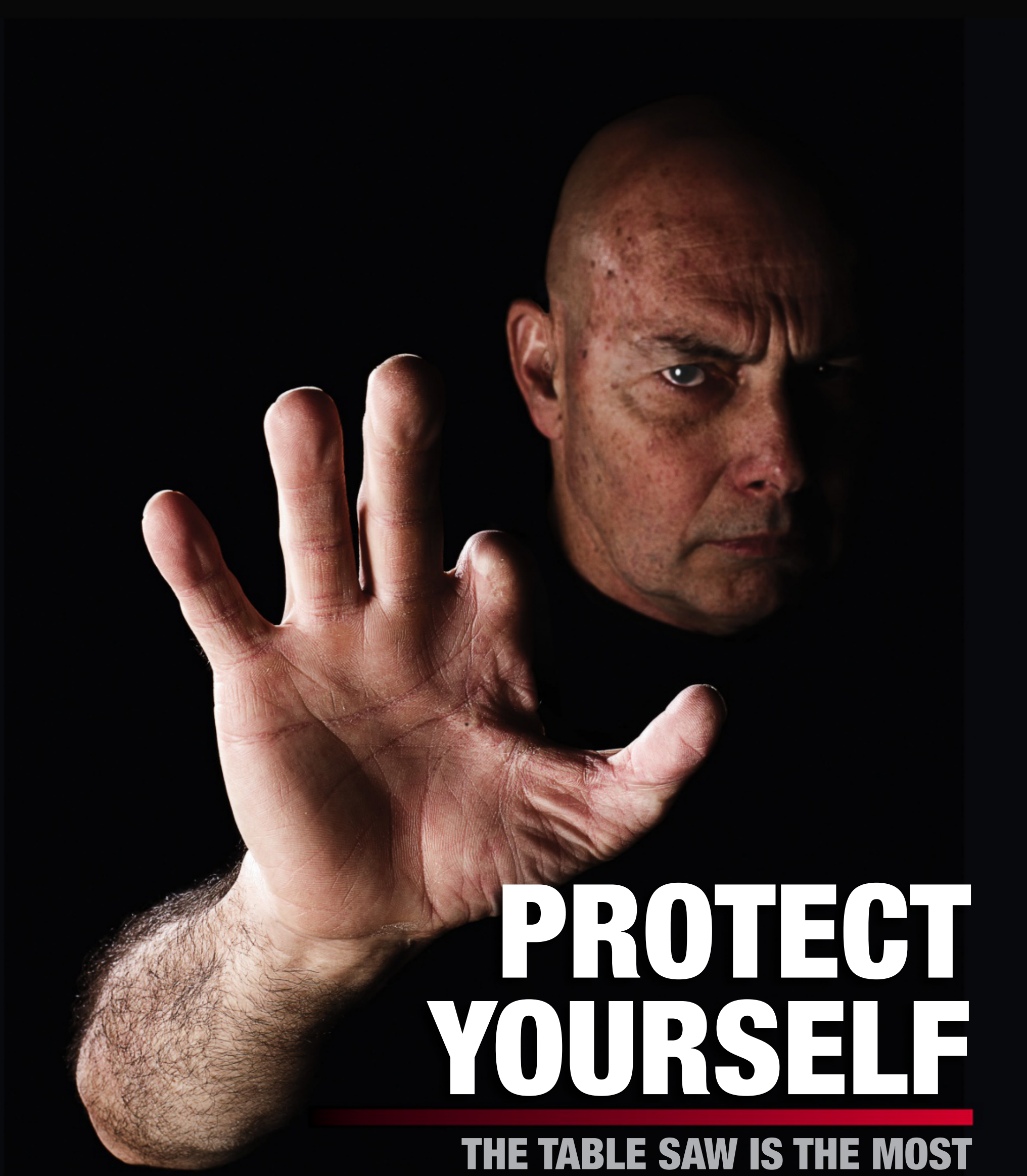

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AUSTRALIAN
Wood
REVIEW
106

DARREN FRY
Details of Design

STICK BY STICK
Build a Rustic Chair

HOW TO

- CABINET ON STAND
- MAKE A SCRAPER PLANE
- FINISHING TECHNIQUES
- SHAVEHORSE

TESTED

- NOVA BENCHTOP DRILL PRESS
- LAGUNA REVO 12/16 MIDI-LATHE
- ARBORTECH MINI PRO SHAPER

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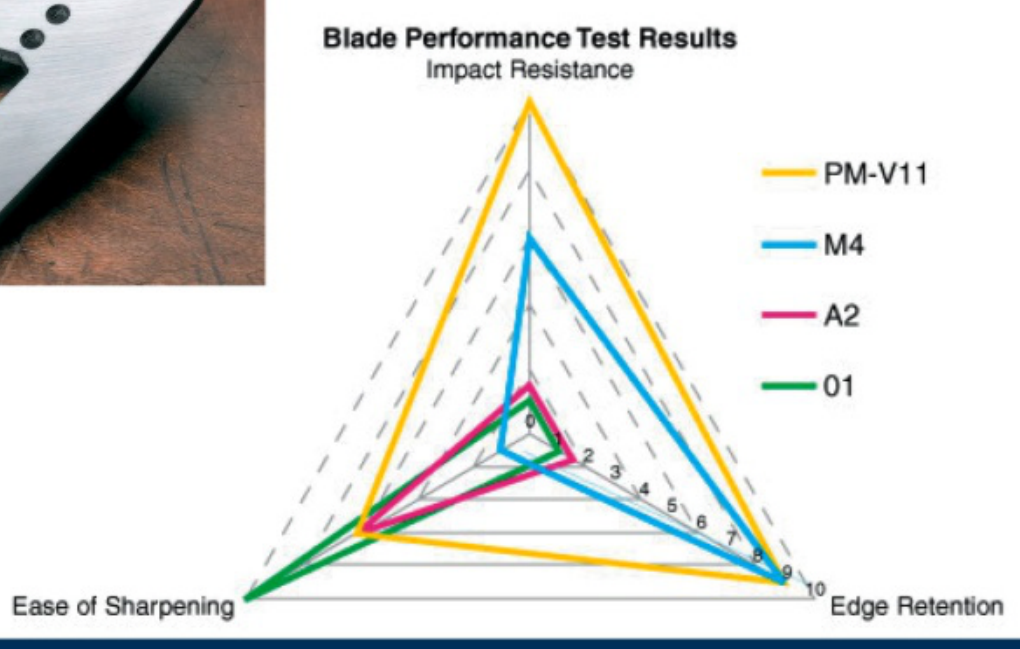

