

AUSTRALIAN

Wood

REVIEW

95

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IMPOSSIBLE DOVETAILS

Cutting Sunrise Joints

SHINOBU
KOBAYASHI
Bridging Wood
Cultures

PROJECTS

- INLAID WINDING STICKS
- VENEERED LOW TABLE
- V-GROOVED BOWL
- HAND TOOL CHEST

TESTED

- NOVA VOYAGER DVR DRILL PRESS
- LEDA BANDSAW POWER FEED
- LAKE ERIE CLAMPGAUGE SYSTEM
- DEWALT PREMIUM SMALL ROUTER
- ROBERT SORBY PYRO MACHINE



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AUKTools - Fixed base router Mk II - 240V

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With a 2.4 hp 1800 watt 240-volt motor, electronic variable speed control with a range of 10,000 to 24,000 rpm and a soft start feature this router is the ideal addition to your workshop.

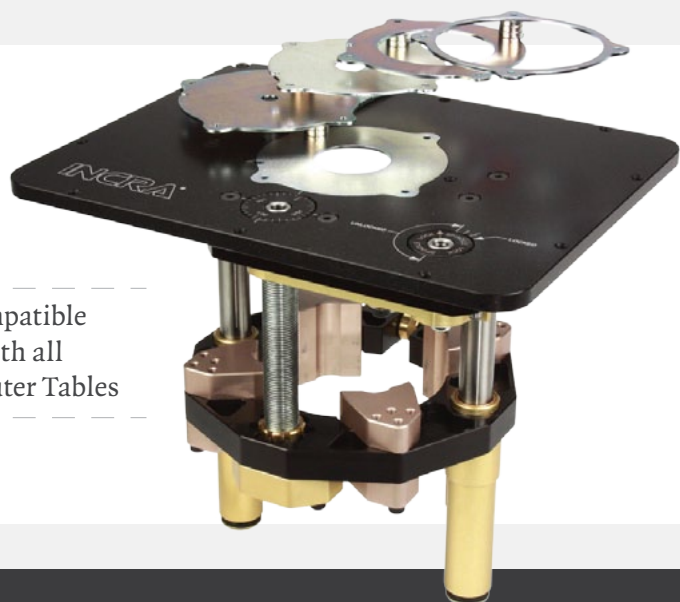
Its design facilitates easy above table bit changes with supplied spanners and incorporates 1/2" and 1/4" auto release collets.

The AUKTools router matches perfectly with either Incra's Mast-R-Lift II or Woodpeckers PRL V2 router lift.

AUKTools - Fixed base router Mk II – remote version

NOW, THERE'S NO NEED TO REACH UNDER THE ROUTER TABLE EVER AGAIN.

Convenient remote speed control of the AUKTools Fixed Base Router Mk II is now incorporated into the ProRouter Switch - Deluxe Model. This is a true No Volt Release safety switch, that is made in Australia to Australian Standards with illuminated on-off buttons with large mushroom headed off button. This switch allows easy mounting to your router table, with 1.6 metres plug lead, .3 metre socket lead and a 1.2 metre shielded interconnect cable to the AUKTools specially modified router.



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Incra Mast-R-Lift II

Incorporates Incra's exclusive MagnaLock ring system, precise, 0.001" (.025mm) height adjustments and a hard-anodised, ground cast aluminum top plate.

The winding mechanism features a patented leadscrew tensioning system and ultra-responsive, direct drive 1.6mm pitch lift screw, metric conversion kits are also available.

Woodpeckers PRL V2 Router Lift

Combines instant elevation change with micro-adjustment to dramatically reduce the time it takes to change a router bit while allowing the user to 'dial in' bit height for precision routing of stock. The hard anodised plate is CNC milled to exact tolerances for a perfect fit in our ProRouter tables and has a 90mm bit opening to accept moulded insert rings as well as engraved scales to simplify fence positioning. Includes spring-assisted lift wrench, threaded starting pin, spanner wrench, 3 insert rings.



Contents

ISSUE 95 – JUNE 2017

WOODCARVING

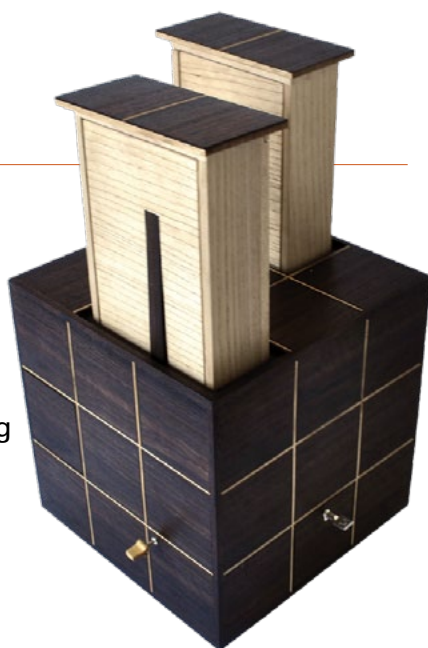
48 Carving a V-Grooved Bowl

Templates and a systematic approach will achieve a finely patterned result. Story by Robert Howard.

PROFILES

44 By My Five Senses

Shinobu Kobayashi's *Tabibito* box tells the story of bridging cultures and his journey to learn traditional skills.



FEATURES

74 Turning Point

When Ron Hock met James Krenov it led to the creation of a brand of premium edge tools.

86 Festival on the Waterfront

There are many reasons why the biennially staged Australian Wooden Boat Festival attracts record crowds.

92 Wood, Metal and Fire

Israeli designer Hilla Shamia's fiery creations are inspired by the infinite variations of nature.

EXHIBITIONS

62 Together Again

Past students of Sturt School for Wood drew on formative experiences to create works for an exhibition entitled Alumni.



82 Unfolds

Members of the Danish Cabinetmakers Association made works based on the theme of a cube for their recent exhibition.

PROJECTS

38 Bespoke Winding Sticks

Charles Mak makes a pair of inlaid winding sticks and shows how to use them.

55 Homage Piece

Inspired by and with respect for the late Greg Collins, Graham Sands makes a veneered coffee table.

76 Making a Hand Tool Chest, Part 2

Troy McDonald makes the internal trays and fits a half mortise lock to complete his tool chest.

TECHNIQUES

24 Working With Curves, Part 1

Adding curves to your work will open new design options, but also bring technical challenges. Story by Peter Young.

32 Impossible Dovetails

UK master craftsman Theo Cook shows how to achieve the accuracy required to cut Japanese dovetail joints.

REGULARS

6 Editor's Letter

20 Product News

43 Subscription Offer

84 Wood Diary





48



74



66



32

TOOLS & EQUIPMENT

8 Machinery & Tool Reviews

- Nova Voyager DVR Drill Press
- DeWalt D2620 Premium Small Router Kit
- Lake Erie ClampGAUGE System
- Robert Sorby Pyrography Machine
- HoneRite Gold

66 Dressed For Success

Damion Fauser shows how to use hand tools only to dress boards flat and square.

96 The Real Value of Machinery

Investing in specialised equipment may save more than money in the long run. Story by Darren Oates.



96

Editor's Letter

Following your dreams

It's a fact that personal hardship can crystallise one's goals in life and that was the case for Melbourne woodworker Shinobu Kobayashi, the man featured on this issue's cover. More than anyone I know of, Shin typifies a modern journeyman who has literally travelled the world to engage with different cultures and traditions of woodworking. And on top of that he has taken it upon himself to share his knowledge with others. Read about him on p.44.

Impossible Dovetails

We've all seen them, those wicked looking joints with angles going every which way. Sunrise joints, Japanese or twisted dovetails, whatever you call them it's all about laying out and cutting accuracy. A video showing Theo Cook's superb joint going together went viral on our social media last year so I thought, why not get in touch? And that's how Theo came to share some of his tips and techniques in the story you'll find on p.32.

The Krenov Connection

Krenov's influence as a woodworker, author and educator has set many on a path of following their woodworking dream. Both Shinobu Kobayashi and Theo Cook undertook a study exchange that saw them directly absorb some of the ethos and inspiration of the late James Krenov at the College of the Redwoods in California.

Krenov's influence went further, and in fact it was when his path crossed with that of Ron Hock that a legendary marque of fine tools came about. I met Ron last year at Popular Woodworking's Woodworking In America event in Kentucky, USA, and enjoyed hearing firsthand about their connection. You can read more on p.74 and also see our website for some other articles which arose from this visit.

AWR Live: Passion to Profit

For some makers there can come a time in life when there is a desire to take their woodworking a step further. We're pleased to announce that our very first conference event will focus on that theme. AWR Live will take place on August 21, 2017 in Sydney and *you* are invited to join us.

Subtitled Passion2Profit, this event is for those who are making a living from woodworking and for those who are thinking about taking the leap.

The passion is not hard to muster, but the profit side...well, that's more complex. The program is packed, and a vibrant group of speakers and panellists will share their experiences, insights and tips.

Professional development and networking events for woodworkers are few and far between. It's always of value to learn from the personal and financial experience of others, and benefit from exchanging ideas and expanding networks.

The event is sponsored by Promac and takes place on a Monday from 1:30 – 6pm. I really hope you'll take time out to join us in what is sure to be a stimulating and fun afternoon. Buy your ticket soon to be part of an inspiring event for all pro or aspiring pro woodworkers, and take advantage of earlybird ticketing which is now available via www.woodreview.com.au/live See also p.17 for more details. I'm excited about AWR Live and looking forward to meeting you there!

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Nova Voyager DVR Drill Press

Reviewed by Raf Nathan

With its digitally controlled variable speed motor system, this New Zealand designed and Chinese made press takes drilling options to a whole new level.

Being a direct drive system there are no archaic belts to move and fiddle with when changing speeds. In fact speed is from 50rpm to a sports car 5500rpm, outstanding for a drill press. And it runs smoothly with minimal noise and virtually no vibration to speak of.

It's a big machine at about 1800mm overall height and 136kg.

The quill travel is an excellent 150mm (6") operated with large handles. The table is a generous 420 x 420mm and all the castings are thick, cleanly milled and finished. In fact the build quality is excellent.

It does follow the basic drill press design of a column holding the motor head and table, and there is nothing new about the table locking or depth stop. The latter was a bit too loose on the threaded shaft – a locking screw would help. However, there is a digital depth stop that for most jobs eliminates any thought of using a mechanical stop.

Mounted high on the column is the motor and computer controller. If you

are short you may need a step, because the display read-out is about 1700mm from the ground.

The on-board computer with its display and buttons is the heart of the drill. You can set myriad options. To select speeds you follow the digital display prompts to choose drill type and size, and the computer inside will then suggest speeds for soft or hardwood. Alternatively you can simply turn the knob to adjust speed!

Set your desired depth on the screen, set the zero point (the top of the wood being drilled) and then select what you want the drill to do at the desired depth. Stop the motor only, or stop the motor and reverse out of the hole to help clear the swarf.

You can select metric or imperial depth but I did find the digital 1mm increments not fine enough. I am told a future software update will include a finer depth setting range. (A USB port under the head allows connection to a PC computer to install software updates.) The digital depth control is good but remember that if you keep pushing down after the drill stops you will drill a tad deeper. For some jobs you will still need the mechanical depth stop.

You can set parameters for tapping so that at set depths the drill will reverse to clear

Nova's new drill press is digitally controlled and offers multi-functionality for drilling wood, metal, acrylic and other materials.



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Right: Build quality is excellent and the machine runs with little noise and no vibration.

Below: The digital display layouts are straightforward and easy to navigate through.



swarf and then continue cutting. A pilot hole function sets a slow start speed for metal and then raises the speed as the depth increases. There are also 'favourite' buttons to store different speed combinations.

Self-start can be selected to turn on the motor as you pull down the handles. This is good but the 2.5 second delay from pulling down to motor spinning can be a bit tedious for repetition jobs.

The large chuck takes bits from 3mm up to 16mm (5/8"), although a keyed chuck is arguably disappointing for a hi-tech machine.

Power is rated at 1.75hp which is ample for most woodwork drilling. Personally I found it could bog down if pushed hard drilling large 40mm

diameter holes. More power would be better.

The large capacity chuck and high speed options suit the machine well for mounting sanding drums or large cutters. The sheer strength and smoothness of the machine will give good results for this sort of work.

No other drill press can offer you finger tip control of speed, digitally set drill options, smoothness and unbreakable build quality.

Digitally driven power tools are becoming more common nowadays. The Nova DVR is part of the new generation of digitally controlled wood machines.

Review machine from www.carbatec.com.au



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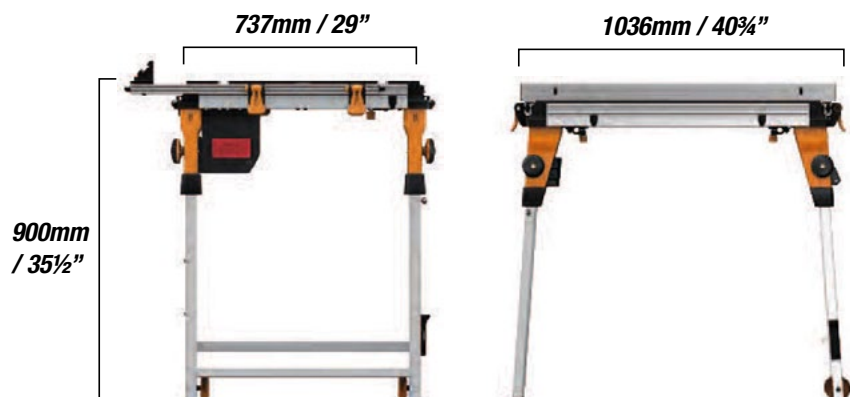
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DeWalt D2620 Premium Small Router Kit

Reviewed by Raf Nathan

This could be power tool of the year. The DeWalt designer/engineers have come up with a great small 1/4" router/trimmer. I reviewed the fixed base version of this a couple of years ago and liked it a lot. That model now costs around \$270. However hunt around for pricing and you'll find the premium kit, which is what you want, for not much more in real terms.

The heart of the tool is the 620 watt variable speed 16000–27000 rpm motor fitted in an aluminium body. The body slips into the basic base for hand-held use like freehanding edges and hogging out waste. However, slip it into the plunge base and it becomes a super versatile small router.

The plunge base has depth stop and height markings and simple to use lever plunge/lock action. A good cast fence is supplied to which I added a wood subfence too. Another pressed metal fence is also included but personally I did not like its design or find it necessary.

Two included dust shrouds to fit the plunge and fixed base are in the kit and work quite well but do obscure vision. All this comes with two small LEDs in the body to (partially) light the work area and centring cone, and a plastic carry case.

None of this is quite as solid as DeWalt's heavier routers however don't drop it too much and it should last forever. My only criticism is about the switch which is too small and fiddly to use.

The plunge base setup is perfect for small jobs. Importantly the tool also suits delicate work like rebating, hinge setting and inlay work. Overall this has become a favourite power tool of mine and is highly recommended.

*Review tool supplied by
www.dewalt.com.au*

Main: Dewalt D2620 with plunge base and fence attached.

Right: All controls are easy to reach. Depth stops and adjustment on the left are solid and easy to use. Spindle lock button, lower centre, allows one handed cutter changing.

Far right: The motor body fitted to a fixed base for freehand work.

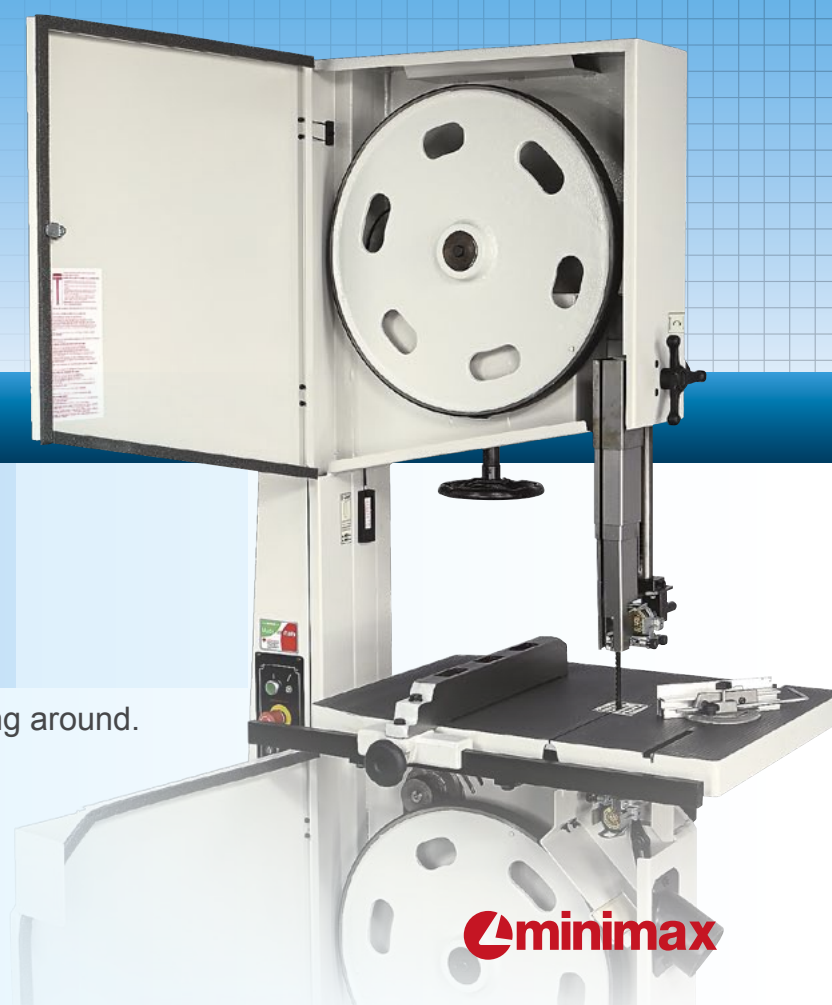




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Lake Erie ClampGAUGE System

Reviewed by Damion Fauser

Lake Erie Toolworks of Pennsylvania, USA have recently released their ClampGAUGE system, which is designed to deliver the precise amount of clamping pressure at the correct locations to ensure the strongest, longest-lasting glue bonds.

The staff there liaised with glue manufacturers to determine the best clamping pressures for various wood densities and subsequently undertook an extensive research and development program, resulting in this new product.

The gauges are basically engineered cauls that are CNC-machined from high grade aluminium bar stock, then anodised and laser etched.

As pressure is applied from the clamps, the concave profile on the inside face flattens out until it physically touches the edge of the panel. At this point the correct clamping pressure has been reached according to their formula.

Three sizes of gauge are available. Included in the kit are charts which

detail the number, size and physical location of gauges required for panels of a certain length and stock thickness. By carefully referencing the charts, it is a simple matter of laying out marks on the edge of your panel, selecting the correct sized gauge and proceeding with your glue-up.

The gauges are suitable for stock thicknesses between 3/4" (19mm) and 1" (25.4mm), somewhat limiting their versatility. The location charts cover panel lengths from around 900mm to three metres, which will cover most needs. Three kits are available with varying numbers of gauges in each size. Basically, the longer the panel glue-up the more gauges you'll need.

Important to note is the assertion by the company that these gauges are only suitable for use with certain types of clamps. Bar clamps made from 1" outside diameter pipe and heavy-duty I-beam bar clamps are listed as suitable. Aluminium bar, one-handed and parallel-jaw clamps are listed as not being able to generate enough clamping pressure.

Therefore, if you choose to invest in this system, you'll need to ensure you have the appropriate clamps.

I like how the long profile of the gauges distributes the clamping pressure from the clamp head. This ensures that fewer clamps are required to achieve the correct clamping pressure than if you use just the clamps by themselves.

This is a very cleverly designed and engineered system that is available direct from the manufacturer. The smallest kit starts at USD\$120, and you can also order individual gauge components to boost your capacity. Whilst I very much appreciate the concept and the research and development effort, given the inherent restrictions in the system, I couldn't justify this expense as an addition to my workshop. I really hope that future revisions can be incorporated to rectify these limitations, at which point I might reconsider my options.

Review gauges supplied by www.lakeerietoolworks.com





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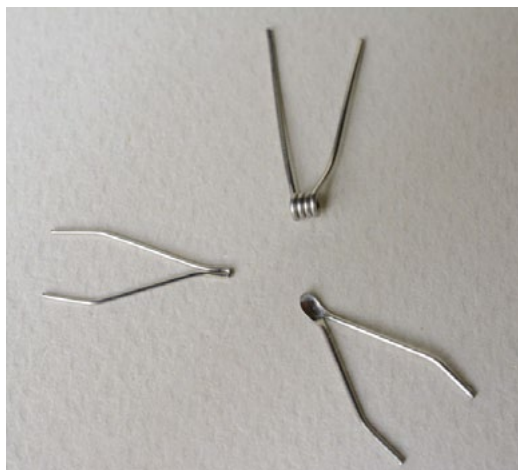
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Robert Sorby Pyrography Machine

Reviewed by Andrew Potocnik

Pyrography is the art of drawing with a heated tool. You can burn patterns, textures and even intricate pictures into the surface of wood and other materials.

The basic Peter Child Artist Pyrography Machine kit comes with a power unit and a 'pen' into which nibs are fitted (six spares are included). At times an extra pen (\$89) would be handy to save swapping nibs. The machine can be used on wood, leather, cork, certain plastics and fabric but I focused on its use on wood.



Best results are achieved on hard white wood, in fact the harder the surface the better the result. Dark woods can be used but won't give such a good contrast. Soft woods such as pine are difficult to work with, as resin will gum up the tip. You can even work on veneer that has been applied to a substrate.

The nibs heated up within seconds, even the thicker coil. They are easy to clamp in place with two small screws at each end and come in fine, medium, spoon and coil varieties, and you can create your own by bending the supplied Nichrome wire into other shapes.

Most work is done with the standard tip and spoon point which enables contact with a larger area of wood and is used for shading. Its edge can also be used for fine lines, fur, feathers, grass and so on. The coil tip develops a lot of heat for heavy lettering such as signs. When used just above the surface of wood, it can create a soft edged 'toast' effect.

Light and even pressure combined with speed of stroke will give the best result.

Hesitation will result in a 'blob' as the tip will burn for longer and produce a deeper or wider burn. For a thick line, move the point slowly so it burns longer rather than increasing the heat of the tip. For a fine line move the point quickly with little pressure, starting and finishing the stroke in the air to avoid ending up with a blob at either end.

The pen stayed cool throughout the trial however and was comfortable to use. It's also quite light and the wires did not hinder free hand movement. The heat control dial allows a broad adjustment range so nibs can be just the right temperature for the task at hand.

The 12 page booklet describes how to make the most of the kit and how to deal with different woods, and advises on appropriate finishing processes. For any aspiring pyrographer or one already grounded in this art, this kit has the means and information to help you turn your dreams into a successful result.

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Reviewed by Richard Vaughan

Many woodworkers use water for wet grinding and for water stones so rust is a potential risk. Here is a product that makes water rustless. You add 40ml to a litre of water and use that mix for both grinding and honing.

To test its efficacy I got out a couple of my KD chisels (Kitchen Drawer chisels that are dedicated to rough work such as chopping off hardened glue) and did the comparison between plain and the green coloured water.

Each was honed up to a good edge and then left without wiping dry for 24 hours. Sure enough rust appeared on one but not the other with treated water.

Next I ground them on a dry wheel to get them hot, but not blue and then dunked them in the two waters. The product is not designed for this use, but I thought some may be tempted to try. However here I learned that you won't be using this for cooling



steel when dry grinding as it doesn't prevent rust in this use.

