



Triple neck vase

Ger Vervoort creates this complex yet visually pleasing triple neck vase from cherry which is made to look like it is turned from one solid piece of wood

I got this idea and almost immediately it was clear to me how I was going to realise it.

Although it seems to be a little bit complicated, it wasn't very difficult to make. It is formed of three little vases, all glued together.

The most important thing with this design is having the spheres perfectly round and exactly on the same diameter. Also, the glued surfaces of all three of the vases needs to be flat and all exactly of the same diameter.

About two years ago I bought a drawing program for my PC; I use it a lot for my turning designs. This time I worked my idea out with the aid of this drawing program and took a fully detailed drawing into the workshop.

I made use of a homemade sphere turning jig, but it certainly is possible to turn the spheres by hand. Turning the spheres by hand can involve some handwork after gluing the three vases together, in order to refine the bond lines.

This triple vase can be made in different styles and you can choose to make them out of one wood species or use three different wood species. You can make the spheres separate and add a neck in the same, or a different kind of wood.

In all these variations, the grain of the wood will be 15° tilted outwards and won't give a 100%

match after gluing the three vases together.

I developed the process a step further and tried to establish the grain matching after gluing the three vases back together, so it would look like it was made out of one solid piece of wood.

This process is a little bit more complicated, but the overall process is much the same.

The necks of the vases are tilted 15° outwards and the difference between both processes are:

1. In the non-matching grain variety; you can start with gripping a piece of wood parallel to the axis of the lathe and tilting the neck somewhere in the process.

2. In the grain matching variety you have to start with gripping the piece of wood in a 15° tilted position to the axis of the lathe.

GER VERVOORT



About the author: Ger has been a woodturner for over 20 years. He makes all kinds of projects and is a member of the Dutch Woodturning Society, 'Radius'.
Email: ger.vervoort@gmail.com
Website: www.gervervoort.nl

