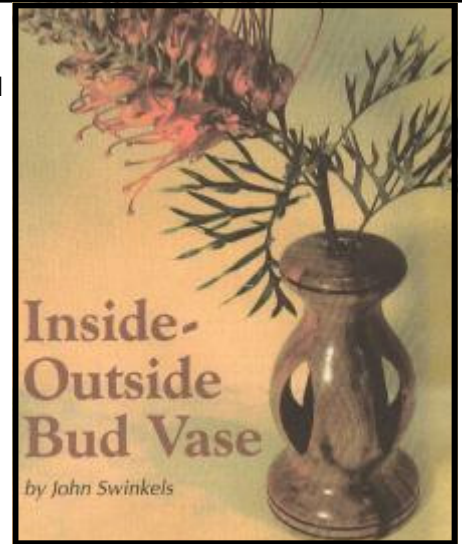


The basic method for so-called inside-outside turning is to cut four squared-off sections of equal lengths of wood and fasten them together temporarily so that what will become the inside surfaces are facing out. They are turned in the usual manner, refastened (glued together so the outer turned shape is now inside and the outer shape then turned.

If that sounds a little confusing, then turning a this bud vase (photo.1 and fig.1) will make things clearer.

Preparation

Start with four length of wood 200mm x 4mm x4mm. The cross-section is not critical as the turning will remove any discrepancies. However the pieces should be exactly the same length or they won't line up property when pulled apart and re-assembled later.



I used two 40mm square sections sawn from one lump of camphor Laurel. They were quite colourful but did not have the same colour in both. One had distinct orange growth rings while the other was more red and brown. However, they were all I could get hold of at the time. (The alternative was a large slab which was far too much material for a bud vase.) Each piece was cut in half and then trimmed to 200mm (Photo 2) At this stage you will need to decide which faces you want on the outside of the vase. If is something like Oregon with prominent growth rings, the appearance of the rings will determine the arrangement. In the case of the Camphor Laurel, it was more a personal choice of colours.

Place the blocks together in the arrangement that will be used for the finished vase, i.e. with all the preferred outer faces facing inwards. Number the pieces clockwise as shown in Photo.3 It is important to place the numbers on the outermost corner as this determines not only the assembly sequence but also which surfaces face outwards.

Pull the blank apart and re-arrange them so that the numbers are in the centre and in a clockwise sequence (Photo.4.) The 'inside' surfaces are now facing outwards.

One method of holding the composite blank together is to tape everything together double-sided tape and then wrap strong tape around the outside at both ends.

Since I did not have enough tape, I used PVA instead. This works well but you will have to allow for setting times for the adhesive. Hot melt glue is another alternative.

Because the individual blanks will be separated later, it is important to use only a minimum amount of adhesive to glue the near the top and bottom edges.

Apple masking tape to cover a 10-12mm wide stripe at both ends of the blocks. With the blocks. With the blocks joined on one side only, you can 'hinge' the blocks apart to apply wax and glue to the mating surfaces. Before going further, check the numbers on the ends to confirm that the blocks are assembled as shown in Photo.4 (not Photo.3)

Photo.1: A single Robyn Gordon Green displayed in the inside-outside vase



Photo.3 (above): The blocks are assembled in their final configuration and numbered. Photo.4 (below): They are then reassembled so that the outer faces face inwards

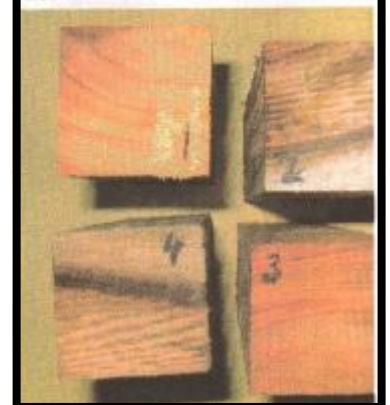


Photo.2: The initial four blocks that will form the turning blank



Smear wax into two strips 15-20mm wide on the mating faces. These strips are located just inside the line of the masking tape. When the blocks are clamped together, glue can spread beyond the taped area but the wax will prevent the wood from being joining anywhere else other than the ends.

Apply glue to the ends of the blocks and cramp them together. I use a combination of cramps and a vice. Photo. 6)

Repeat the process with the other pair of blocks.

After the glue has dried, check the faces of the surfaces that will mate together. In my case they were not perfectly flat and a bit of sanding was required. I did this on a sheet of abrasive held on a



Photo.5: The blocks are first assembled in pairs. The wax (left) stops the glue from spreading into the centre of the blank



Photo.7: Gluing the four blocks — two sets of pairs — together



Photo 6 A vice and cramps were used to hold blocks



Photo 8 The composite blank mounted on lathe

Flat board with two cleats.

