tight. Sometimes a large tenon can loosen or shrink as the work is turned. Stop and make sure it is still tight. Make sure the chuck is in good order and that all the screws on the jaws are properly tightened before you mount the work on the chuck.



Bowl supported by revolving centre in tailstock. Bigger work accentuates vibration and also puts more pressure on your mounting points. Use your tailstock to support the work as long as possible. Supporting work from two directions keeps you safer, as well as reducing vibration



Deep hollowing with tailstock support







Oneway bowl support fixture

#### Focus on the basics – tool control and sharpening

Large bowls require the removal of large quantities of shavings. Think about what is happening at the point where the tool tip is touching the work; even small mistakes of the kind that you naturally override when turning small work can magnify and create problems with larger work. Make sure the tool tip is on centre, with close toolrest support, and rotated to be open enough to remove shavings, but not too open to create a catch. Examine your shavings to see if you are cutting the timber efficiently. Small adjustments in how you stand or hold the tool and address the work can make the difference between a pleasurable experience and a taxing one.

Large bowls require the removal of a lot of timber and there can be a tendency to keep pushing the tool, even if it is no longer sharp. You may turn a small bowl on one sharpening. With a large bowl you may sharpen two or three times on the outside and the same on the inside (or more). So, plan on tuning up your sharpening skills. Stop the lathe, take a small stretch and health break and sharpen the tool.

#### Measure, measure, measure

With small bowls, being a little off on your measurements may not get you in too much trouble. With large bowls, errors can compound and cause results that were unintended. Spend time on proportion and design. Sometimes removing an inch (or two) of height or width from a bowl blank will get a better end result.

Choose wall thickness with purpose and stop each inch and measure to see if you are keeping your intended wall thickness. Big bowls can easily get too thick or two thin in the bottom third of the bowl. Fight your tendencies to just press on. Stop and measure frequently as you go. Do not guess. Use measuring breaks to stretch and rejuvenate yourself as part of the turning session.

Accept that the bottom of the bowl will need to be reversed and turned at the end and plan for it. Your goal is to have a well-designed and turned piece with a relatively consistent wall thickness and no noticeable bumps or odd transitions. Just take your time, measure and go in incremental steps. Do not rush and your efforts will show in you results.

#### Sanding will take more time, so accept it

A large bowl not only has two to four more times the surface area of a smaller one, but will have some areas that need sanding attention. The likelihood of some tear-out or difficult grain is often present in larger timber. Have a mindset to accept that sanding cannot be rushed and that you will need to put in the effort to avoid a noticeable flaw in the end piece.

Switching from 2in to 3in sanding disks can double the surface area of your abrasives. Use sharp abrasives and change disks more often. You may need multiple disks of the same grit, so don't be too frugal and change disks more frequently. Be careful to avoid heating up the bowl while you sand. Sharp abrasives and a very slow sanding speed are your friends. Keep your lathe speed down, far slower than you would ordinarily set the speed control for sanding. Remember, the surface speed increases dramatically as the diameter of your bowl gets bigger.



2in vs 3in sanding disk

"Think about what is happening at the point where the tool tip is touching the work; even small mistakes of the kind that you naturally override when turning small work can magnify and create problems with larger work"

# Kurt's clinic Kurt Hertzog answers some readers' questions

#### Photographing work

Question: I've wanted to get photos of my work for a variety of reasons. I'll use them to have a record of the turning, potential website use, and even to use when offering pieces for sale. I don't think I have the correct gear and know I don't have expertise. The local photographers are out of my league for prices. What do you recommend?



Even if all you have access to is your phone, try to set up and light your desired shot(s) as best you can and take plenty of images. Without film, images are cheap

**Answer:** I think you should photograph all your work for the reasons you've indicated, as well as to watch yourself grow. Your work will improve with continued lathe time regardless of where you are currently. You can't easily see the incremental changes, but photos covering longer time frames will show them dramatically, especially if those turnings are long gone. That's why I recommend that all turners keep occasional samples of their work from the beginning. Those turnings will show your growth and accomplishments over time.

Regarding the photography, I've got several suggestions. Be certain that you look to the future with all of your photos – get the best images you can, in multiple 'poses', of the highest resolution, and in the best light. No pun intended. Today, they may be simply a record of your turning and the idea or concept you were pursuing. In the future, that photo may be needed to illustrate a magazine article or book you've written.

You've said the local pros are out of your reach, but have you looked for an accomplished amateur you can afford or barter with? There are many talented amateurs who do superb work but don't 'hang out a shingle'. Are there any friends, relatives, nearby neighbours, college students, local camera club members, or others more talented than you are around? A bowl or two, some pens or bottle stoppers, or whatever you excel at can often be used in trade for their time and expertise. Some of the pros might even be tempted to barter if you approach them properly, are flexible with your timing requirements, deliver the photographic work at their convenience, and ask appropriately. Regardless of how you deal with the photographers better than yourself getting onboard, never let any finished piece get away without a few snaps at minimum, even if they are taken with your phone camera. The cameras in even the least expensive phones these days are better than those available to the pros not many years ago. If you decide you'd like to develop some of your own photographic skills, you may find another craft you enjoy.



The beauty of today's photography is WYSIWYG, for the most part. With digital, results are immediate and there's virtually no extra cost for shooting plenty

Becoming more proficient as a photographer can be useful in other parts of your life, whether photos of your work, your family, vacations, pretty sunsets, the kids, and more. Photography can be pricey but need not be expensive, depending on how far you jump into the pool. You pick the equipment, brands, sizes and sources. As for learning, there is so much information available for free via the internet, no or low-cost online college classes, local photo clubs, or friends with some photographic talent. Nothing about photography is terribly difficult but, like your turning skills, time, knowledge, practice, attention to detail, and continuing to strive and advance will pay dividends.

A look at the article in Woodturning issue 258 titled Improving Your Turning Photos will provide a good basis for brushing up your skills in general. It should make you aware of all aspects of photography that you can control and manipulate to your advantage to improve the final product, regardless of subject.



Photography fundamentals are identical whether fancy or simple. Composition, lighting, focus, depth of field, filling the frame, and more transcend the equipment

#### **Turning to writing**

Question: I'd like to make some extra money from my turning expertise and thought about writing some articles for the magazines or a book. Seems like easy money. However, my writing inexperience kind of scares me but I'd like to try it. How much does it pay? How difficult is it really? What is the best way to 'break into the market'?



Time needed for article creation in addition to photographing the supporting illustrations will include the selection and preliminary editing of the shots

Answer: While I admire your willingness to tackle something new, I would like to caution you a bit as well as give you some paths to pursue. My recommendation is to pursue writing as a means to share your expertise, expand your recognition, and perhaps build your brand. If your only goal is making 'easy money', I fear you may be disappointed. Yes, writing does pay and, depending who you write for, your compensation can vary from nothing other than the expanded audience to a certain number of dollars per page or copies of book sold. Some publications pay more than others.

Write because you want to share and be recognised for your capabilities and knowledge rather than getting that easy money you speak of. I'd suggest you begin by deciding on what you'd share. Do you have a specialty that would be interesting to other turners? Do you do something that is rarely written about? Are your methods of doing something so radical, easy to learn or accomplish, or unique?

With zero experience, I think your best bet is to start with articles rather than books. You can learn the ropes of writing by submitting articles to your own or other clubs' newsletters or websites. They are always hungry for material. There probably isn't any pay but it is a good, low-risk, low-investment method of getting your feet wet. Once you've done that, or if you've

decided to skip that step, you should pick your initial target magazine.

Think through what you'd like to offer then approach the editor with your pitch.

is to have a proposal accepted by two publications and then have to pick one over the other. That isn't conducive to building any rapport with the editor(s) or a good reputation in the industry. The number of woodturning magazines has thinned considerably over the years as print media of all sorts undergoes everything from cost challenges to competition from online. If your idea doesn't fly with anyone, suggest another, or another. Once you have experience with an editor, they will often give you ideas they need filled and you can pursue it knowing they have need for it. Rarely will they do this with a newbie.

