

SNAINTON WOODTURNING NEWSLETTER

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Two Surprising Bowls

by Tony Wilson RPT



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Demonstration

Tony turned two large bowl-shaped items. They were at the maximum diameter for the Nova DVR lathe with the headstock over the lathe bars. This limits bowl blanks to only slightly more than 300 mm (15 in) in diameter.

The first item was an ornamental petal-edged bowl on a low stand that served to lift the piece off the table, both physically and visually.

The second piece was a slightly dished circular board (for biscuits, bread, etc), turned off-centre so that a glass bowl containing a savoury dip

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Snainton Woodturning Club

Meeting at
Snainton Woodworking Supplies
on Thursday
3 November 2011

Snainton Woodturning Club

Meets at 1930 hr at Snainton Woodworking Supplies, Barkers Lane, Snainton, North Yorkshire YO13 9BG, on the **first** Thursday of each Month (**exception** **):

--- **Next Meeting** ---

****FRIDAY 2nd December.**
Members and Guests pre-Christmas buffet, quizzes and competition at Snainton Village Hall

5 January 2012
Philip & Wendy Greenwood –
Turn & Burn

2 February 2012
Richard Findlay –
Walking Canes & Lathe Routing
(with an extra £1 charge at door)

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October: £15; November £17.

could be located on the scooped-out area above the small stand on which this table-centre piece is supported.

Petal-edged bowl



Brian Wigglesworth

Materials

Two ripple-ash bowl blanks, 300 x 7.5 mm (15 x 3 in) and 150 x 7.5 mm (6 x 3 in). Tony drew a set of nine curved, petal-like shapes, around the outer circumference of the larger blank and five on the smaller blank. The curved, petal-shaped edges were then cut out with a 10 mm ($\frac{3}{8}$ in) band-saw blade. It is possible to do this cutting after the bowl is shaped, but Tony preferred to do it before turning, in this case.

Bowl underside

A 50 mm (2 in) diameter recess is cut in the centre of the large blank with a Forstner bit. The blank is mounted on the chuck jaws in expansion mode. With large or unbalanced pieces, always start turning at a low



Turning Tips

- **Lathe speed:** When a large or unbalanced timber is first loaded onto the lathe, start at a slow speed and slowly increase the speed until a 'comfortable' speed, without vibration, is attained.
- **Fixed belt-drive:** If your lathe is not equipped with variable speed, it is possible to arrange for a slow speed if the belt in a fixed-drive lathe is allowed to slip, until a safe speed is reached.
- **Rest height:** Set the tool rest height below centre, so that the gouge cuts on the centre height line; never below it and not often above it.
- **Rest security:** Try and get the tool rest as close as possible to the wood and ensure that the holding screws are tight.
- **Mark rotation edge:** When the wood rotates with 'ghosting', it is often difficult to see the outer edge of the wood, so mark the position of the widest edge of the bowl on the tool rest for reference, so that you know where the edge is and the rotating piece doesn't cause damage.
- **Gouges:** Choose the gouge to suit the job at hand: a big, heavy gouge is useful when cutting into a large or unbalanced

piece; a small, light gouge is better for doing finishing cuts to yield a smooth surface suitable for sanding.

- **Chucking point:** It is very important that the wood surrounding a recessed, dovetail chucking point is perfectly flat and about 12 mm ($\frac{1}{2}$ in) wide to fit snugly against the face of the chuck. This will ensure that the piece rotates without a wobble.
- **An ogee shape:** is a flattened bell-shape, concave at one end that gently changes into convex at the other.
- **Wood movement:** all wood moves or warps, and the amount of change depends on the grain, depth of hollowing, wood thickness, its moisture content and the ambient humidity.
- **Off-centre turning:** Initial gouge passes over the off-centre edge of the piece (ie where 'ghosting' occurs), is expected to yield grooves. Mark the top of the grooves, then, with a sharp gouge, hover over the mark and gently move back and forward over it until the surface is smooth.
- **Tiredness:** Don't attempt to do large, complicated or off-centre turning when tired: start such work early in the day, when you are fresh.

rotational speed (eg 400 rpm), and work up to a speed at which you (and the equipment) are comfortable, say 500 rpm.