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Australian Wood Review 106

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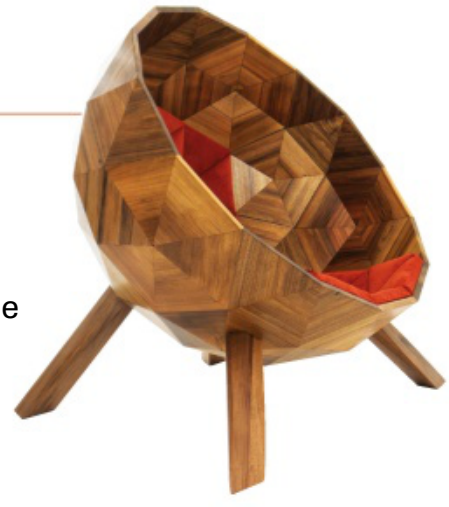

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Editor's Letter

AWR Maker of the Year

Our big news for 2020 is the advent of our brand new awards! *AWR Maker of the Year* is a platform for all woodworkers to share their latest work. You can be an amateur, a professional or a student at any level. The competition is open to woodworkers in Australia and New Zealand, and best of all, entry is now open via our website.

AWR Maker of the Year is proudly presented by 3M and sponsored by great industry brands and supporters of woodworking, Hare & Forbes, Carbatec, Felder Group Australia and Whittle Waxes. The awards carry over $15,000 in cash and product.

I hope you consider entering – we would love to share your work on our digital and social media. Information and entry is via www.woodreview.com.au/moty

No secrets

South Australian maker Darren Fry is on our cover. Having long admired his work I was interested to hear some of his woodworking secrets. Turns out there really aren't any: just put in a few decades of full time woodworking, and then apply a take-no-prisoners approach to design and making. When he finishes a piece his goal is to never say 'next time I'll do it this way' or 'it could be better'. Read about Darren's 'extreme design process' from p.38.

The why and the how

Why we make things can be more important than the how. On a practical level it makes sense to be sure of commitment before spending huge chunks of our lives mastering skills. And as well as passion, there is also belief.

At age 20, Harry T. Morris is one of those people who does have a clear vision of what's important to them and what they want to do with their lives. After studying furniture making and conservation in the UK and then Japan, Harry recently spent time in Australia and made the cabinet described on page 26. More than a how-to, his story explains why this piece sums up his philosophy of making.

Stick by stick

Jeff Donne captures the essence of make-do artistry in his story on building stick furniture which recalls traditions of Windsor chairmaking and Australian bush furniture. Jimmy Possum chairs are one of the post-colonial furniture icons of Australia and from the last century there are makers like Gay Hawkes and Pip Giovanelli whose furniture made from branches, sticks and driftwood now resides in national collections.

This is furniture made with often but not always green wood using very few tools. 'Is it fine furniture?' Jeff asks of the unique chair that you can see being made in his story. I would say yes.

In the new year

And lastly, it's hard to comprehend the savagery of the recent bushfire and weather events. Words can fail when it comes to knowing what it's like to be in another person's shoes. However if you've been impacted our thoughts are with you, and we hope you are on the road to recovery.

Linda Nathan, Editor
linda@woodreview.com.au

Australian Wood Review

www.woodreview.com.au

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COVER:
Darren Fry in his Adelaide, South Australia studio

COVER PHOTOGRAPHY:
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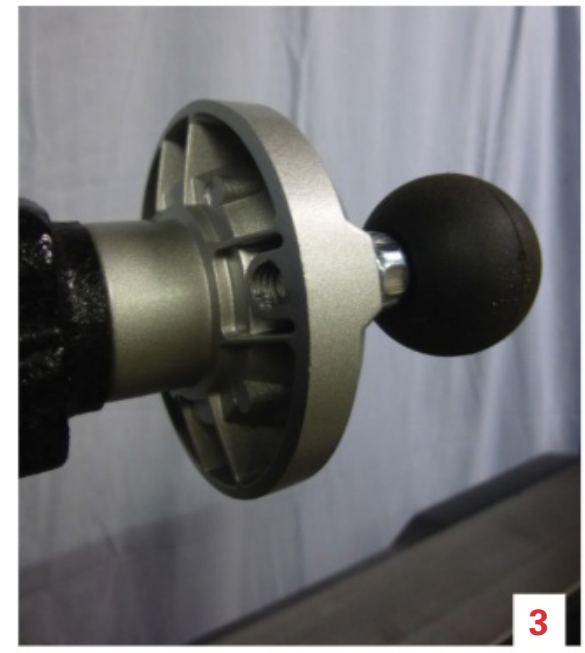

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Laguna Revo 12/16 Midi-Lathe

Reviewed by Andrew Potocnik

Opening the box I couldn't help but be impressed. Bold in black, weighing in at 54kg and with a wide bed and solid construction – it certainly looked promising.

The lathe arrived with a dedicated stand, not your currently accepted flat-pack pressed metal version, but with a solid 3mm thick hammer finished steel. Most often stands are generic one size fits all but this one is part of the overall lathe, and it's quick and simple to assemble.

Threads are tapped directly into the stand so nuts are not required to secure bolts on assembly – inserting and tightening them is a one hand operation. And with the extra 37kg that the stand provides, the combined unit is intended to stay put. Once assembled the unit is solid, no wobble or movement of any kind.

I'm very pleasantly surprised by the price, considering it is a US product and the stand is high quality.

A booklet gives clear information for the lathe in both metric and imperial, however assembly instructions for the stand are not provided. Sixteen screws make assembly quick and easy.

Moving the lathe from its box onto the stand requires two people, although lateral thinking got this down to a one person operation which, including stand assembly, took less than 45 minutes. Secure the lathe to the stand with four bolts and you're ready to plug in and go.

A quick test of how parts slide, lock and pivot and how well they are machined is always a good starting point before flicking the switch. Everything performed as expected however the split collet saddle for tightening the toolrest requires more tension than what I'm used to. All levers are large and easy to operate, locking firmly with little effort.