When you have a publication wanting your idea or draft, you will be guided as to elements such as word count, file formats, images or illustrations, and delivery deadline.

Once you've submitted your materials, your editor will usually be your contact as the article works its way through the various departments on its way to publication. You should then get a final proof of the article for your review. It isn't intended for you to change or rewrite but

"My recommendation is to pursue writing as a means to share your expertise, expand your recognition, and perhaps build your brand. If your only goal is making 'easy money', I fear you may be disappointed"

There are magazines in print, online, product manufacturers' websites and in-house publications, among others. You can complete an article then submit it, but that is a lot of work that may not bear fruit. Editors are always looking for new talent, fresh ideas and expertise they haven't featured. I'd suggest you contact the editor of a publication you fancy with the idea, perhaps an outline, and potential timeframe. If they are interested, they can then inform you of their topic needs, timing, payment terms and amounts, submission formats, and all of the mechanics of the process they use.

Etiquette suggests you submit to one magazine at a time, waiting for a refusal before offering your article to another publication, unless you are offering each a different topic. The last thing you need

to be certain that, during the process, nothing was altered incorrectly or in a confusing matter.

Once you indicate all is well or provide minor suggested 'corrections', the ball is in the publisher's court.

Some pay on acceptance but most publishers will pay you, or let you invoice them, 30 days after publication. In reality, the timeframe from idea acceptance and work underway to cheque in the mail can run from three to eight months, depending on the publication. Remember, there is a huge amount of work on every issue that goes unseen by most folks and every issue is many months in the planning.

I highly recommend that you give it a try but, again, do it because you want to share, enjoy the process, expand your reach, and make a few bucks.

### Keeping your edge



MASTERS OF WOOD

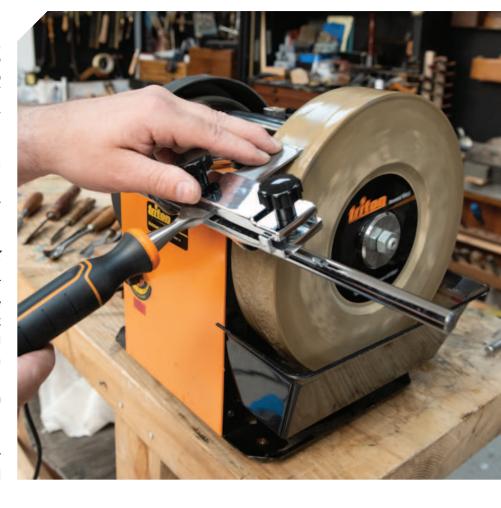
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www.facebook.com/ pren.bala



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Steve has been carving for 30 years, specialising in decorative carving in period styles, first in wood and recently in stone. His book, *Stone Carving for the Home & Garden*, is available from GMC Publications. **steve@thebiscos.** 



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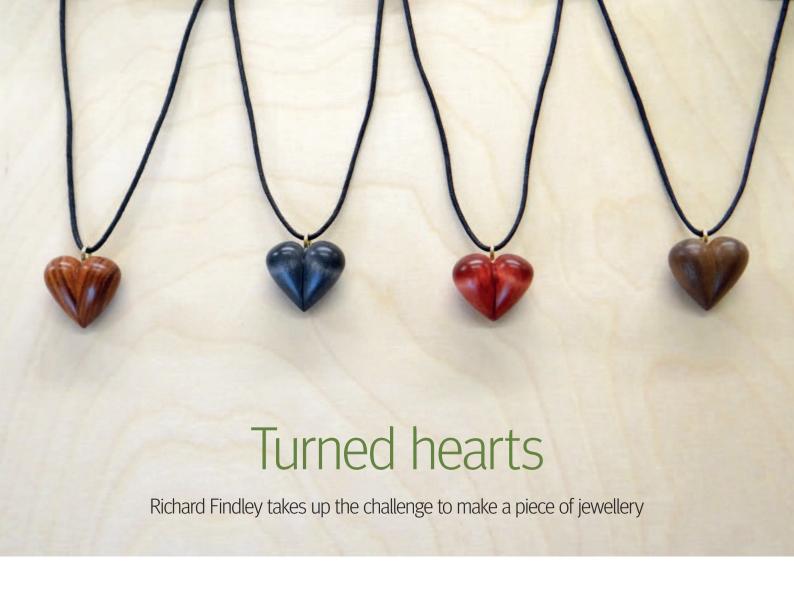
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My challenge this month is a pretty broad brief – to make a piece of jewellery – but I immediately have a couple of ideas for potential projects. I have turned a few items of jewellery in the past, including bangles, and even once taught a chap how to turn a wooden engagement ring. I would like to explore the ring idea a little further, although there's something else I've wanted to try since I first saw it but have never had a chance. I think a turned wooden heart would make a fantastic necklace pendant, so that's what I'm going to try to make.

My friend Steve Jones, a West Midlands based production turner, made a turned heart a few years ago as a finial on top of a hollow form for a Valentine's gift. He made a YouTube video of how he did it, which you can search for. He kindly allowed me to use the idea for my article, so here we go.

#### The theory

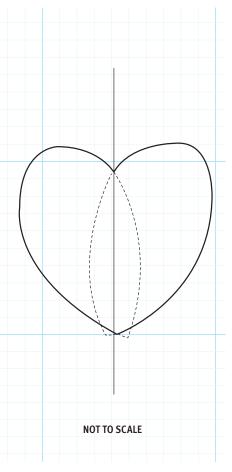
As with so many things, the heart is easier to make than it might appear once you understand the principle and know the areas you need to concentrate on when making it. I watch Steve's video and decide I should experiment a little to see exactly what shape will work best for the heart. As a pendant, the final heart will need to be

reasonably small, but while I perfect the shapes that I need, I feel it will be easier to make it a little larger; I can then scale it once I have pinned down the proportions.

I do a rough sketch of a heart in the size I feel will work best, which happens to be around 60mm high and 55mm wide. By drawing a central line through the heart, it allows me to see the shape that I need to turn. I've always found hearts difficult to draw successfully. There are a number of methods shown online that involve a compass and a series of circles, which I have used in the past for routing a heart shape, but I think this is over the top for this purpose and a simple sketched heart is enough to guide me.

You can see from the drawing that two roughly teardrop-shaped turnings, both slightly cut and then glued together, should form a heart shape. I need to experiment though to get the best teardrop variant and find the best height-to-diameter ratio.

The drawing is to show how the heart is planned out. The dotted lines show the area sanded away from the original teardrop



#### Theory into practice

In Steve's video, he turns both teardrops from a single piece of wood, but I have never been keen on turning multiple items along the same spindle. I prefer to be able to compare two turnings together and adjust as needed, especially when they need to be identical, as I suspect these will.

I sort through my off-cut pile and pull out some pieces of pine and tulip which will be perfect for these early practice pieces.

For my first attempt, I turn two pieces of pine 60mm long and 40mm in diameter with the widest part 25mm from the top. In his video, Steve uses his bandsaw to cut the flat and refines it with a sander. Having turned a pair of single teardrops, cutting it on the bandsaw is decidedly dodgy, so I opt to go directly to my sander. I use my belt sander, mounted in my homemade jig, which effectively turns it into a linisher.



Turning my first pair of teardrops

#### **BELT SANDING IIG**

You might remember seeing me use this set-up for shaping the knights in my chess set a few months ago. The jig is based on one made by American woodworker Ramon Valdez. Simply made from birch ply, it supports the sander safely on its side, presenting the belt running right to left and at  $90^{\circ}$  to the jig's table. This gives very safe and controllable access to the flat surface and the curved end of the belt, making an incredibly versatile adaptation to the belt sander. The jig sits flat on my bench and is held firmly in place with my bench vice. The advantage of this over a disc sander is that the belt is running at a constant speed wherever you sand, whereas a disc sander is spinning far faster on the outer edge than in the centre, which can lead to uneven sanding.