Repeat the process of taping, waxing and gluing to form a composite blank (Photo.7)

Once the glue has set, mark the centre of one end with awl. Because I was concerned that the tail centre might force the blocks apart, I reinforced that end of the blank with a hose clamp (Photo.8).

Mount the blank on the lathe and you are now ready to turn the inside surfaces of the bud vase (these are presently facing outwards)

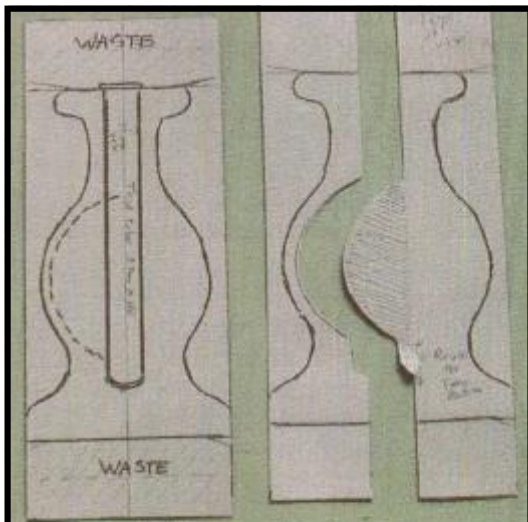


Photo.9: The pattern on the left (Fig.1) is used to form the inside and outside profile templates on the right

Photo.10: Turn the 'inside' faces to form the inside void

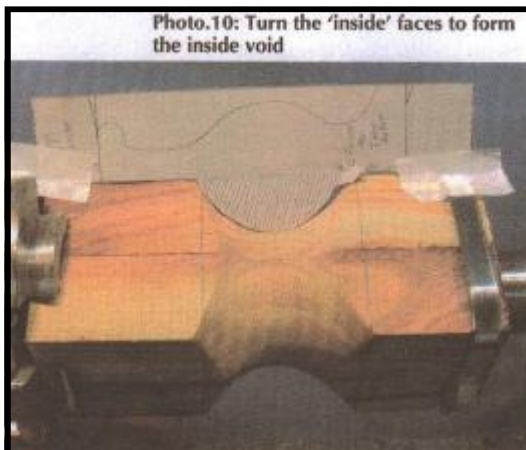


Photo.10: Turn the 'inside' faces to form the inside void

I used a funnel-shaped tail centre to secure the blank. I drilled a 22mm dia x 6mm deep recess in the end to accept the ring shaped part of the tail centre (after removing the pin from the tail centre) A scroll chuck holds the other end securely.

Template

To ensure that an inside-outside turning design works from (Photo.9 & Fig. 1) Photocopy Fig. 1 and glue the pattern to a sheet of thick card or thin plywood. Cut along the inner turning as shown in Photo.9. I used the temple on the right for both the inside and outside turning.

Turning the Inside

Mark the upper and the lower extent of the inside void on the blank. There are shown in Photo.10 and the lines are clearly visible when turning.

Remove the waste material and check the shape with the template. In Photo, 10 the template is taped to the block for photographic purposes only.

The small void at the bottom of the base accepts the bottom of a standard tube. On my earlier vases I turned this void, but now find that it is just as effective to use a knife to carve a little wood away from the four corners. This leaves enough of a recess as a starting point for the drill bit.

The critical part in creating the inner is to use the detail gouge to cut cleanly from the corners into the deeper parts. Careless work with the gouge or the use of a scraper is likely to break the edges and deface the interior of the vase.

Sand the void area and apply your desired finish. I used four coats of quick drying clear gloss spray enamel. The first and second were followed with light sanding but this didn't seem after the third one. In Photo.11 you can see the small "bites" taken out with a knife.

Cut off the glued sections on either end of blank with Bandsaw or Scrollsaw. This will separate the blank into four blocks Photo.12. Reassemble the blocks in the final configuration (Photo.3, apply glue to all surfaces. Note that the waxed areas are now on the outside of the blank and will not interfere with the gluing up and subsequent turning of the blank.

Repeat the assembly process used previously, i.e. Glue the blocks in pairs and then glue the two pairs together. Where any finish has strayed onto mating surfaces, remove it with light sanding.

In Photo.13 at the headstock end a drive centre has driven into the wood. The ring-shaped end of a live tail centre (minus the central pin) fits snugly in a 22mm dia. Hole in the tailstock end.



