

# Decorating a bowl using Indexing

Walter Hall makes a bowl with decorative inserts on the rim



**I have often thought about using the indexing facility on my lathe to add decoration to turned work, but apart from a few ventures into clock-making I have not really made use of either the indexing facility or the Robert Sorby Precision Boring system that I bought for the purpose, so I felt it was about time to get on and actually make something.** I wanted to make sure that what I ended up with did not just look like a bowl disguised as a clock, so decided on using three sets of eight inserts on three different radii and in three contrasting woods.

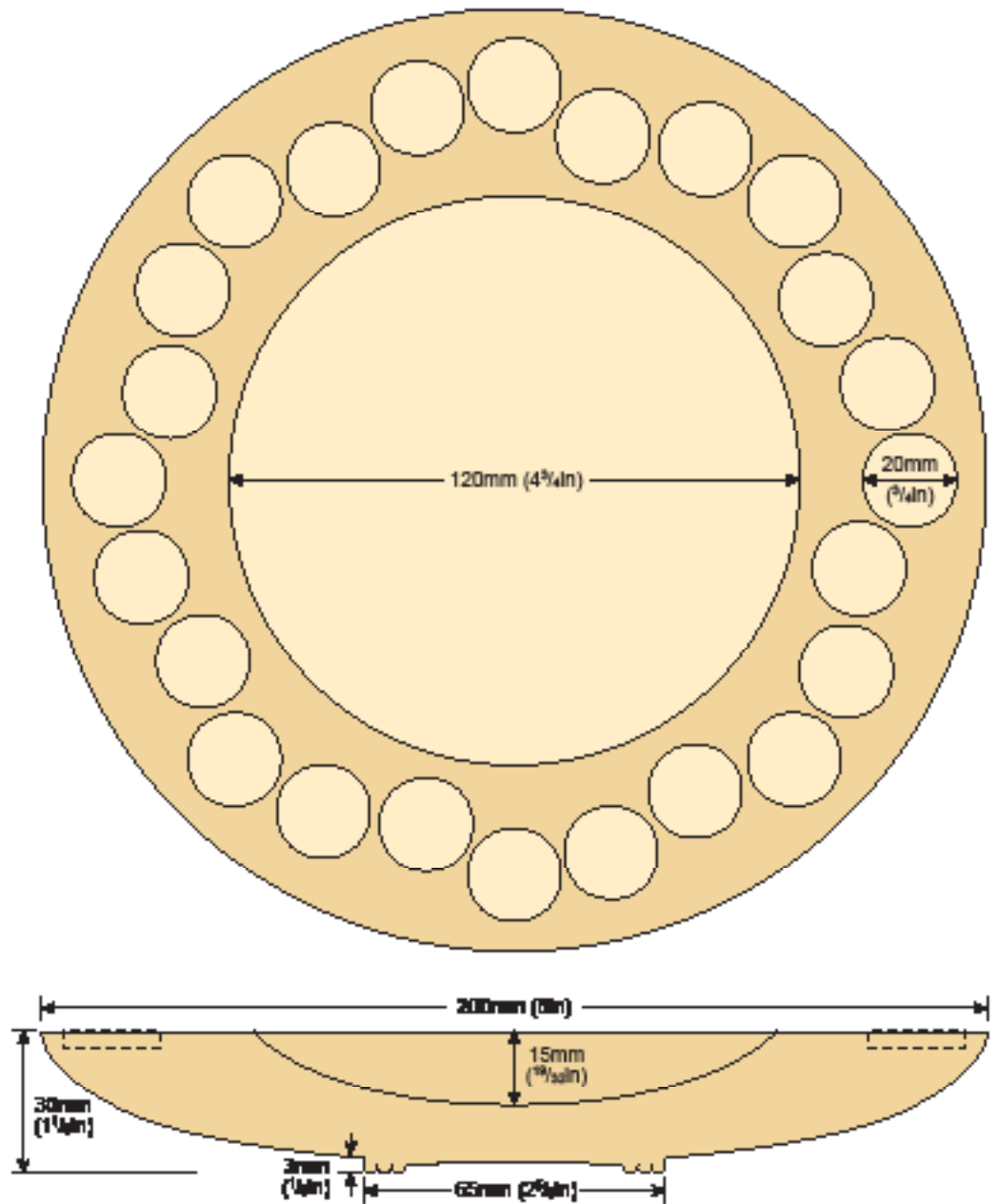
If your lathe does not have an indexing facility there are plenty of aftermarket options that can be installed or you could even

make your own, but that is beyond the scope of this article.