Set the tool rest height so that the 10 mm ($\frac{3}{8}$ in) or 12 mm ($\frac{1}{2}$ in) bowl gouge cuts on the centre height line. Start cutting from the outer edge towards the centre, with the flute at about 2 o'clock and move it forwards and backwards to level off the front surface of the wood.

On the outer circumference of the timber, ie the surface facing the turner, place a mark to show where the lower edge of the bowl rim will be located, as a guide to how much wood should be removed (see *marks on petal-edge on following image*).



Tony likes to create a chucking point early on, partially as a safety option in case of later problems. A 50 mm

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(2 in) chucking point was cut about 6 to 7 mm (about $\frac{1}{4}$ in) deep for safety of the audience during this demonstration — a shallower recess would normally be used in Tony's home workshop.

The dovetail angled recess was cut with a 19 mm ($\frac{3}{4}$ in) skew chisel placed on its side; or a parting tool could be used. Make sure the surface of the wood surrounding the chucking point is perfectly flat (see *shading around the chucking point, above*).

Cut away the edge of the bowl underside with pull-cuts using a 12 mm ($\frac{1}{2}$ in) or 10 mm ($\frac{3}{8}$ in) bowl gouge. Shape the underside to a gentle convex curve, first.

This shape would have been fine for an ordinary bowl, but for this bowl, look at the horizon profile and make the underside into an ogee curve by turning the mid-point of the bowl into a concave curve (see *shaded area on the diagram drawn on the previous image of the bowl*).



The ogee starts with a convex curve at the base and continues through the concave middle out to the rim.

The speed can be increased slightly as the bowl comes into balance. With the gouge's flute pointing over the left shoulder, make gentle pull-cuts to shape the outer tip of the rim. Then, moving towards the centre in stages, make gentle pull-cuts to finalise the shape of the petals and the bowl's underside.

Sharpen the gouge before making final cuts. With the flute at 2 o'clock,



pivot the hips as you make pull-cuts, finalise the shape and make finer cuts with a bevel-rubbing gouge to finish. Tony's gouge had a double-bevel, so only a narrow bevel region was in contact with the wood.

Power sand the surface, working through the grits from 120 to 400. Use a thick abrasive pad (available for about £1 each) on the slowly rotating petalled edge, or sand with the lathe stationary. A small hole in the wood, the underside of a knot visible on the top surface, can be left or filled with resin or glue, with or without metal filings added. Tony finished the piece with an oil-impregnated cloth.



Bowl base

The small 150 x 7.5 mm (6 x 3 in) bowl blank, cut to have five petals round the edge, was mounted on a chucking point made with a Forstner bit. The front was faced up and the foot was shaped into an ogee in a similar fashion to, and to mirror, the base of the bowl.

A dovetail spigot was cut, that would fit into the base recess in the bowl, with a flat region round the spigot to match that on the base of the bowl.



Check frequently, to ensure that the fit between two pieces is good, but it need not be too tight, as it will eventually be glued.

The point of the base is to lift the bowl, the better to display it. Finalise the shape of the base. Remount the spigot into the jaws and flatten the outer 25 mm (1 in) of the base and then undercut the centre of the base slightly, so that it will stand without wobbling. Sand the edges, top and bottom.

Bowl top

A large knot was present, but it would be removed by the hollowing, as the bowl depth was to be about 60 to 75 mm (2.5 to 3 in) deep. As a knot is harder than the rest of the wood, the gouge will be blunted quite quickly.

Remount the bowl on the chucking recess. Flatten the front surface with a 10 mm ($\frac{3}{8}$ in) bowl gouge. Ripple ash can be hard, and the knot is harder, so the gouge is likely to bounce.

Look at the thickness of the petals after the initial turning passes. Tap the thinnest petal towards the headstock; so that the next cut will reduce the thickness of the thick petals and this should equalise the petal thicknesses. If not, adjust until they are all more or less an even thickness.

Place a mark near the base of the petals to make this region easier to see. Reduce the thickness of the petals first, moving inwards in steps of about 6 mm ($\frac{1}{4}$ in) each time. Keep checking the wall thickness, and sand when finished, in case it warps, later.

Rough out the middle third of the bowl, reduce the height of the centre,



and then work the middle third to the final bowl shape.