There are many features to like. Most importantly, easy access to switches

1. Test machine fully assembled. Extension beds are available for overall bed length and for turning outside the left-hand side of the headstock.
2. Showing the digital read-out. On/off and variable speed switches are easily accessed – it's just so easy to stop the lathe just when you need to check how you're going.
3. The tailstock handwheel is a welcome innovation making advancement of the tailstock quill so much easier.
4. Large locking levers make adjustments easy, and a solid tool rest provides plenty of support whilst turning.

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*When the quick latch is down, user must be out of the contaminated area.

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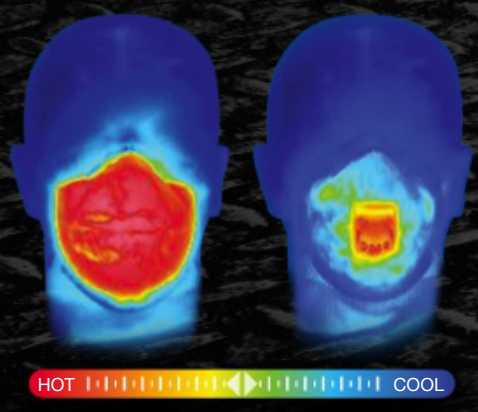

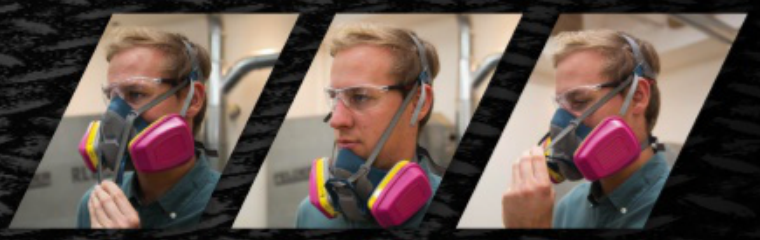

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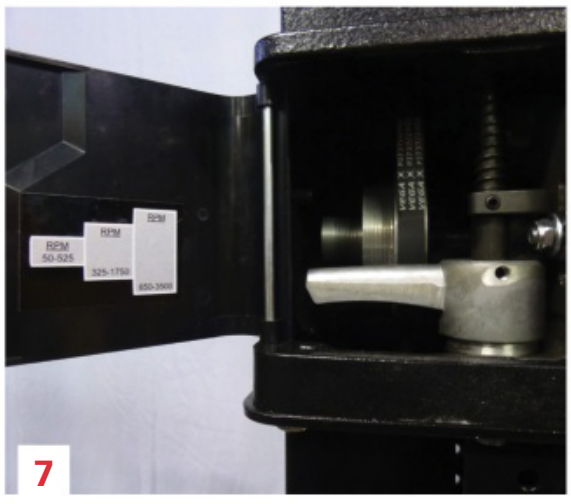
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5. Overall there is an excellent level of finish, shown here up close.

6. Supplied accessories include 750mm faceplate, tailstock live centre, drive spur and knock out bar. The tool rest has a solid 25mm/1" post.

7. The mechanism used to raise, lower and lock the motor in position for belt position changes is the best I've seen so far. There's ample overlap in speeds and keep in mind there's also electronic speed control.

LAGUNA REVO 12/16 MIDI-LATHE	
Between centres	375mm
Over bed	310mm
Speed range	50–3500 rpm
Motor size	1 hp DC permanent magnet
Spindle thread	M30 x 3.5
Pulley steps	3
Quill travel	65mm
Weight	54kg
Tool rest dia	25mm
Tool rest length	200mm
Finish	Excellent
Adjustment	Locking levers are large enough to tighten easily
Footprint	
Lathe	230 x 960mm
Stand	430 x 960mm

and speed control on the headstock means there's no need to put the turning tool down – it's just so easy to stop the lathe just when you need to check how your project is going. I'm used to a disc shaped handwheel so a cylindrical version really doesn't work for me, and I cannot see any logic in this shape.

I was particularly impressed with the mechanism used to raise, lower and lock the motor in position for belt position changes. This is the best adjustment system I've seen on any lathe. A quick turn of the lever to the side raises the motor, keeps it in place while belt changes are made and then turning the lever back locks everything in place. There's ample overlap in speeds between one pulley step and another. Keep in mind, you also have speed variation via the electronic speed control.

At the tailstock end there's a handy 65mm of quill travel and a self-ejecting feature for the supplied cup type live centre. The knob on the handwheel is a welcome innovation which enables rapid advancing of the quill and live centre, an area where some lathe manufacturers forget that older fingers are no longer as nimble as they once were.

The bed has a 6"/150mm working area which broadens to a 230mm footprint, but its relatively short length requires the tailstock to be removed when hollowing bowls or endgrain objects. Alternatively, this allows you to stand at the end of the lathe and face straight into the workpiece. There is a bed extension available which was not included in this trial, and I gather it can also be attached as an outboard extension outside the headstock.

A soft start allows for a steady speed build-up of 3–4 seconds to the selected speed rather than a sudden thud from zero to the chosen speed. Set to the highest pulley setting, the lathe topped out at 3564rpm and stayed put.

Applying heavy cuts to a 200mm diameter blackwood bowl blank I noticed a drop in revs according to my ear, but the read-out didn't show a change in speed. At other times it showed a 100rpm drop at 2000rpm. Having trialled a number of lathes in this range (see issue 105), this is acceptable and really doesn't infringe on the overall operation of the lathe.

The supplied toolrest is comfortable to use with an underhand grip but not as comfortable in an overhand grip; however its convex curved underside allows ample tool support when hollowing the interior of bowls, as well as when shaping external forms.

Overall I found the lathe to perform well and the power is great. Vibration wise it just hummed along, and noise-wise I felt no need for hearing protection.

Adjustments were easy to make to the tailstock and its centre, the saddle and toolrest. The motor maintained its revs overall and stayed cool throughout extended use. Design of the toolrest and saddle ensured easy access to the workpiece in spindle or faceplate operations.

Compared to other lathes I've trialled recently, which did not come with dedicated stands, this lathe was easy to work on and has many strengths, depending on your personal needs and preferences.