32mm (1 1/8in) spindle roughing gouge

13mm (1/2in) shallow spindle gouge

9mm (3/8in) deep fluted spindle gouge

13mm (1/2in) straight scraper

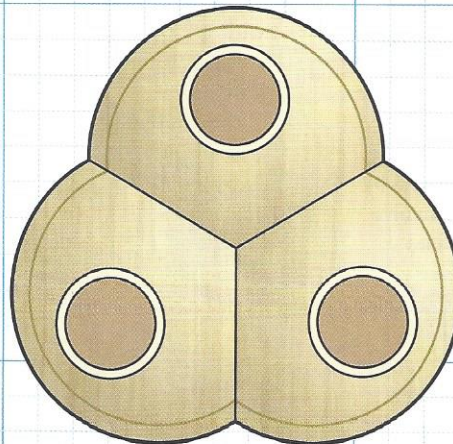
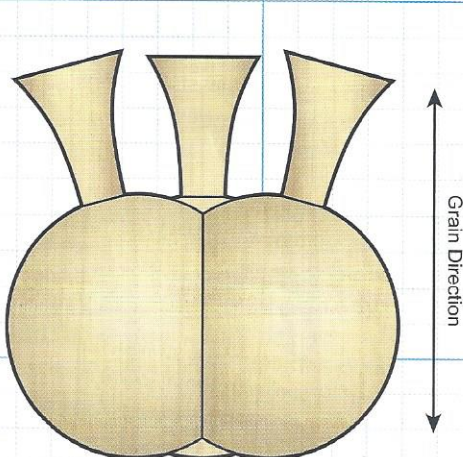
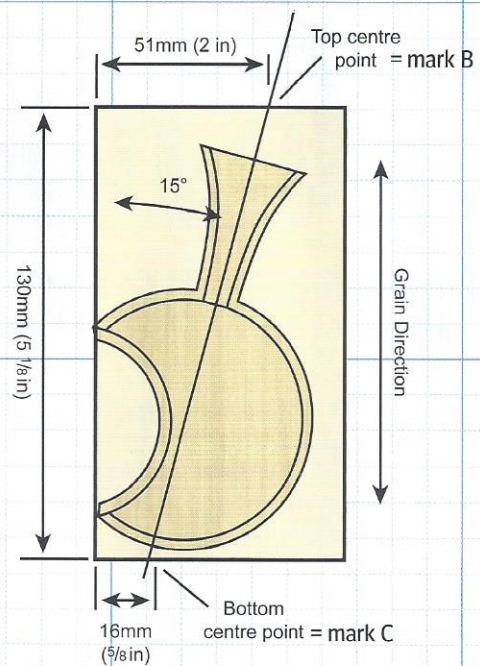
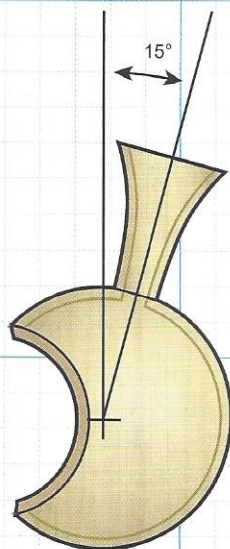
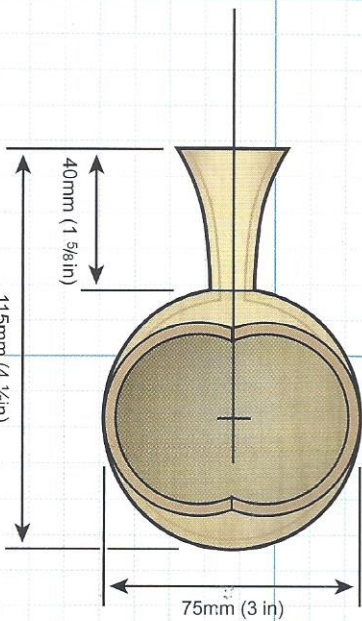
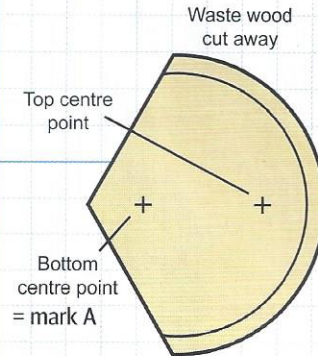
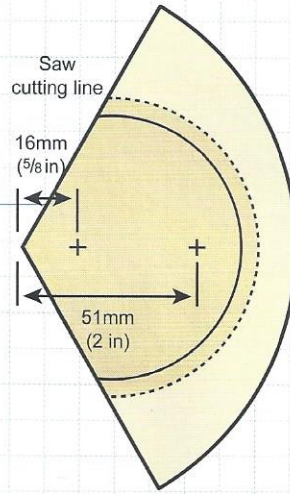
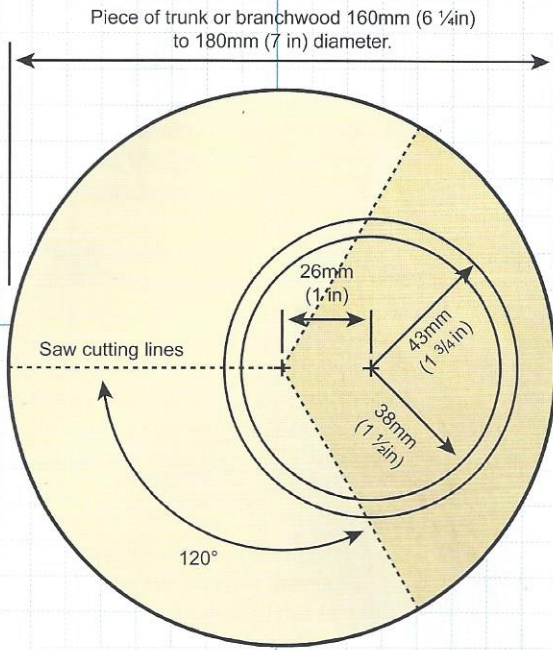
10mm (3/8in) swan neck hollowing tool with 3mm (1/8in) insert