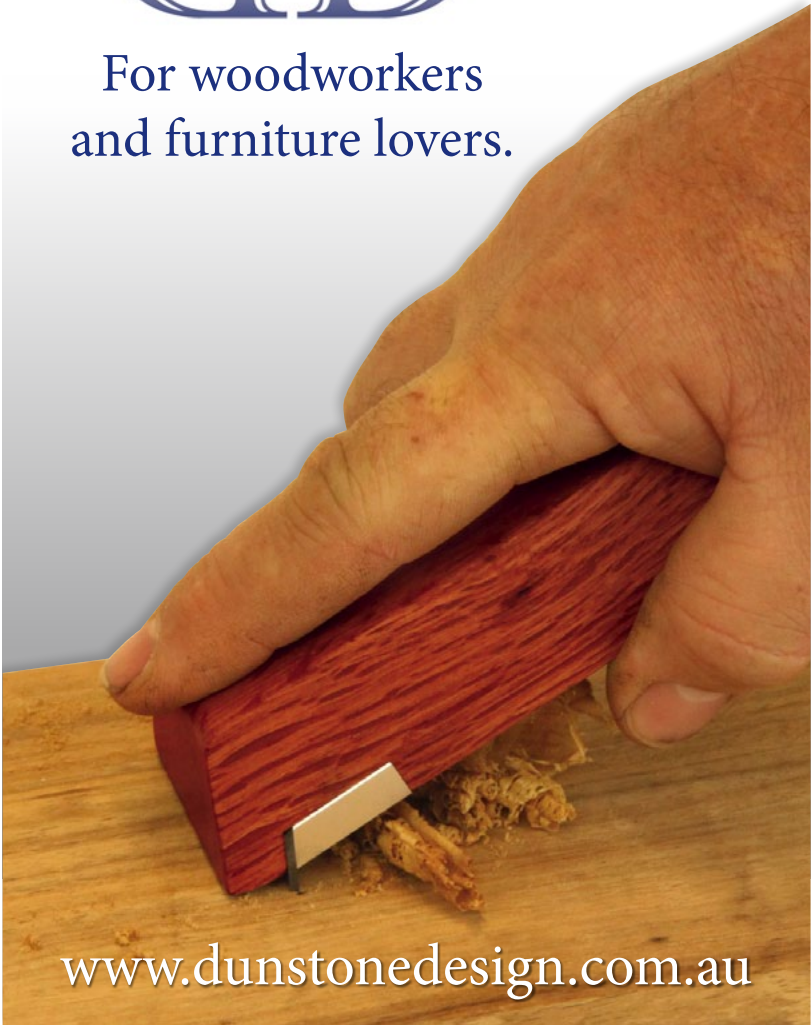
I have to state the obvious here. I have been using waterstones for over 30 years now and never had a rust problem because I have the habit of wiping them dry, and rubbing in a little paraffin wax as I finish each tool.

However if you or those you supervise don't have the habit of wiping tools dry after sharpening then this product could be a reassuring solution for you.

Review product supplied by Professional Woodworkers Supplies, www.woodworksupplies.com.au

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◀ Remote On Top

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www.woodworksupplies.com.au

Product news

A round-up of tools and products to take notice of.

Swivels to Sand ▼

Vicmarc's Swivel Head Sander has an adjustable head angle with a positive lock and twin ball bearing design. Combine this lightweight, impact resistant plastic tool with the power of your shopvac to create an effective, non-aggressive sanding system that claims to reduce nuisance dust by 25–50%. The sander comes with 45mm and 75mm velcro sanding pads that are easy to change.
www.vicmarc.com



◀ Water Blocker

This product claims to extend the life of your interior and exterior coatings. Water Blocker from Whittle Waxes is formulated to provide long-lasting invisible protection for all untreated, impregnated, glazed, waxed, oiled and painted timbers and other surfaces against moisture penetration and water absorption. Solvent free, two coats only required.
www.whittlewaxes.com.au

Planely Good ►

Now available, the Scheppach Plana 3.1c planer/thicknesser claims to be the most efficient and cost effective 250mm planer/thicknesser available. Incorporating German design and technology, this cast iron, 3hp motor machine is designed for professional and serious home woodworkers who are looking for a great finish on hard, soft or even coarse grain timbers.
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Feathered Pen Blanks ▶

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Going under various names such as tiltbox and angle cube these small digital angle readers and levels are a great workshop addition. iGaging have improved theirs recently with a backlit display version. This means you finally have a bright clear display, plus these units now have inbuilt rechargeable batteries.
www.interwoodshop.com.au



◀ Start Turning

Oltre's mini economy variable speed woodturning lathe combo kit aims to provide everything you need for making smaller items and otherwise dipping your toe into a new craft for an acceptable outlay. Maximum working size recommended is 200mm. At time of writing, the kit comes with a 5-piece chuck set and six chisels for \$699.
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Working With Curves, Part 1

The first of a series in which Peter Young looks at some of the technical challenges and design options which introducing curves into your work can bring.



Introducing angles and curves into furniture design can make a big difference in how the final piece looks, but there is also an increase in the complexity of the joinery.

In this series of articles, we will look at ways of dealing with curved and angled elements, and some strategies you can use to deal with the complexity. I'll use the example of a recently completed cabinet-on-stand to discuss different approaches to dealing with angles and curves.

Here we will look at a method of joining two curved elements. In article two we will look at methods for making curved drawer fronts and curved rails, and then finally we will look at a method for making curved doors.

Design decisions

When designing the cabinet-on-stand, I chose to curve the front of the cabinet rather than keeping it rectangular. That one design decision has had considerable ramifications for the build, as we shall see.

Main and above: Working with curves opens up design possibilities but construction methods need to be thought through.

The author's cabinet on stand in silver ash and fiddleback Qld maple.

Photos: Andrew Porfyri

1 Drawing the curve using a thin baton held in place by three brads.



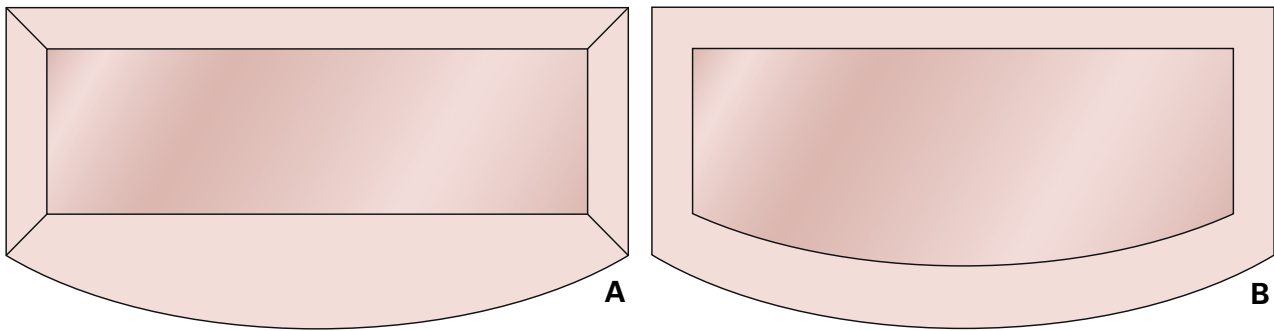
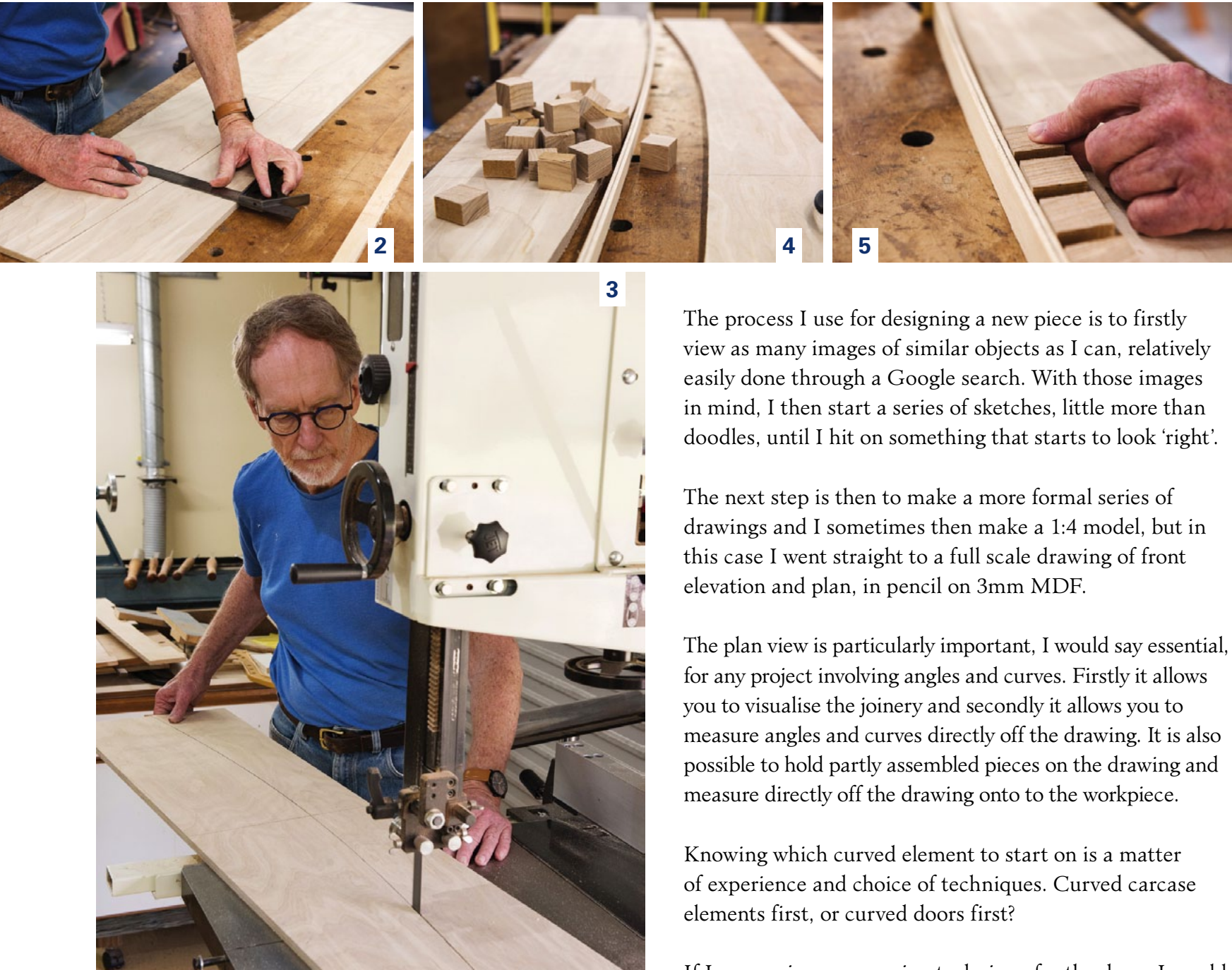


Fig.1 Two methods for adding a curved solid wood edge to a veneered panel. In Method A the veneered panel is rectangular and the outer solid wood edge is shaped to the curve. In Method B both the veneered panel and the solid edge are shaped.



- 2 Draw alignment marks across the template to make it easier to align the curves.

3 Bandsaw along the line, you need to be careful but not too precise.

4 The bandsawn curve with the glue blocks.

5 Clamp a flexible baton (using bendy ply here) to the bandsawn edge and hot glue the blocks to the baton and to the ply template to hold the baton in place.

6 Clamp another baton to the first one, bring the other part of the template up to it and hot glue it in place.
- 7 Take the clamps off and you now have two perfectly matched templates.

8 After fixing the template to the workpiece, use a template following jig on the bandsaw to cut close to the template.

9 Now use a top bearing bit in the router table to make the final cut using the template as the guide.

10 Solid wood concave component ready for the final cut on the router table.

The process I use for designing a new piece is to firstly view as many images of similar objects as I can, relatively easily done through a Google search. With those images in mind, I then start a series of sketches, little more than doodles, until I hit on something that starts to look 'right'.

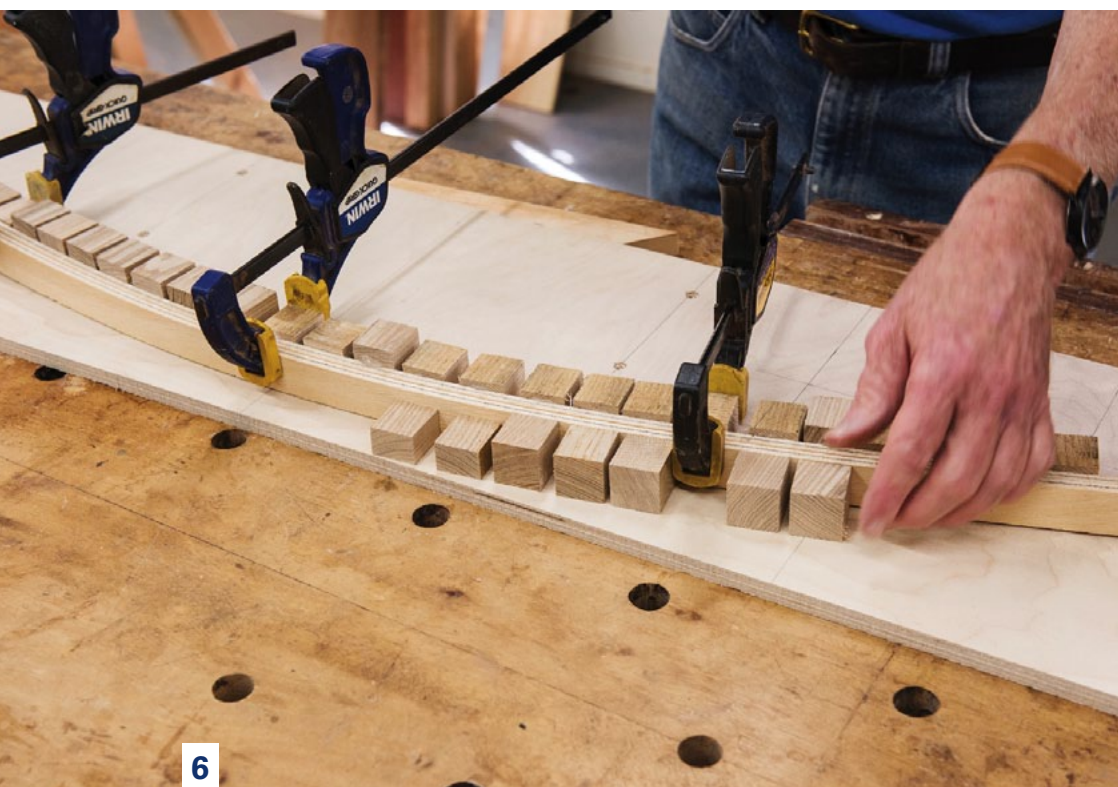
The next step is then to make a more formal series of drawings and I sometimes then make a 1:4 model, but in this case I went straight to a full scale drawing of front elevation and plan, in pencil on 3mm MDF.

The plan view is particularly important, I would say essential, for any project involving angles and curves. Firstly it allows you to visualise the joinery and secondly it allows you to measure angles and curves directly off the drawing. It is also possible to hold partly assembled pieces on the drawing and measure directly off the drawing onto to the workpiece.

Knowing which curved element to start on is a matter of experience and choice of techniques. Curved carcase elements first, or curved doors first?

If I were using a coopering technique for the doors I would start with the doors first and then fit the carcase elements to the doors. When coopering, it is quite difficult to get the exact angle on the edge of the staves for a particular curve, so it's better to make the coopered components first and then fit the other components to that curve.

In this case I decided to use a laminating technique for the doors using layers of plywood. One reason for choosing this technique was the stability of the quite large doors when built up from ply, as opposed to solid wood. Another reason was that the curve I ended up with in my drawing flattened out in the middle, where the two doors meet. To build that curve with a coopering technique would have required a few different angles to the staves across the width of the door, adding even further to the complexity.



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Having also decided to build the carcass of the cabinet out of veneered plywood to reduce problems with wood movement, I needed to figure out a way of adding solid wood edging to all four sides of the top and bottom. The back and the two sides are straight and square, so no problem there.

Matching curves

There are two ways to deal with the front curve (see **fig.1**). The simplest way is to start off with a rectangular piece of veneered plywood and add sufficient width to the front solid edge component to later cut out the curve. A more elegant method is to make matching curves in the plywood and the solid edge so the latter has a consistent width on all four sides.

Matching a curve to a curve is not easy and after researching and discarding a few different methods I eventually used a very simple and effective technique described by Carol Koebbeman¹. In this method the curve of one template component is used to make the matching curve of the second component.

Making the templates

Step 1 The first thing to do is to draw the required curve in the middle of a rectangular piece of plywood, which is about 400mm longer than the final length of the curved parts (**photo 1**). There are a number of different methods

for drawing a curve of this type². In this example, I used a thin baton held in place with brads.

For alignment purposes, make sure you draw a centre line across the plywood and mark each quadrant 'left' or 'right'. I also found it useful to make another four alignment marks, two on each side of the centre line (**photo 2**). Transfer these alignment marks to the furniture components before you use the template to cut them.

Step 2 Bandsaw along the curved line. It is not necessary to be painstakingly accurate, just follow the line fairly closely (**photo 3**).

Step 3 A flexible strip of masonite or MDF, bendyply or similar is held against one of the bandsawn edges with clamps and then small blocks of wood (**photo 4**) are used to hold the flexible strip against the bandsawn edge by hot-gluing them in place (**photo 5**).

Step 4 Another flexible strip is now clamped to the first strip and the other half of the bandsawn ply is brought up to it and held in place with hot-glued blocks (**photo 6**).

Remove the clamps and you now have exactly matching curve templates (**photo 7**). Use the convex template for the plywood component and the concave template for the solid wood component.

- 11 Glued up cabinet base.
- 12 Close up of the join between the veneered ply and solid wood components and showing one of the alignment marks.
- 13 Test fitting the cabinet parts. Note the excellent fit between the veneered ply and the solid wood edge in the cabinet base.



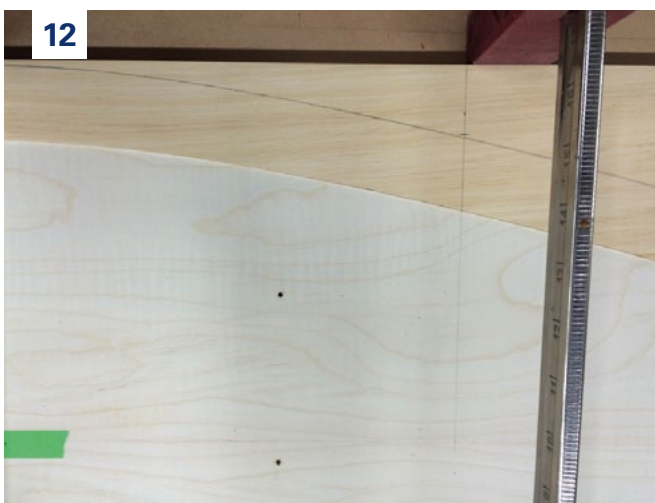
Make the veneered plywood component longer than required so you can screw the template to it. Alternatively, work out where carcass elements will cover the screw holes and hold the workpiece to the template that way. Make sure to transfer the alignment marks from the template to the workpiece before the next step.

Using a template following jig for the bandsaw, cut the curve on the bandsaw (**photo 8**) and then go to the router table. Set the router up with a pattern following bit to bring the edge true to the template (**photo 9**). Use a similar procedure with the solid wood edge component (**photo 10**) with additional levelling blocks under the template to make up for the narrowness of the wood component.

Now for the test fit and glue up (**photo 11**). Provided you have taken note of the alignment (**photo 12**) and haven't reversed one of the pieces, the two curves should go together exactly as they did in this test fit up (**photo 13**).

The importance of the template lines now becomes very obvious. It is very difficult to construct a curve that is completely symmetrical around the centre line so if you get one of the final components upside down the fit will be poor. In addition, if the curve is not part of a circle, there will be a sweet spot where the fit will be exact. But if you move the alignment by only a few millimetres, the fit will be poor.

This template method will also work for sinuous curves which would be a great feature in say a tabletop. The method would also be ideal for making matching curves for a two part laminating form. In that case the laminates



would be clamped to the first template component and then the second template component would be brought in against the outer laminate. This method would be especially useful when making laminating forms for tapered laminations where it is often difficult to get the two parts of the clamping form to match up exactly.

Next issue we will look at some methods for making curved drawer fronts and curved aprons.

Process photos: Donovan Knowles

1. *Fine Woodworking Magazine* 2005 #179, 68–71
2. See *Drawing and Fairing Curves*, Damion Fauser, AWR #88, p.58.



Peter Young is a studio furniture designer and maker who lives in Brisbane. In issue 93 he wrote about the 'myth' of bandsaw drift. Email Peter at pydesign@tpg.com.au

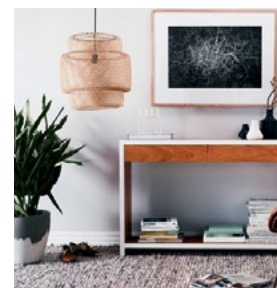
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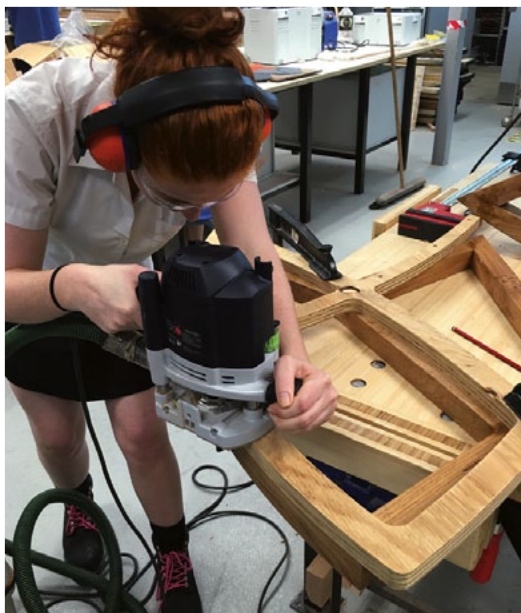
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Impossible Dovetails

With surgical precision, Theo Cook shows how to cut dovetails with complex angles and achieve a perfect fit.



The first time I saw a picture of a Japanese dovetail joint was when I was studying at the College of the Redwoods back in 2002. It blew me away that a joint like this was possible and at that stage I didn't have a clue on how it went together.

Many years on I saw another photo and decided to give this intricate joint a try. This article shows some of the techniques and tools that I used.

Prepare yourself

For this kind of joinery it really does help to have a steady hand, good eyesight up close, and a pinch of patience. They're not essential but they sure do help.

It may help to use the techniques outlined to make a rough joint first, just so you can see how the mechanics of it work before investing the time in a very accurate joint. For example, you might want to try just cutting to the

line and not using a scalpel to get the joint finished a bit quicker.

Design and layout

Laying this joint out differs from other dovetails as you need to work off a template or 'spacer' that shows the full extension of the joint, that is, the imaginary point where the joint angles would meet. The thickness of this spacer will determine the angles of the tails and the size of the pins. The drawings shown in **fig.1** are



Toolkit

As shown in the photo above, you don't need a huge number of tools for this kind of joinery but I used the following:

Sliding bevels The number you need depends on the complexity of the joint and number of angles involved.

Scalpel For marking out these and other joints I use a Swan scalpel. These come with replaceable tips.

English style dovetail saw Many other makes of saws would be fine however.

Fretsaw Mine is made by Faithfull.

Chisels You'll need a range in varying sizes.

Marking gauge Here I'm using a Veritas wheel gauge.

Engineering square

Digital calipers Essential for this kind of work.

a fraction shorter to sit just below the surface of the tail board.

Photo 4 Use double-sided tape to adhere your spacers centrally to the top of both parts of the wood. Draw the joint on the front face of one of the pieces, extending the lines from the spacer through to the base line. Set your sliding bevels to the correct angles – for this joint I used four. I numbered the cuts and labelled my bevels 1 to 4 as well to avoid confusion. Once you have set your bevels up you are ready to scalpel or mark the front of that joint using the right bevel.

Photo 5 After you have scalpeled all the lines you can put the other part of the joint on top so the two spacers meet. Then you can transfer the lines from spacer one to spacer two. Scalpel the other part of the joint using the same bevels. When scalpeling any of the lines they need to be extremely accurate.

Remove the spacers and scalpel the rest of the joints using the front scalpel lines as a guide. Again this will be done using the sliding bevels. Extra care has to be taken to make sure the scalpel lines line up to the front ones.

Photo 6 Shade in the parts of the joint to be cut away.

Photo 7 Use your marking gauge to score on the shoulder lines.

Photo 8 Saw into the shaded parts about half a millimetre away from the scalpel lines.

Photo 9 Do this on all the shaded parts.

Photo 10 Remove the waste with a fretsaw.