Photos: Andrew Potocnik

Review machine supplied by Gregory Machinery, www.gregmach.com

Andrew Potocnik is a wood artist and woodwork teacher who lives in Melbourne.
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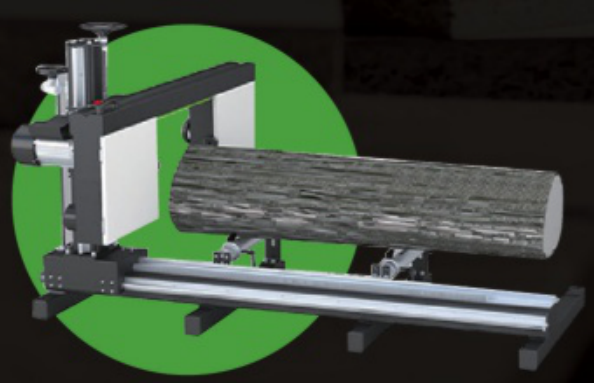

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Nova Viking DVR 16" Benchtop Drill Press

Reviewed by Damion Fauser

1

2

3

This new offering from Nova is an amazing machine. Compact and powerful, the direct drive motor means the head unit of this machine lacks the large and cumbersome nature of more traditional units as there are no pulleys or belts. Consequently, this press will take less room on your bench.

With a 1hp motor, 406mm swing, 114mm stroke and 321mm spindle-to-table range, this unit compares well to other benchtop units. Where it stands out is the rpm range, with a very low minimum of 150 through to a factory preset of 3000.

For those doing high speed cutting in some metals, this can be re-programmed up to a very impressive 6000rpm. Speed adjustment is simple and quick by turning the dial on the control panel. It also features a 5/8" chuck (1–16mm) which is certainly a standout feature for me. The user can choose between light, laser or both operating simultaneously, which is a good feature.

1. Simple speed adjustment – no belts or pulleys!
2. Bright LED to illuminate the work area.
3. This is a compact and advanced unit, with direct drive motor and intuitive control panel.

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But this is all just routine reporting of standard mechanical specifications. Where this machine really stands out for me is its technological and electronic advancement over traditional units. This machine is loaded with features to make it safer, faster and more accurate to use.

The self-start feature can be activated to make the machine start once the quill has been lowered a preset distance down from the resting position. This essentially frees up a hand where needed. The depth stop can be set electronically, with a fidelity of 0.1mm if desired. This depth is referenced off the 'zero' position, which can also be calibrated at the position where the tip of the chosen drill bit touches the surface of the material to be cut. Dial in the cut depth, start the machine and commence your cut. As the desired depth is approached, there is visual cueing on the display and audible warnings to inform the user. Once the depth is reached, the machine stops and gently reverses the quill for a number of rotations to ensure the bit doesn't bind in the hole. There is also a traditional mechanical stop that can be used in conjunction for some insurance.

Also with electronic braking, a USB port for updating the firmware, an intuitive and brightly lit control panel, fully customisable programming, and a reversing spindle option, this machine is loaded with features that will make most presses seem antique.

The Nova Viking DVR 16" is extremely well priced for what it can do for the user.

Review machine supplied by Carbatec, see www.carbatec.com.au

Damion Fauser is a furniture designer/maker who lives in Brisbane. He teaches woodwork from his Willawong workshop. Email: damion@damionfauser.com

4

4. Large 16mm quill, safety guard and adjustable laser.

Graspego Clamp Heads and Bench Stops

Reviewed by Raf Nathan

These clamp heads upgrade F-style clamps to a more sophisticated way of holding pretty well any shape. You can also use them on bar clamps. Designed in Israel and made in China, they come as two options. The heads suit all traditional style F-clamps and modern squeeze type F-clamps.

The heads secure quickly to the clamp with an allen screw and can rotate and lock into indents to prevent movement. The hard plastic heads hold soft removeable silicon covers to protect the workpiece. The heads are shaped inwards to centre the workpiece as pressure is applied.

Carvers, turners and artists will find these great for complex or curved glue-ups and also for holding odd-shaped pieces. Chairmakers should find these great for angled gluing. I found them quick to secure what would normally be difficult clamping processes.

There is also a set of four bench-mounted heads which I found very useful. These drop into standard 3/4" or 20mm bench holes and with the soft silicon covers are good for securing any sized workpieces. Given their size they also can be used as supports for polishing panels and the like.

A pair of F-style clamp heads sell for $89 whilst the bench dogs as a set of four cost $125.

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1. Soft covered bench stops fit into 3/4" or 20mm holes to support workpieces.

2. Holding odd-shaped components is easy with the clamp heads.

Supplied for review and available from Carbatec, see www.carbatec.com.au

Raf Nathan is a Queensland woodworker and tool designer.

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Arbortech Mini Pro Shaping Blade

Reviewed byAndrew Potocnik

Arbortech has released another addition to its vast range of powercarving and sanding options that revolutionise wood shaping and sculpting options available via the humble angle grinder.

This development takes the currently successful 3" (75mm) Industrial blade down to a smaller 50mm scale which fits all Mini Carver units already on the market.

If you bought the original Mini Industrial blade some years ago and are wondering how it could be improved, Arbortech released an improved 'high end' tungsten carbide blade that promised better results as part of its Mini Carver unit (a dedicated angle grinder equipped with a variable speed 7100 watt motor).

But now there's another blade that promises to surpass its predecessors offering larger cutting teeth that are able to cut left to right and be plunged directly into wood, just like the predecessor: however, the tungsten carbide cutters can be sharpened, rotated and replaced when blunt.

The difference between the two blades is that the Mini Industrial blade has a flat tooth that meets an angled outer edge, whereas each tooth of the new Mini Pro has an internal angle which enables a cleaner cut. What this really means is that the inner edge of the blade is ground back towards the disc's centre, rather than flat across, hence increasing the angle of the cutting edge.

I began this trial using the supplied Mini Industrial blade which was fitted to the supplied Mini Carver unit and then swapped over to the Mini Pro blade to see how each performed.

1

Cutting into dry mountain ash there was a clear difference in speed and ease of cut as well as resulting surface. The Mini Pro leaves a far cleaner cut, and thanks to the collection chute of the Mini Carver unit, I was left with a neat pile of cleanly cut shavings rather than a pile of dust you'd once expect from a similar set-up. And better still; the work area close to the blade was clear so I could see exactly where the blade was cutting.

Changing to a less dusty and dense European ash the results were even better, whether plunging the blade directly into the wood at 90°, or sweeping from side to side at approximately 30 to 45° where small ripples were left on the surface, but then this may be something that repeated use may eliminate.