15mm (9/16in) straight hollowing tool with 10mm (3/8in) insert

TRIPLE VASE DIMENSIONS

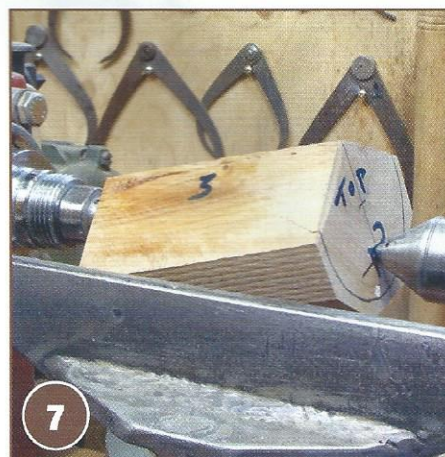
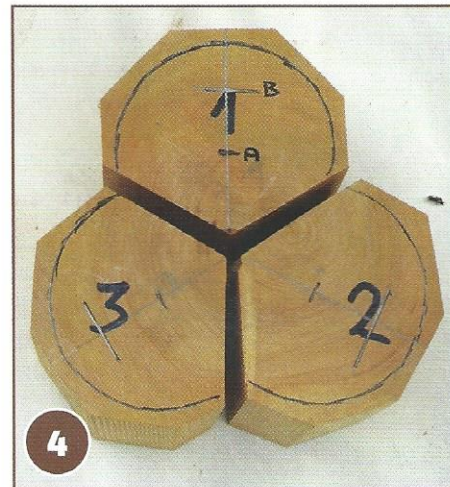
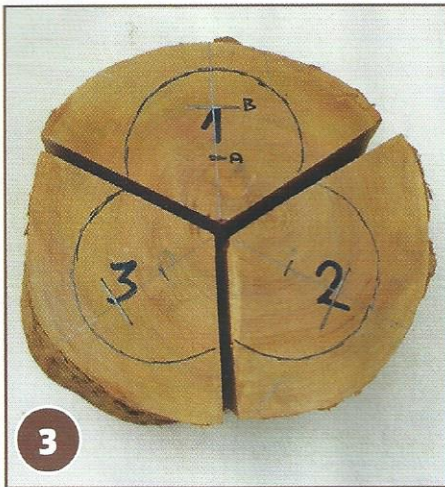
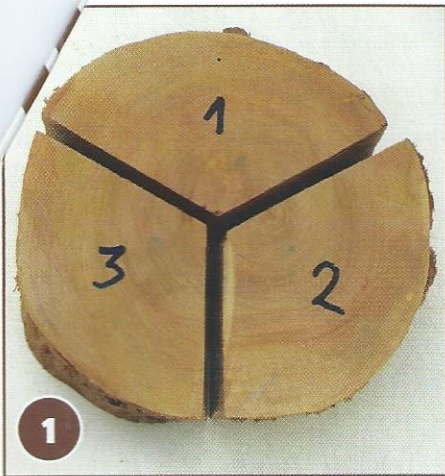
TIME TAKEN & COST

Time taken: 6-8 hours Cost: £10



HEALTH & SAFETY

1. Always turn down the speed of the lathe before you switch it on
2. Check everything is rotating free and that the chuck, banjo, toolrest and tailstock are secured
3. Always keep your hands and fingers on your side of the toolrest, especially when turning irregular shaped or out-of-centre pieces of wood
4. Wear at least eye protection, or better still, a full-face shield
5. Always use dust extraction during sanding



1 For this project you will need a piece of cherry (*Prunus spp*) that measures 190mm (7½in) diameter which you will need to cut to 130mm (5¼in) in length. Determine the middle point of the branch and from here divide it into three parts – the angles will measure 120°. To reassemble the parts in the right sequence after cutting, number them and cut them on the bandsaw

2 Also, number the six saw cutting faces to make sure you're able to reassemble them in the right sequence later on

3 From the corner of the cutting faces, mark a centre line on 60° – this is the middle between the two cutting faces. Measure 26mm (1in) from the corner (mark A) – this is the centre of the sphere. Set a pair of callipers to 38mm (1½in) and set out the circumference of the sphere on each part. Cut away the waste wood, leaving about 5-6mm (¾-¼in) extra wood from the just described circle

4 The necks of the vases will be 15° tilted outwards. To make sure the grain matches again after gluing the parts together, the blank has to start in a 15° tilted position on the lathe. To do this, set out some marks on the centreline on the top and bottom end grain faces. Add 51mm (2in) from the corner (mark B) and on the bottom, add 16mm (¾in) from the corner (mark C) – see diagram opposite