The Sorby indexing system comes with three different-size drill bits but none of these was big enough for my purposes so I used a Forstner bit. The shank of the Forstner bit needs to fit one of the inserts in the jig. If you're lucky yours may be the correct size but mine was not so I made an insert from hardwood with an external diameter to fit the jig and an internal diameter of 8.1mm to fit the shaft of my Forstner bit with sufficient clearance to avoid overheating. If you do not have a proprietary boring jig it would be quite easy to make one from hardwood to fit your tool post support.

## TOOLS AND MATERIALS

- PPE & RPE
- Dust extraction
- Bowl gouge
- Skew chisel
- Spindle roughing gouge
- Parting tool
- Small bead-forming tool
- Scroll chuck
- Small drive centre
- Revolving tailstock centre
- Callipers (or 20mm open-ended spanner)
- Robert Sorby precision boring system or similar jig
- 20mm Forstner bit.
- Cordless drill and sanding arbor.
- Safety cloth.
- 200mm ash (*Fraxinus* spp.) or similar hardwood bowl blank.
- 3 x 25mm square spindle blanks in contrasting hardwoods
- Abrasives 180-320 grit
- Woodworking adhesive
- Sanding sealer
- Abrasive wax
- Microcrystalline wax



**1** Decide which side of the bowl blank will be the upper surface and mount it on the lathe. I used a faceplate ring but a faceplate or screw chuck would work equally well. Whatever you use do make sure that the work is securely mounted with screws that engage well with the work.

**2** Using the bowl gouge, true up the blank and cut a spigot to suit the size of your chuck jaws so that you can re-mount the bowl to work on the rim and inside and then cut a shallow foot about one-third of the diameter of the bowl. Use a skew chisel to define the dovetail spigot and make sure that all surfaces that will engage with the chuck are true and flat.





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**3** Form the external shape of the bowl in the usual way using a bowl gouge. Try to get good, clean cuts with no tear-out and, if necessary, finish by shear scraping with the wing of the gouge or a negative rake scraper to get a smooth surface. Create a shallow form but do not make the outer part of the bowl too thin as sufficient depth is required for the inserts (see drawing).

**4** Once you are happy with the shape power sand through the grits starting at whatever grit you need to remove any tool marks, working through to 320 grit. Use an extractor to minimise the dust in the air and wear appropriate PPE (a respirator rated at FFP3 or equivalent). Take care not to round over the edge of the foot.



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**5** Finish the outside of the bowl with the finish of your choice. For this purely decorative bowl I used a wax finish, first Yorkshire grit abrasive wax followed by a coat of microcrystalline wax. Use a safety cloth or other non-woven material to apply and buff the wax.

**6** Take the work off the lathe and remove the faceplate ring or whatever fixings you used to mount it. Re-mount in the chuck using the spigot turned on the base. Check that everything is securely tightened and then, using a bowl gouge, clean up and level the face with light push cuts working in from the outside edge to avoid causing breakout on the finished outside of the bowl.