Overall, the Mini Pro produced a cleanly cut surface, achieved with ease and generating far less dust than previous blades, even without connecting dust extraction to the chute. It may be my imagination, but it seemed that this blade also generated less noise in operation, which helps in keeping the neighbours happy if you're working in a suburban garage workshop.

Note: The Mini Carver sells for $299, or for $249 when bundled with the Mini Pro.

Review tool supplied by Arbortech, see www.arbortechtools.com/au/

Photos: Andrew Potocnik

Andrew Potocnik is a wood artist and woodwork teacher who lives in Melbourne.
Email andrewpotocnik@telstra.com


2


3

1. Showing the Mini Pro fitted to the new Mini Carver.
2. Cutting into mountain ash with the Mini Pro there was a clear difference in speed and ease of cut as well as resulting surface.
3. The replaceable cutter can also be rotated as it slowly dulls.

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Distance between center: 914mm

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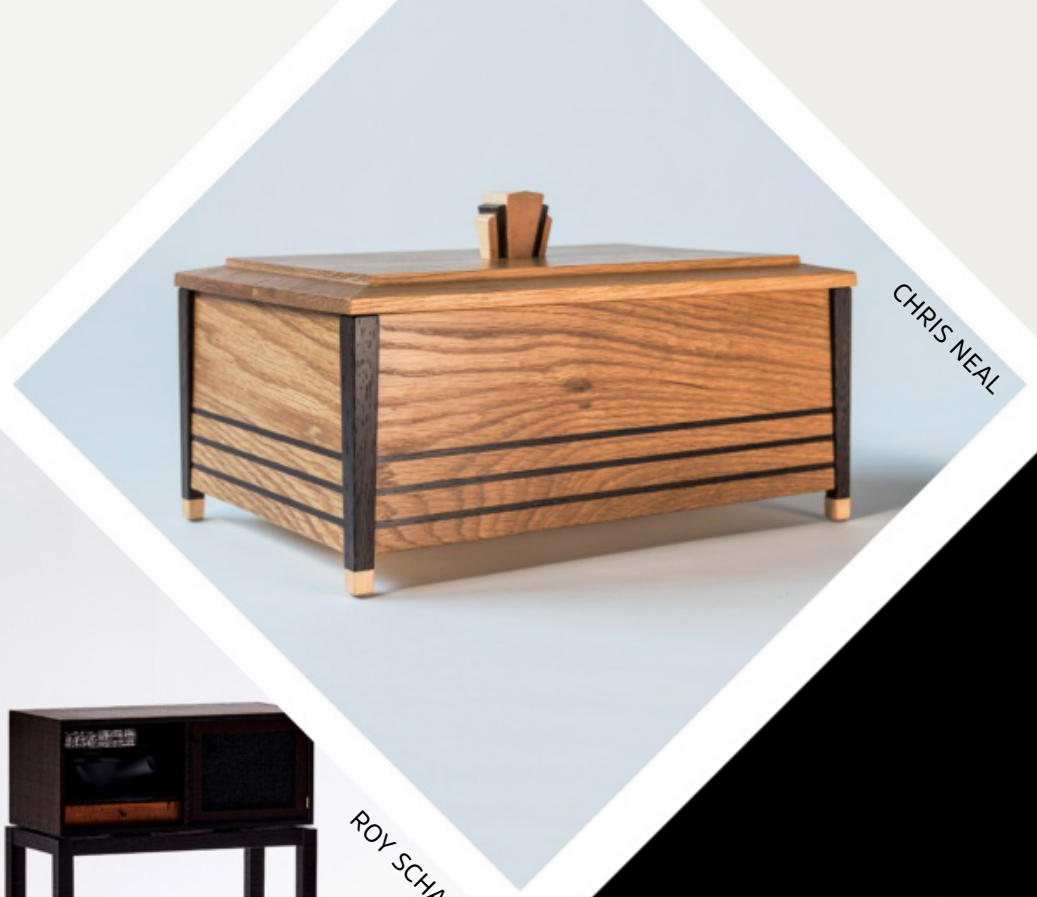

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Rout on Top

If you're challenged for space, this Sheppach hf-50 benchtop router could be the compact workhorse you need. Two table extensions take the 610 x 360mm cast iron bench top to 1030mm. There's fine adjustment on the aluminium fence, spindle height and mitre guide and the promise of power with a 1500 watt 2hp, 240 volt brush type motor. Variable speed takes you from 11500 to 24000rpm. Cutter tool changing is quick and easy with the provided 1/2" and 1/4" collets, and there's a magnetic switch with thermal overload reset button. Currently under $500, the unit comes with a spindle guard and pushblocks.
www.machineryhouse.com.au

Product news

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

Compact Firepower

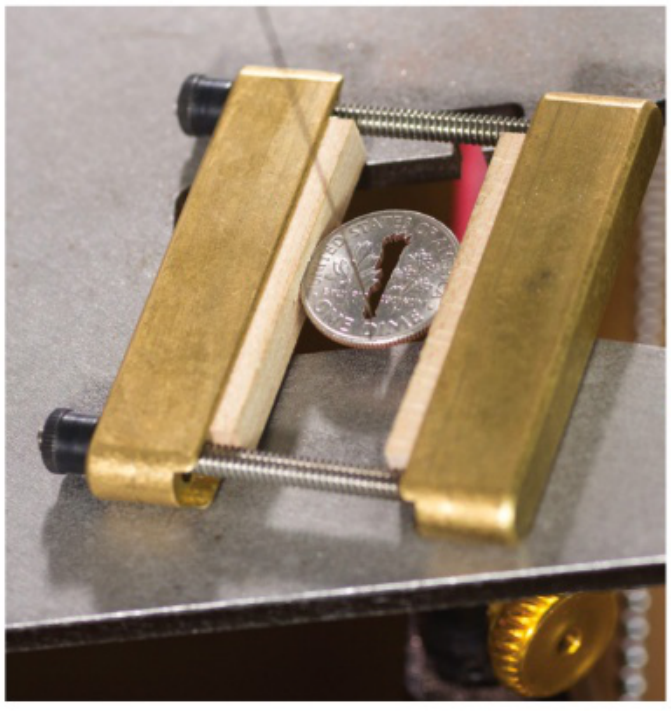
More good news for those with limited space is the release of several new benchtop machines on the market. For example, the new 8" segmented spiral head jointer shown left has a non-stick table coating, extendable table supports, 4" dust outlet and a 1200 watt motor. The spiral head gives superior finish quality and noise reduction.
www.carbatec.com.au