5 The line between marks B and C needs to be tilted 15° to the vertical grain direction. Place the blank between centres on mark B and C, which will give a 15° tilted position. Due to the angled end grain faces, you can't use a four-prong drive centre, so use a two-prong one instead

“The necks of the vases will be 15° tilted outwards”

6 Next, mount the bottom side to the headstock; you need to create a tenon at the tailstock side to fit in a chuck

7 And here is the tilted blank locked up between centres, with the toolrest set clear of the blank

8 Rough the blank with a 32mm (1¼in) spindle roughing gouge down to a 80-85mm (3¼-3¼in) cylinder. Using a 13mm (½in) detail gouge, bring the blank roughly to shape. Create a tenon at the tailstock side, to suit your chuck, and repeat this three times. The non-matching grain variety is the same procedure from here, the difference is that there'll be no flat areas on the sphere's surface

Triple vase

9 Next, put your chuck on the lathe and mount the pre-shaped blank in the chuck. Mark a pencil line about 40mm (1½in) from the bottom end – this will be the centre of the sphere. Mount the sphere cutting jig, adjust it on the centreline and turn the spheres to a diameter of 75mm (3in)

10 Using a 13mm (½in) shallow spindle gouge, refine the left side of the sphere, where the sphere cutting jig can't reach

11 With a sanding pad in a drill, sand the sphere, starting with 180 and working all the way through to 400 grit. Repeat this process three times

12 When using a sphere cutting jig, you can add a finish at this stage in the process. Apply a coat of sanding sealer, cut down when dry and add a finish of your choice – I used lemon oil

13 At this stage, the three vases should look something like this

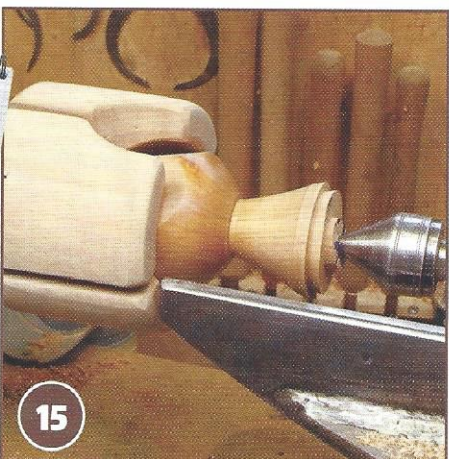
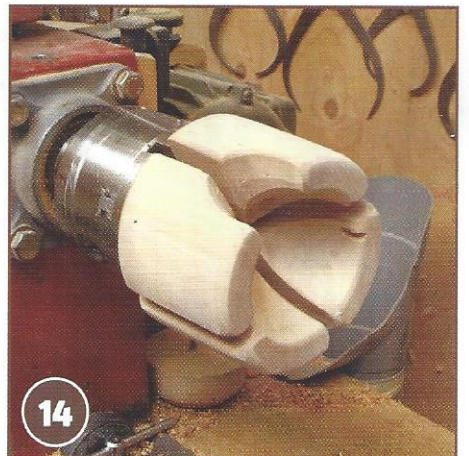
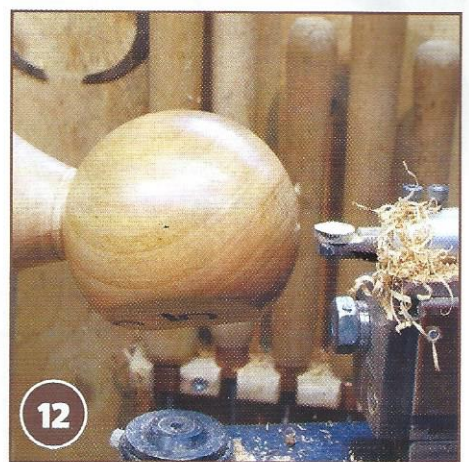
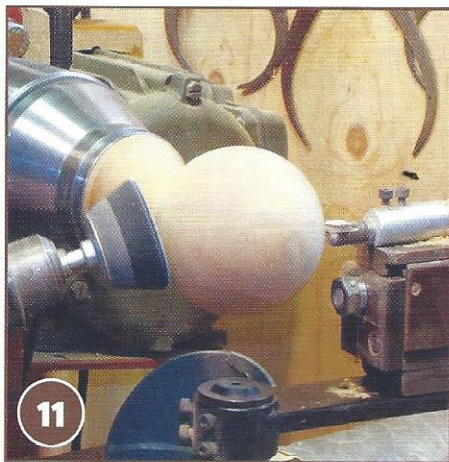
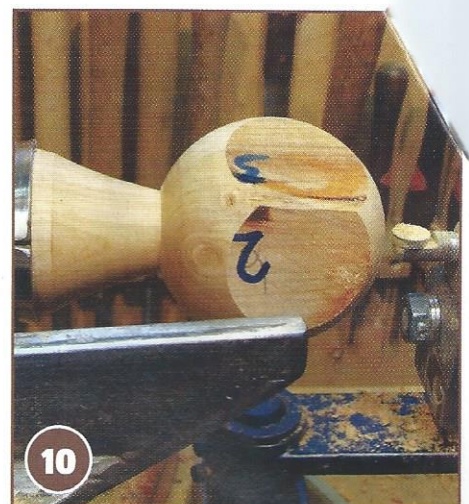
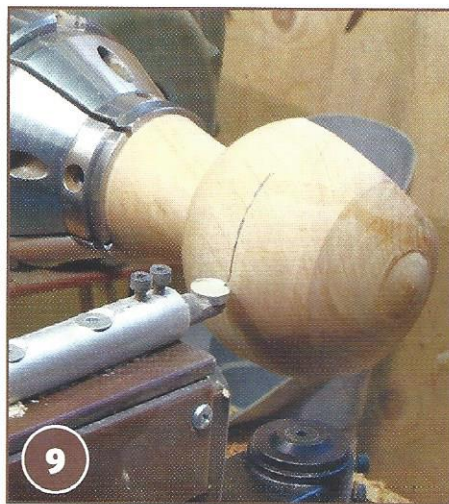
14 Now, put some wooden jaws on your chuck and turn a hollow to hold the spheres. They need to be held to just over the halfway mark on the sphere. Create some space in two of the wooden jaws; this cut out will accept the neck of the vases and will allow them to be tilted 15° backwards