Photo 11 Chisel to the scalpel lines on the top of the joint and sides. Pay extra attention to the direction of the grain to prevent breakout or accidental undercutting.



3



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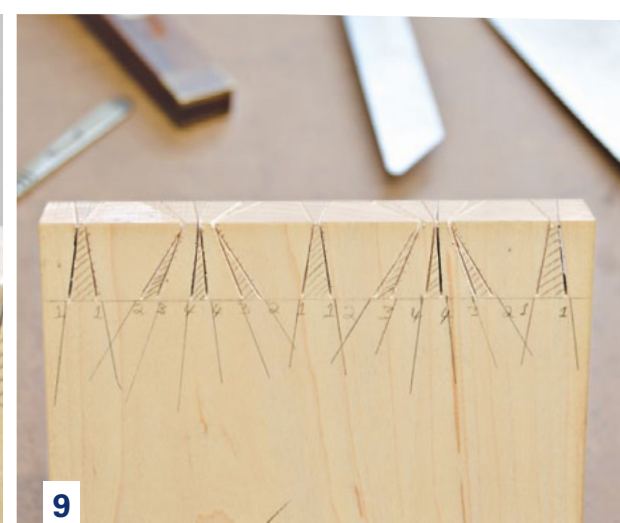
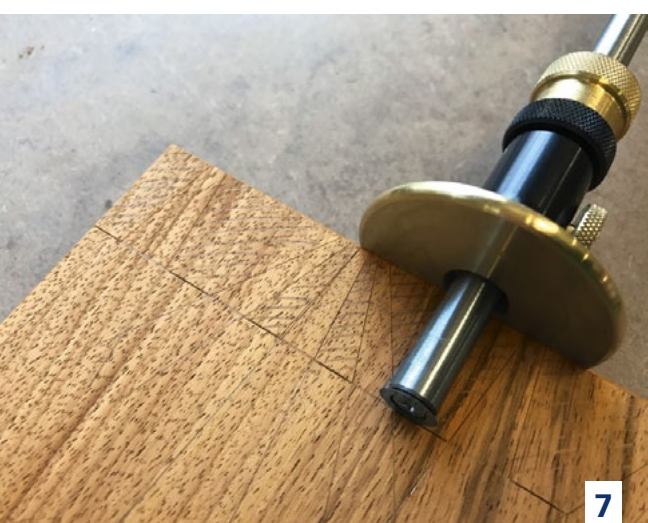


Photo 12 I then clean up the joint faces with a flat piece of metal (here a steel rule) with 320 grit sandpaper stuck onto it. This is only done in the final stage and then with great delicacy to remove tiny amounts of material only to achieve really crisp edges. I also use the rule to see whether the joint faces are truly flat.

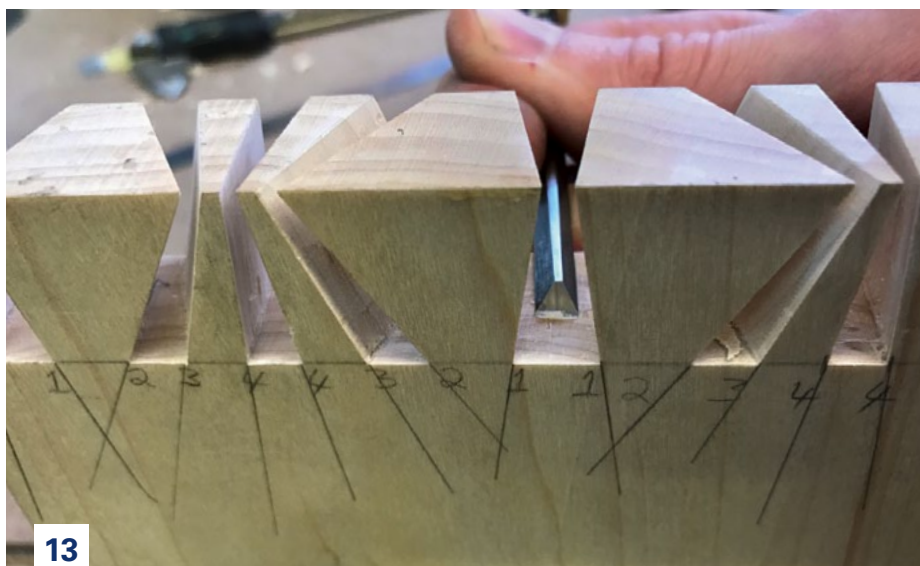
Photo 13 Chisel to the marking gauge line on the shoreline making sure it is flat and square all the way through.

Photo 14 Time to test fit the joint. Regular dovetail joints go together at 90° but this joint fits together at 45° so you have to be very careful about which area you remove to get the joint to fit together nicely. Removing material from the top corners will also affect the fit on the opposite baseline, so you need to check carefully all over when fitting. To do some finetuning on the fit I would use that metal blade with the sandpaper on it to remove a

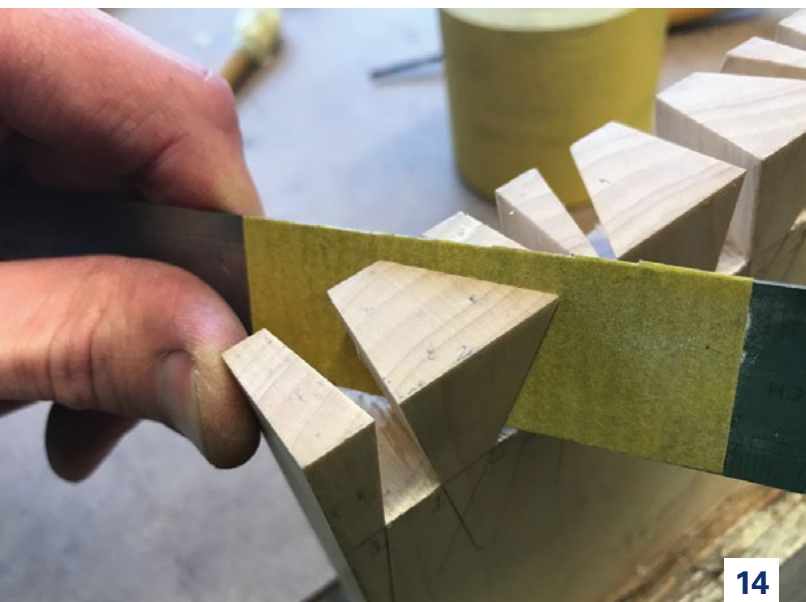




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minute amount of wood at a time, while keeping the joint face flat at the same time.

Photo 15 All tuned up, this joint is now ready for gluing.

Photo 16 I do a dry-clamp for most joinery just to be happy that it all goes together nicely. I wax my glue blocks so they won't stick during glue-up. For a complicated joint such as this, a UF glue will give you more pot-life or open time before the glue goes off. For a simpler joint I might use Titebond or PVA.

Photo 17 The fun part! Now clean the joint up by planing and then sanding before applying a finish. I used Osmo oil on this one.

I hope these steps were helpful and you do decide to have a go at making your own Japanese dovetail joint. I apologise if the steps seem a bit complicated but it is a very tricky joint to tackle. You can check out my YouTube channel to see me demonstrate some of the processes outlined above.

Photos: Theo Cook



Theo Cook is a UK master craftsman based in London. Contact him by email at theotcook@gmail.com



17

The Craftsman's Road

My furniture making career started before I left school. Being dyslexic meant I didn't really enjoy the academic subjects but I did thoroughly enjoy anything practical and the woodshop was top of the list.

From school I went on to do a two year City and Guilds furniture making course in Portsmouth in the UK. I knew then that this was the career for me.

When I came to the end of my course at college I saw an advertisement for an apprenticeship at the Edward Barnsley Workshop in the UK. I had heard that this was one of the best places in the country to be trained as a cabinetmaker. The Barnsley Workshop only accepts one apprentice each year so it's extremely hard to get that spot. Thankfully I gained an interview and was able to show the pieces I made at college. Following that I had to go back for a trial week during which the test was to make a small stool completely by hand with no machines or any advice. It was a very nerve wracking week I'll tell you, but thankfully I did well and was accepted.

As part of the five-year apprenticeship I spent a year studying under James Krenov at

the College of the Redwoods in California. Here I was free to design and make my own pieces. It was a very inspiring experience.

I stayed on for two years at the Barnsley Workshop as a craftsman and teacher. After this I was offered a job as a senior craftsman with the prestigious furniture makers Senior and Carmichael and worked there for nine years.

During my career I have been awarded two Guild Mark certificates by The Worshipful Company of Furniture Makers: one for a side table I produced while at the Barnsley Workshop and another for a mechanical cylinder desk commissioned by the Marchioness of Bath.

I have also had the privilege to make a commission for a duchess and a display cabinet for the former Lord Chancellor that now resides in the Palace of Westminster.

Currently I am a senior tutor at Marc Fish's Robinson House Studio furniture school in Newhaven in the UK. I enjoy passing on the knowledge I have gained over the years to the students and I am able to also work on my own creations. See www.robinsonhousestudio.co.uk for more information.

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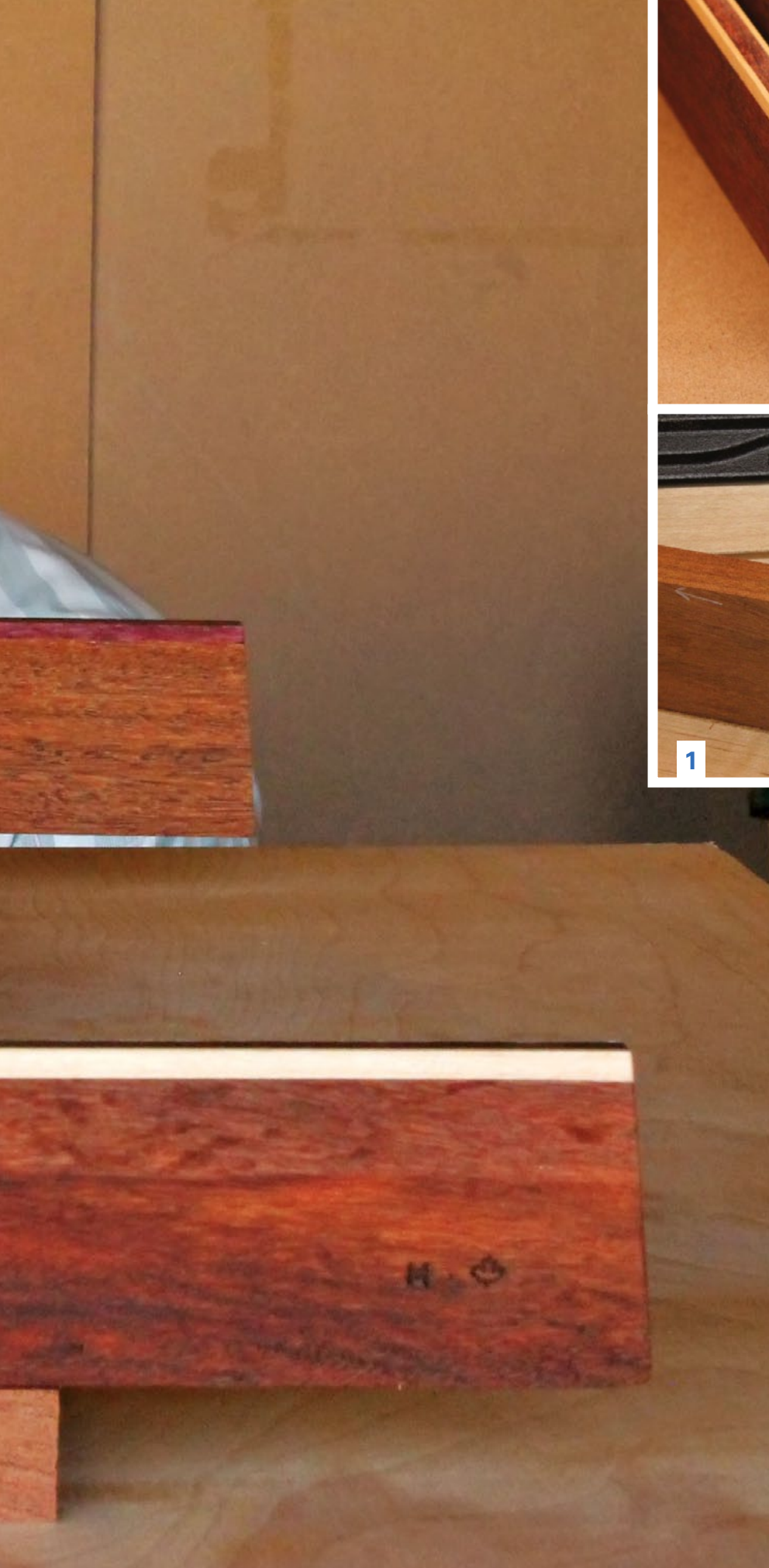
How to make and use an essential workshop aid.

Story by Charles Mak.



A wind* is a twist in a board. To test for twist, winding sticks or strips are commonly used. But any two pieces of material that have parallel edges can also be used to diagnose a twisted board or assembly. I have seen, for example, journeyman levels, extruded angle aluminium, steel rules or even framing squares used as winding sticks. Many craftspeople, however, take great pride in making their own winding sticks from choice hardwood.

My first pair of winding sticks – two straight, parallel battens cut on the tablesaw – has seen its fair share of use as I moved to dress more of my own wood in recent years.



1. Make a slight cut on the stock with the plough to verify the fence setting.
2. Keep the fence tight against the workpiece as you push.
3. Set the blade just proud of the thickness of the stock to make machining safer.



I decided to design and make new, more eye-catching winding sticks, this time mostly by hand.

Choosing the inlay design

To make the twist stand out, strips of contrasting wood are often inlaid on the sticks. Some find it easier to see the twist with two short blocks of inlays instead of one continuous strip of inlay. However, I personally have found no difference in the gauging of twists between the two inlay approaches.

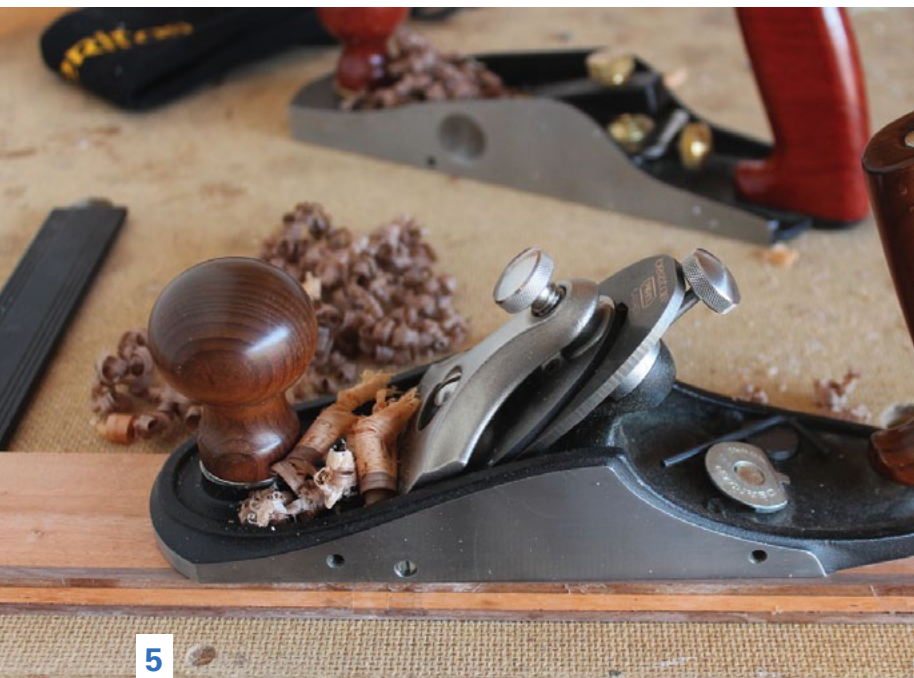
It does seem to be quicker to run a long inlay strip rather than add two separate inlay sections. My design therefore

adopted the inlay strip approach. In addition, unlike the usual one-sided inlay, I put inlays on both faces of the sticks, making both sides suitable for sighting. Lastly, the sticks are bevelled on the upper part to make them bottom heavy.

Winding sticks are designed to locate the twist with exaggeration. How much? The exaggeration is a factor of the length of the sticks to the width of the board. So, a pair of 300mm long sticks used on a 150mm wide board would amplify the actual twist two times. Knowing this helps you determine what length of sticks to make or use. I made mine 15 x 60 x 350mm and 15 x 55 x 550mm.



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Which wood to use?

Any dimensionally stable wood can be used, and my choice was tigerwood – scrap wood from a previous hardwood flooring project. For contrast, I used maple, purpleheart and walnut scraps to make the inlay strips.

Cutting the tongues

I planed and cut the stock to final sizes, removing the grooves and tongues in the process. The quickest way to cut the rebates on both sides of the sticks is to cut them at the same time, that is, as tongues. I installed a tongue cutter in my plough plane (**photo 1**) and started from the far end, working backwards (**photo 2**). I found it more precise to set the plough fence with a hammer.

You can cut tongues with a shoulder plane, but it's a lot slower. Clamp a batten in place on the workpiece and cut the rebate – one at a time on each face – to depth with the shoulder plane.

Cutting the inlay strips

Many woodworkers tend to approach the ripping of thin strips with a measure of uneasiness. One simple and safe option is to rip the strips so they fall to the waste side of the blade. If you prefer to rip strips in such a manner without resetting the fence, you can use a shopmade notched pushblock that is designed to be cut into (see **fig.1**).

I have a Grrr-ipper pushpad which combines a blade guard and pushblock to handle challenging cuts, like angled ripping, resawing or strip ripping. I used it to cut out the inlays (**photo 3**).

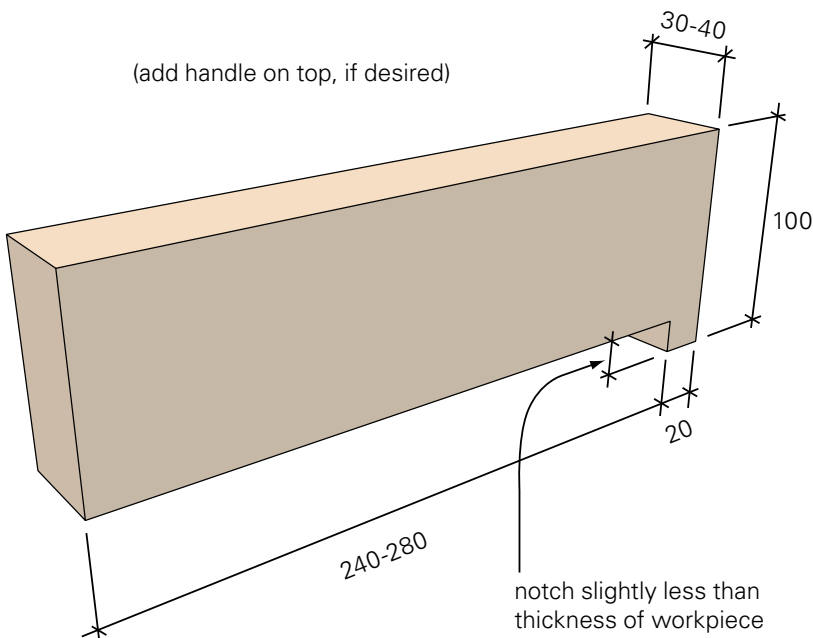


Fig.1 Notched pushblock (mm)



Checking the sticks

After I glued the inlay strips in place (**photo 4**), I planed them flush on all sides (**photo 5**). The accuracy of any winding sticks depends on how parallel they are. I checked that before I bevelled the sticks with these steps:

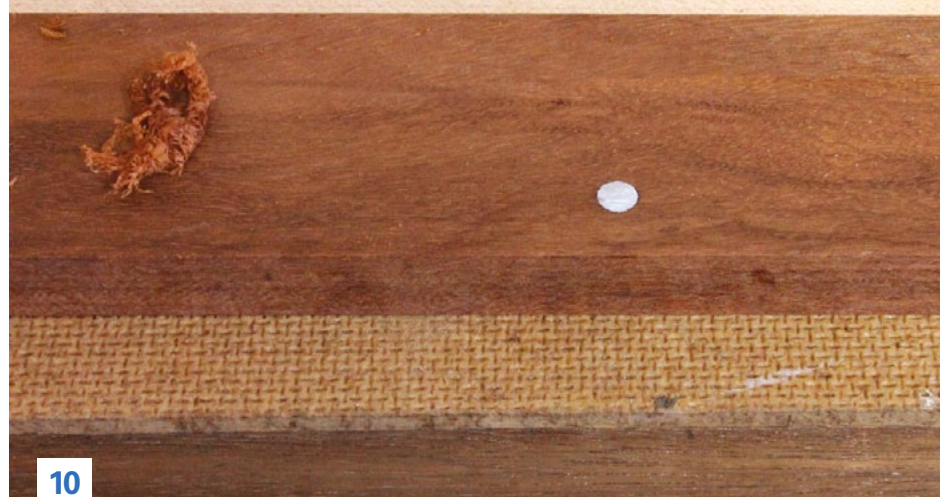
- First, hold the two top edges together and look for any gap.
- Next, place both sticks on a flat surface and run a finger or two along the two top edges to feel for any difference. Our sense of touch is more acute than many realise: fingertips can feel ridges as small as 13 nanometers. (A sheet of paper is about 100,000 nanometers thick!)

However, for machinists-turned woodworkers or folks who demand visual precision, a caliper may be more reassuring (**photo 6**).

Shaping and finishing the sticks

To bevel the faces, I turned to my skew rebate plane. The shorter pair has a less acute bevel than the long one, as I used two different angle fences to create their profiles (**photos 7, 8**).

After bevelling the faces (use shims to stop them rocking), I angle-cut the ends and drilled the centre holes for the aluminium rods (**photos 9, 10**). Finally, I broke all the sharp edges except the crisp top edges, and applied a few coats of oil finish to bring out the contrast.



4. Gluing the inlay strips in place.
5. A high angle plane or cabinet scraper will deal with wild grain.
6. The sticks were carefully planed to be identical in width.
7. Turn a skew rabbet plane into a shaping plane with the use of an angle fence.
8. A rubber finger cushioned my thumb from the hard surface as I gripped the fence.
9. Press down on the front of the file as you push forward, but lift it up when you pull back.
10. I used a card scraper to remove any filing marks left on the surface.

Using the winding sticks

Winding sticks can be used to test twist in more than just boards. For example, they are essential when making a dead-flat assembly table or platform to build, say, flat torsion boxes. Another little known application is that one can clamp the winding sticks to the wheels of a bandsaw to check if the wheels are twisted out of alignment.

Regardless of what they are used on, the procedures are similar. First, place the winding sticks at opposite ends of a board. Centre the sticks on the surface and sight across the top edges of the sticks. Lower your head to see if the top edges are parallel; any wind will show up as misalignment of the top edges of the sticks (**photo 11**).

For some people, even with the contrasting edges, they may still find it hard to see the line-up in focus. American woodworker and writer Rob Porcaro, an optometrist himself, came up with one visual solution to that (*see below*).

Reposition the far-end stick on the board to check for any other twists, while keeping the aft stick in the same position. This will ensure that your sightings and readings are all based off the same plane.



11. If the top edges of the sticks do not line up, the board is in wind.

Bespoke winding sticks like these deserve to be properly cared for: try to keep them in a place not subject to wild swings of humidity. As they say, your own handcrafted stylish tool will be a joy to hold and a pleasure to use.

** In this meaning, wind and winding are pronounced as in wine.*

Photos: Charles Mak

Diagram: Graham Sands



Charles Mak, a semi-retired businessperson in Alberta, Canada, enjoys writing articles, authoring tricks of the trade, teaching workshops, and woodworking in his shop. Email: thecanadianwoodworker@gmail.com



Left: Pick a contrasting background and sight at about an arm’s length from the rear stick.

Below: The row of pin holes allows you to sight the full length of the sticks without moving your head.

Pinhole Sightings

Rob Porcaro once wrote that the use of a single pin hole would not improve the vision result when sighting across the winding sticks. A small pin hole forces you to move your head to sight the full length of the sticks and the head movement affects the accuracy of sighting.