Progress in this manner towards the centre, checking the wall thickness as you proceed, and remember to allow for the fact that the bowl has a recess in the base! Because of this, leave a small island in the centre.

Sand the bowl interior, then turn up the speed and take out the centre. To avoid going through the bottom, shape the central island into something like a flower's centre. Sand and oil, then glue to the base.



Note: Comment was made that the edges of the petal bowl were not uniform. Tony's response was that he makes 'one-off' items with individual character, rather than creating exact copies.



Savouries server

The second item is a table centre-piece, from which to serve savouries. (Tony's second bowl has been called a "Savouries Server" by me; apologies if you object, Tony! — Ed.)

Materials

An olive-ash bowl blank 300 x 50 mm (12 x 2 in) had heartwood towards one side and sapwood on the other. Heartwood is heavier than sapwood, so the piece will rotate off-balance. The base is turned from an olive-ash bowl blank of 150 x 75 (6 x 3 in).

Tony showed how the pieces will 'stack up', with glass bowl, on the tray and the off-centre base (see image in next column).

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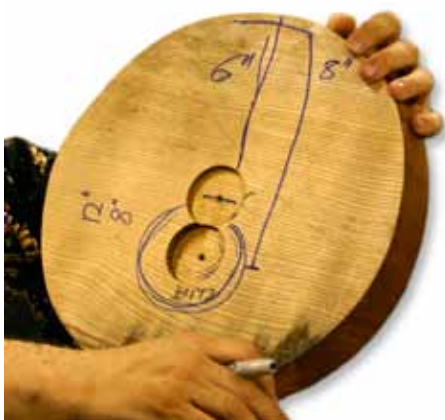


Off-centre set-up

The Nova DVR lathe has a maximum 200 mm (8 in) rotation radius above the lathe bars (ie 400 mm or 16 in diameter). So the maximum diameter of a piece that can be safely turned on its centre is about 385 mm (15 3/4 in).

Off-centre turning must take account of the shift in centre of rotation. The geometric centre of the 300 mm (12 in) blank has a radius of 150 mm (6 in) from the edge.

To turn this piece off-centre above the lathe bars, the off-centre has to be moved by 50 mm (2 in) from the geometric centre. This will yield a piece with a radius of 200 mm (8 in) on one side (which will clear the lathe bars) and 100 mm (4 in) opposite.



Drill two 50 mm (2 in) holes with a Forstner bit. The first, at the geometric centre can be about 3 mm (1/8 in deep, and is only required for turning the blank to round.

The second hole that is off-centre needs to be strong, and therefore deeper, to hold the eccentrically rotating timber.

If placed in the heartwood area, this will somewhat reduce the amount of

imbalance in the off-centre rotating blank. The hole should be about 10 mm (3/8 in) deep and 50 mm (2 in) off-centre into the heartwood area of the wood.

Chamfered edge

Mount the bowl blank on the central chucking point. With a 6 mm (1/4 in) bowl gouge, gently (remembering that the chucking point is only shallow!) turn to round then chamfer the edge, with more wood being removed towards the tailstock side.



Use a 12 mm (1/2 in) bowl gouge to increase the chamfer angle to about 15°. Sand the edge through the grits, as it will not be possible to return to this set-up.

Off-centre turning

Mount on the off-centre chucking point, check that rotation is free, and turn the lathe speed down to about 250 rpm. Mark the centre of rotation on the tailstock side and turn up to a 'comfortable' speed. Place a mark on the tool rest to show where the widest arc of rotation of the off-centre piece will occur.

Use a 10 mm (3/8 in) bowl gouge and move it slowly inwards along the tool rest until it starts to cut the 'ghosting' edge of the piece. The dished platter will be thinner at the edge further away from the centre of rotation, and thicker on the edge nearer this cen-



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tre-point (see image below). Shape the underside of this area to that of a shallow platter.

The sapwood on the outer rim will be relatively soft, and this wood at the edge should be carefully removed.

Keep the tool-rest close to the wood surface and perform pull-cuts from the centre out.

Mark the position of the glass bowl, the centre of rotation and the position of a spigot to fit into a recess in the base (see image at the end of the previous column). Create a spigot, then produce the final shape of the underside of this platter, leaving enough thickness of wood in the region marked for the bowl to be hollowed later: it will hold the glass bowl on the headstock-side of the platter.