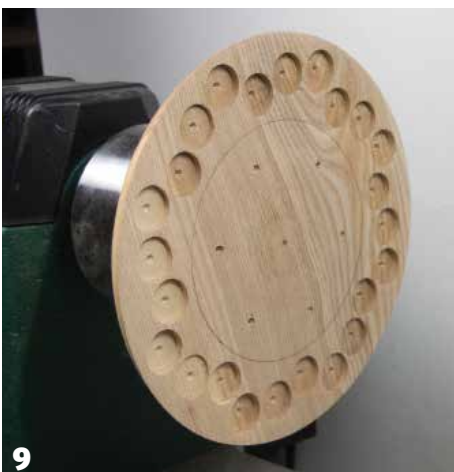
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**7** Measure and mark where the inner edge of the rim will be 40mm from the outside edge and then mark three further lines at 15mm, 20mm and 25mm from the edge on which the point of the Forstner bit will be centred.

**8** Lock the indexing mechanism of your lathe at position 1, then with the boring jig mounted in the tool post and a 20mm Forstner bit mounted in the boring jig and a cordless drill, carefully centre it on the innermost marked line (25mm) and drill the first insert hole to a depth of about 4mm- 6mm. Repeat this with the index locked at positions 4, 7, 10, 13, 16, 19, and 22.



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**9** Realign the jig assembly in line with the second marked line (20mm) and continue drilling with the index set at positions 2, 5, 8, 11, 14, 17, 20 and 23. Realign again with the third line (15mm) and drill the final set of holes with the index set at positions 3, 6, 9, 12, 15, 18, 21 and 24.

**10** You could hollow the centre of the bowl at this stage but I prefer to complete work on the rim first. Remove the work and chuck from the lathe and mount the first of the three spindle blanks between centres. Turn down to exactly 20mm diameter using a spindle roughing gouge. Measure carefully using callipers – or a 20mm open-ended spanner makes an excellent and accurate gauge. Repeat with the other two spindle blanks. It is essential that the diameter is accurate to ensure a good fit without unsightly gaps.

◀ **11** Use a bandsaw to cut eight inserts from each blank. Try to make them as close as possible to the depth of the holes drilled in the bowl rim. Too thick and they can be trimmed later but too thin and the rim will need to be turned down to the level of the thinnest insert. Note that I am using a jig with V-grooves along with the mitre gauge to prevent the work from turning and grabbing. They are turned much longer than needed to produce the inserts so as to keep fingers well away from the saw blade.



**12** Tidy up the sawn edges of the inserts with abrasive paper as necessary and then glue them into the drilled recesses in the bowl rim, alternating the colours. A decent quality woodworking adhesive will ensure a strong bond or you could use epoxy. I would not recommend polyurethane glue (Gorilla glue) as this expands as it sets and may force the inserts out of their settings.



**13** Wipe off any excess glue and leave to set. As a minimum, leave for the adhesive manufacturer's recommended setting times before proceeding to the next stage. I left the work on the lathe overnight to be certain of a secure bond.



**14** Keeping the tool handle low and taking very light cuts with the bowl gouge, trim down any excess wood from the inserts until all are flush with the surface of the bowl rim. If necessary trim the whole rim so that everything is flush and level. The different hardness of the timbers and the fact that the inserts are end grain whilst the rim is cross grain may cause difficulty so maintain steady downward pressure with the gouge on the tool rest and only take the lightest of cuts



**15** Once you are happy with the appearance of the rim you can begin to hollow out the centre of the bowl. If you are worried about the gouge slipping and damaging the finished rim you can cut a recess with a parting tool. This can then be used to guide the bevel of the gouge when beginning the final cuts.



**16** Working the gouge inwards towards the centre with push cuts, gradually hollow from the centre outwards, increasing the diameter and depth of the hollow until you reach the recess cut in step 15. Finish with light cuts to achieve a nice, clean, smooth surface to the bowl.



**17** Once completed apply sanding sealer to prevent dust from the coloured inserts staining the work and power-sand the rim and the inside of the bowl using the same methods as for the outside. Sanding sealer between grits will give extra assurance that there will be no staining. Finish with abrasive wax and microcrystalline or the finish of your preference.



**18** The bowl can now be reverse-mounted in Cole jaws or a jam chuck to turn away the spigot and finish the foot as you choose. I added a series of beads with a fine bead-forming tool as an extra feature for the benefit of those who like to turn bowls over to see how well they have