Super CNC

Axiom's new-release i2R machines represent precision turn-key CNC at attractive price points. Features are extensive and include solid alloy and steel construction, precision ballscrew drive on X/Y/Z axes, prismatic linear profile bearing guide rails, 1hp ER-11 professional air-cooled spindle (0–24000 rpm), hi-torque stepper motors, variable frequency drive, auto depth set, T-track table and much more. One of three sizes could be your CNC entry point.
www.carbatec.com.au

Make Your Mark

Made for blacksmiths, these customised Touch Mark stamps can also provide an effective solution to adding makers' marks to wood. The stamps work best on finer grained woods and results can be more variable in long grain than endgrain. The stamps are CNC milled from the designs you provide and start from around $165–180.
www.kunstmade.com.au



Deluxe Marquetry Saw

Knew Concepts new marquetry saw marries the spinning blade clamps from the 1884 patented Fenner scroll saw design with the company's own developed guided and supported saw frame to give cutting flexibility in all directions without moving the workpiece. The guide frame has a counter-weighted spring system which 'soaks up' the weight of the vertically operated saw to aid free movement. Aircraft grade aluminium, ball bearings, precision ground guide rods and teflon bushings are designed to give smooth movement. The guide tower also tilts for bevel cutting.There are three 'leg' lengths, 12, 18 and 24". Bench mounted, the saw is portable and stores when not in use. The detail shows the fineness of cut on a US dime.
www.knewconcepts.com

Kits in Cases

Tormek's hand tool and woodturner's kits will soon come with storage trays and be supplied in smart new cases complete with premium leather handles. The storage trays have an improved design and fit within the new cases and existing sharpening stations. All of these new upgrades are available separately. Kits are available at the end of March, trays and cases at the end of April from Promac.
www.promac.com.au

Jointing Jig

When working with small parts, this truly elegant and bench or vice-mounted jig aka item 05P4180 from Lee Valley uses a knurled brass screw to convert your shoulder plane into a surface plane, or acts as a shooting board when you lay it flat.
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A Well Considered Cabinet

After studying woodworking in the UK and then Japan, Harry T. Morris combined influences and aesthetics to make a cabinet in Australia from reclaimed timber that expresses his ethos to the craft.

My passion for traditional tools, materials and techniques grew while studying at West Dean College of Arts and Conservation[1] in England. Surrounded by equally passionate makers and conservators I had 'found my tribe'. During my second year of study I decided that I wanted to not only design and make furniture with a hand tool orientated process that was commercially viable, but also to have an impact on the wider issues in the heritage craft sector.

My goal was to establish a name and a brand before I was 20. I developed a collection of furniture that would reflect my values. The research behind this centred on Japan and the discipline of craftspeople, and the aesthetic philosophies often at the forefront of design.

I exhibited seven pieces as HTMorris Furniture Ltd rather than as a student at The Arts and Crafts Festival held at West Dean. I was awarded 'Young Artisan of the Year' in wood, from the South England Agricultural show and the 'Trustees award for Craft Practice' from West Dean before graduating.

Although very successful and humbling, this first exhibition highlighted my lack of genuine connection to Japan and reinforced the idea to study there. And so, ten days after graduating from West Dean I flew to Japan to study in Kyoto at Suikoushya International Craft School

where I did a one month carpentry intensive. This was my first experience of the 'discipline' I had been inspired by. We spent weeks learning about Japanese tools and how to sharpen and tune them, before making a toolbox and lots of practice joinery.

After the course I spent another two months in Japan as a journeyman, working and learning. This turned out to be more valuable than I could have imagined. I left Kyoto with a wooden box of tools and sharpening stones and a bag of clothes, and travelled all around Japan meeting traditional craftspeople. I was fortunate to meet swordsmiths, toolmakers, weavers, carpenters, furniture makers and chefs. I worked and lived with carpenters on traditional house constructions, as well as furniture makers and even canoe makers.

Three views of *Fuzei 002* in recycled timbers. The cabinet is 1100mm wide x 300mm deep x 375mm high (360mm above floor).

A chance meeting with Shane Wiechnik at West Dean early in 2019 then brought me to Sydney where I took up an artist residency at The Bower Woodworks, a workshop which Shane manages for The Bower Reuse and Repair Centre[2]. The focus of my residency was to produce a piece to showcase the value of reclaimed timber. I would draw inspiration from the craftspeople I had met in Japan and the aesthetic philosophies I had seen in practice. Ultimately it would reflect the ethos of The Bower in terms of sustainability and the use of reclaimed materials, combined with my passion for heritage craft.

I settled on making a low sideboard with sliding doors, fabric panels and a stand construction (**fig.1**). The final dimensions of the cabinet are 1100mm wide x 300mm deep x 375mm high (360mm above floor).

Thoughtful timber selection

The Bower practises furniture repair as well as taking on commissions and teaching classes, all of which use donated reclaimed materials. In the workshop is a large pile of timber salvaged from roadside collections, demolition sites and donations.

I pulled out some old, exterior blackbutt tongue and groove and a 60mm thick architectural beam of old growth Western red cedar and examined it all for natural and manmade defects such as oxidised nail holes and saw marks (**photo 1**).

First job with reclaimed timber is checking for metal, pulling nails and checking moisture content if possible. Once I was confident I could take a blade to the timber without the risk of a heartbreaking chip in my plane iron I could skim the oxidised or coated surface to see the raw surface of the timber.

Thoughtful timber selection is very important to me. Making anything out of wood should never be a case of just using the most convenient material; every choice should be justifiable. This consideration becomes even clearer when reclaimed material is used. No longer are you just considering grain orientation and figuring, but also whether defects should be avoided or showcased.