Instead he drilled a horizontal row of seven small 1mm diameter holes (4mm apart on centre) on a brass card, 0.4mm thick. In use, sight the winding sticks through the holes on the brass card while keeping your head steady. I sometimes use this method for final sighting after I remove the twist.



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By My Five Senses

Shinobu Kobayashi's Tabibito box, exhibited recently in Denmark, tells the story of bridging cultures and his own journey to learn traditional skills.

Story by Linda Nathan.

Life altering moments aren't always pleasant, in fact times of suffering can often teach us more. For fine woodworker Shinobu Kobayashi, 34 it was a slip with a razor sharp chisel that not only severed three tendons in his arm, but totally changed his outlook on life.

By the time his partner got him to casualty he was almost unconscious from blood loss. Two days later he was home after surgery but then calamity truly struck. Shin's family home in Japan was destroyed in the 2011 tsunami, and the trials of his own injury were compounded with an overwhelming disappointment and sense of failure at being unable to help out back home with 'just one left arm'. But let's step back a bit.

Shin came to Australia from Japan when he was 17. He thought that studying graphic and industrial design in a native English environment would open more doors, and so enrolled at Central TAFE in Western Australia. Afterwards he moved to Melbourne and for five years worked for a furniture maker, and planned to later start his own business. It was at this juncture, while making a workbench for his small garage space, that the accident and his rethinking of life happened.

'I asked myself how I could relate to people through woodworking and craft, rather than just making money by building timber furniture', said Shin. 'I realised my hand skills needed to improve and that I needed to learn more from others. With many people

now choosing hi tech technologies, traditional culture and techniques are being lost. From my injury and seeing the disaster in Japan, I also saw that we never know when we will die, it could be in 50 years, or tomorrow. I wanted to be someone who would pass old traditions and culture onto to the next generation. My dream was to travel around the world, talking to local people, and watching and touching their culture and history. I wanted to feel their art and design with all my five senses, and then share to as many people as possible.'

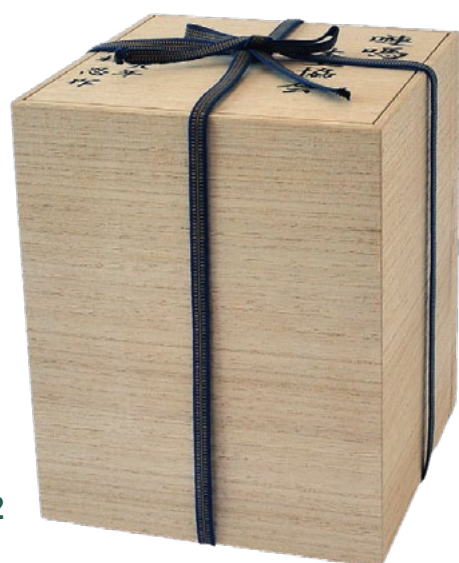
A year after the accident, Shin started attending classes at the Melbourne Guild of Fine Woodworking, learning from Alistair Boell, a graduate of the North Bennet Street School in USA that specialises in teaching traditional skills.

Following this, from 2013, Shin became a modern day journeyman, studying first at Capellagården in Sweden, founded by Carl Malmsten who was known to be one of James Krenov's teachers. Capellagården's live-in three year course appealed because not only had he been





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Tabibito: Memory of Life

In Japanese *tabibito* means 'journeyman' and the sense of discovery within this complex piece as each exploration leads to the next reflects Shinobu Kobayashi's message that we should 'never stop learning as we keep travelling to the next place'. The materials and construction methods used reflect the cultures they derive from, a reflection of the maker's journey which he describes in the photo captions below.

- 1 In Japan, we have a wrapping culture from long ago and people wrap things to carry them on a journey...so my cube is also wrapped with Japanese traditional indigo dyed cloth called furoshiko.
- 2 When the cloth is opened a box appears. The box was made from Japanese aizur paulownia, traditionally used for sashimono boxes and furniture.
- 3 On the top of the aizur paulownia box the lettering says: Danish Cabinetmakers Association on one side, and handcrafted by Shinobu Kobayashi on the other.
- 4 The box opens to reveal another wrapped object.
- 5 Another furoshiko cloth is unwrapped to finally reach the Tabibito cube. Using ancient redgum symbolises the start of my woodworking in Australia.



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Q&A

How long to design Tabibito?

A couple of weeks.

How long to make?

About 180 hours.

How many compartments?

Four drawers, three boxes, two of which were concealed.

What sort of joinery did you use?

Handcut through dovetails, half blind dovetails, hidden mitre dovetails, slots and grooves.

How many joints did you cut?

About 100 tails and 100 pins for all the dovetails.

What kind of glue?

Fish glue and Titebond III.

What was the hardest part?

Making mock ups and testing to find the right amount of air pressure to make the sequences happen.

What was the best part?

At the end, when the hidden boxes slowly sank into main cube.

Would you make this piece again?

I don't think so, unless if someone really wanted me to...



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interested in Scandinavian culture and design since a teenager, Shin also wanted to know 'how people live with craft'. From there he went as an exchange student to the College of the Redwoods, fulfilling a desire to learn more about James Krenov's philosophy and style of woodworking.

The connection between Japanese and Scandinavian design has existed since the mid-1900s and is one Shin builds on and bridges. 'I think both focus on minimalism and design for furniture that is ergonomically friendly and blends easily with other

interiors. But I feel some furniture designs have too much to say, and the way people will use them in real life isn't fully thought out. Both Japanese and Scandinavian design are refined in these ways.'

After studying in the USA, Shin decided to return to Japan, feeling that it was time to learn the tradition of his own heritage. The opportunity to be apprenticed to Yutaka Mogami, a designated master sashimono craftsman was the realisation of yet another dream. 'While I was his apprentice, I learnt a lot of old



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6 There are no keys or handles to open the Tabibito box but when you look down into the paulownia box you can see a small box wedged in with a piece of wood.

7 This key opens the first drawer at the base of the cube. This key represents the logo of the Danish Cabinetmakers Association.

8 All the drawers open by air pressure and the air moves from drawer to drawer...

9 ...until you reach the small box in the top.

10 In that box you will find two keys.

11 The round key and keyhole represent the Japanese flag.

12 The cross-shaped key and keyhole represent the Danish flag.

13 Now you can access the two secret boxes from the top.

14 Both of these slide open. These are also made with hand cut dovetails and have a wood spring lock function.

15 Altogether there are three boxes and four drawers that all open by air pressure.

and now almost forgotten Japanese techniques, and he seemed also to get some inspiration from my western style of woodworking', said Shin.

Returning to Sweden in 2015, Shin undertook that nation's lengthy craftsman's exam and received a silver medal in recognition of his almost perfect score from the King of Sweden. An invitation to join the Danish Cabinetmakers Association in Copenhagen led to him making *Tabibito*, the piece shown here, for *Unfolds**, an exhibition which featured at Designmuseum

Denmark from February until mid-May, 2017.

Based on a brief that works should be cube-shaped and unfold in some way, Shin's *Tabibito* box became an expression of his woodworking journey and cultural influences.

**See story p.82*

Photos: Shinobu Kobayashi

*Shinobu Kobayashi is a bespoke maker and also teaches woodwork at the Melbourne Guild of Fine Woodworking, www.mgfw.com.au
Email Shin at: shinobunny.com@gmail.com
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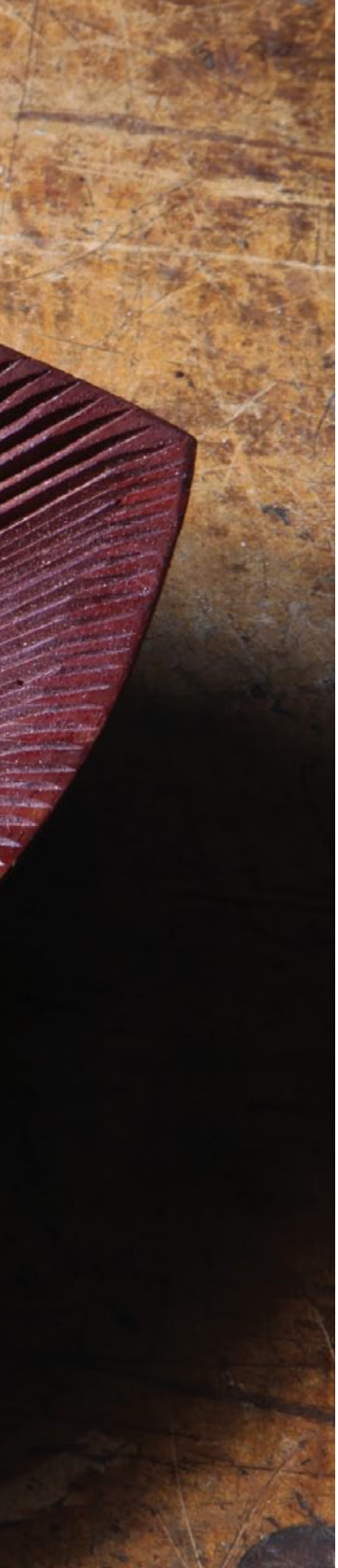
Carving a V-Grooved Bowl

For Robert Howard, creating his best work is about enjoying processes learnt through a disciplined approach.

My work revolves around beauty. I have no patience with 'deep and meaningful' stuff, with its requisite post-completion-rationalisation, often detailed in a little essay tacked up on the wall nearby. For me to like what I make, it has to be something that I believe is beautiful.

I also find that I do my best work when I am just having fun, because it is light hearted, stress-free,

whimsical – just doodling about. My mind is free to simply play. But at the same time, I am able to bring to bear everything I have learned about what I find to be beautiful, and I use this to refine and judge the lines and forms that my play produces. There is this little dance, with the play of free creativity bouncing around within a serious aesthetic discipline, or framework.



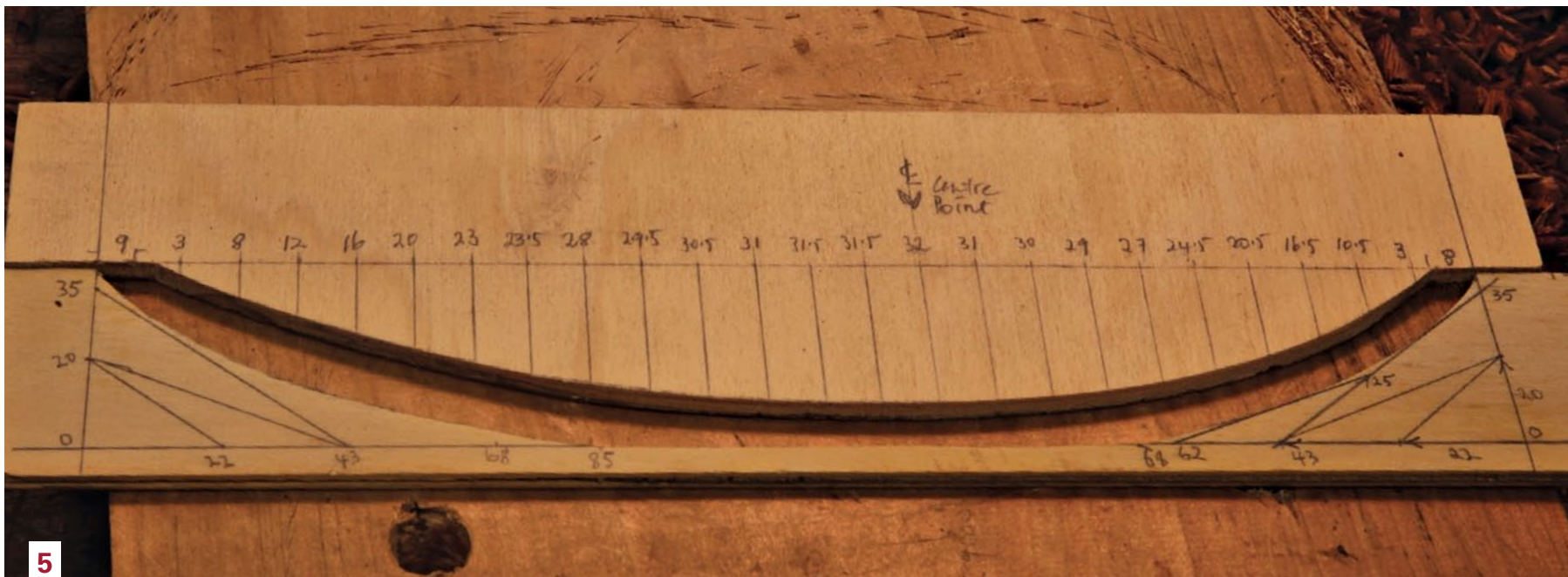
This shallow bowl is one result of that process. I made it triangular this time, after an earlier round version, because I thought that if I am carving it, I should make a shape that can't simply be turned.

I have used my favourite Australian red cedar, but you can use any medium density wood that you think will carve well. At its best, cedar carves beautifully, but a bad piece can be a horror. Stay away from it if it is light in colour or in weight, or soft, or furry. Look for a piece with a rich, deep red colour, and at the hard and heavy end of the cedar scale. If in doubt, try carving a bit at the end of the board, and see how it goes. You need a very, very sharp tool to carve really soft wood, and that is especially so for carving soft cedar with a V-tool.

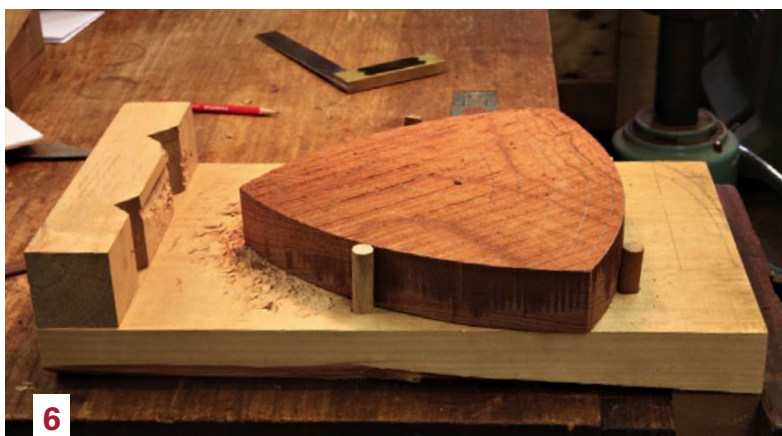
If you find the prospect of making all the fine V-cuts a bit daunting, you can replace them with shallow curves made with, say, a No.7 or No.8 gouge. The numbered steps that follow match the photos.

1. With a compass set at 145mm, from the mid-point of one end, mark an arc across the other end. From one end of this arc, close to one side, mark an arc to intersect with the other end of the arc. This locates the three corners of the bowl. Draw in the three arcs, and carefully cut out the shape, using any saw that you have handy that will do the job.
2. Prepare the wood by cleaning up the base. I used a handplane, but could have used my jointer (beware of using a thicknesser, as the blank might not be long enough for your machine). I used a compass plane (Stanley No.20) to clean up the sides, but you could also use a drawknife, spokeshave, linisher or disc sander. Don't ignore this step, or hard experience will teach you why it is important.
3. With a drill and a bit of around 6mm or 1/4", mark with tape a depth of 30mm, which will leave a bowl bottom of 10mm thickness.
4. Drill a vertical hole in the centre to this depth. This will keep the centre marked after you carve out its pencilled-in position. Using each corner as centre, I used my compass to mark in a series of randomly spaced curves, parallel to the outside of my wood block, to guide my carving.

5. As a helpful guide, you might prefer to make up this template. The vertical lines are 10mm apart, with the depth of each numbered. Please note the template is only true in three places because the form is asymmetrical – the centre point is not in the middle of the template.
6. This useful jig was made to hold the block while I carved it. It is a bench hook, about 250mm wide and around 400mm long. I drilled 4 x 12.5 mm holes as shown, to take four lengths of 12.4 mm dowel. Make the fit of the bowl inside these dowels a little loose so it can be easily moved. The holding power of the dowels will be increased with a thick bottom board made from 50mm stock. Protect your hands with a pair of gloves. Older style cycling gloves are ideal, as they have generous padding in the right areas. (Newer, hi-tech 'designer' gloves are predictably stingy on the padding.) When you carve, the end of the tool handle should be pushed by the centre of the palm of your driving hand and new carvers will quickly develop a blister without a glove. Your other hand can also take a battering, so it will help to protect it as well.
7. The deep gouges (No's 7, 8 and 9) can remove a lot of wood, very quickly. The 7 and 8 gouges shown in this picture are from 18 to 30mm wide. They can be powered by hand, or by mallet. I use a mallet to begin with, and switch to hand when closing in on my final shape.
8. Start carving by gouging out a hole in the centre of the block. I used the 8/18 gouge (No.8, 18mm wide), working along the first set of marked lines. You will find the process much easier if you can keep your work as neat as possible.
9. Here you can see what I mean by neat. With practice, you can work very quickly, but still place your cuts neatly beside each other, and keep them roughly the same shape and depth. I work around at least twice on the outer series of cuts, until the shape is continuous from top to bottom. It is most important to visualise the shape you are after, and try to make the cutting edge of the gouge trace out that shape as it moves from top to bottom of each cut. You cannot carve a curve if the gouge is moving in a straight line. Practically, this means beginning with the handle of



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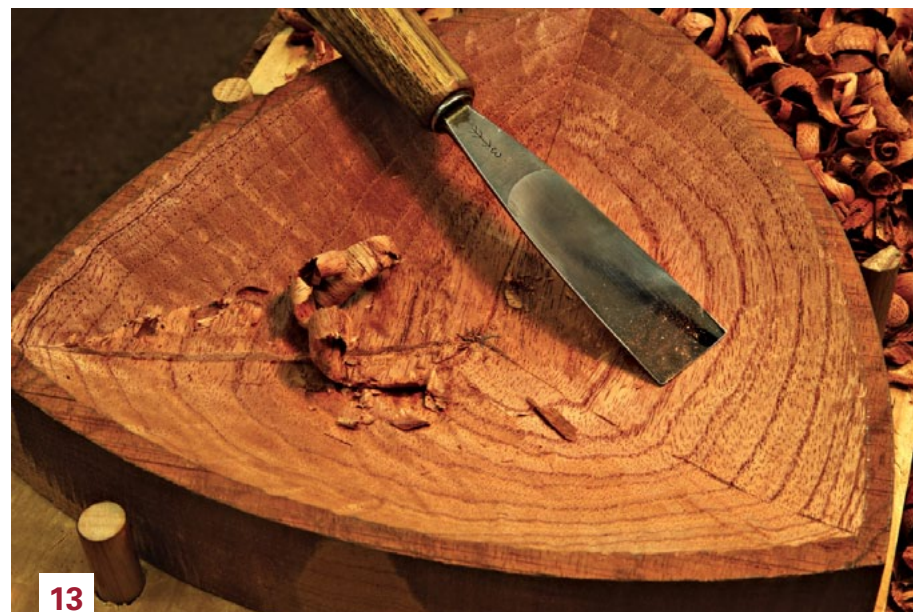


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the gouge high, and progressively dropping the handle as the blade moves down the slope of the cut. This action becomes automatic after a while.

- 10.** You can see the gentle curve of each cut in this photo, as the carving moves towards the final depth indicated by the drill hole. As always, concentrate on getting each cut to follow neatly the one before it. After you finish one side, reposition the block on the holding jig to allow you to comfortably carve the next side.
- 11.** Work with the No.8 gouge is finished when you reach the outer lines, and are down to the depth of the drilled hole. Switch to a No.3 gouge of anywhere from 20 to 35mm wide (depending on what size you have available, and your hand strength, although you can still use a mallet if you prefer), and begin to flatten out the surface. Take care as you approach the line where a pair of sides meet. By carefully cutting in from each of the two sides, you can pop out the wood shavings, leaving a clean line of intersection.
- 12.** It can help to first define the line of intersection with a V-tool. At this stage you will probably also have to spend a considerable amount of time refining the final curve of each side. This is where your template can be indispensable. Note that a template must be used from a reference surface. In this case, my template has two tabs – one at each end – that must finally sit on the top surface of my bowl. Without these, you might carve the correct surface shape, but it might not be orientated correctly to the rest of the bowl – it might be horizontal, or vertical, for example.
- 13.** The finished inside surface needs to be as smooth as possible, straight off the tool. I do not advise sanding it, unless you want to spend a lot of time sharpening your V-tool, as the sandpaper leaves grit in the wood surface that will quickly blunt your edges. Next, use either your fingers as a gauge, or your compass, or something like my Colen Clenton pencil gauge, to mark out a line about 10–12mm below the top inner edge of the bowl.
- 14.** Use a flat chisel, or an almost flat No.2 gouge, carve a flat sloping surface from the outside top edge of the bowl to the line that you have just drawn. This surface will serve to accentuate the top of the V-cuts you are about to carve, giving them a much livelier appearance.





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15. Once the surface is finished, and the top slope is carved, mark out guide lines for the V-cuts to follow. These can be randomly spaced, or you can use your dividers and trial and error to mark out a series of spaces approximately 10mm apart.

16. With a sharp V-tool (I used a Pfeil No.12/12mm), make the first cut down the line of intersection between two of the three inner faces. If, in the beginning, the first cut is about a third of the width between the first two pencil guide lines, it needs to stay that way as it proceeds down the inner surface. To do so, it must become progressively shallower. Continue down only as far as you feel comfortable. Note in the photo how the cut on the right hand edge of the V is going against the grain.

17. The arrows in this photo show the direction of the progression of the cuts, so as to have the correct orientation to the grain. Some woods will not allow you to cut against the grain at all, in which case you would need to cut one side in one direction, and the other side in the other direction. That would not be practical with cuts this

narrow. With this cedar, however, a sharp tool can cut against the grain, particularly if the wood on that side of the cut has the support of uncut wood behind it. If the wood behind has already been cut, the top ridge formed by the second, against the grain cut, has very short cross grain, and will likely crumble under the pressure of the cut.

18. The bottom part of the cuts can be completed with the same V-tool, or one of a smaller size (note that the tip of the tool is the same size on all the tools of the same number, in this case No.12, and only the sides are smaller on the smaller tools). Not all cuts will reach the bottom, as there is insufficient space, so some will peter out or be over-cut by those on each side. Concentrate on aiming each cut at the centre of the bowl, and stop the cut when it seems appropriate to do so. You might need to rework the centre to achieve a more balanced grouping once all the cuts have been completed.

19. I have completed the interior first because it is easier to carve with the entire bottom of the block supporting it. Now we can turn the block over and mark out the back for carving.

20. I used the Colen Clenton pencil gauge to draw the lines on the sides of the bowl block.

21. Using each corner as centre, I drew the 22 and 43mm lines on the bottom of the block. It would be a good idea to draw the 62mm line now as well (I did it later as you will see, but it is easier to do it now).

22. When carving the 22–20mm first bevel off all round, once again you need to take care with the grain direction. Remember to distinguish between figure (the dark heavy lines caused by the growth rings of the tree intersecting with the plane of the wood surface) and grain (the small, needle-like, short black lines), when you look to determine the grain direction (see my article in *AWR#87*). The drawn



arrows indicate the carving directions I have followed. The left and right sides are mostly long grain, while the top side is endgrain, where the curve of the side causes a grain change at each end.

23. Once the 43–35mm bevel has been carved, the 25mm line can be drawn onto the bevel. I used a compass as shown to do both this line and the 62mm line (which could have been more easily done earlier). I used a scrap of ply to raise the compass point to the level of the 35mm line – this is only approximate, and I should point out that we do not need to worry about precision in any of these measurements. Small errors will not be noticeable. The black arrow shows the last bevel to be carved.

TIMBER MATE

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22



23



24

- 24.** Looking again at our template diagram, you can see the three small triangular areas that remain as corners on the outside bowl walls. I use an almost flat, Pfeil No.2 gouge to carefully carve these away, and to generally work over the entire outside wall surfaces to give them the quality of final finish I prefer.
- 25.** There are three details of this finishing process to take care with. One is to ensure the base triangle is shaped and positioned correctly relative to the top of the bowl. Once that has been done, the shape of the base can be isolated and emphasised – I have done this with three, carefully cut lines, using a Pfeil No.12 V-tool. Last is to make sure that the three corner lines are straight, and that they are in their correct alignment, joining each corner of the base to the respective corner of the bowl. These corner lines can be shifted and, if necessary, straightened, by carving away appropriate amounts of the sides as required.
- 26.** Once you are satisfied with the entire bowl, you are free to autograph it. I have been experimenting with using a knife rather than a V-tool to do this. It is harder to do, but gives a cleaner result. All that now remains is polishing. I prefer the look of a tooled finish usually. For the underneath of an object that we mostly 'see' with our fingers only, I think it adds a little surprising warmth to the viewing experience.