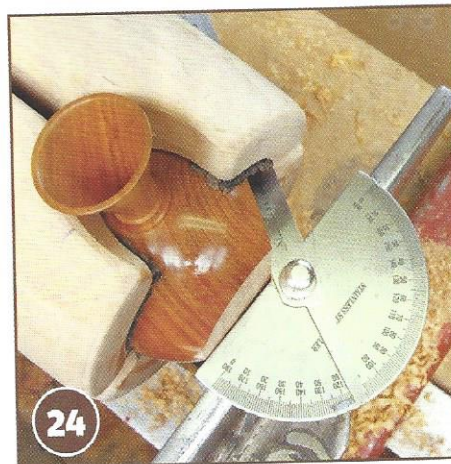
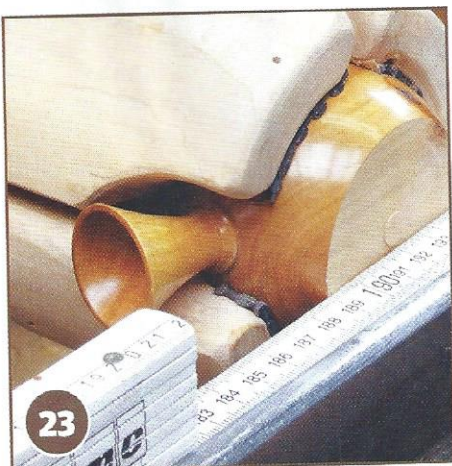
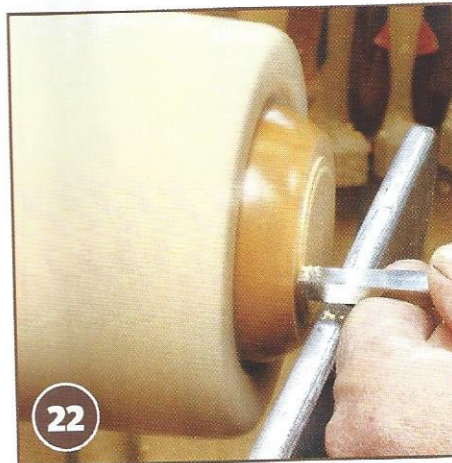
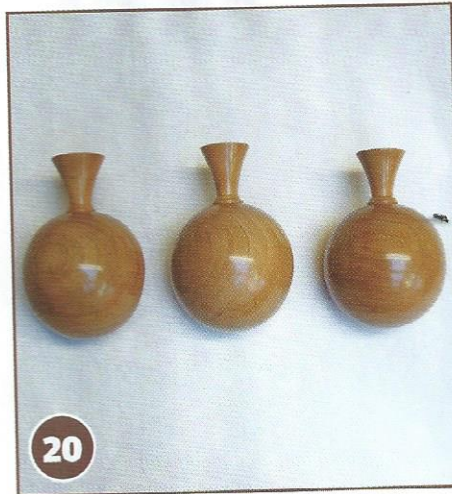
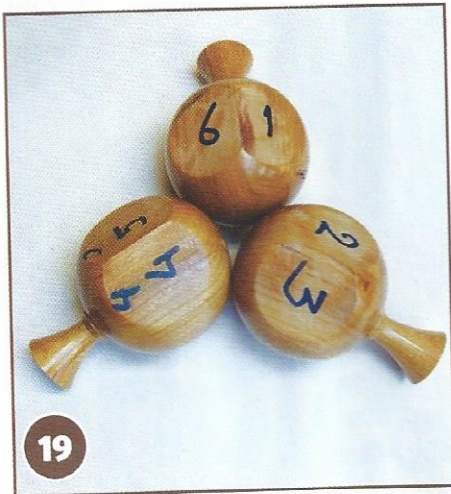
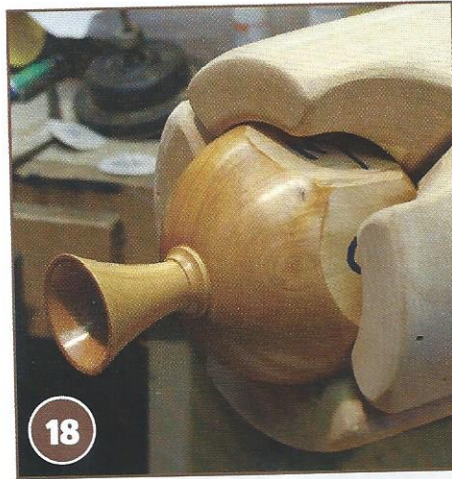
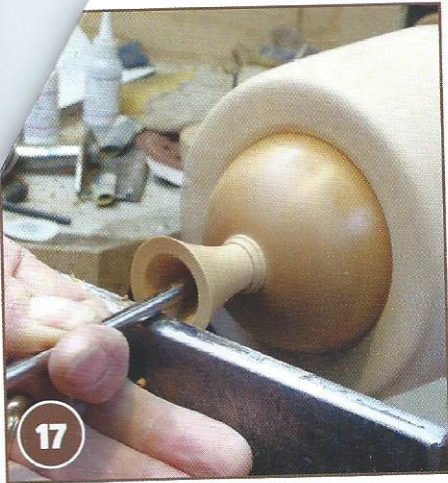
15 Centred by the tailstock, grip the vase in the jaws and tighten up. Check if the neck is running true and adjust if needed. Using a 13mm (½in) shallow spindle gouge, shape the neck. From here you can choose to make a neck in a different wood species. If you choose to do so, the neck has to be cut off and the sphere completed. Drill a hole to 15mm (⅝in) diameter and 5mm (⅜in) deep to accept the separate neck. Turn the necks and glue them in place