#### Learning curve

I use CA glue to stick the two halves together for these prototypes, although I wouldn't trust it long term for the final heart. Used with a spray of accelerator on the opposite side, the two halves come together solidly with just a few seconds of pressure with my fingers.

Immediately I can see that I am on the right track, but that I had sanded too much wood away and the important and defining cleft at the top of the heart is barely there. The whole thing looks a little squat too, so for my second attempt, I decide to remove less at the sander. To improve the look of the cleft, I raise the widest part up to just 15mm from the top. The taper down to the point is now naturally longer and so appears more slender. I remove a little more wood in an attempt to make that lower taper slightly hollow in appearance, as these stylised love-hearts sometimes do.

The other detail I decide to change is the grain direction. On my first, I had tried to present an interesting swirl of grain to the front but once the two pieces came together I feel it does more to confuse the eye than to add interest to the heart, so for



The prototypes are joined with CA

my second attempt, when I sand, I rotate the wood through 90° and present it so that the grain on the face of the heart is quarter-sawn and appears as lines rather than swirls.

Having turned two new teardrops, sanded the flats and glued them together, I can't help feeling this one looks more like onions or garlic than a heart, but there is definitely progression in the design and the straighter grain is a visual improvement. The little teardrops don't take long to make and it's only scrap wood, so if I have to make a lot of hearts before I'm completely happy, it won't be the end of the world.



The first heart shows I'm on the right track but it isn't quite right



Number two isn't quite right either...

68

#### Number three

Raising the widest point from 25mm to 15mm from the top had the desired effect of making the tops more rounded and helping to emphasise the cleft in the heart, but I need to make it look less like there are two rounded parts stuck together. Where the two halves join, there will always be an inward curve, but it is too pronounced on heart number two, so for my third attempt, I decide to reduce the diameter of the two teardrops, from 40mm down to 30mm.

Once again I put some timber between centres and turn the teardrop. Reducing the diameter by 10mm doesn't sound a huge change, but it greatly improves the look, making the long taper from the widest part to the point far more elegant.

#### **MATCHING PAIRS**

When turning two or more matching items I will often hold the first, or original item, up in front of the one I'm turning at the lathe. This is obviously no good for matching diameters — that is done with callipers — but to match a curve or taper, comparing silhouettes like this is a very useful technique.



Using the first teardrop to check the shape of the second



mere seconds and once the two halves come together I am much happier with this heart. I feel like I am really getting somewhere now. I'm torn as to whether to go with this design or try one more, maybe slightly shorter, which should produce a slightly less pointy-bottomed heart. With nothing to lose but two tiny scraps of wood and about 10 minutes, I decide to go for attempt number four and see if I can make good into perfect.

Sanding the flat on this new shape takes

Number three is almost there...

#### Number four

Having used up the couple of pine scraps I salvaged from my woodpile, I grab a piece of tulip for this fourth incarnation. I am very happy with the top of the heart, so there's nothing to change there, but if I reduce the length of each teardrop by just a little, it should get me to where I want to be. My teardrops are now 50mm long and 30mm in diameter with the upper curve 15mm from the top. This time I make the long taper slightly rounded rather than hollow. None of the teardrops have been

sanded on the lathe at this point although, obviously, the final ones will be. Once again I sand a slight flat on to the side of each teardrop and bring them together with a few drops of CA and a squirt of accelerator. I am so happy with this fourth attempt and glad that I opted to do another. The curves and proportions finally work just as I'd hoped and there can be absolutely no doubt in the mind of anyone who sees this that it is supposed to be a heart.



Number four is just right!



The progression of my prototypes

#### Downsizing



Turning the first mini teardrop



A pair of tiny pine teardrops

Having settled on the proportions of my heart I do an internet search for gold heart pendants to see what size would work best. After looking at a few variations, I think around 25mm high is the target.

Currently, my teardrops are 50mm long and 30mm in diameter with the widest part 15mm from the top, and this gives me a heart of 52mm high and 55mm across. I decide that if I simply halve all of those dimensions I should be somewhere near where I want to be.

Armed with another scrap of pine and the information that my new mini teardrops need to be 25mm long, 15mm in diameter and have their widest point at 7mm from the top, I mount it between centres and

turn using my 6mm beading and parting tool as a small skew.

During my earlier experiments I had found that the two teardrops should be as similar as possible, but slight variations aren't a huge problem. While sanding the flat and placing the two halves together, it quickly becomes obvious if a touch more wood removal from one or the other will improve the join. Once they are permanently together, they will need to be sanded to ensure any excess glue is removed before a finish is applied. At this point, any slight mismatch in shape can be gently rectified with sanding. On the tiny hearts, this should be a very quick process.

The two tiny halves of my small pine

heart come together well and I am delighted with the look. I think it will work perfectly as a necklace pendant, just as I had imagined and planned. My next decision is how to hang it from a necklace. My first thought is to drill a hole at an angle from the top to midway at the back and maybe thread the chain though in some way. With a 3mm drill bit I give this a try, but the heart is so small and I am drilling along a glue line and it just won't work. The other option is to fix a tiny screw eye into the heart. I had worried this might look a little inelegant but as I screw it into place, slightly to the back of the top and at a slight angle I am pleased to see that it is barely noticeable and will work perfectly.



The mini heart prototype looks just right



Drilling isn't going to work



The tiny screw eye will be ideal

#### The pendants

I immediately know that I want to make more than one of these to experiment with the look of them. Everyone knows that these stylised love-hearts are meant to be red, so naturally, I want to make at least one red one. I have a rummage through one of my boxes of exotics. I rarely use exotic timbers but went through a phase of picking them up at shows when something of interest caught my eye. I find a piece of exotic red-ish coloured wood. I'm not sure exactly what it is as it isn't labelled but it may be pau rosa. It is hard and heavy but, importantly, naturally red. To go along with this I pick some sycamore, which I will stain with red, and I might try staining one another colour too. I also want one to be obviously wooden. Although oak is a favourite of mine I believe the grain is too open to make it work, so opt for another favourite — walnut.



Timber selection for the heart pendants







Matching the tiny teardrops to ensure accuracy



The turned teardrops

Turning goes without a hitch, using my 6mm beading and parting tool and matching them all to the first sycamore teardrop that I turn. I pay particular attention to the tops of the teardrops to ensure I don't leave pressure rings in the end grain with the tool by keeping my tool movements as light and smooth as possible. I also leave a tiny nib on each teardrop which I will hand sand away at the end to ensure there is no tear-out on that very visible end grain. Each is sanded on the lathe with 320 grit abrasive and a red abrasive pad before parting off.

I hand sand the ends of each teardrop before sanding the tiny flat on the side of each on my belt sander. I carefully orient the grain to present straight grain to the front of the heart as I had in my prototypes.

Because I don't trust CA glue, I glue the little hearts together

with my usual white wood glue. My intention is to apply a little pressure with a quick-grip clamp, but I find that as it squeezes at the widest point, it opens up the joint at the point of the heart. With no way of adding pressure lower down, I change tack and use a rub joint and a few minutes of finger pressure to hold them together. A rub joint is literally as it sounds — rubbing the two halves together with glue in between squeezes air out and causes a tiny vacuum, pulling them together well enough for the glue to grab. It is an imperfect way of doing it, but it's the best I can do. If I were to do it again I could make a heart-shaped caul to help spread the clamping pressure, but the rub joint seems to be working okay this time. I repeat this on all four of my tiny hearts and leave them overnight to fully dry.