The finish I prefer when heat and water are not expected to be an issue, is shellac, or French polish. I brush it on with a brush designed for the purpose, and 'cut' each dry coat with Liberon 0000 steel wool. After four coats, I cut as usual and then apply a coat of wax.



25



26

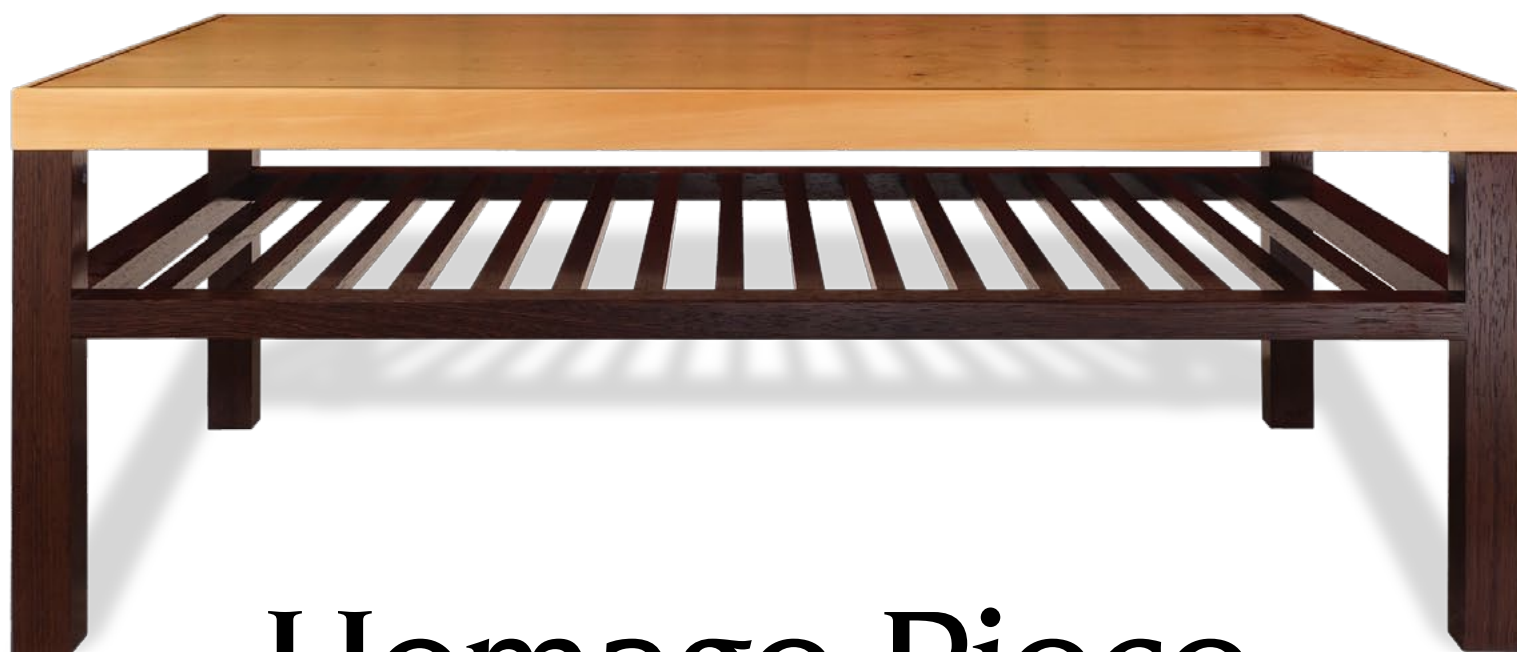
It is a cliché, but true nevertheless, that you learn to carve by carving. If you are trying to learn, and want to try this bowl, my advice is to do your best with it, but give yourself permission to stuff it up. And, if you do stuff it up, do it again. And again if necessary.

Finally, just to show you that none of us are immune to failure, let me say that that I wasn't happy with the spacing of the internal V-cuts or their convergence in the piece I made. Why did this happen? Who knows? I think I just had a bad day, as we all do.

Photos: Robert Howard



Robert Howard is a woodworker and sculptor who lives in Brisbane. He teaches regular woodwork classes from his studio. Email: howardrobert@mac.com



Homage Piece

Drawing on inspiration from the late Greg Collins,
Graham Sands makes a veneered coffee table.



Two views of Graham Sand's torsion box coffee table veneered in Huon pine with ebony inlay and a base made from solid wenge.



1

I greatly admired the late Western Australian craftsman Greg Collins. He was internationally renowned and received many awards for his innovative and artistic woodwork¹.

When I visited him in his Margaret River workshop he kindly shared with me techniques used to make his beautiful and finely detailed furniture and objects. I was so inspired that I then planned to make a table influenced by him and his body of work.

Later on, after discussing my idea with him, Greg offered me several flitches of figured bird's eye Huon pine from his personal collection together with some ebony for my table and other

projects (**photo 1**). That was just before I moved to New Zealand. After eight years and staying in contact with Greg, I built up enough courage and skills to make the table using his veneers in my new workshop.

I decided to make a coffee table, the central focus of a living area and home, conversation and relaxation. This would be my first veneering project using Greg's enthusiastic advice. Sadly Greg passed away after I started, making it all the more important for me to aspire to his high standards and for the table to serve as a reminder of our friendship. I was very conscious of him looking over my shoulder during this project.

In keeping with Greg's style, a fine ebony inlay borders the Huon pine veneers and both are framed by a solid Huon pine mitred edge. The Huon pine is of a bright golden appearance and the top has the proportions of the golden ratio.

The veneers were laid onto a marine ply torsion box, which Greg suggested. This provides a stable and rigid platform which floats over an almost black frame. The top is supported only at the corners by wenge legs held in position by a slatted wenge bookshelf underneath. The wenge doesn't challenge the Huon in any way. Greg often used exotics.

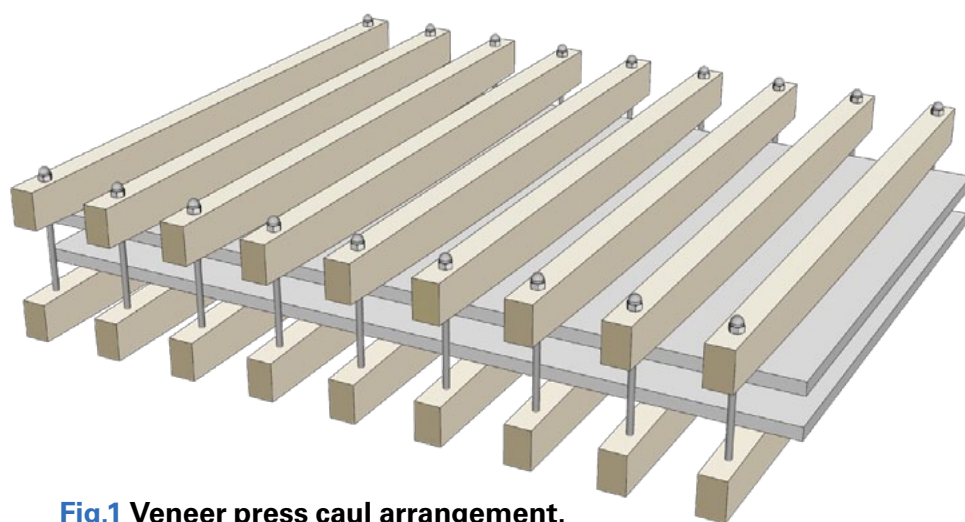
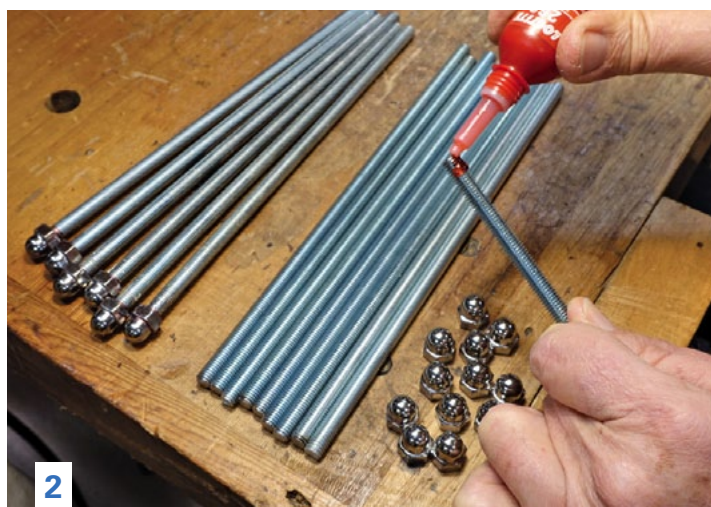


Fig.1 Veneer press caul arrangement.



The table is 1225 x 757 x 450mm high, the top is 50mm thick and the legs are 50mm square. The rails are 30 x 50mm and the sixteen slats are 24 x 17mm at approximately 90mm centres, flush with the top of the rails and set 120mm below the underside of the top. Without a veneer press my first step was to make one.

Veneer press

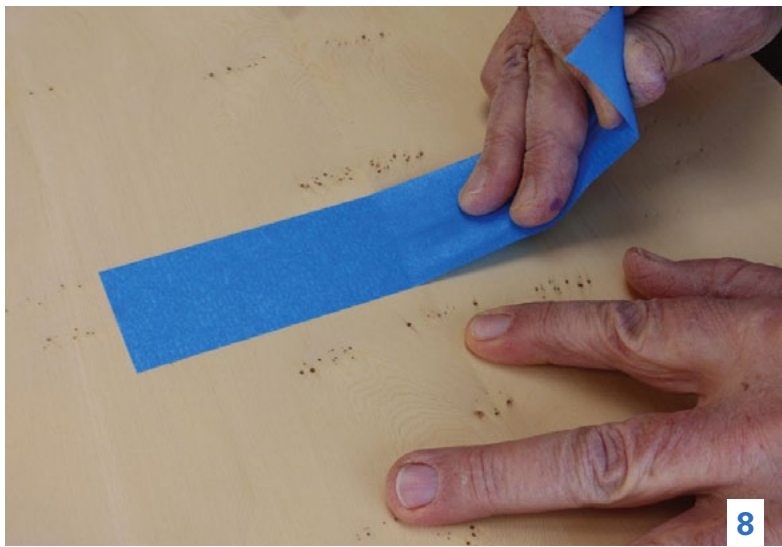
I decided to make a caul press rather than investing in vacuum, so this was the first part of the project. After studying magazine articles and extensively scanning the internet, I came up with a configuration of nine sets of 65 x 42 x 900mm pine cauls at 150mm centres and two sheets of 1200 x 800 x 19mm MDF (**fig.1**).

For clamping pressure I used 18 250mm lengths of M8 threaded rod, each capped with dome nuts (**photo 2**). Three washers of increasing diameter under each dome nut distribute the force. The other end screws into M8 captive T-nuts secured into the bottom of the lower caul (**photo 3**). Although M6 rod would have been strong enough, the M8 T-nuts provide a much better bond into the cauls. It is important to oil the thread where it passes through the T-nut, this gives a big increase to the achievable pressure.

The upper cauls have 9mm holes drilled each end and the lower 10mm to house the T-nut and provide clearance for

1. The author with the Huon pine flitches sawn by Greg Collins. The wenge used rests on the torsion box that was veneered for the tabletop.
2. M8 dome nuts were glued and screwed onto one end of the veneer press rods.
3. Captive T-nuts were secured into the bottom of the lower caul.
4. Measuring the caul curvature required to apply even pressure across its length with a small block placed centrally between two cauls.
5. Bandsaw the curve on the cauls.
6. Cutting slots for the interlocking torsion box frame.
7. The corners of the torsion box were reinforced with ply.

8. Taping the Huon pine veneers.
9. Applying glue to the edges of the veneer leaves.
10. Mixing the hardener and colloidal silica filler for the West System epoxy.
11. The glue has to be the consistency of 'runny mayonnaise'.
12. A roller is the best way to spread the glue evenly.
13. Checking positioning of veneer layon.
14. Mating up upper and lower cauls.
15. Tightening the dome nuts, don't overdo this.
16. Routing a rebate to accept the ebony inlay for the mitred frame for the top.



inserting the rods without binding and the bending of the cauls under pressure. To measure the caul curvature required to apply even pressure across its length I clamped a small block centrally between two cauls (**photo 4**).

I tightened to an equivalent pressure of moderate hand clamping² giving a deflection of 4mm at each caul end: 20 of 25 torque setting, low gear using my drill/driver. Then with a straightedge I ruled a line 2mm extra to the 4mm end deflection points and caul centre. After the caul was relieved the line was curved and easily followed all the way with the bandsaw (**photo 5**). This was then used as a template for the other 17 cauls.

Torsion box

The torsion box is made from 10mm marine ply, and the 24mm high core beams are spaced at 140mm centres. This arrangement was determined after careful consideration of tabletop thickness, weight and strength to span between the legs. The core beams interlock each other with slots cut using the sliding table of the router table (**photo 6**). These were cut in batches to ensure the slots lined up for assembly.

The corners were packed with stacks of plywood cut the same height to provide a solid side grain for fixing the legs (**photo 7**). The tops of two trestles were set up coplanar using winding sticks and the glue-up was done in stages between sheets of MDF with clamps and weights. I didn't use the press for this, as it would be difficult to keep it perfectly flat.

Veneer preparation

The veneers resawn by Greg were 4mm thick 'providing a durable surface and the potential for re-surfacing', he had explained. After drum sanding the show side smooth and the other flat they ended up 3mm. The edges of the veneers to be bookmatched were then jointed face-on-back using a track saw with a fine tooth blade.

After aligning the bird's eye figurings the veneers were pulled together with

tape (**photo 8**), then hinged open so adhesive could be applied to the edges (**photo 9**). After hinging the veneers back together more tape was used to keep them tightly together while the glue dried. The remaining veneers were also joined into layons.

Chemistry

I had planned to use PVA glue and it probably would have been fine, however, I clearly recall Greg saying to use West System Epoxy. I learnt that a total adhesive thickness of 0.3mm is required for veneering. My table surface is approximately one square metre therefore a quantity of 300ml was required (150ml each surface).

It is important to accurately weigh the quantities for mixing. At a ratio of 1:5, 206 hardener gives an open time of half an hour. After thoroughly mixing in the hardener, colloidal silica filler was gradually added (**photo 10**) until a 'runny mayonnaise' consistency was achieved (**photo 11**). This prevents the resin soaking through the veneers as without filler the resin is quite thin. West System supply paint roller covers for application at the required thickness (**photo 12**). The resin was applied to both contacting surfaces.

I made pencil reference marks under the layon so it could be positioned centrally and parallel on the torsion box (**photo 13**). The upper MDF sheet of the press was placed on with cling film taped to the underside so any resin seepage would not adhere to it. Both sides of the torsion box were veneered to prevent warping.

Pressing

The cauls were then fitted together (**photo 14**), and the rods tightened from the centre cauls out in two rounds up to a torque setting of 21/25, one setting more than when the cauls were made, so pressure is applied right up to the edge (**photo 15**). It is important not to overtighten as (unlike regular clamps) the centre of force of the rods is beyond the edge being clamped². The veneers remained in the press for 24 hours.





17



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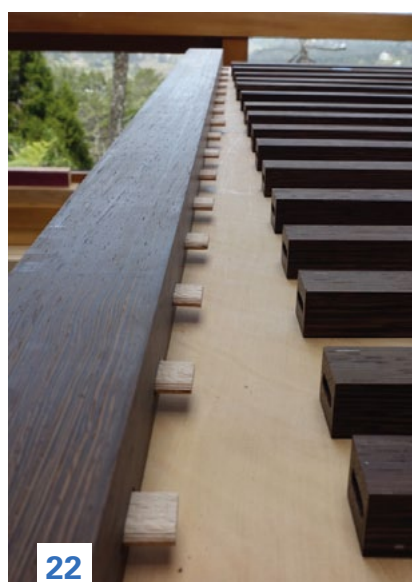
17. Huon frame components with inlay fitted are passed through the drum sander.
18. A sacrificial board and tape provided insurance against chipping out when mitring the frame parts.
19. Biscuits were used to strengthen the attachment of the frame to the torsion box.
20. Marking out for the table frame mortises requires precision.
21. Frame components were clamped for accurate jointing with the domino machine.
22. A dry fit before assembly is essential.
23. Dowel centre markers were used on the legs to locate hole positions for fitting the knock-down leg fittings into the top.
24. The holes for the latter were bored with a portable drill stand clamped to the underside of the top.
25. Assembling the table frame after a dry fit gave the all clear.



20



21



22

It all worked beautifully – what a relief – so onto the show top. As it happened, after pressing the top, resin was forced through quite a few bird's eyes and loose knotty bits, which was good, as they were filled and cast in place with the clear resin. The cling film covered MDF sheet came away cleanly leaving them with a level gloss surface.

The sides of the tabletop along with the veneers were then trimmed clean and square with a fine tooth blade track saw, ready for edge treatment.

Ebony inlay

The rough sawn ebony strips from Greg were straight but a little wavy. It would be too dangerous run them on the jointer so I cut reference edges using the track saw which allowed me to thickness plane them and cut 4 x 8mm strips on the bandsaw. Although excessive for inlay, this enabled ease of handling without risk of breaking.

Edge strip

The ebony strips were glued into rebates routed into Huon pine edging (**photo 16**) then flushed in the drum sander (**photo 17**). The ebony was only just long enough for the long sides of the table so every precaution was taken to avoid chipping when cutting the mitres (**photo 18**).

If that wasn't worry enough, getting the length right for the mitres to close up nicely made it doubly nerve-wracking. Biscuits were used to vertically align and secure the edge strips onto the veneered torsion box sides (**photo 19**). The slots in the torsion box were cut with the biscuit joiner fence sitting on tape to raise the edge slightly for sanding flush later.

Wenge frame

Construction of the shelf and legs was quite straightforward using floating tenons for all joints (**fig.2**). I made sure the machining of the components and marking of mortise positions was precise (**photo 21**). I have a shelf unit fixed to the back of

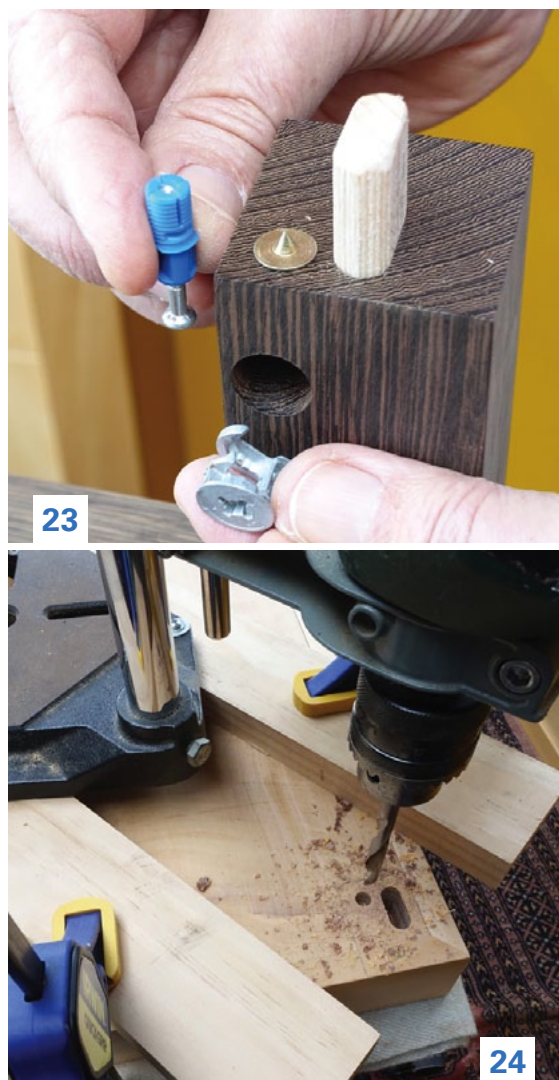
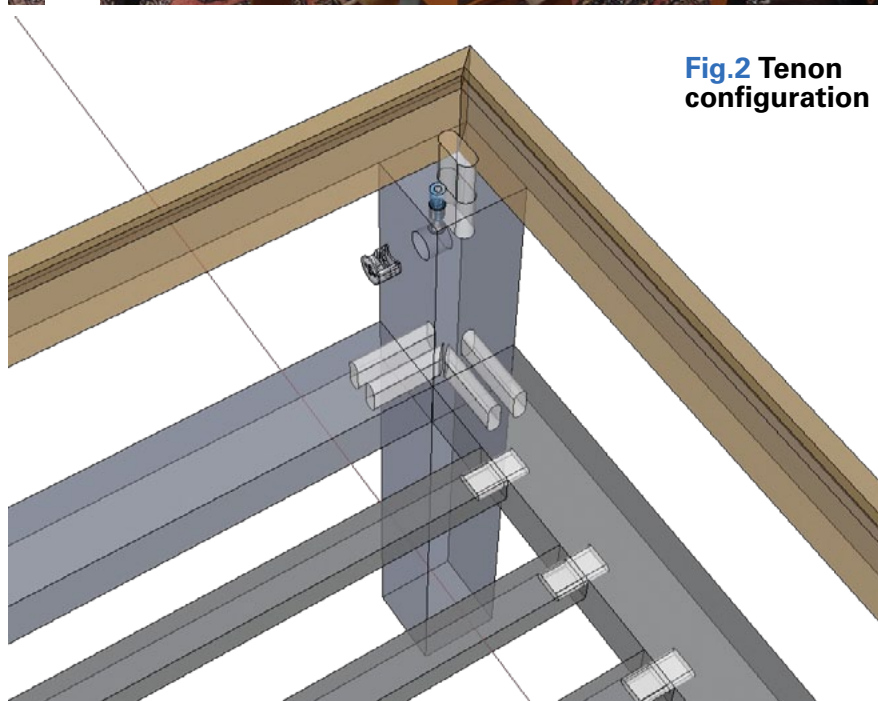


Fig.2 Tenon configuration



my workbench which serves as a stop for firmly bracing components for cutting mortises accurately (**photo 20**). This was particularly important with the slatted shelf because it determined the positions of the legs, which must line up perfectly with the corners of the top. Throughout the assembly process I test fitted the base to the top to confirm that it was square, flat and the leg/top fit was good (**photo 22**).

Knock-down

The top can be separated from the legs for finishing and restoration. It was positioned with 10 x 50mm loose tenons (un-glued) then secured to the legs with Hettich Rapid S 8mm diameter fast assembly dowels which expand when tensioned with Hettich Rastex 15 cams (**photo 23**).

Holes in the legs for these fittings were bored with a drill press prior to glue-up. After glue-up I used dowel centre markers to locate positions for the corresponding holes in the top. These were bored with a portable

drill stand clamped to the underside of the top (**photo 24**). The final assembly went together without any problems (**photo 25**). The table was professionally finished with a semi gloss two-pack polyurethane.

Overall I'm very happy with the end result, and I now have a lasting and ever-present reminder of a man I admired very much.

I would like to thank Raf Nathan, Damion Fauser, Grant Beck of Adhesive Technologies Ltd and of course the late Greg Collins for their guidance and encouragement with this project.

Photos and diagrams: Graham Sands

1. Greg Collins appeared on the cover of AWR#34. The profile of Greg that appeared in that issue is now on our website.

2. Epoxy resin requires only moderate clamping pressure. For PVA adhesive use firm pressure.



Graham Sands is Wood Review's illustrator and also a keen woodworker. He has written several stories for AWR.

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Together Again

1

Alumni was an exhibition of work by 14 makers who graduated within the first 20 years of Sturt School For Wood. Review by Linda Nathan.

In what is both a testament to the times and to its pre-eminent management, teachers and curriculum, Sturt School For Wood remains as virtually the only school of its kind in Australia. It is a registered training organisation that offers intensive full and part time tuition in fine woodworking. It resides within Sturt, a craft and design centre founded some 76 years ago, making it the oldest in

Australia. There are wood, pottery, jewellery and weaving studios, and on top of that a gallery that attracts over 30,000 visitors a year.