Move to a heavier 19 mm ($\frac{3}{4}$ in) bowl gouge to make the finishing cuts, as it will be less prone to 'bounce' as the edge of the off-centre piece rotates past the gouge tip. Move the gouge in pull-cuts, from the centre out in a gentle curve.

Where grooves from the gouge appear on the surface (see the ridges on the image above), mark the ridges (as on left). Then hover the gouge over these marks and gently move forwards and backwards until the high spots are removed and the surface is smooth. Sand.

Remount the timber with the chuck jaws clamped over the spigot. Again, mark the maximum arc of rotation on the tool rest. Face-off the surface to flat. Use a newly sharpened bowl gouge, to shape the ghosting, upper rim of the platter. Start at the edge of the solid, non-ghosting, part and,

with short push-cuts, work step-wise towards the outer rim.

Aim for a uniform platter thickness of 6 to 10 mm ($\frac{1}{4}$ to $\frac{3}{8}$ in), and use the 19 mm ($\frac{3}{4}$ in) bowl gouge to minimise 'bounce'. Keep the central region (that will later be hollowed for the glass bowl) flat, leaving a rim with a height of about 10 mm ($\frac{3}{8}$ in) above the outer platter area.

Finish the outer platter region, working inwards in stages to get a uniform wood thickness. Sand with the lathe stationery. Move to the central area and remove the first chucking point. Then remove the second by forming a bowl with a 45°-bevelled bowl gouge. Ride the bevel slowly towards the centre.

Mark the diameter of the glass dish and cut down the outer rim to give an even wall thickness around the edge of the dish.

Do this steadily and carefully. Hollow out the area for the glass bowl, which does not have to be perfectly accurate, but the base of the hollow must be flat, upon which the flat bottom of the glass bowl is to rest.

Test the fit of the glass bowl. Reduce and square-off the bowl rim, then sand.

Base stand

Mount the olive ash bowl blank on chuck jaws in a Forstner-bit recess. Round off the edge to form a convex shape with a flat top, with a diameter about 12 to 25 mm wider than the spigot on the base of the platter. Cut a locating recess to accept the spigot on the base of the bowl.

Remount in the chuck jaws in expansion mode in the recess. Flatten the

base, then give the centre a slight concave dish so that it will stand evenly. Join the base to the platter and bowl-holder with PVA or an alternative glue. The finished article:



A vice jig

Irving Waterhouse has produced the jig below to permit a round rod, held in a vice, to be drilled.



Cut a 45° vee in the centre of a block of wood 160 x 60 x 28 mm ($6\frac{1}{4}$ x $2\frac{3}{8}$ x $1\frac{1}{8}$ in). Then make it into a T-shape for the vee to sit inside the side-rails of the vice.

Members' Gallery

Steve Fearnley

The following beautifully turned and finished prizes for Malton School pupils have been created by Steve Fearnley, who is Deputy Head.

This is the superb Citizenship bowl in sweet chestnut with different figures pyrographed round the bowl.



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Davina Kirk Memorial in Oak (right);



English Prize in Laburnum (left); Design Technology Award in Walnut (below);



Enterprise Challenge in Oak; Hanson Geography Prize in Laburnum;



JV Wilson Cricketer of the Year Prize in Yew;



Deputy & Head Boy in Oak & Walnut (above); History Prize in Walnut;



House Cup in Laburnum (right).



(In next column) Oliver Hudson Memorial Trophy with pyrographed portrait, in Oak; Science Prize in Oak.

Many thanks to Steve Fearnley for providing these photographs — Ed.



Future Snainton Woodturning Club Meetings

Continued from Page 1:

1 March 2012

Mick Hanbury – New Decorative Theme

5 April 2012

Andrew Hall – Corinthian Helmet

3 May 2012

Andy Lodge – Something Different

7 June 2012

Sue Harker – Wall Art

5 July 2012

Bob Chapman – A Night at the Opera

2 August 2012

Annual General Meeting

Bring & Tell

6 September 2012

Simon Hope

4 October 2012

Joey Richardson

1 November 2012

Gerry Marlow

6 December 2012:

Party Night

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