Sanding the flat on the teardrops on my sander



Gluing the hearts together using a rub joint and finger pressure



The hearts set aside to dry

# Cleaning and finishing

Using a folded piece of 400 grit abrasive, I sand along the join of each of the tiny hearts, blending and smoothing as I go, I also work around the point and more generally over the surface, finishing each with a thorough rub with a red abrasive pad. Satisfied with the look of them I pour a small amount of red

Hand sanding to smooth the join

stain into a small stainless-steel dish that I use for mixing stains and various other liquid-based jobs around the workshop and drop in one of the sycamore hearts. I give it a good swish around and fish it out with a gloved hand. After washing out the red stain, I repeat with black. I use spirit stains as they



Sycamore heart after taking a dip in red stain

give bright, long-lasting colours which can be mixed and blended to achieve almost any colour or shade that you can imagine. I could have chosen almost any colour but I'm certain, were I to try to sell these, a black heart and silver chain would appeal to a wide audience and not just Goths.



The walnut heart in its oil bath

Once the stained hearts are dabbed and left to dry for a few minutes, I pour some hardwax oil into the clean dish and drop in the walnut heart for a soak in the oil bath. I repeat for the pau rosa, red and black hearts, one after the other, and dab them dry once again and lay them out on paper towel to dry. I repeat the oil bath four times to ensure the best, hard-wearing finish. I have used this on a number of regularly used tool handles and it still looks good, so I'm certain it will stand up to daily wear on a necklace.

Once the fourth coat is dry, I give each a very careful and gentle buff with a mop on my lathe, lightly loaded with carnauba wax to give a little extra shine. The screw eyes are the final thing to add at a slight angle and to the rear of each heart and they are done.



**Buffing to increase shine** 

# Conclusion

I am so pleased with how these turned out. I've known that I wanted to incorporate the heart into a project for a while but had to wait for the right one to come along. I had no idea if it would scale down to the right size for a pendant but this shows that it could work at almost any size, from necklace pendant to a finial for a hollow form as Steve originally made it, or something even

bigger. I think my favourite is the pau rosa heart. The two stained hearts suffered slightly from a common problem with staining turned work, in that the side grain doesn't absorb the stain quite as well as the more open-grained parts, so there are slightly lighter areas across the widest parts of the teardrops. This is no big deal but it would be better if they were a solid colour.



Pau rosa heart pendant



Black-stained heart pendant



Red-stained heart pendant



Walnut heart pendant

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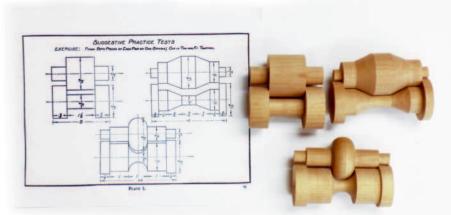
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n Woodturning issue 350, page 104 concluded with a very good article titled Modern Technology – Good or Bad? Many woodturners are taking advantage of new machines with variable speeds, reverse rotation, tooling improvements, etc. The pandemic and the closure of The Tool Post has forced many manufactures to explore alternative distribution methods.

This included Hunter Tool Systems based in Minneapolis, Minnesota, US. After discussions with David Buskell, it was concluded the best economic decision for the customer is to take advantage of technology.

Four conclusions were drawn – develop an easy use website for the customer to navigate, include useful application videos, stock products in the UK and ship products locally from the UK.

HunterToolsEurope.com was launched in October 2020 with products stocked and shipped locally from Woodhall Spa, Lincolnshire, with a dedicated customer service helpline of 07856 918660.

The Hunter Tool cutter is a cup cutter that cuts wood rather than scraping it. The Hunter cup cutter is firmly established as a tool that excels at cutting dense exotic woods, bark inclusions, knots, end grain and side grain. There are tools for use by all skill levels. The Viceroy tool is directed to the new or occasional woodturner, ranging up to hollowing tools for use by highly skilled, accomplished woodturners.

If you do any coring, check out the short video on the Korpro. This is a cartridge with cutter to replace the cutting tip on one of the popular coring systems.

For further information go to www.huntertoolseurope.com







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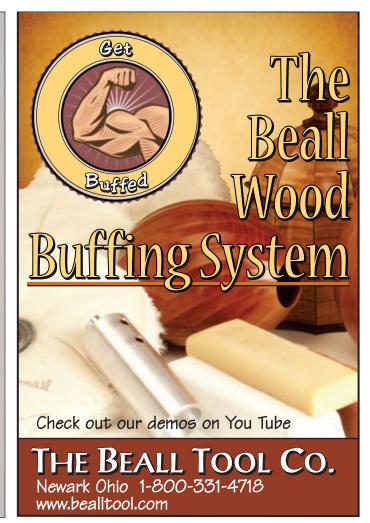
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# Paper knife

Stephen Long turns an elegant two-piece letter-opener



### Have you ever tried to turn a paper knife in one piece?

If you have you will know that bandsawing out the blade is a nightmare as it never goes straight and parallel to the centreline – generally it wanders off to one side.

So the way I go about it is to make the blade separately and glue it to the handle, which guarantees it is on the centreline.

### **EOUIPMENT USED**

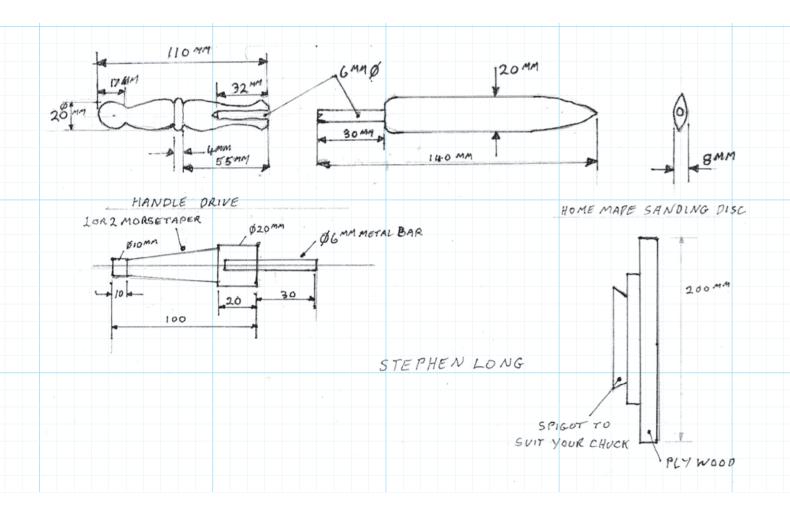
### Tools

- Personal and respiratory protective equipment
- Spindle roughing gauge
- Spindle gouge
- · Beading and parting tool
- Bead-forming tool
- Detail point tool or skew chisel

- Bowl gouge with finger nail grind
- Chuck
- Drive spur
- Revolving tailstock centre
- 6mm drill
- External callipers
- Japanese pull saw
- Abrasives, 120-400 grit sandpaper

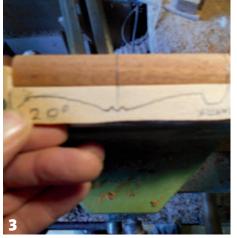
### Materials

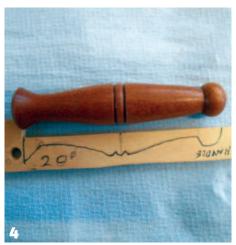
- Handle: Wood of choice, 25 x 25 x 120mm blank
- Blade: A close-grained wood, e,g. beech, 8 x 25 x 150mm blank
- Homemade handle drive: 25 x 25 x 100 hardwood blank
- 6mm diameter x 45mm long metal rod

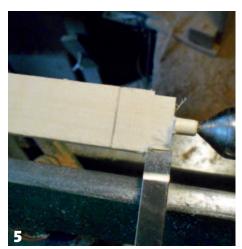


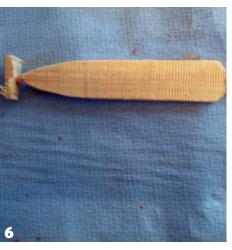




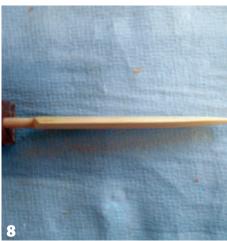












# Handle drive

1 I use a homemade handle drive, which is a 6mm-diameter bar in a No.2 morse taper to fit my lathe. To make this I start with a wooden blank, 25 x 25 x 100mm. Mount the blank in the chuck and drill a 6mm diameter hole down the centre. Glue a length of 6mm metal rod into the blank so that it is protruding out by 30mm. Allow to dry overnight then hold the bar in your chuck and turn the morse taper.