In 2006, Sturt held an exhibition of work by past graduates to celebrate its 21st. This year marks the second such exhibition, appropriately titled Alumni.

The 14 makers featured graduated within Sturt's first 20 years. Some

studied with the school's founder Alan Wale, but most were under the tutelage of Tom Harrington. Talking to some of them and reading from their artists' statements it's clear many drew on their experience at Sturt when designing their piece.

'I wanted to somehow reconnect back to my early making person and the ideas I used to run with back then', said John Gallagher who nowadays

makes and teaches under the name Piece Furniture. 'With my designs I used to work around the repetition of same sized sections in a piece.' Taking that a step further, John experimented with triangular forms in both the top and the base of his *Equilateral Coffee Table*. New Guinea rosewood is a favourite species that John hasn't used often in recent years, but making the table became an opportunity to play with the different tones which this species can offer.

Mark Lenny's zoomorphic *Lama Side Table* reflects his growing interest in sculptural work, moving away from more angular, 'straight edge' forms. The three-way joint is one he has developed over the years and was prompted by a teaching exercise at Sturt.

With its drop-down top, Stuart Pinkerton's *Hinged Extension Table* offers an alternative to leaves that need to be stored elsewhere and mechanisms that can jam. The all-wood hinge is effected by a dowel which runs through the joins, while the support is a simple edge-up length of wood.

Relocating his young family to Mittagong in 2004 to study at Sturt fulfilled Stuart's dream for the next phase career of a professional rugby player. He gained confidence as a designer, and even now harks back to the influence of Tom Harrington who set students on an 'unending search for quality' and encouraged them to 'never be satisfied with less than perfect'.

The grain of some beautifully figured solid Tasmanian blackwood wraps around all four sides of Warwick Wright's *Tower of Drawers*. 'There's a geometric equation that determines the depth of the drawers as they progressively go down', said Warwick who also noted that the design was heavily influenced by the work of UK designer/makers Wales and Wales. Way back Warwick was an

1. Jeff Freeman with his *Coffee Bean* coffee table in reclaimed blackbutt, toughened glass and stainless steel.
2. Mark Lenny's *Lama Side Table* was made from a branch of river sheoak that had fallen near a creek on the maker's property.
3. Chris Wilford's *Jewellery Box* in blackwood and walnut featured hand dyed silk lining and an embroidered insert made by Judy Wilford.
4. Part of a series, *Ascension 5* was sculpted from rock maple by Nick Statham.
5. Paul Nicholson's *Elswick Sideboard* featured subtle contrasts of American white and red oak.





6. Made from American walnut, white ash and wenge, Roy Schack's *Kiso* cabinet was named after the town in Japan where the urushi lacquered linen in the door panel was sourced.
7. Blair Ossendryver's *Decorus Jocale* jewellery cabinet in blackwood and rock maple had sides that opened out to reveal internal storage.
8. Alex Springall's *Dementia Bank* was laminated and shaped from numerous Australian species.

international taxation specialist, but his time at Sturt marked the start of a new career.

At the opening, Roy Schack's *Kiso* cabinet-on-stand drew constant huddles of attention. Sometimes a piece, made with all the love and intent that a maker can express through his or her attention to detail, can exude a charisma that draws people to it. The focal point was a piece of urushi lacquered linen that was fitted as a door panel. Dovetails and three-way mitres, along with careful grain arrangement all sat quietly within a canvas of American black walnut.

Stuart Faulkner's *Writing Desk* and Paul Nicholson's *Elswick Sideboard* were also examples of work that quietly showcased the technical mastery of their makers. If there had have been a prize for the maker who finished their piece at the absolute last minute before the opening, Stuart, running into the gallery on that day with two drawers in hand would have won! But it mattered for naught of course because the desk was a masterpiece. Curves everywhere but

subtly so, sleekly fitted shelves and a leather insert in a muted shade of the maker's signature orange, along with the aforementioned drawers made in perfect Sturt tradition.

After Tom Harrington passed away, Stuart Faulkner took over as director and tutor of the wood school and so his considerable talent for making and teaching also went into the DNA of the wood school as it is today. Paul Nicholson also returned to teach, and now in second term takes full time students through the process of making a dovetail saw. His cabinet was a tribute to traditions of making and style, and featured the subtle contrast of two species of oak.

Nick Statham's *Ascension 5* sat high at the far end of the gallery space. Part of a series, it is the work of surely one of the best sculptors in wood in Australia. Although this piece appears to be ridiculously difficult to carve even if accomplished in two halves, it's another work of art that achieves a charismatic presence, here deriving from its languid and fluid curves. Simply beautiful.

Frank's Table is the ninth iteration of a design that has become a signature piece for Laura McCusker. The fact that it sold the day before the opening underscored the appeal of its worked curves, angles, chamfers and surfaces. Using a low-tech steel wool in vinegar ebonising (or 'pickled' finish, as Laura refers to it) silhouettes the base, bringing it into relief and delineating it from the top and the space it will reside in.

Developing the design was purely pragmatic, Laura said. 'It's the shape we found that you can squeeze the most chairs around without someone getting a leg between their knees... but the curves are just because I love being able to see the way the grain migrates around them'.

Even before learning of the title of Alex Springall's box made from a variety of native species I thought on how its built-up construction might have been a meditation on madness. Reading his artist's statement confirmed that his *Dementia Bank* was a place that, 'when you've lost your memories, you'll find them here'. Alex wrote that he was also inspired by the work of Frank Gehry.

A close-up look at Geoff Tonkin's *Ukelele Baritone* showed an instrument that was crafted exquisitely and made me wish I'd stolen the opportunity to strum it. As complex as making musical instruments is, Jeff Freeman's elegant *Coffee Bean* coffee table spoke of the kind of 'simplicity' that it takes a skilled designer to conceive. Two hand dovetailed frames with subtle tapers were positioned to support a glass top for a table which would suit modern interiors.

Another piece with subtle detailing was Blair Ossendryver's jewellery cabinet. *Decorus Jocale* was a small drawer chest with butterfly shaped pulls and sides that opened out to reveal other spaces and handcrafted drawer slides.

Did the array of pieces reveal a Sturt style? 'Even though the makers are all established artists we took a punt with this', explained Mark Viner, Head of Sturt. 'We were unsure how it would all relate...but what I see is a consistency in quality, a mix of contemporary with classical attitude to furniture, and an extraordinary level of quality of finish', he said.

Aside from undisputed technical mastery that sat within a divergence of styles, the works shown also managed to reference a common history of learning and inspiration that paid homage to the formative years these makers had all spent in what many people regard as a very special place.

Photos: Linda Nathan, Indra Deigan.

Learn more about Sturt School For Wood at www.sturt.nsw.edu.au

9. John Gallagher, *Equilateral Coffee Table*, New Guinea rosewood. Triangular forms were matched to variations in the wood, flame red veneer for the top with brown and pink tones on the base.
10. Warwick Wright's *Tower of Drawers* was made from highly figured Tasmanian blackwood rescued from a logging operation.
11. Geoff Tonkin, *Ukelele Baritone*, blackwood, spruce, osage orange, Brazilian rosewood, walnut.
12. Stuart Faulkner, *Writing Desk*, blackwood, silver ash, leather.





Dressed For Success

Mastering the process of dressing boards flat and square by hand will take your skills to the next level. Story by Damion Fauser.

There are many reasons why you might choose to dress one or more boards by hand. You might have a 150mm jointer and need to dress a wider board. You might be a hand tool purist.

When I moved to Philadelphia for three years a while back, I knew I didn't want to invest too heavily in my small workshop over there. So, I consciously chose to forego a jointer and milled every face and edge by hand. I dressed countless boards in this fashion and made some fairly sizeable projects in a very modest workshop.

Whatever your reason, knowing the tools, skills and techniques required to dress boards by hand will open up your options as a woodworker.

Tools required

Aside from some handplanes, the following will come in handy:

Gloves Trust me, if you don't do a lot of handplaning, you may well get some blisters at first.

Wedges For shimming a warped face against your flat benchtop.

Winding sticks and straightedges Checking for and determining the scale of any wind, cup, bow and crook.

Bench dogs For securing your stock to your benchtop.

Square For checking the squareness of your face side to face edge.

Take a close look

Start by looking closely at your wood to see where and how much it is twisted and bent. I find it best to start by flattening the concave face, as the plane can bring the high edges down, whereas if you start on the convex face it is too easy to ride the curved profile over the width of the board. Also inspect the edge to determine the best grain direction for planing the face.

Secure the workpiece

Secure your wood between benchdogs. For extra holding power try having a wider end vice and two rows of dog holes. Gently snug the board tight – if you tighten the vice too hard you'll risk creating an artificial bow. Tap some timber wedges into the gaps between the bottom



Opposite: Using a mid-size plane to take a series of overlapping diagonal passes.

1. Use benchdogs, wedges and cauls to secure your board to the bench.
2. Protect the back edge from blowing out by taking off a coarse chamfer.



face and the bench to prevent any rocking of the board on the bench.

Lastly, place a batten at one end against the back edge of the board, then clamp it to the benchtop at the back of the bench to stop the board from moving laterally from inside the dogs (**photo 1**).

Flatten the face edge

With a block plane, first knock a coarse chamfer off the back edge of your board (**photo 2**). This prevents this edge from blowing out when you start on the face. If the board is very rough from the mill, or has a high degree of twist or cup, the best plane to start with is the No.40 scrub plane.



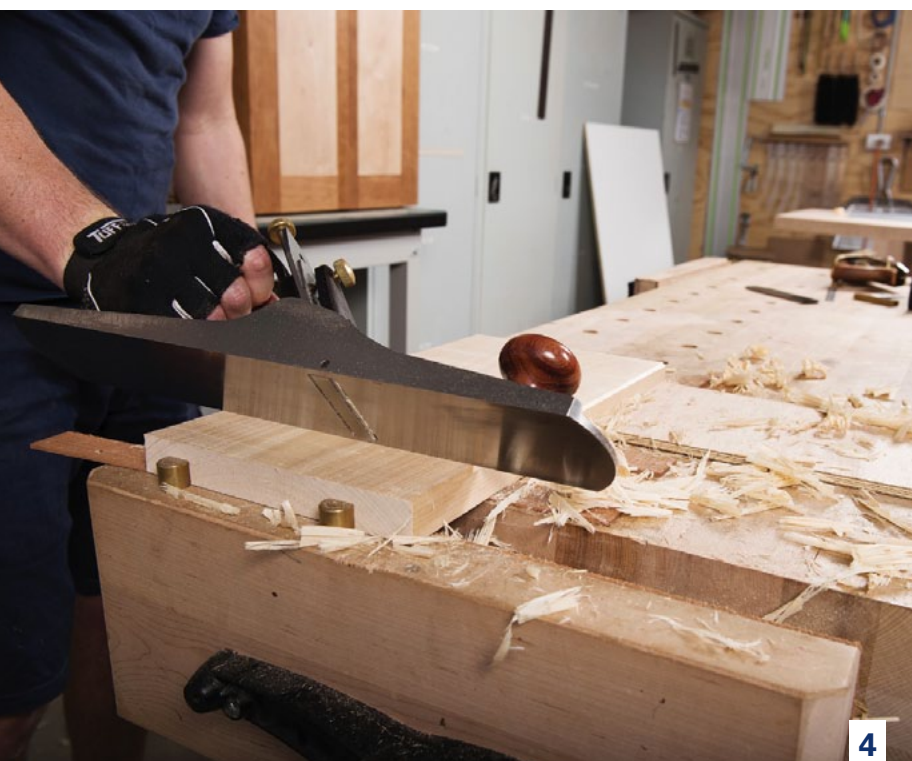
After this, or if your board is only mildly cupped or twisted, you can now take a mid-sized plane set for a heavy cut (a No.5, 6 or 62 would be perfect) and start by taking cross grain shavings directly across the face of the board. This will quickly bring the high edges down to the concave centre of the board (**photo 3**).

You can either boldly mark the face with a crayon to determine when you've reached the end point, or you will quickly feel and hear when you're taking full width shavings across the board. You can also use a straightedge (such as the edge of the sole on your plane), to visually check your progress (**photo 4**).

Now to actually flatten the face you'll need to take an overlapping series of diagonal shavings that will traverse the full width and length of the board as shown on p.66. Then switch your approach and repeat the process, taking a set of passes on the opposite diagonal.

Once you're taking full length, full width shavings for a full set of passes, you can check your results with a set of winding sticks (**photo 5**). I'm using traditional handmade sticks, but straight lengths of aluminium angle from the hardware store will achieve the same result. Use the deviation of the sticks to identify and highlight any remaining high points and target those on your next set of passes.

Once your face is perfectly flat, I typically take a longer No.7 but on the smaller board that I'm working on for this article I've chosen a No.62. This is now used to remove the diagonal plane tracks. Work in overlapping passes along the longitudinal length of the board. Once again, the goal is full length, full width passes (**photo 6**).



3. Removing the high edges of a cupped board by taking cross-grain shavings.
4. The edge of the sole of a quality plane is a handy straightedge.
5. Winding sticks are perfect for checking flatness and the absence of twist.
6. Remove the diagonal toolmarks with longitudinal passes.
7. A finely set smoothing plane will finish the process.
8. Taking full-length shavings to dress the face edge.
9. Using the sole of the tool to check straightness.





The final step is to smooth and dress the surface with a finely-set smoothing plane (**photo 7**).

Straighten and square the face edge

Choose which edge you will use as your face or reference edge. This edge needs to be perfectly straight along its length and perfectly square to your face side. Load the board into your front vice. Longer boards should be further supported on a sliding deadman. Use a straightedge to identify any high spots along the length and boldly mark these with a timber crayon. Take a longer plane, such as a No.6 or longer and begin by taking targeted spot strokes at the high spots.

Now start to take full length shavings (**photo 8**). As you progress, use a straightedge to check the straightness of your work. You can see in (**photo 9**) that I'm using the edge of the sole of my No.6 plane for this task.

Once you are taking full-length shavings, start to check for squareness. This should be done at several locations along the length of the board (**photo 10**). Mark any high spots where you need to focus the cut on the next pass to correct any issues. Continue taking passes until you can take a full-length, full-width shaving and the resulting surface is straight and square.

Dressing the opposite surfaces

Once you have a face side and edge, you have two primary options from here. If you have the appropriate equipment, you can now reference your face side on the tablesaw fence to rip your board to width and run the board through the thicknesser to dress the opposite face. This is how I processed my boards in my small workshop in the USA.

To fully complete the process by hand, you now need to take the skills that I've already described in the preceding paragraphs to dress the two opposite surfaces. To ensure you end up with a dressed board that is perfectly flat, straight and square all round, as well as being the desired dimensions, you'll also need to reference off your face side and edge.





10. Check for square all along the length of the edge.
11. Referencing from the face edge, scribe to width.
12. Scribing your desired board thickness.
13. Take long passes to hollow out the central area of convex faces.
14. This little wiry shaving means you've reached your target.
15. Shooting the ends of a board with a No.9 shooting plane.



To dress the opposite edge, set a gauge to your desired board width and scribe a line on both faces of your board (**photo 11**). In these photos I've used a pencil gauge for visual clarity for this article, but ideally you'd use a cutting gauge for increased accuracy.

Load your board into the vice and repeat the steps for dressing your face edge. Be very careful to get this edge to a fully straight and square status prior to hitting your gauge line. This way you can now simply take the last few full length, full width shavings right down to your gauge line. The end result should be an edge that is straight and square to the face side, as well as parallel to the face edge.



To dress the opposite face, begin by taking a cutting gauge and, referencing from your face side, scribe a gauge line to your desired final board thickness (**photo 12**). Load your board onto the bench between the dogs as before, although this time you won't need any wedges as you're referencing your flat face side onto your flat bench!

Inspect the face to be worked. There is every chance that you now have a surface that is convex across the width. In this case, I've found it best to firstly take a plane set for a heavy cut and take a series of coarse passes along the middle length of the board to create a concavity (**photo 13**).

Now you can repeat the steps outlined for dressing a face. Aim to have this face flat and parallel to the reference face just prior to reaching your gauge line. Ultimately, you'd like to take a final few series of overlapping, full length, full width shavings with your smoothing plane to reach your

Well Dressed

- Each of the six surfaces is perfectly flat and straight.
- All six surfaces are suitably dressed standard for further work processes.
- Any two adjacent surfaces are perfectly square to each other.
- Any two opposite surfaces are perfectly parallel to each other.
- Length, width and thickness are correct.

gauge line. You'll know when you've taken the final pass, as the plane will release a thin wiry shaving as it cuts through to the level of the gauge line (**photo 14**).

Dressing to length

To fully complete the dressing process you now need to square the ends. Assess how much material needs to be removed to eliminate any end-checks or other defects and square a line across one end with a knife. If there is a significant amount of material to be removed, remove the bulk of the waste with your choice of handsaw.

Ultimately, you need your ends to be flat, straight and perfectly square to all four longitudinal surfaces of the board. The best way to achieve this is with a handplane and a shooting board. Many standard planes are ideal for shooting, such as a No.6 or 62, but there are also dedicated shooting planes, such as a No.51 and a No.9 (**photo 15**). Once you have the first end true, carefully measure to the other end and scribe a line across the board at your desired length. Now, repeat the process at the other end.

Keep things in perspective

So now you've dressed one board and should have an appreciation of the time and effort required for a full project. This is how it used to be done, before the mechanical age of jointers and thickness planers.

Now, when visiting an antiques dealer or museum, think back to yesteryear. If you see or feel some residual tool marks on the bottom of a tabletop for example, keep in mind your new perspective as you imagine the effort that went into the whole piece.

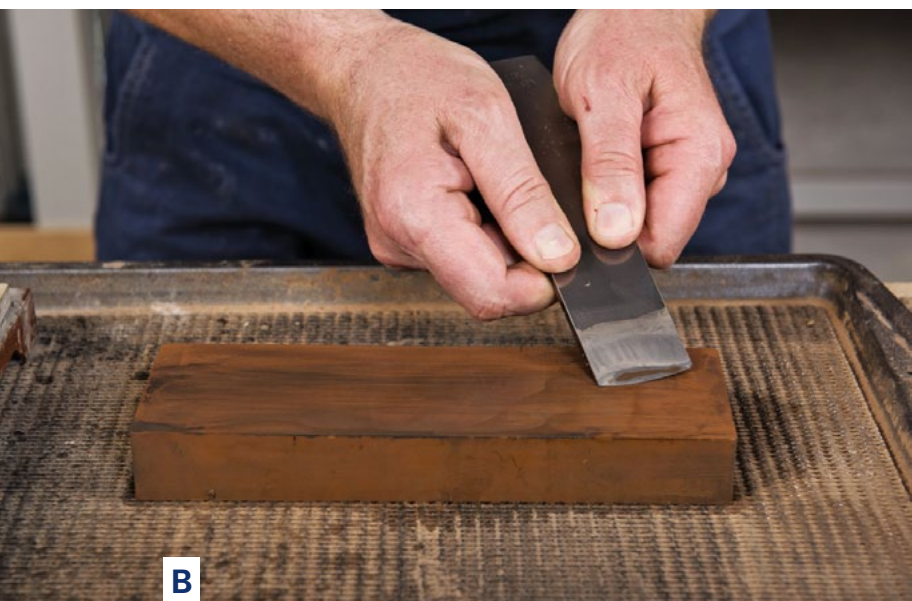
In practical terms, please do consider your fitness and health when deciding to attempt to dress a whole series of boards. Depending on the size, species and quantity of boards you have to work on, this has the potential to be an onerous and draining task.

In today's mechanical age, dressing boards by hand is, and should be, the exception rather than the norm. However, as mentioned earlier, there are several good reasons why practising and having these skills will be to your occasional advantage. Start by taking a friendly species such as hoop pine, sharpen your plane irons and take some shavings. You'll be amazed at how proficient your handplaning skills will become, and your versatility as a woodworker will be enhanced.





A



B



C



D



E

The No.40 Scrub Plane

This is an amazing little tool. With its diminutive stature, wide mouth opening and a thick iron with a heavily cambered edge, it is perfect for removing a staggering amount of material quickly and efficiently. Original Stanleys are commonly available from secondhand tool dealers or online auction sites, and brand new production versions can be had from Lie-Nielsen Toolworks.

Sharpening the Blade

A, B The best way to prepare the edge is by hand. Place a 1000 or 1200 sharpening stone widthways in front of you, feel for the registration of the bevel on the stone and carefully swivel your hips left-to-right to rock the iron back and forth across the stone. Pay careful attention to the swarf mark left on the stone to ensure you are working correctly. Once you can feel the burr on the back face of the iron then you're done.

C Flip the iron over and work the burr off the back face. I like to use David Charlesworth's ruler trick here.

D Set the iron in the tool with a coarse protrusion. Yes, have it protruding this much!

E Secure the board firmly and start taking passes. This tool is small and does not have much in the way of inertia in use, so it requires some vigorous effort to drive it through the pass, but you'll be amazed at the scale of the shaving that can be produced and how quickly you can remove coarse sawmill marks and/or broadly flatten a twisted board.

Photos: Donovan Knowles



Damion Fauser is a furniture designer/maker who also teaches woodwork from his Darra, Qld workshop. Last issue he wrote about jigs and setups for getting more out of your thicknesser. Email: damion@damionfauser.com.au

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Turning Point

When Ron Hock met James Krenov it led to the creation of the fine edge tools his brand is synonymous with.

**Words and photos:
Linda Nathan**

Hock Tools are well known as premium quality toolmakers, specialising mostly in replacement plane blades, but also in luthier tools, marking knives and custom orders. What's not so well known is how the creation of these tools came about through the connection that arose between company founder Ron Hock and the legendary woodworker and author James Krenov.

By the 1980s Krenov was already famous for his writings on woodworking and was looking to settle down from travelling around North America to promote them. He had taught some classes in Fort Bragg and liked it enough to move to there.

The week that Ron and his wife Linda Rosengarten moved to Fort Bragg to set up their knifemaking workshop in the shed in the backyard turned out to be the same week that James Krenov's teaching workshop opened at a local college. 'I didn't know him. My woodworking experience was turning a couple of walnut bowls at high school and doing some carpentry because I couldn't afford to hire anyone', said Ron.

Prior to his move, Ron Hock had, at the behest of his father, taken on the family sheet metal business while also working as a sculptor. 'We were living in Monrovia (a Los Angeles suburb) at the time', explained Linda. 'Things weren't going so well with the business arrangement with Ron's



Main: Ron Hock, founder of Hock Tools and author of *The Perfect Edge*. Photographed at Woodworking in America, September 2016.

Left: Knives and plane blades made by Hock Tools.

Below: 'Krenov style' handplanes with Hock blades. The central plane was made by James Krenov.



father. Then, one hot summer night, Ron is yet again lying awake, stewing on what he is going to do. He wakes me up, sits bolt upright, and says "I'm going to be a knifemaker." "Of course", I say to Ron, "and I'll write the next great American novel", and turn over to go back to sleep.'

Forward in time again, one of the instructors at Krenov's school heard about 'a knifemaker' and then went to see Ron to ask about supplying blades for James Krenov's plane making classes. Ron said, 'Oh leave me alone, I'm busy going broke making knives', but was later convinced that it could be worth trying.

The first batch of blades was tentatively received, however the second batch, made in a different alloy, was so successful that according to Ron, the basic specs have not changed in 35 years*.

At a time when James Krenov was plagued by and refused requests to endorse all kinds of products, Hock blades were something he voluntarily promoted to others because they 'closed the circle for him'. 'We had an incredible synergy', said Ron. 'I

had this great relationship with Jim Krenov and we were good friends.'

In those early days when specialty products for fine woodworking were being developed, the growing reputation of Hock Tools' line of replacement blades made them an established mainstay. The range now includes over 100 different products and the market for them continues to grow.

Ron is an acknowledged expert in metallurgy and sharpening of tool steel. In *The Perfect Edge* (2009), he describes the characteristics of various steels and their suitability as tooling for woodworking. Ron's knowledge is largely self taught, learned while working in the family sheetmetal business, and through his own endeavours as a sculptor and knifemaker. 'I started making knives from sawblade stock from the lumbermill. And then I was just learning it by doing it. And reading a lot of books.'