16 Next, you need to hollow the neck with a 9mm (⅜in) deep fluted gouge, using your fingers to reduce vibration. If your fingers feel like they are getting hot then you're pushing too hard

1. Ensure to take good care when marking out and make sure everything is completed in order. This will help you to reassemble the parts again in the correct sequence. It is also important to mark the top and bottom on each piece

Handy hints





17 Use the same gouge as a drill and push until you reach the solid wood

18 When all is done, sand and finish the neck in the same way as the sphere

19 The three vases are now ready to be hollowed out. It is important to do the hollowing and gluing process in one go. The time needed to hollow, fine tune the glue joints and gluing the parts together must be calculated to at least two hours. At this stage, it's easy to add a second coat of finish. Polish the vases and give them a second coat of finish

20 Repeat this process three times. The vases just need to be hollowed now. Adding a finish at this stage has some advantages. Glue some strips of non-slip mat in the wooden jaws to prevent damage

21 Now refine the saw cut surfaces; they need to be turned flat and all on exactly the same diameter. Put one vase in the chuck with saw cut No. 1 in front. Due to the tilted starting position, when the saw cut surface is 90° on the lathe axis, the neck will be 15° tilted to the back. The flat saw cut surface needs to be 90° to the lathe axis in all directions. Put the toolrest in front of the flat surface. Turn the chuck by hand backwards and forwards and adjust the toolrest and sphere until the flat surface runs parallel with the toolrest in all positions. Tighten the chuck to fix the sphere

22 Measure the diameter from all saw cut surfaces and take the biggest diameter to determine the final diameter to cut on all surfaces – 60mm (2³/₈in) in my case. With a scraper turn the flat surface to the desired diameter. Check the diameter with a pair of callipers and make all these surfaces exactly the same diameter. If these surfaces aren't 100% the same, you have to correct this by hand after gluing

23 When the 1E surface is completed, the sphere has to be rotated 120° to the 2E surface. Put your toolrest parallel to the freshly turned surface – I use a ruler – and use this as a guidance for the degree meter or sliding bevel. Loosen up the chuck jaws and rotate the sphere, so the 2E surface is at the front. With the aid of a degree meter or sliding bevel, set on 120° and the toolrest as a guidance, rotate the vase until the just turned surface is on 120°. Also, repeat the procedure as explained in step 25, to check the surface is 90° to the lathe axis. Don't forget to tighten the chuck jaws again

24 Take a small cut from the 2E surface, stop the lathe and check the angle between the two surfaces, then adjust if needed. The 2E surface needs to be finished on exactly the same diameter and at a 120° angle

SKILLS & PROJECTS

Triple vase

25 Again, loosen the chuck jaws and turn the sphere until the corner between the two surfaces is facing forwards. This corner also needs to be set at 90° to the lathe axis, so again, check this by rotating the chuck by hand and adjust the tailstock and corner until it's parallel in all positions. Now you can start hollowing the sphere with a 9mm (3/8in) deep fluted spindle gouge

26 Hollow the sphere and leave a wall thickness of 3-4mm (1/8-5/32in). Use a 9mm (3/8in) deep fluted spindle gouge, a swan neck homemade hollowing tool and a straight hollowing tool with a 10mm (3/8in) round tool bit. As a safety rule, always leave your fingers on your side of the toolrest; this is especially important here as the corners left are very sharp

27 Check the wall thickness with a double calliper. Because the numbering on the surfaces has disappeared due to the hollowing, mark them on the inside wall of the sphere again. The first vase is now complete. Now you can finish the other two

28 Repeat this process three times and your finished triple vases should look like this

29 It is very unusual that everything fits together first time. You might need to make some adjustments to the vases in order for them to fit together, but they should look like this when assembled

30 Because a sanding disc or belt is too aggressive, the glue joints have to be refined by hand. To do this, fix a piece of 120 grit sanding paper on a flat surface. Sand with pulling strokes and a little pressure on the side where some wood has to be removed. Check, fit the pieces together and repeat until all vases fit perfectly. When everything fits, put some PVA glue on the joints and put the vases together by hand. Let the glue settle for about 2-3 minutes, then wipe off the excess

31 When the glue has set a little, apply some pressure with clamps. If you put the clamps on too soon, there is a chance the vases will move under pressure and this is not what you want

32 Leave your triple vase to dry overnight, carefully clean up the glue joints, then sand the whole piece with some fine wire wool dipped in finishing oil. Wipe off the excess oil and leave it to dry. When dry, give it a buff with a rotating brush on the lathe; this gives a very keen shine, or you can polish it by hand with a cotton cloth. The triple vase is now complete and ready for placing in a location of your choosing ●