# Making the handle

2 The handle blank is held in the chuck. Square off the end before drilling, using a skew chisel to achieve a good finish. Mark the depth, 32mm, with a piece of masking tape on the 6mm drill bit and drill to depth.

**3** Put your homemade morse taper drive in the lathe, load the handle blank on to the drive and bring up the tailstock. Turn to a cylinder of 20mm diameter. Put a waste spigot on the tailstock end to allow for the point of the centre. Using a pre-prepared template (see drawing) mark off the bead and the ball end positions and turn the shape of the handle. You can have a different shape of handle, anything you like. Put the bead in with a beading tool. Use a point tool to form the vee on either side of the bead. Now sand to 400 grit. Apply your preferred finish.

4 This shows the finished handle. You can use this handle for cheese knives, pie slices, etc.

# The blade

**5** Mount the blank, which is 8 x 25 x 150mm, between centres with a line drawn at 30mm from the tailstock end. I use a steb centre as a drive but a four-prong drive will do. Using a 10mm beading and parting tool turn down a spigot at the tailstock end to a diameter of 6mm up to the 30mm line. The lathe should be running at top speed for this operation – 3800rpm on my lathe.

**6** Turn the blade to shape. This will ensure the blade is equal around the centreline. Put a chamfer on the corner at the 30mm line. The point end is turned allowing for a small amount of waste to miss the drive centre. The blade is now ready for finishing.

**7** Cut off the end waste material at the pointed end and complete the shape on a sanding disc. After the majority of the sanding is completed with the disc, finish by hand to achieve a smooth shape.

**8** This picture shows the profile of the blade after sanding. Glue the blade into the handle and once the glue is dry apply the finish.

**9** The finished paper knife, shown above opposite.

# Community letters

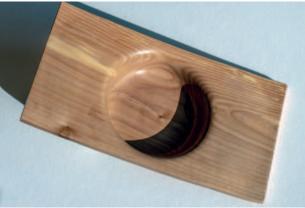
This month we continue to share some letters the we have received from our readers

**Egg-centric turning**Ian Smith shares his submission for the Straithclyde Woodturners monthly challenge, Turn & Tell. This month, 'it's not round, but not square'. 'I started a wee bit earlier this time! I really don't like off-centre turning – not my favourite. At least there are two examples. Sapele for the tray and silver birch for the egg cup. I turned the egg cup in Finland on my last visit. Although it was turned in Finland, I finished it here.'



# Winging it

A last-minute submission in the Turn & Tell challenge, 'it's not round, but not square', Rob Cunningham's winged bowl.



# Sharing the knowledge



In the past you have more than once found a small slot in the magazine for me to offer past issues of Woodturning to anyone who, genuinely, could use them to enhance their knowledge and skills in woodturning. I can now offer issues 201-250, more or less a complete run. Sadly, I need the space for the more recent copies! There would be no charge, other than a prepaid postage for those who could not collect in person. As on previous occasions I will split the collection between early callers. My contact email: les.franc@blueyonder.co.uk

> Yours sincerely, Les Franchi (South Birmingham area)

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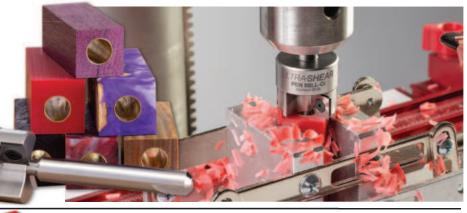
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# Carved stools

Bob Chapman turns and carves some seats for the next generation



'Bob, could you make me a three-legged stool?' It was my neighbour speaking and, rather foolishly, I agreed to the job before actually finding out what was involved. It transpired that when their two boys were born they commissioned stools for them with their name and date of birth carved in the top. By the time their daughter, Hannah, was born the stool maker had retired and so she had no commemorative stool - a source of gentle family friction ever since. As Hannah was to be married soon, could I copy the boys' stools and make her one to be presented as a wedding gift?

I'm a woodturner, not a carver, but the name HANNAH had

one big advantage for me – it's composed entirely of straight lines. It struck me that straight lines must be easier to carve than curves. Well, to cut a long story short, the stool was soon completed to my neighbour's satisfaction and I had gained a bit of straightforward carving practice.

Just when I thought it was all over, my wife had a bright idea. 'You could make a pair of stools for the boys,' the boys in this case being our two grandsons, Thomas and Albert. Any married man reading this will know that it was an offer I couldn't refuse. The diagram shows the design and approximate dimensions of the stools. Nothing is critical, everything is changeable to suit yourself.

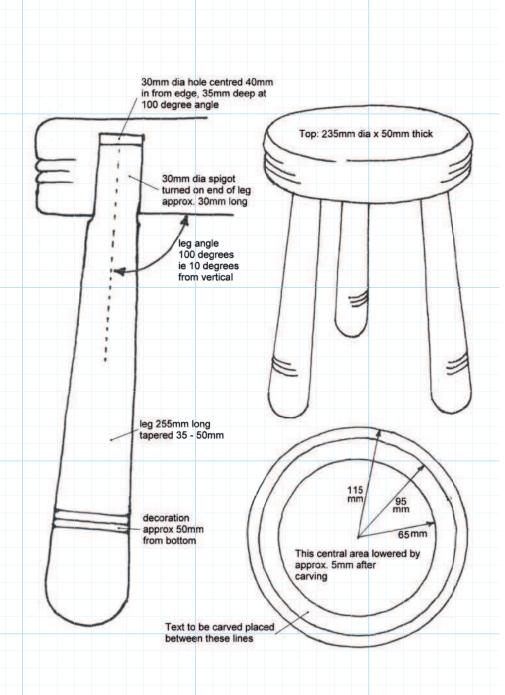
# **EQUIPMENT USED**

### Tools

- PPE as appropriate
- 13mm bowl gouge
- 30mm spindle roughing gouge
- 6mm Ashley Iles bead forming tool
- Rutlands digital angle rule
- 30mm Forstner-type boring bit
- Home-made straight edged carving tool
- Henry Taylor (no.9) curved carving chisel

### Materials

 Oak board approximately 1000mm x 500mm x 50mm



# A SAFETY FEATURE

When doing spindle work, as in the legs of these stools, it is common practice to use a four-pronged drive in the headstock spindle and support the other end on a live centre in the tailstock. There is, of course, nothing wrong with this arrangement in the hands of an experienced turner.

However, new turners are often a bit heavy-handed and may cause the dreaded 'dig-in', where the chisel enters the work at the wrong angle and tries to take out a sizeable chunk of wood. The outcome may simply be that the workpiece is left in need of a radical new design to work round the splintered hole, but in some instances it can be a lot more serious.

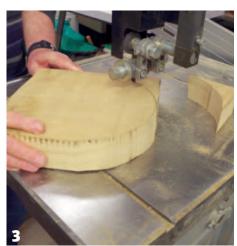
At the instant of dig-in the chisel, resting securely on the toolrest, is trving to stop the work rotating, but the lathe motor via the four-pronged drive is doing its best to keep it rotating. Clearly something has to give and in the worst-case scenario the work is ripped away from the tailstock centre. This leaves a scar across the end of the work and, because the headstock is still driving it round, the work rolls itself up the roughing gouge until it hits something – the toolrest, the handle of the tool, the hand of the turner, whatever. At that point it becomes airborne and is almost always heading towards the face of the turner. All of this happens in a split second. There's no time to dodge. I have a scar on my upper lip to illustrate the point.