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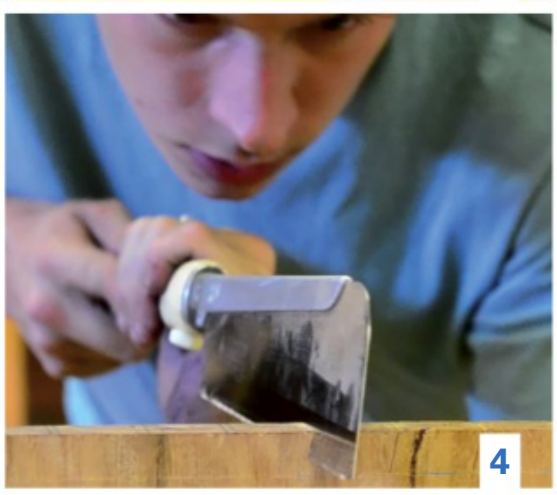
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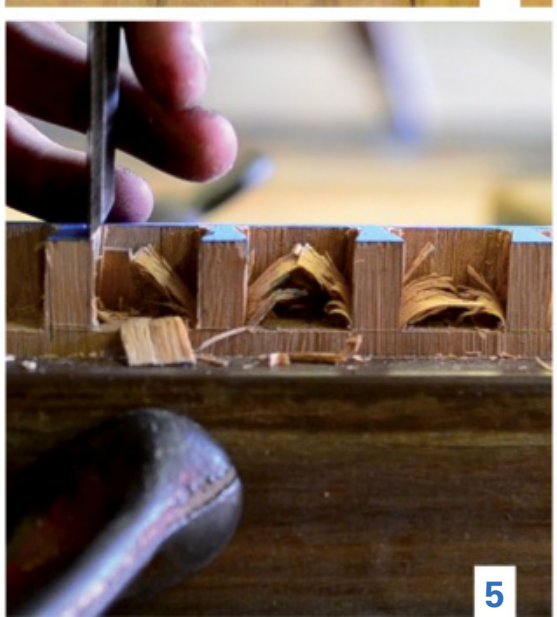
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Fuzei

The Japanese concept of *fuzei* often refers to beauty beyond what is usually considered beautiful, finding peace and satisfaction in the imperfect. In this sense, defects may be prominently shown or featured subtly in a more modest manner.

I had one very rippled and weathered board of eucalypt with two holes that wasn't wide enough for the top or sides. With three cuts it was however possible to 'widen' the ends with holes with the offcut from the middle (**photo 2**). With careful selection, the join was invisible and I had two matching boards for the sides. The holes are in the same relative position on both sides and the gum vein feature is mirrored.

The cedar for the doors had many blackened nail holes which I didn't necessarily want showing, however the timber was stunning and I liked the signs of its previous life. I also want to prove that fine furniture can be made with reclaimed wood and needn't appear rough, as some may think. As the doors were sliding I left the nail holes visible on the backs; they are only seen when the doors are removed.

Orientating the grain in the door frames was crucial so the radial face of the timber would contrast tight, straight, simple grain with the figure on the sides. The door components were not perfectly quartersawn and had sap wood in some places.

The four components of the simple door frames all have the bark side of the tree facing forwards and the centre of the tree in the centre of the door. This is subtle – viewers will not say: 'I'm glad you considered how you presented the radial cut face in the same way but mirrored on each component, and I'm thrilled the trees are clearly all facing the same direction'...but there is good reason for doing it. Sometimes we see a piece of furniture and think it looks just right but can't tell you why. This is not achieved by groundbreaking, conceptual design – but by subtle added value that comes from the care taken with every small decision made.

Joinery, grooves and tool care

Once all the boards that needed widening had been jointed with a trusty No.4 and glued up (**photo 3**), I started to mark out the joinery. The corners of the carcase are joined with half blind dovetails. Dovetails have become a mark of 'good' craftsmanship but I don't think this is a perfect way to show refined work. The Japanese make very little joinery to be aesthetic, every interconnecting surface has a purpose. For me, the half blind tails are a balance – visible only from one side, they are a little more modest than through tails, although with fine pins and a thin lap, they still show a refinement of skill.

The dovetails were cut with a fine Japanese saw (**photo 4**), then chopped out with a chisel (**photo 5**). This was a challenge in the very dense eucalypt as there is no leeway with a timber this hard and brittle. It's like cutting dovetail in steel: too tight they will not go together, too loose and you have a weak joint with gaps. I enjoyed the challenge of the eucalypt, although physically hard work to cut, it has its benefits – in contrast to a softer timber, you can more easily keep really sharp edges. Rounded edges are common in woodworking. Although these can be applied thoughtfully, often they look clumsy and unrefined. A rounded corner is a good way to hide mistakes.