Photo.11: Varnishing the inner void



Turn the square section blank down to a cylinder with a roughing gouge and skew chisel (Photo.14). Form a spigot with a skew chisel. I also used a home-made scraper that matches the angle on the inside of the scroll chuck jaws.

Draw four lines on the blank to indicate the extent of the vase as well as the base Photo.15. While the wood is spinning you can actually see through the holes and judge how much can be taken away on either side of the pointed oval openings.

To turn the outside profile, use a skew chisel above the collar and below the base but otherwise the rest of the work is done with a small gouge. I used a home-made 12mm shallow gouge made from a carving chisel, but most turners will use a standard detail gouge.

Spin the job at a low speed. I found 1000rpm was suitable for me Take care not to break any wood away from the openings and refer regularly to the template.

In the Photo.16 the bud vase has been turned to its final shape and sanded up to 400grit.

To the left of the scroll chuck is the 'sharpening aid' described previously in AWW#137 I roll the gouge against the well-worn abrasive (held in place by Velcro) until I feel a slight burr on the inside edge and then hone the tool on the leather belt. I find that a regular 10-second touch-up is effective enough to get a very good finish off the tool.

Also in Photo. 16 you will notice that the holes appear to have been enlarged. This is due to the geometry involved in reducing the diameter of the vase on either side of the midpoint, thereby exposing more of the centre void.

As a kind of personal trademark, I like to add scorched rings to my work (Photo.17) After the tailstock waste was parted away I burnt a ring at the top and two on the base with a piece of guitar wire held briefly against the spinning wood.

With the job still in the lathe, use a chuck in the tailstock to drill a 13mm diameter hole through the vase to the depth shown in Fig.1 This will permit a standard 12.6mm dia x 122mm long glass test tube to slide down into the vase to act as a water container.

The vase is now virtually complete, so you can apply your preferred finish. I used four coats of the clear spray enamel.

In Photo.18 the waste wood is still attached to the vase. This allowed me to pick the vase up and move it to a draughty place to speed up the drying of the enamel. It also allowed me to mount the vase back on the lathe after the first two coats were dry to sand with fine abrasive.

The test tube holds enough water for a single flower. I found that the large Robyn Gordon Grevillea flower survived several days so long as I topped up the water daily.

I enjoyed this venture into inside-outside turning and highly recommend it to anyone looking for something different to turn.

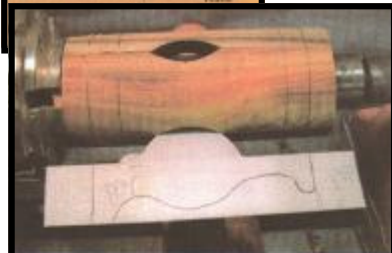
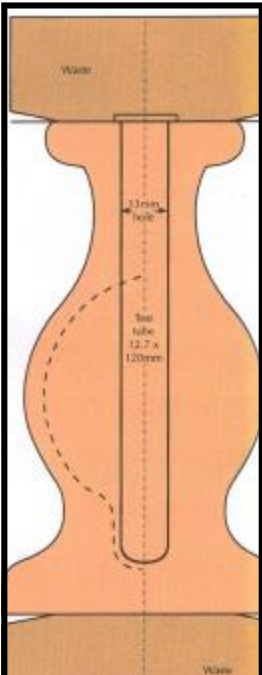


Photo.15: Using the template to mark off the profile. Note that the blank is now shorter as the glued-up ends have been cut off



Photo.16: The vase is turned to its final shape. Note the sharpening aid' to the left of the scroll chuck



Photo.17: The vase is finished and decorative lines added

Photo.13 The blank is reassembled, this time with the outer faces facing outwards

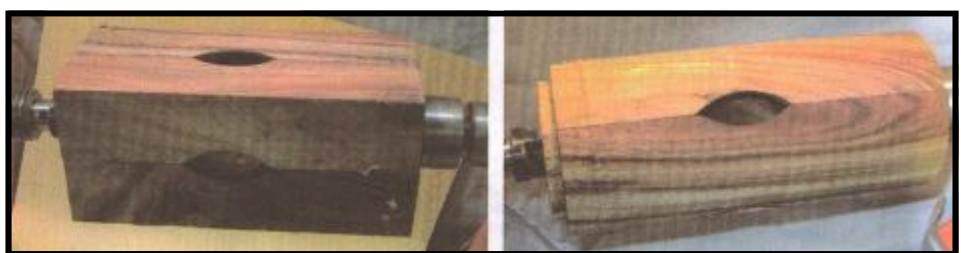


Photo. 18 The completed vase with clear finish. The waste on the base has been left in place to make handling of vase easier while finish is applied

Photo.14; The blank after turning down to a cylinder and forming the end spigots.