When teaching beginners I would always recommend using a Stebcentre. This has a ring of small teeth instead of the four large 'prongs' of the other drive centre. They don't penetrate the timber very far so a light touch with the gouge is needed. The difference comes when a dig-in occurs. The work simply stops rotating, although the lathe is still turning. The small teeth on the Stebcentre grind a circular groove in the end of the workpiece - and that's it, no damage to the turner and minimal damage to the workpiece. To resume working simply tighten up the tailstock and the work will start to rotate again, but an even lighter touch is needed now. The point is it's safe. I now use a Stebcentre for virtually all of my spindle turning. In addition, of course, it's always wise to use some sort of face protection.

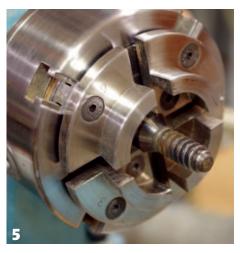
- 1 The first step was to buy the timber I'd need. The stools would, I hoped, become family heirlooms and I fancied oak for such important work. Fortunately this was just before the Covid-19 restrictions, and I was still able to visit my local timber merchant to select a suitable board. The two circles and six legs were soon marked out to avoid the worst knots and splits.
  - **2** The board was 50mm thick so it was easy to cut the components. The legs are 50mm square by 255mm long, and the tops are a little over 235mm square at this stage. None of the dimensions given are critical and I arrived at them by, more or less, copying the size of Hannah's stool, although the design is very much my own.
  - **3** The tops were sawn to approximate circles on the bandsaw. I never attempt to cut precisely on my marked line, but always cut a little oversize. The lathe is a much better tool than the bandsaw for making something perfectly round.
  - **4** An 8mm hole is drilled approximately 25mm deep in the centre of the blank.
  - **5** The screw which fits in my chuck jaws has a core size of 8mm and protrudes approximately 19mm from the jaw faces. When the blank is screwed on, tight up against the jaws, it is held very securely. In this way I have turned much bigger blanks than this without any problems.
  - **6** With the blank mounted, the first task is to true up the front face, which will become the top of the stool. I used a 13mm bowl gouge for this, removing with light cuts until...
  - 7 ...a test with a long steel rule shows that it is flat. The sides of the blank are also trued with the bowl gouge until they are smooth and the blanks are circular. It doesn't matter whether they are the same size, no one is ever going to check and, anyway, they are going to different houses. Thomas is my son's son and Albert is my daughter's.
  - 8 The next step was to lay out the lettering for the carving. I'd read tips on printing it out and then rubbing cellulose thinners on the back to make a transfer, but this didn't work very well and, anyway, produced mirror writing. I briefly experimented with the word processor to see if I could print in mirror image so the text would be the correct way round when I transferred it. Eventually the simple solution struck me If I could carve oak then I could certainly carve through a sheet of paper. After careful marking out, the individual letters were glued in place with PVA glue and left to dry.









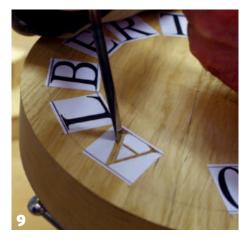








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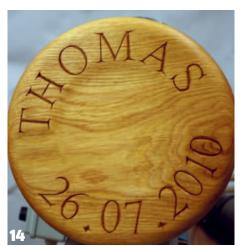




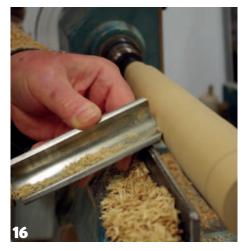












- **9** With the individual letters securely stuck down I could begin carving. Thanks to a day's carving course some years ago, I have a few carving tools and know how to sharpen and polish them. The one being used in this photo was the most useful for straight lines and is homemade from a piece of silver steel. It may seem ridiculous to more experienced carvers, but it took me around 10-15 minutes to carve each letter. When I finished, to my horror I realised that I had made a mistake, which you may spot in photo 8. The gap between the R and the T is too large and made it look as if the name was ALBER T. The paper surrounding the letters disguises the fault, but with the carving finished and the paper removed it became obvious. I'm afraid I was too disappointed to take a photo of it.
- **10** After much thought it was obvious there was only one way to correct the error. I remounted the blank on the lathe and skimmed it down until all the carving had been removed. The seat was now about 6mm thinner but no one would ever notice that. A new set of letters were glued down, taking care to get the spacing between the R and T correct.
- 11 There's no doubt that this time the spacing looked better. It's a lesson I won't forget. Carefully, the carving was done for the second time. Well, they say 'practice makes perfect'.
- 12 After re-carving and with the bulk of the paper still in place, the centre of the stool top was recessed by about 5-6mm to make it look more 'seat-like', and the edges of the stool were rounded over smoothly.
- **13** The remains of the paper were sanded away using 120 grit paper and, with all traces removed, the stool top was sanded down to 320 grit.
- **14** I have to say that I was very pleased with the finished carving. I then reversed the stool tops using a vacuum chuck in order to true up the underside and round the edges. If you don't have a vacuum chuck then you could use Cole jaws or simply use the tailstock to push it on to a rubber-covered drive plate held in the chuck. The tailstock centre will go into the screw hole, which will be concealed later.
- **15** The legs are mounted on a Stebcentre and turned to round with a spindle roughing gouge. One end is turned carefully to 30mm diameter for about 30-35mm. This is to fit the 30mm holes, which will be drilled in the underside of the stool top.
- **16** The legs are then tapered, still with the spindle roughing gouge, from about 35mm diameter near the top down to 50mm at the bottom. These dimensions are not critical – if they look right they are right, but all the legs should appear to be the same, or the stool will look odd.





- 17 To make the decorative beads on the legs and around the top, I used an Ashley Iles 6mm bead-forming tool. These do a super job and are ideal when you need a number of identical beads. The bottom of the legs was rounded over with a bowl gouge and they were sanded to 320 grit.
- **18** I decided to set the legs at an angle of 10° off the vertical and set the angle of the drill press table to give this. I think If I were doing this again I would increase this angle slightly, but it seemed about right at the time. There is a trade-off here the nearer to vertical the stronger the stool, but a greater angle confers greater stability. Decide for yourself.
- **19** After marking the centres of the leg-holes I set up a simple jig to hold the top in the correct position while I drilled the holes with a 30mm Forstner type bit from Famag. These bits are very expensive but do a fantastic job. I made sure to set the depth stop so that at maximum depth the bit was still a few millimetres short of the table, so there was no chance of drilling all the way through.
- **20** The underside ready to accept the legs. Note also the shallow recess around my original 8mm hole. This will eventually take a small plaque.
- 21 A thin coating of PVA glue was applied to the holes and to the tops of the legs and they were carefully pushed into the holes and seated with a few gentle taps from a wooden mallet. Any excess glue escaping was wiped off with a damp cloth and the stools were left overnight for the glue to set.
- **22** The last thing was to turn a thin plaque from a piece of holly arranged in the chuck so that the grain would run side-to-side across the piece. Sized to be a good fit in the central hole under the seat, holly is sufficiently close grained to allow me to write on it with a fine, indelible pen. This was then glued in place and completely hides the screw hole by which the seat was first held. The stools were given two thin coats of external grade polyurethane applied with a soft cloth.
- 23 & 24 The two finished stools.













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# Community news

# **Conkers Live**

Chestnut Products hosts regular demos, bringing you well-known demonstrators from 7.15pm to 9.3opm, with a Q&A from 9.3opm. The future dates are 4 February 2021, 24 February 2021, 19 March 2021, 12 April 2021, 12 May 2021 and 2 June 2021, with more dates to be added. No downloads, no sign-ups, no membership, no charge.