'Providing the answer to the question, 'Which tool steel should I get: O1 or A2?' is something Ron has considered putting on his answering machine. So I risked asking him one more time...

'A2 holds its edge longer, that's its claim to fame as a woodworking blade. O1 is more like grandpa's blade that everyone reveres. The "O" stands for oil hardening, which means it was quenched in oil when it was hardened during the heat treating process. "A" stands for air, or air quenching, you can just take it out of the high temperature oven and it will harden fully in still air.'

With only two employees, Ron and Linda's business has remained a small scale enterprise. 'One of the fun parts about being the lone entrepreneur is that I get to do all the stuff that I consider to be fun, and I still do most of the customer support...', said Ron, noting that most people are surprised when, all jokes about answering machines aside, he's often the one to pick up the phone.

** With the retirement of his machinist, production of some Hock blades now takes place in France. These blades have a shinier appearance and are of an even higher quality.*

For more information see www.hocktools.com

Hock Tools are available in Australia from www.woodworksupplies.com.au



Making a Hand Tool Chest, Part 2

Troy McDonald completes the final stages in constructing a hand tool chest for his carving tools.

Last issue I outlined the construction of a tool chest suitable for any number of storage solutions which in my case was aimed specifically at housing an assortment of carving tools and chisels. In this follow up article we'll explore some methods for fitting typical brass hardware to a chest of this sort and an option for efficiently constructing internal tool trays to keep everything in fine condition.

Fitting the hardware

The half mortise lock has been the lock of choice for the majority of quality case furniture for centuries. On a chest like this a variant of the half mortise lock called a chest or box lock is used which includes a keeper for mounting to the chest lid.

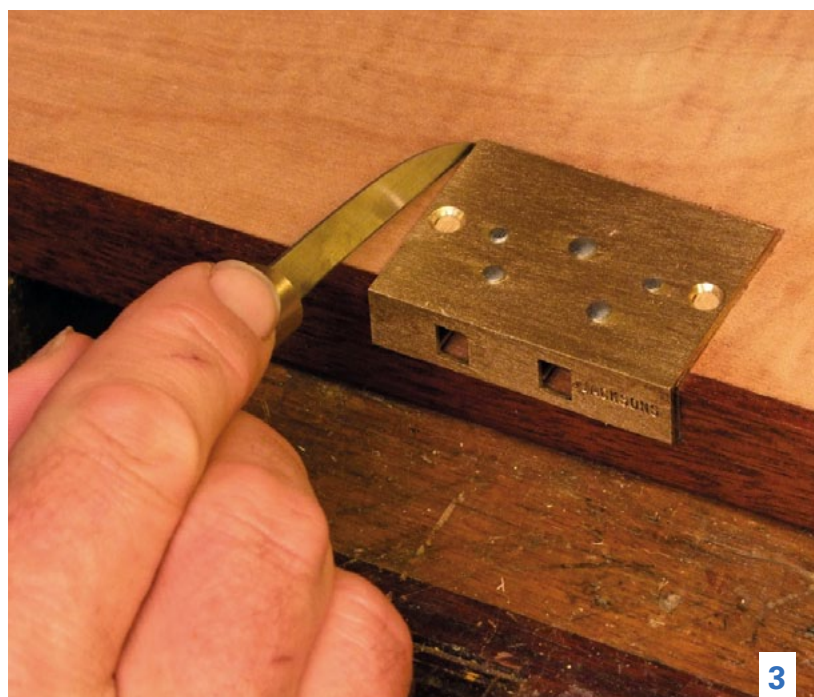


1

1. Some lock configurations have a key that is off centre to the body of the lock.
2. Set your trim router to cut a shade deeper than the total depth of the lock.
3. Mark the sides of the lock carefully with a marking knife.
4. Mark the width of both the lock body and top edge with a marking gauge.
5. After routing, finish both housings with a hand chisel.
6. Testing the final fit of the lock.



2



3

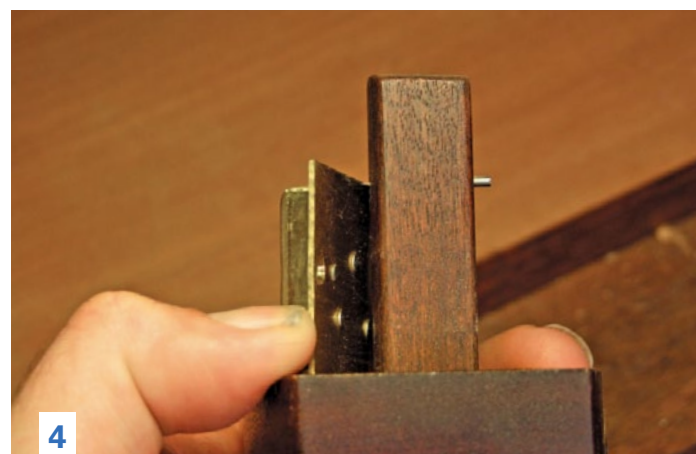
The main benefit of half mortise locks are the flush surfaces that are left on all cabinet surfaces including the interior. Although the shallow housings that are required to fit these locks were designed initially with hand tools in mind, the modern trim router now makes this job much easier and more accurate.

The first crucial step to accurate fitting of these locks is to be aware that the lock configuration can result in a key that is off centre to the body of the lock (**photo 1**). For this reason it is important to always start the layout from the location of the keyhole rather than centring the lock body on the inside of the chest.

With the position confirmed, use a marking knife to mark out the housing that will take the main body of the lock mechanism and set your trim router to cut a shade deeper than the total depth of the lock (**photo 2**).

Square up the housing with a chisel and place the lock into position to accurately mark the sides of the lock with a marking knife (**photo 3**). Note there are two housings to be cut next: one for the top edge of the lock, and one for the brass backing plate covering the lock mechanism.

Mark the width of both the lock body and top edge with a marking gauge (**photo 4**) and finally set the trim router



4

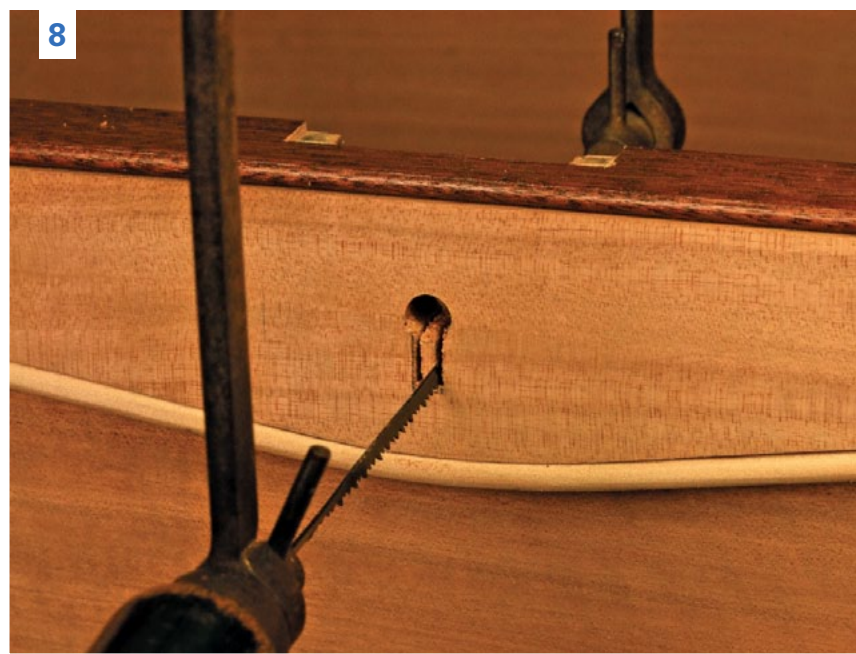
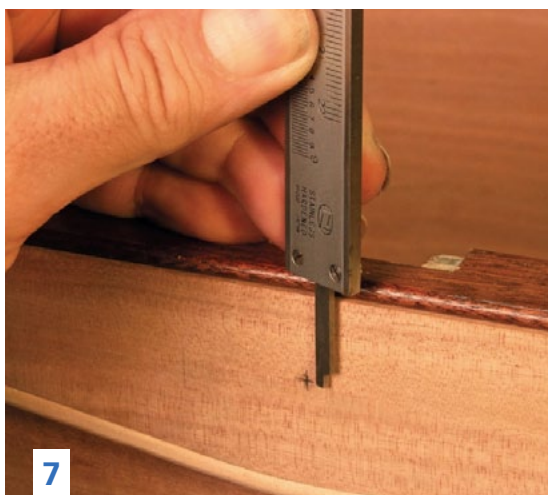


5



6

7. Transferring the measured dimension of the lock to the front of the chest.
8. Use a fine blade coping saw to open up the keyhole.
9. Widen the opening to final shape and taper with a fine rasp or file.
10. Press the escutcheon into final position with a suitable clamp.



to the depth of the brass lock plate and trim to the scribed lines. Clamp a batten to the top of the chest to ensure the router is supported by a surface of adequate width while routing the top housing.

Again, finish both housings with a hand chisel (**photo 5**) before testing the final fit of the lock (**photo 6**). Hopefully you've managed to get things spot on, but should the housing be too deep some scrap veneer works well to pack the surface of the lock flush.

The next step is to cut the opening for the key but first we need to choose a key escutcheon. The escutcheon is designed to protect the keyhole from wear whilst also providing some decoration. Surface mount escutcheons are available that can be nailed or screwed to the chest, but I prefer inset escutcheons which are fitted flush with the cabinet front.

These escutcheons do require very accurate fitting, but when properly installed will add to the traditional look of the piece. The best inset escutcheons are manufactured from cast brass although many these days seem to be extruded and then bent to a keyhole shape. Regardless of how they're made, always look for escutcheons as seen in photo 1 that are tapered front to rear to assist in achieving a tight fit.

Mark the location of the keyhole by first measuring the depth from the lock and then transferring the dimension to the front of the chest (**photo 7**). Continue to mark in pencil the shape of the escutcheon dimensions measured from the inside of the taper.

Next, measure the diameter of the top circular shape of the escutcheon and choose a clean cutting brad point or forstner bit just slightly under the required diameter. Do not use a twist drill for this initial step as it will tear the surface of the chest and make for an inferior fit.

Open up the remainder of the keyhole with a fine blade coping saw (**photo 8**) and finally widen the opening to final shape and taper with a fine rasp or file (**photo 9**). You should be left with an opening that allows the escutcheon to fit three-quarters of the way into the hole with finger pressure.

Once this is achieved, you can press the escutcheon into final position with a suitable clamp (**photo 10**). The final step is to sand the escutcheon perfectly flush with the chest leaving a gap free fit (**photo 11**).

With the lock fitted and tested for operation, the hinges must be fitted to the chest lid prior to fitting of the keeper for the lock. The hinges for this chest were simple



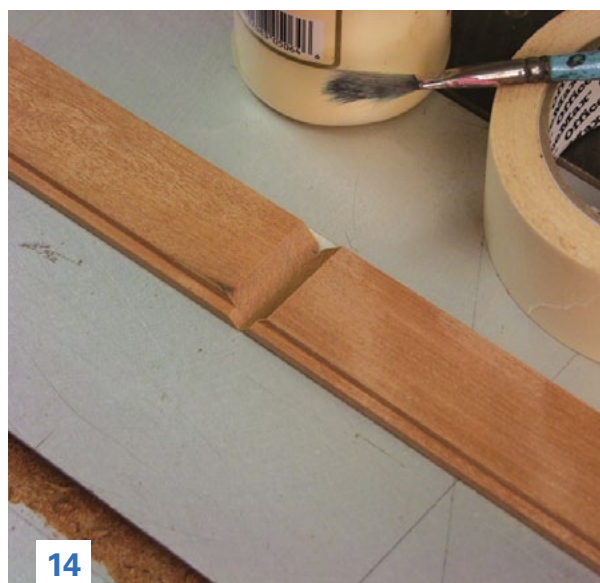
11



12



13



14

11. Sand the escutcheon flush to leave a gap free fit.
12. Place the tape on the keeper to be rebated into the lid and lock the keeper into position.
13. Cut the tray sides to length on the tablesaw.
14. Tape across the mitred joints then turn the taped pieces over to apply glue to the mitres.

butt hinges hidden within a thin 3mm bead that also adds some simple decoration to separate the main chest from the lid.

Fitting the keeper to the chest lid is made easier with a small piece of double-sided tape. Place the tape on the surface of the keeper to be rebated into the lid and lock the keeper into position (**photo 12**).

Close the chest lid and apply some pressure to the lid to activate the double-sided tape before unlocking the lid and reopening. You should end up with the keeper stuck to the lid of the box in the exact location where the housing is to be marked.

After marking with the marking knife, cut the housing with a trim router before cleaning up and screwing into position. At this stage the chest is complete with all hardware fitted.

Internal tool trays

There are a multitude of methods to make divided trays suitable for tool storage but I opted for the simplicity of a mitred frame with a plywood base glued into position for additional strength.

Trays like these look best when made with material in proportion and for this application the sides were machined

to a sectional size of 35 x 7mm. I chose to cut a very small decorative bead with a scratchstock on the top outside edge of the tray sides before cutting the rebate on the router table that would house the plywood base.

With both rebates and beading complete, the sides can be cut to length on the tablesaw. For accuracy, set up your tablesaw with stop blocks for repeat mitre cuts to ensure the trays will be perfectly square (**photo 13**).

To simplify the glue up of the trays, lay out the sides end to end on a flat surface and tape across the mitred joints before turning the taped pieces over to apply glue to the mitres (**photo 14**). Fold the taped joints together to form a box and apply small pins or brads to the mitres to hold them in position.

Glue and nail the base into position prior to the mitred joints drying to ensure everything is held perfectly square. Making trays in this way is very quick and accurate and if done correctly will require close to no clean up and final fitting.

Internal dividers

To avoid the need for cutting housings into the tray sides to take dividers I decided to cut dividers with a cove shape that not only supported the chisels but also provided a wider base suitable for gluing to the tray bottom.



15



16



17

- 15. Cut the coved dividers as long strips on the router table.
- 16. Made this way the dividers are very functional in use.
- 17. The bulk of the waste was removed with a trimmer and 3mm bit.
- 18. The finished monogram after oiling and waxing.



18

Avoiding housings in the sides allowed for greater flexibility in positioning the dividers for tools of different sizes. Cut the coved dividers as long strips on the router table or spindle moulder as shown in **photo 15**. To improve access to carving chisels, I chose to position individual dividers for the handles and blades, each separated by a gap that allows for the chisels to be easily picked up in use.

To further improve access I mitred the ends of the dividers at 45°. To ensure the dividers are in perfect alignment, cut a spacer to guide their position before applying a small amount of glue to their base and firing a brad into the spacer from beneath the base. Positioning the dividers in this way was both simple and accurate and the result is very functional (**photo 16**).

Some carved decoration

With the tool trays complete it seemed appropriate to put the chisels to use in producing a small relief carved monogram to fit to the inside of the chest lid. The monogram shown here is 5mm thick with relief carving to a depth of only 3mm.

The outside edge of the oval shape was rounded over on the router table before carving some beaded decoration.

The monogram pattern was then transferred to the carving blank with carbon paper before removing the bulk of the groundwork with the trim router and a 3mm bit (**photo 17**).

With the bulk of the waste complete the pattern can be set in with a selection of gouges and straight chisels. The real challenge comes next whereby gouges are used to impart some 'life' to the letters by hollowing and rounding over. This creates depth in the design which is further enhanced by ensuring the lettering overlaps in places. After a coat of shellac and wax the final monogram is shown in **photo 18**.

Plenty of additional storage was provided within the chest for mallets, strops, punches and sharpening stones, and with some creativity there are plenty of options available to accommodate other tools as well.

With only a relatively small quantity of timber required, projects like these present plenty of opportunity for further developing your existing skills whilst trying your hand at a few new techniques as well.



Photos: Troy McDonald

Troy McDonald is an engineer and woodworker based in Brisbane. Email: helenoftroy1@optusnet.com.au



Beautiful Ebony Chamfer Plane from Mujingfang

Crafted by Mujingfang in China, these small chamfer planes are superb.

The body is 150mm long and has an adjustable guide that screws to the base.

You can select a 45° or 30° chamfer.

The 30mm wide blade is pre sharpened.

Easy to plane a clean chamfer in and the ebony gives the tool enough mass to perform well.

Base guide can be flipped to change the angle being planed. Our only criticism is that the guide can't be moved across the width.

30mm wide and sharp blade. Ebony body.

Set up ready to use ex-factory.



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Unfolds

Twenty five members of the Danish Cabinetmakers Association recently mounted an exhibition of works to celebrate their 25th anniversary.

When the Danish Cabinetmakers Association have a group exhibition it tends to gain worldwide interest and attention. Unfolds was a collection of work based on the theme of a cube that ran from February 24 until May 14, 2017 at Designmuseum Denmark.

'What makes this group unique is that what we meet about is not profit-based', writes DCA chair Finn Killbuck Johansen in his catalogue preamble. 'We meet because we like exchanging views, discussing ideas and solutions in the free space that we have created.' Two of the members whose work features in the exhibition are international associates Roy Schack and Shinobu Kobayashi who both live and work in Australia.

Preparation for Unfolds has been in the pipeline for two years prior to its opening in February 2017, with members presenting their works to each other for valuable feedback.

The parameters were four-fold. All works had to be cube-shaped, incorporate an element of silver, 'unfold' in some sort of way, and finally, be able to withstand being touched and handled by visitors.

The latter was seen as a key element in permitting the sensory experience which is necessary for the appreciation of fine craftsmanship. The design brief also allowed makers to explore ideas of transformation and levels of meaning.

The works presented reveal a staggering range of interpretation from functional and transformative design through to personal narratives and playful and mechanical exploration.

Photos: Iben Kaufmann

For more information see www.moebelsnedkerforeningen.dk and www.designmuseum.dk





1



2



3



4



5

Main: Finn Killbuck Johansen, *Scent of a Woodsman*, padauk veneer, fiddleback maple. Each small box contains a different wood chosen for its distinct odour.

1. The Quintet: Naja Falhof, Anders Rørvig Abildgaard, Katrine Lerche, Sif Skovsen and Cecilie Scherfig. *The Cube That Disappeared*, rosewood and mahogany veneered surfaces with silver plated edging.

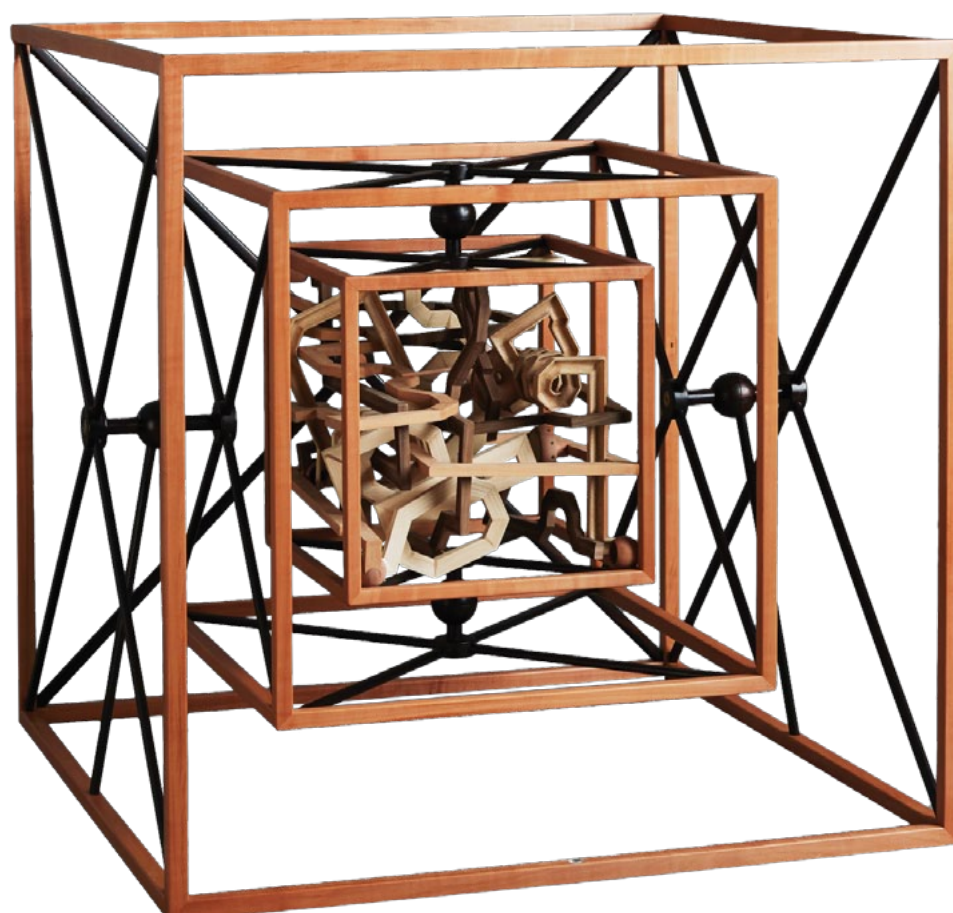
2. Andrea Stokholm, *Asa No Ha Lampe*, based on one of the most common and traditional Japanese kumiko patterns.

3. Roy Schack: 'Hope's Flower' represents the idea of always looking to the future, no matter how difficult or impossible things may seem.'

4. Arne Mainkvist, *Kubus Ludus*, maple, elm, walnut, brass and steel.

5. Akiko Kuwahata and Ken Winther, *Congratulations Machine*. 'It has been joyful to explore the world of wooden automata.'

6. Teis Dich Abrahamsen, *Cube in a cube in a cube*. A technical suspension allows an 11mm steel ball to travel through different levels.



6

Wood Diary

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www.woodreview.com.au

Diary listings are free. **Mail to:** Wood Diary, PO Box 3893, Loganholme DC, Qld 4129 **Email to:** linda@woodreview.com.au

Note: Listings are correct at time of publication but may be subject to change. It is advisable to check details with the organiser before visiting.

19–28 MAY

Splinters Woodwork Exhibition in conjunction with Eurobodalla River of Art

Mechanics Institute Hall,
Page St, Moruya, NSW
Eric Simes: esimes@bigpond.com

22–26 MAY

LIGNA 2017

Hannover, Germany
www.ligna.de

24–28 MAY

Wood Turning Magic 2017

Peninsula Woodturners Guild
Peninsula Community Theatre
Cnr Wilson's Rd & Nepean Hwy,
Mornington, Vic
www.pwguild.org.au

26–28 MAY

Timber & Working With Wood Show

Brisbane (formerly RNA) Showgrounds
Bowen Hills, Brisbane, Qld
www.timbershows.com.au

2–3 JUNE

Boonah Show

Includes woodwork display
Boonah, Qld
Ross / Sandy Gilbert: r.sgilbert@bigpond.com
www.boonahshowsociety.org.au

8–10 JUNE

Denfair 2017: Curated Design

Boutique Trade Event
Melbourne Convention and Exhibition Centre
www.denfair.com.au

10–11 JUNE

Woodturners society of Qld Open Weekend

WSQ Hall, 19 Pine St, Greenslopes, Qld
Ron McKee 07 3397 8156

10–11 JUNE

Annual Woodcarving Weekend (registration required)

Albury Wodonga Woodcrafters Inc
Wodonga Showgrounds, Wilson St, Wodonga Vic
Bob Cox: bobmolly6@gmail.com

10–11 JUNE

22nd Tilba Woodshow

South Coast Regional Exhibition of Woodwork
Community Hall, Central Tilba, NSW

16–18 JUNE

The Australian Woodturning Exhibition

Kingston City Hall, 2nd Flr, Banqueting Rooms
985 Nepean Hwy, Moorabbin
www.awtex.com.au

23–25 JUNE

Timber & Working With Wood Show

Sydney Olympic Park, NSW
www.timbershows.com.au

8 JULY

Maryborough Woodturners & Woodcraftsmen Open Day

Maryborough Showgrounds.
Ashley Taylor: askatay@bigpond.com

20–23 JULY

Decor + Design 2017

includes VIVID design competition
Melbourne Exhibition Centre
www.decor.designshow.com.au

4–6 AUGUST

WA Wood Show & WA Craft Show

includes Out of the Woods exhibition
Claremont Showgrounds, WA
www.wawoodshow.com.au

5–6 AUGUST

The 2017 Sydney Knife Show

Rosehill Gardens Racecourse
James Druse Dve, Rosehill, NSW
www.sydneynifeshow.com.au

10–27 AUGUST

Work by Simon Parsons

Gallows Gallery
53 Glyde St, Mosman Park, WA
www.spfurniture.com.au

12–13 AUGUST

Woodturners Society of Qld Exhibition

Mt Coot-tha Botanic Gardens Auditorium,
Toowong, Qld
Rob McKee 07 3397 8156

21 AUGUST

Wood Review Live

Passion2Profit
1:30pm–6pm
SMC Conference & Function Centre
66 Goulburn St, Sydney
www.woodreview.com.au

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www.timbershows.com.au

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Festival on the Waterfront

Record crowds flocked to this year's Australian Wooden Boat Festival. Words and photos: Linda Nathan.