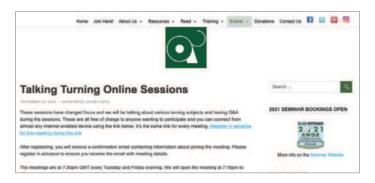




# Talking turning

AWGB online chat sessions are held twice weekly on Tuesday and Friday evenings at 7.3 opm for anyone who wants to drop in. A schedule of the sessions and subjects for discussion lined up so far is on their website, https://www.awgb.co.uk/

A different subject is chosen for discussions and Q&A for each session and you can get in touch if you have a particular subject you would like them to cover. A user guide has been created for those not familiar with how to use Zoom and register for meetings.



# AWGB International Woodturning Seminar tickets are on sale

Due to the Covid-19 restrictions, the Seminar dates have been changed to 24-26 September 2021 when the AWGB will be hosting the 17th International Woodturning Seminar. The event will run from Friday lunchtime to Sunday afternoon at Yarnfield Park Training & Conference Centre in Staffordshire. The Seminar aims to offer something for turners at all levels, from beginner to expert.

There have been some changes to the line-up due to the change in dates, but there is an equally impressive line-up for you to enjoy, with Jay Heryet, Mary Ashton and Margaret Garrard from

the UK; Emmet Kane and Willie Creighton from Ireland; Joss Naigeon and Yann Marot from France and Jacques Vesery, Michael Kehs and Tim Yoder from the US.

The seminar is open to members and non-members. awgbwoodturningseminar.co.uk/

Note from editorial: Subscribers may just have time to take advantage of the early bird rate, available until 31 January.

# AWGB Seminar scholarships deadline extended

As the Seminar has been postponed to 24-26 September 2021, the deadline for applications for scholarships has been extended to the end of April 2021. AWGB is funding six Seminar scholarships, the Worshipful Company of Turners has agreed to fund an additional two for junior members and another five scholarship places are being funded by an anonymous donor. Two of those

will be for junior members and three for other minority groups. That's a total of 13 scholarships. Scholarship cover the full cost of attendance at the Seminar, including accommodation and meals. The application form is available on the documents page of the website and can be completed online or downloaded for printing or emailing. Applications must reach the secretary by 20 April.

# **Covid Fund**

Covid-19 is and remains a unique event in most of our lifetimes and at the time of writing remains so. The AWGB existing discretionary grants will continue to be available while the Covid Fund will provide a temporary additional grant opportunity for branches and clubs. The Covid Fund will be handled in a similar way to the

Discretionary Grant Fund, but with applications considered where Covid has caused financial hardship or loss for a branch or club, or will do so in the coming year. Each submission will be considered on its merits by the grant subcommittee and amounts allocated will be made on a case-by-case basis.



# Turning a dodecahedron

Art Glickman demonstrates how to turn 12 pentagons into a dodecahedron sphere



PHOTOGRAPHS COURTESY OF ART GLICKMAN

By definition a dodecahedron is a mass consisting of 12 faces. Each face is actually a pentagon that I will explain how to create and glue together into a dodecahedron then turn into a sphere. I would like to thank Gary Ascher for challenging me to learn this technique.

# Creating pentagons

Start by gluing up three pieces of wood. For this article I glued up ½ in x 1 in cherry sandwiched between two pieces of ¾ in x 1 in maple. As in all segmenting turning accuracy is paramount. Each pentagon

requires 10in of material. If this is your first dodecahedron, I suggest you make six extra pentagons. So, you will need 15ft of cherry and 30ft of maple.

To ensure accuracy I run the glued-up boards through an overhead sander.

Whether you are cutting the segments on a mitre saw or tablesaw the angle to be set is 36°.

Be sure to make test cuts. When you have no gaps in the test pentagon you are ready to go. When cutting the segments be sure that the cut leaves a perfect point on the segment.



Laminating the stock



Clamping to ensure a perfect bond



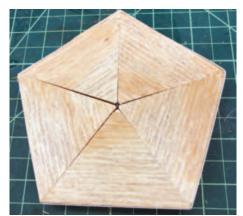
The completed laminations



Sanding the laminated stock flat



Setting the mitre saw



Test assembly



Segment with perfect cut to the point

Sanding the segments
If you sand your segments the following is how to make your guide. Cut your guide piece at 36°. Cut the end piece from another piece of wood also at 36°. Glue the cut piece on to the guide. This is how the guide works.



Cutting the guide piece



Gluing the guide piece on



**Guide in position** 



Guide in use

# Gluing up the pentagons

The glue up is rather basic. I use three rubber bands ½in x 3in to hold the segments together. These are my glued-up pentagons, which I mark with a pencil for any defects and make my final choice of the 12 required. Often, by turning the pentagon over you will find the opposite side is blemish-free.



Segments ready to be glued up



Pentagon glued and clamped with rubber bands



Glued up pentagons



Blemishes marked

# Preparation of the pentagons

I scrape and sand both faces of the pentagon. Both faces must be as flat as possible for the next phase. I sand the ends by hand with equal strokes for each pentagon. Remember, accuracy is critical.



Running the pentagons through the overhead sander



Hand sanding the edges

## Making the sled

The sled holds the pentagons securely and safely when cutting the required bevelled angles. The sled is made up of a track to fit my tablesaw, a base plate  $7 \ln x 11 \ln a$  guide  $2 \ln x 12 \ln x 1-1/4 \ln a$  moveable stop block (which is a segment of a pentagon), a toggle clamp and a universal fence clamp.



To set the guide, place a pentagon up against the saw blade and bring the guide up to it. Once the guide is tight against the pentagon temporarily secure it with hot glue. When the hot glue sets then screw the guide to the faceplate.



Setting the guide

Once screwed to the base plate I cut off the excess wood on my bandsaw. The stop block is just a segment from a previous pentagon secured to the guide with the fence clamp. This is how I use the sled.



The sled in use

# Cutting the pentagons

The angle of the blade needs to be set at 31.7°. I set my digital bevel gauge at  $58.3^{\circ}$  (90° - 31.7° = 58.3°). Also, check the outside angle which should be 121.7°  $(180^{\circ} - 58.3^{\circ} = 121.7^{\circ})$ . As mentioned before, make test cuts. The goal when cutting the pentagons is to get a sharp angle cut from one corner to the next. Cut all pentagons, if you have any of the extra pentagons left, don't cut them yet.



Bevel gauge setting



**Blade setting** 

# **Oops #1**

When cutting the pentagons, if you see that you have a flat spot on the angle cut, don't worry about it. When you glue up the pentagons and start turning the error will be turned away.

Just a reminder that turning dodecahedrons is not easy. There is a learning curve as with all woodturning. What I tell members of my club is that the first two are practice, the third one counts.



# Gluing the pentagons together

Do not rush the glue up - make sure the angles line up or as close as you can, and glue one at a time. It can be tempting to glue multiple pentagons at one time but I strongly urge you not to do it.

I stretch duct tape to hold the two

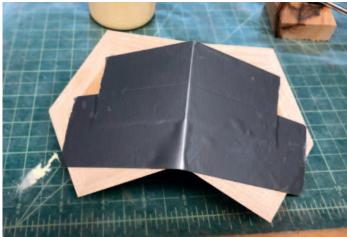
pieces together. Below are eight pentagons glued up. Note: flat spot, front left-hand corner.

It's always the last pentagon that will give you trouble. Take the 12th pentagon or one of your extra pieces and cut it,

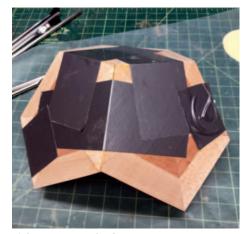
sand it or whatever you have to do to make it fit. As I mentioned previously the first two are practice. The last picture shows them all glued and taped up. After the last piece goes in, I generally let it sit overnight.