In 2017 on a long weekend in mid-February when much of mainland of Australia sweltered in a record setting heatwave, Tasmania was a cool and pleasantly chilled out place to be.

Since its appearance in 1994, the biannually staged Australian Wooden Boat Festival has gone on to win tourism and community awards

while attracting steadily growing attendances from local, mainland and international visitors.

Reaching depths of 40 metres, the Port of Hobart is one of the deepest in the world. Situated at the mouth of the Derwent River and in the shadow of Mt Wellington, the harbour has great natural beauty and a maritime history stretching back to the 1700s.

This year an estimated 220,000 people flocked to the stage of the picturesque Hobart waterfront to soak up all things maritime, with a lead role played by wood and a starring role taken by Tasmanian timbers.

From the gallery, café, bar and restaurant strip of Salamanca through to upmarket Hunter St,



every wharf, dock, building and mooring and was a showcase for boats of all kinds. The 450 boats which registered for the event ranged from dinghies and kayaks, through to yachts and cabin boats, and rising above were the seven tall ships which featured at this year's event.

Paul Cullen stands at the helm of the management team, a non-profit organisation that creates a wealth of benefits for the local community and businesses. Community spirit is everywhere, notably in the large force of 415 volunteers who capably handled everything from registration, info booths and parking through to all kinds of administration and marketing. The benefits of this are

an atmosphere of ownership, sharing and excitement.

Building, restoring, fixing, maintaining, sailing, rowing and racing are activities that make boats, especially wooden ones, a journey and a voyage of discovery in their own right. On any of the four days the event runs for there may be over 50,000 people on the waterfront and yet the crowds are slow-moving and respectful as people stop here and there to admire what others have made or own.

Trade displays from around 80 exhibitors highlighted tools, finishes, adhesives and timbers for boatbuilding. Most were to be found

Main: The AWBF is the largest maritime festival in the southern hemisphere, the largest in the world being the Fete Maritime International, held in Brest, France every four years. The festival was founded in 1994 by Andy Gamlin, Cathy Hawkins and Ian Johnston who took inspiration after attending the French event. The huge visiting cruise ship Ovation of the Seas can be seen at the rear.

Above: Contestants in the Quick 'n' Dirty Boat Challenge on Kings Pier drew crowds that never waned.

Top: Crowd scene on Elizabeth Pier prior to the first Parade of Sail.

1. Using 42,000 year technology, Sheldon Thomas and his team built their traditional Aboriginal canoe from stringybark, cork weed and grass over a three month period, most of which was taken up with handmaking the rope. The canoe led the welcome to country held at the start of the festival.
2. One of tall ships moored along Elizabeth Street Pier.
3. Rolling up the sails on the tall ship The James Craig.
4. Reinier Sijkins delighted crowds at Constitution Dock and Kings Pier Marina with his Muziekboot (music boat) and rendition of both Dutch and Australian songs.
5. Members of the Hobart Vintage Machinery Society displayed steam engines next to a period style workshop.
6. Members of the visiting Dutch contingent in period costume.
7. European settlers in Tasmania found an island well resourced with timbers ideal for boatbuilding. The natural oils and extractives found in Huon pine, celery top pine and King Billy pine lent their properties of durability and rot and insect resistance.



1



2



3

in Princes Wharf No.1, however others are dotted around the festival site.

During the festival related exhibitions featured nearby at the Tasmanian Museum and Art Gallery, the Maritime Museum and Mawson's Hut while capacity audiences attended presentations by international and guest speakers at the ANMM International Wooden Boat Symposium at the Hunter Street campus of the University of Tasmania.

This year the festival partnered with the Netherlands. 'The Dutch Project' celebrated the 375th anniversary of Abel Tasman's visit to Australia with exhibitions that highlighted the genius of 16th century navigators and explorers. Notable within the visiting Dutch contingent was a team of student boat builders led by Bert van Baar who built a traditional Dutch sailing dinghy at the Wooden Boat Centre in Franklin.

With a sail area just shy of the one it is named for, the BM16m2 was constructed from Hydrowood celery top pine that was harvested from Lake Pieman. The finished boat was displayed at the AWBF and auctioned off on the Sunday for \$28,000.

Several beautiful sailboats were shipped from the Netherlands for the event, including four Friese tjotters and two 12 foot Dutch dinghis and the Regenboog Oranje, made as a traditional gift for the Dutch Royal couple, and now the oldest class of sailing boat in the Netherlands.

The tall ships dominate the festival by virtue of their impressive high masts and rigging, and by the history and romance of the open seas their vision conjures. Visiting tall ships included the Young Endeavour, The James Craig, The Enterprize and SV Tenacious.

Tasmanian tall ships could be viewed along Elizabeth Street Pier. These included the Lady Nelson, the restored fishing ketch Julie Burgess, Rhona H, Yukon, Southern Cross London and the brigantine Windeward Bound.

The three masted barque SV Tenacious is the largest ship of its type to built in the UK for a century. It was built in 2000 by a team of 1500 volunteers, half of whom have a disability. SV Tenacious has been built in such a way that those with a disability can work the ship on ocean going voyages.

Other boats of note included the Benito, a lobster boat designed and made in Maine, USA; the steam yacht Ena which served with the Royal Australian Navy during WWI as a patrol boat and later for training operations and the retired but now restored fishing boat Britannia.



The 5.6 metre speed boat Eleanora drew attention from crowds who appreciated its high level of finish. It was five years ago, at the age of 20, that Ben Brayshaw, now an RMIT graduate of furniture and industrial design, started building the boat in his garage.

On Friday Feb 10, the first day, things got off to a relaxed start. A smoking ceremony and welcome to country took place on a boat that cruised into Sullivan's Cove on the tail of a bark canoe that was paddled steadily ahead of it. The first parade of sail, scheduled around noon got off to a slow start due to wind conditions, but still delighted the crowds as tall ships and other boats docked on the waterfront.

At sea various events including parades of sail, cruises, skiff races captivated the crowds. Numerous stalls offered street food, while buskers, street theatre and programs

of music on Parliament lawns entertained ever-present crowds.

A marquis featured a range of artisans demonstrating trades associated with boatbuilding, including wire splitting, split cane rod making, ornamental knot tying, scrimshaw and other crafts. Outside the marquis were displays relating to early boat building technology which focused on use of the axe and shaping logs.

On the last day, a multitude of boats, ships and other craft marked the end of the event with a 'sail past' down the Derwent River.

The next Australian Wooden Boat Festival will take place in 2019 and the guest country will be the USA with 400 US sailors tipped to attend. If you love boats and woodworking, this is one festival that you should definitely plan to visit.

See www.australianwoodenboatfestival.com.au



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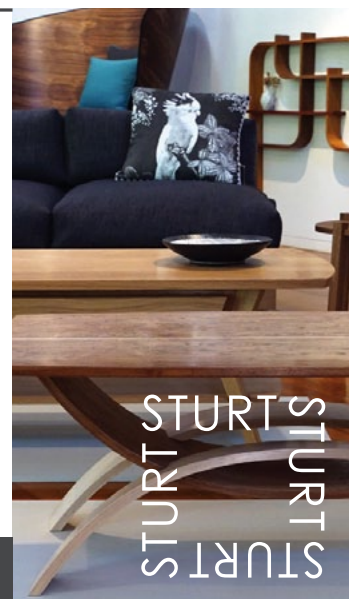
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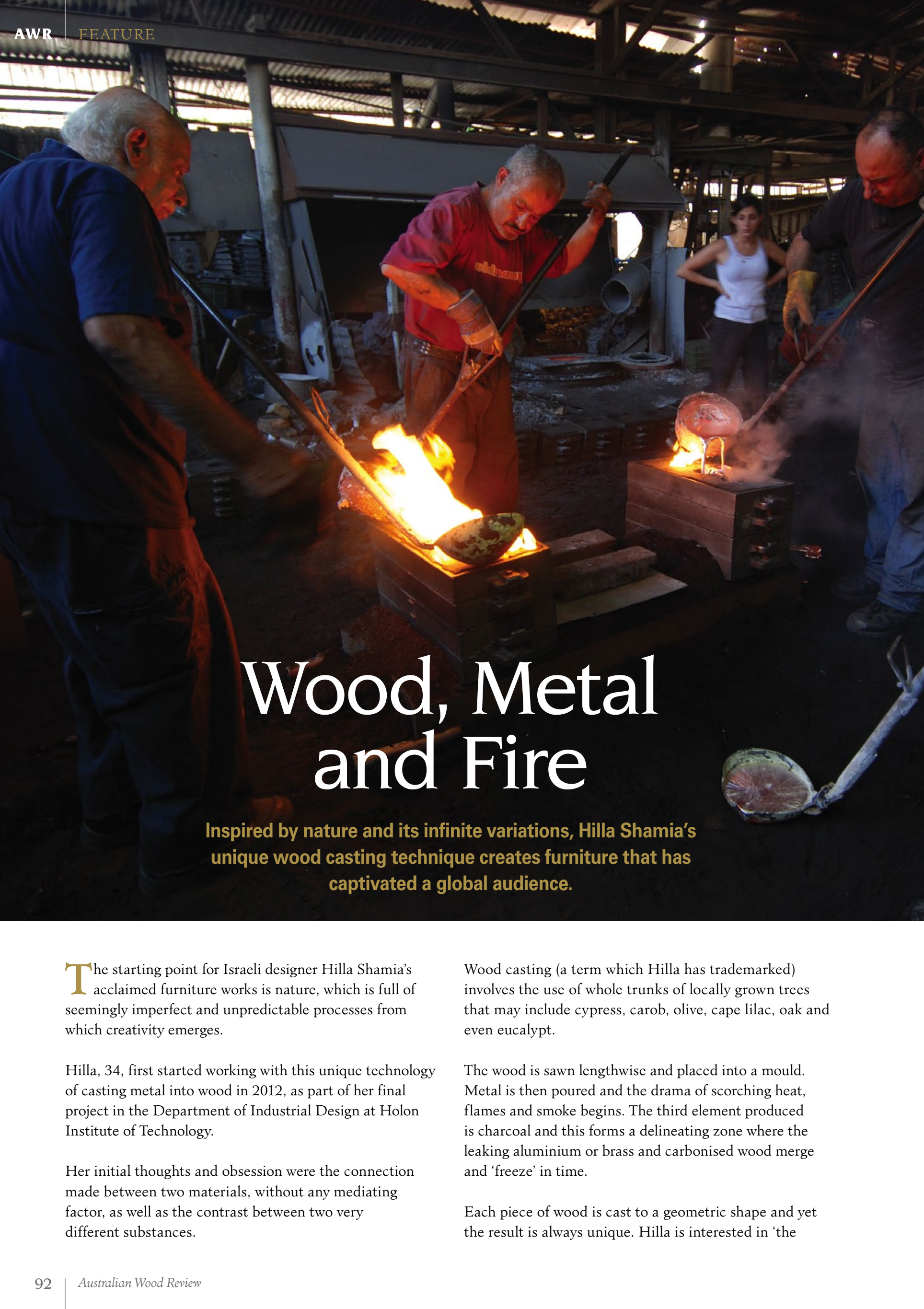
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The starting point for Israeli designer Hilla Shamia's acclaimed furniture works is nature, which is full of seemingly imperfect and unpredictable processes from which creativity emerges.

Hilla, 34, first started working with this unique technology of casting metal into wood in 2012, as part of her final project in the Department of Industrial Design at Holon Institute of Technology.

Her initial thoughts and obsession were the connection made between two materials, without any mediating factor, as well as the contrast between two very different substances.

Wood casting (a term which Hilla has trademarked) involves the use of whole trunks of locally grown trees that may include cypress, carob, olive, cape lilac, oak and even eucalypt.

The wood is sawn lengthwise and placed into a mould. Metal is then poured and the drama of scorching heat, flames and smoke begins. The third element produced is charcoal and this forms a delineating zone where the leaking aluminium or brass and carbonised wood merge and 'freeze' in time.

Each piece of wood is cast to a geometric shape and yet the result is always unique. Hilla is interested in 'the



Main: Hilla Shamia watches on as her team undertake the wood casting process.

Above and below left: Furniture by Hilla Shamia made from cypress cast in aluminium.

Below: Pendulum clock in oak.



concept of imperfect objects, which facilitate a stronger emotional connection'.

In the process of wood casting the defects of the wood – its cracks, wounds and scars, as well as its process of burning – become positive and desirable.

Hilla Shamia's wood casting furniture has been exhibited internationally and widely featured in design magazines and social media. She operates an independent design studio in Tel Aviv and also works with glass to produce sculptures and light fixtures.

For more information see www.hillashamia.com

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The Real Value of Machinery

In hindsight, Darren Oates weighs up the significant cost of a recent machinery purchase with what it might have saved.



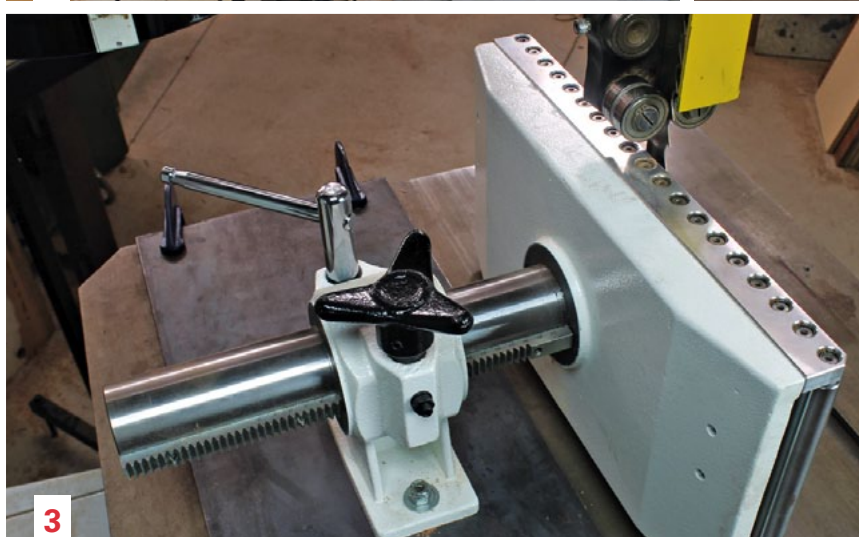
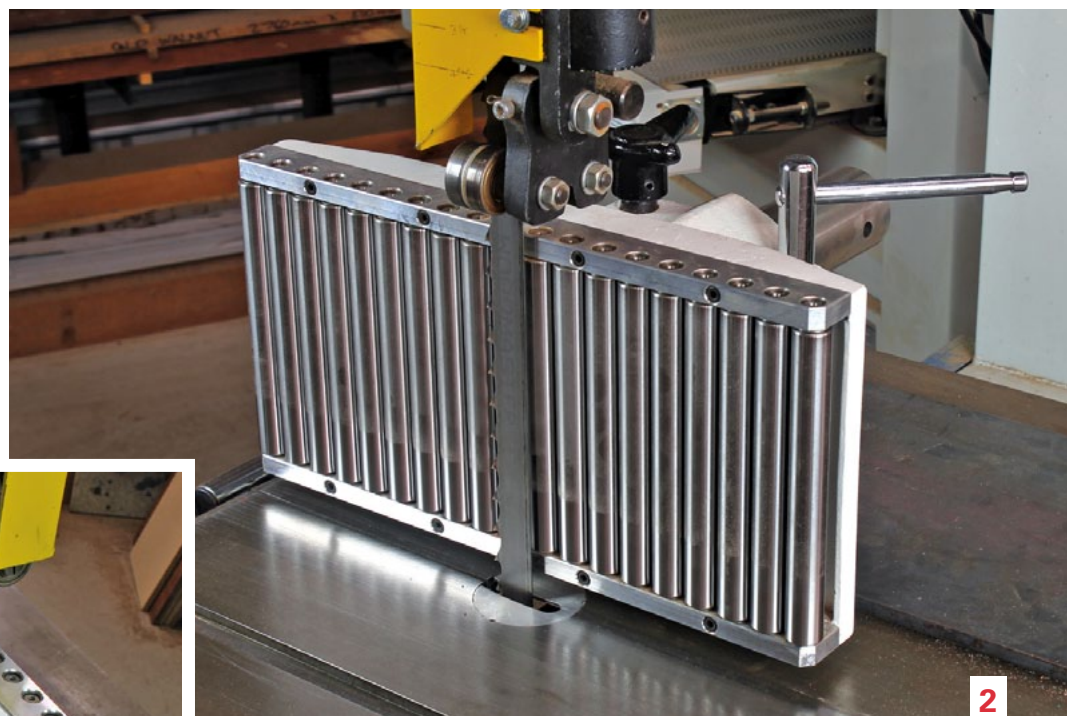
In the space of fifteen months I have had three shoulder operations. This unfortunately is the side effect of my style of making. Just about all of my furniture has a curved laminated element to it which has me pushing wood through my bandsaw just about every other day.

I have calculated that over the past ten years I have pushed approximately 15–20km of timber through my trusty Hafco bandsaw. For me to carry on designing and making fine furniture I had to remove this element, so that was when I decided to research bandsaw feeders.

The only one I could find that suited my purpose and my budget was the Taiwanese made Co-Matic AF19. The unit had to be ordered in and arrived after eight weeks, packed in a well built plywood box which took some time to unpack as it was all nailed together. As with all machines purchased new, this one did not come with a power plug – you have to get this fitted to the supplied cable.

I ordered the three phase unit however the single was supplied. (The suppliers were apologetic and organised for the three phase to be shipped.) Both versions are rated at 1/2hp. It's a 10 speed unit ranging from 1–15 metres per minute selected via a two speed power switch and through the five speed pulley-driven unit.

No assembly is required, only the mounting of it to your bandsaw. Normally this would be quick and easy: drill two holes into the bandsaw



Opposite page: The author with the Co-Matic AF19 fitted to the jig he made.

1. Showing how the unit is mounted to steel plate and clamped in place.
2. The roller fence sits higher due to the use of a jig.
3. Adjustment mechanism at the rear of the roller fence.

table for the roller fence and then four more for the feeder unit.

Set up in this way your bandsaw virtually becomes a resaw and due to the location of the feeder, normal operations cannot be carried out. I only have the one large bandsaw and even if I had the money would not have the space to set up a second one. So instead I made a portable jig that would allow me to easily connect and disconnect the feeder unit.

This took some pretty serious design work which I did while awaiting delivery so it could be hooked up as soon as it arrived. I mounted the roller fence onto an 8mm plate that could be clamped to the table (**photo 1**). This also allowed me to compensate for blade drift when fitting new bandsaw blades.

The feeder jig is moveable on four lockable castor wheels and locks to the bandsaw table with two vice grippers. It takes less than a minute to connect or disconnect the jig to my machine so very fast to go from bandsawing to resawing. The feeder comes with full size templates to work

out where on your bandsaw the feeder and roller fence need to be mounted.

Photo 1 As you can see, I fitted infeed and outfeed rollers to the jig to assist with resawing. When the feeder unit is fitted the correct distance from the blade, the swivel mounting point half hangs over the edge of the bandsaw table. This was not a problem for me but your make of bandsaw may require you to fit a bracket onto the edge of your table to mount the feeder swivel base to.

Photo 2 shows the roller fence. This is a heavy duty outfit with 19 rollers with what I assume are bronze or similar replaceable bushings. This would normally be mounted with minimal space underneath the fence but mounting the unit to an 8mm plate has left the gap shown which to date has caused no issues.

Photo 3 shows the back of the roller fence and if you look closely you will see the ruler inscribed in centimetres adjacent to the notched extension column. This also shows the locking and extension handles for moving the fence in or out.

Photo 4 shows the five speed pulley housing. The wider green flat belt drives the lower set of pullies and the narrow V-belt is changed to suit the final speed required. On the side of the housing is a locking bolt which is loosened and a hex bolt which raises the lower pullies so the belt can be moved left or right.

On the housing door are shown belt positions that correspond to feed speeds. The lower pullies are then lowered and locked in place. This operation should be performed with the machine isolated from the mains supply.

Photo 5 The only maintenance points on this machine are an oil inlet port for the gearbox and a grease nipple for the swivel point. (Both grease and oil were supplied with the machine.) This image also shows the adjustable compression spring. There is a nut on the shaft which will compress or decompress the spring to adjust the pressure applied to the wood to push it against the roller fence depending on the width of the timber.



Photo 6 shows the serrated drive wheels. The machine was supplied with a cast fence that was mounted in front of the wheels. Mine broke off within the first five minutes of using the feeder. Having said that I believe this cover is totally unnecessary and thought the machine was better without it. If you were that concerned that you may somehow put your fingers between the wheels and the timber that you were cutting, and had the same problem I did with the factory original, it would not take much to make one out of plate steel and mount it in place of the original.

Once the feeder was attached to my bandsaw it was a case of working out what speed to set. I started at the slowest setting and worked up until I found a comfortable cutting feed rate. This turned out to be a lot faster than I thought it would be. It took a bit of time to figure out how much to adjust the pressure spring on the swing arm so there would be no slippage from the serrated wheels on the timber, but this got easier the more I used it.

The maximum recommended width of timber the feeder can handle is 210mm between the feeder rollers and the bandsaw blade and 200mm between the roller fence and blade for a total of 410mm, but the way I have mounted the roller fence this could be extended for wider



boards. The recommended minimum distance between the roller fence and the blade is 3mm but I have successfully cut 2mm laminations on this with no problems so I think that recommendation is a bit conservative.

One issue I had with the machine is having to adjust the compression spring after several passes as the board was getting thinner. Co-Matic make a pneumatic version of this machine which would alleviate this issue, but of course at a cost. I use this machine a couple of times a week and while it would be nice to have the upgrade it doesn't bother me enough to warrant the cost.

Another issue with the compression spring arises when resawing wider boards into thin laminations. Once the wider timber has passed, the spring does come off the two spring guides at either end of it. An easy fix to this was to turn a cylinder of wood with an inner diameter slightly larger than the spring adjust rod and an outer diameter slightly smaller than the inside of the compression spring. I



- 4. Five speed pulley housing.
- 5. Maintenance points: gearbox oil inlet and grease nipple on swivel point.
- 6. Serrated drive wheels.

then undid the spring adjust rod and slid this tube over it inside the spring, and this now keeps the spring in place.

I had one occasion where I was resawing for about two hours constant with 50mm thick eucalypt boards. The single phase motor was getting rather hot to the touch and I will be interested to see how the three phase motor compares when it arrives.

The only disappointment I have with this machine is that I didn't buy it five years ago, as it may have saved me from the physical and financial cost of three shoulder operations and recovery downtime, but as per usual you don't learn the real value of things until it is too late.

For the ease at which it does its job I highly recommend fitting one of these machines to your bandsaw if your needs also require it.

Photos: Darren Oates

Bandsaw feeder supplied by Leda Machinery, www.ledamachinery.com.au



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Precision Square

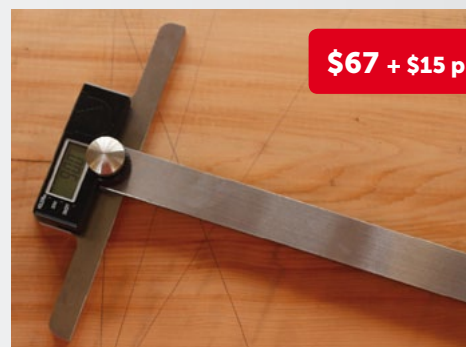
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