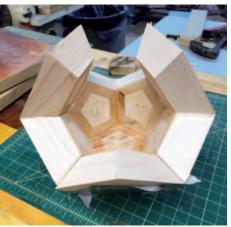
Pentagons ready to be assembled



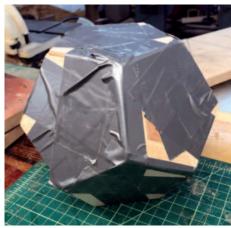
Two pentagons taped for gluing



Eight pentagons glued up



The cavity of the dodecahedron



The whole dodecahedron glued up

**Turning**The dodecahedron is mounted between centres. The turning is relatively simple because you can see the sphere while the lathe is spinning. Just remove the shadow lines and your sphere

appears. I use a ½ in bowl gouge. Draw a pencil line down the centre of the sphere, mount it between cup centres and finish turning. Turn the stubs away until the sphere is complete.



Tape removed ready to be mounted on the lathe



Mounted on the lathe



First-stage turning completed



Draw a pencil line down the centre



Re-mounted on the centre line

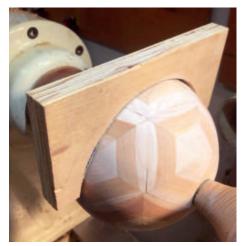


Ready for sanding

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Sanding
To sand the sphere, I make a wooden sanding block. Using callipers I determine the diameter of the sphere. Add a 1/4 in to the dimension. If you make the block too snug it will be grabbed by the rotating sphere and hit you in the head. If you are reading this article you understand how I know

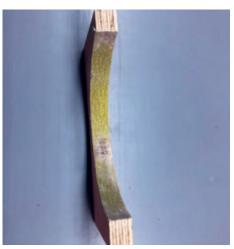
about this. Using a compass, I lay out the ½ circle. I glue in a piece of 80 grit sandpaper. Working my way through the grits I usually stop at 320 grit. With this method of turning and sanding by hand you can ensure a nearperfect sphere.







Jig side view



Jig with abrasive affixed

# **Oops #2**

After all this measuring, setting up your saw blade and gluing carefully you can still end up with a gap. This is one of my earlier pieces. I took an offcut from the angle cut on one of the pentagons and used that to fill in the gap. Scribing the piece to the sphere and cutting off the excess you wind up with an infill.







# **Finishing**

The completed sphere. Minwax wipe-on poly is my choice of finish on spheres. Three to four coats depending on the species of wood.



The completed sphere



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# Pole lathe leg turning

Danny Harling shows us how to turn a baluster-style chair leg

# Pole lathe tools

These are the lathe tools I use. The roughing gouge is in fact a large carving gouge. The skew is an old ¾in mortise chisel ground at an angle. The spindle is a small 10mm turning tool and the planing chisel (not in the picture) is a 2in ordinary carpentry chisel.



















# Roughing out

- Split a straight grained piece of green ash into a roughly 50mm square section using a heavy hide mallet and an axe without a sharp edge what I call a splitting axe.
- Use a nice, sharp carving axe to cut the corners off and start to make the piece straight and round. I work at a chopping block, which ideally needs to be about waist height.
- With the wood clamped firmly in the shave horse, use a drawknife to cut the corners off more accurately, making sure to keep the piece as straight as possible. The shave horse is a
- simple clamp which you sit on and use your feet to tighten the clamping action. The drawknife is used with both hands, hence the necessity to have a foot-operated clamping system.
- Mount the billet in the lathe, making sure the string is wrapped around it twice and the wood is nicely centred.
- When it is running well, use the roughing gouge to turn all the facets off and create a round piece.
- 6 I've turned it 'end for end' and am

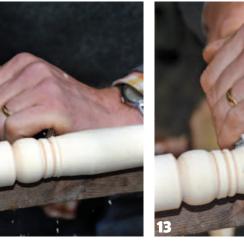
- now roughing out the other side, where the string was running before.
- Once the roughing is done, use a planing chisel to create a really fine finish.
- Here, I'm sharpening the skew chisel, which is the tool used for the decorative shapes. Pole lathe tools need to be kept very sharp in order to get a good clean finish as the structure of green wood is more open and a sharp edge is needed to slice through, rather than tear the fibres.

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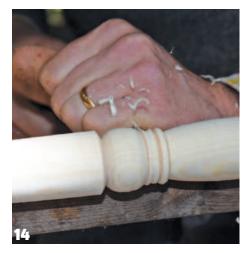
















- The design has a ball about a third of the way down the leg. Start by making two V grooves about 32mm apart.
- Use the skew to round the part between the two grooves into a ball.
- Now use the roughing gouge to reduce the wood below the ball.
- **12** Turn two more V grooves below the ball, about 5mm apart from each other and then rounded to make a bead.
- Using the planing chisel, smooth back into the base of the bead.
- Use a small spindle gouge to hollow out the space between the ball and the bead.
- On the other end of the leg form another bead about 100mm up from the end, this is the foot bead. Some 'meat' is taken away and then smoothed up, so the bead is proud of the leg.
- Smoothing the foot profile.
- Use a handful of clean shavings and some pedal power to burnish the surface of the leg. This polishes the wood fibres a little; there is no abrasive involved.
- **18** The finished leg! If I'm making chairs, I will make a decent bundle of legs and then match them together in groups of four. There is no need to obsess about each one being identical. If you make enough legs, they will all turn out almost the same. The bodgers of old would apparently make over 200 legs in a day. They probably didn't give them a second glance as soon as they stopped pedalling. •



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# Happy New Year

Pete Moncrieff-Jury takes a positive look towards 2021

As we look back at what has been for many a traumatic year, it is good to look forward and not hope or expect things to get better but to promise ourselves that we will make the most of whatever 2021 brings. Personally, I tend to be a glass half-full person, so it is perhaps easier for me than some. One thing I have learned this past year is that, unless we go out of our comfort zone with our creativity, we will remain in a rut that just gets deeper. With this in mind I started looking at turning not so much as a way of making things but as a way of enhancing things. A bit of research showed that, as usual, I was by no means the first to think along these lines so I don't claim any credit for originality. When we think of woodturning, we mostly think of things being round - bowls, pens, hollow forms etc. are all made round. There are a few exceptions of course, with off-centre work and so forth, but generally woodturners make things on a lathe and the result is, to some extent, round. I decided to go outside this norm and use my lathe to decorate, enhance a piece that was anything but round. Not a natural-edge burr as we see often, but something that was square or rectangle.

One of the Influences for me was the Art Deco movement where the combination of smooth curves and sharp angles was often combined to create what I, for one, found an exciting alternative design. This, combined with using different textures to give different effects, resulted in a number of pieces that had me gritting my teeth and clenching certain muscles at times, but I found gave me a totally new perspective on woodturning.

So what am I trying to say here? Have a look back over this past year and ask yourself what sort of things you have been making. Then look ahead and ask yourself what you think is beyond your capability. For me, it was making something that was purely artistic or decorative and using woodturning in a different way to that which I was comfortable with. Stretch your creativity, don't just step outside your comfort zone but jump out of it. The only thing that you need to be careful of is the safety factor and, if necessary, seek advice on the matter.

One of the comments often heard and seen is 'Oh I wish I could do that', and



we forget that whoever had 'done that' probably said the same thing themselves once. There are things that I have tried and given up on, not because I wasn't capable of doing them but because the effort of learning to do them was more than my interest. If you don't want to do something and don't have to do it then chances are you won't be that good at it, but we all need to set ourself challenges, try something new,

something that we feel is a bit beyond us. Whether we are a young teenager learning to turn or an experienced older turner we all perhaps could do with a challenge. Don't make excuses, do a bit of research, look at things that impress you and seem beyond your skill at present and go for it. Make 2021 the year that you leapt out of your comfort zone and did something that you never thought you could.

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