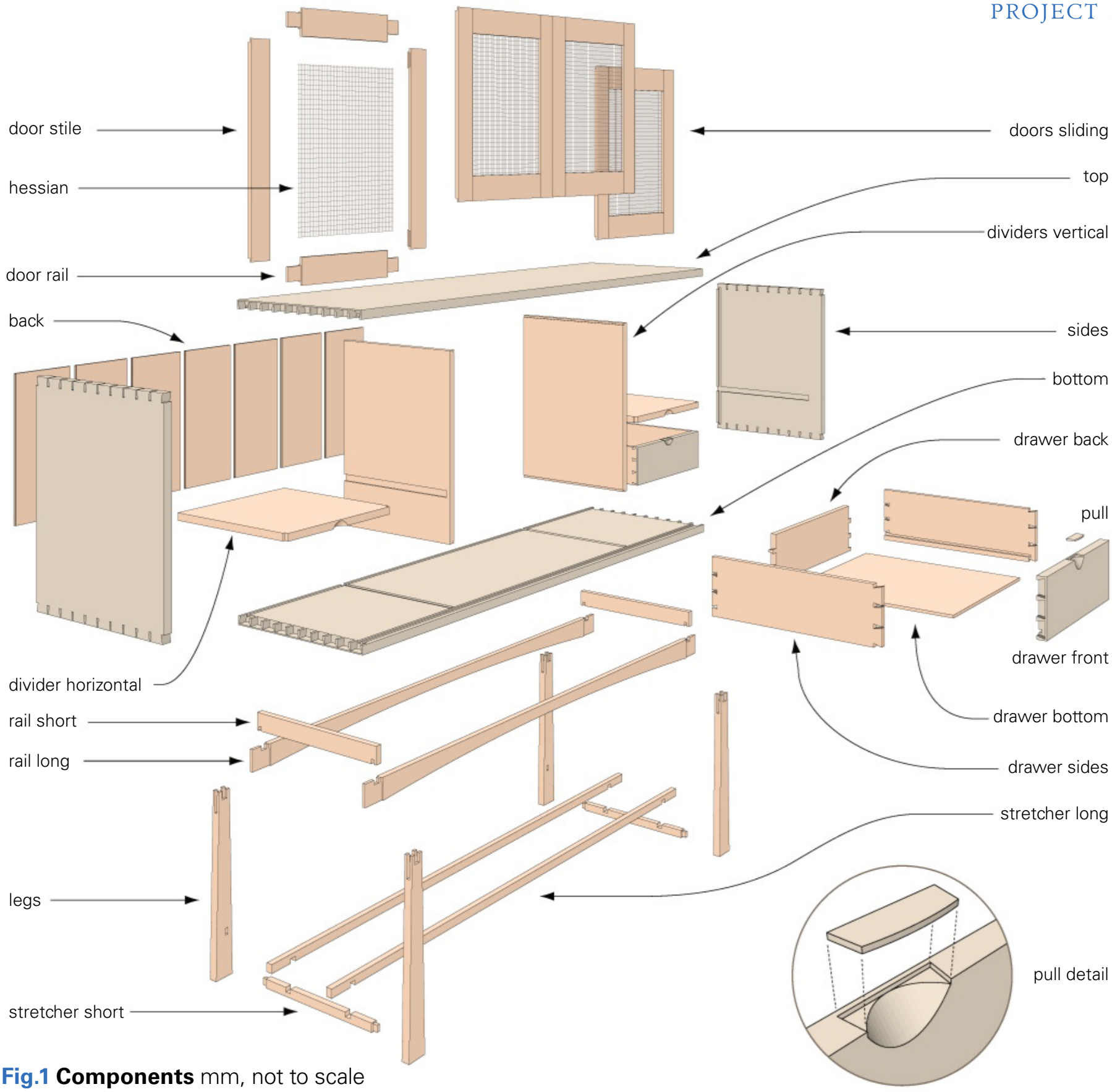
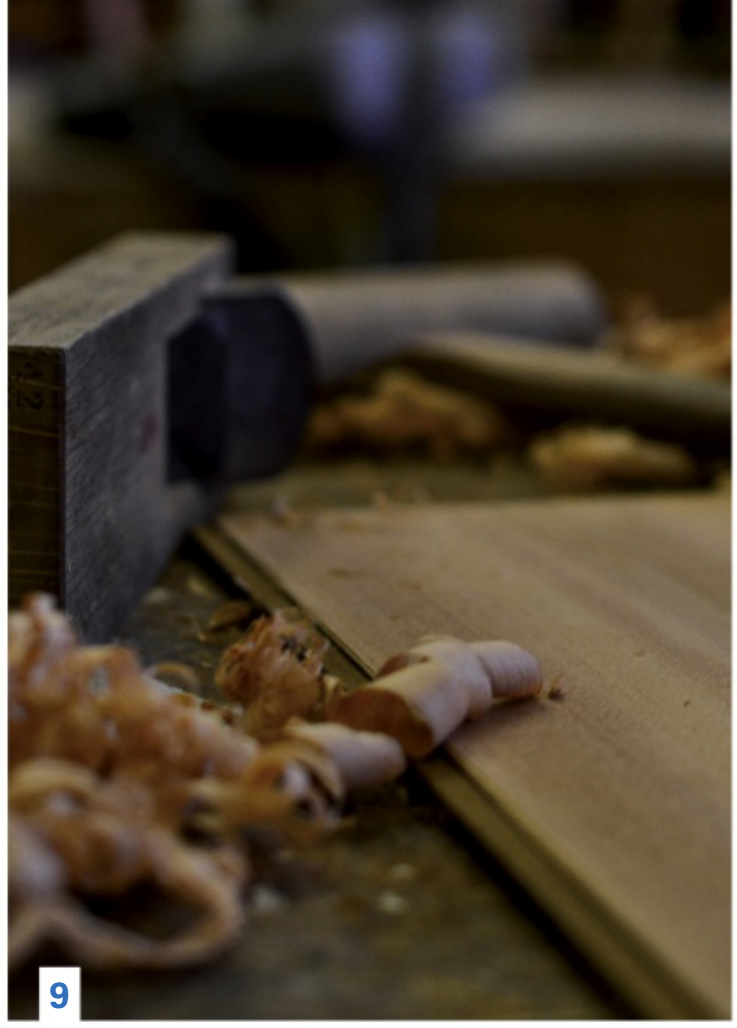


Fig.1 Components mm, not to scale

CUTTING LIST				
PART	**QTY**	**LENGTH**	**WIDTH**	**THICKNESS**
Carcase				
Sides	2	375	300	16
Top (two boards joined)	2	1100	300	16
Vertical dividers (excl. dovetails)	2	343	260	13
Horizontal dividers	2	257.5	260	13
Back	7	355	152	6.3
Drawers				
Front	2	247.5	80	13
Sides	4	250	80	8
Back	2	247.5	70	8
Bottom	2	240	250	6.3
Doors				
Stiles	8	343	40	12
Rails ((excl. tenons)	8	207.5	40	12
Stand				
Legs	4	344	40	16
Top rail	2	288	32	12
Front rail (Curve)	2	1064	40	12
Stretchers (excl. tenons)	2	256	16	12
	2	988/1100 overall	16	12

1. The wood used was selected from The Bower's stockpile of salvaged timber.
2. With three cuts it was possible to 'widen' the ends with holes with the offcut from the middle.
3. The boards were jointed and glued.
4. The dovetails were cut with a fine Japanese saw.
5. Chopping the pins out with a chisel.



I planed the grooves for the sliding doors with a plough plane (**photo 6**). Here two considerations are important. Firstly the condition and set-up of the tool, and secondly the position of the dovetails. As with any tool, a plough plane needs flattening, sharpening and adjusting before use. The groove must sit within the first dovetail, this means the groove does not have to be stopped, but it can be planed right through – this should be considered all the way back when marking your tails.

The vertical dividers within the carcase are joined with barefaced, tapered sliding dovetails. A shallow tapered stopped dado is cut into the carcase by carefully sawing the edges (**photo 7**). The dado is tapered on one side which also has the angle cut to receive the dovetail (**photo 8**). This works much better with a Japanese saw as it's a stopped cut, the saw cutting on the pull helps to remove sawdust. I then used a chisel and mallet to remove some of the waste.

A sharp router plane cuts to final depth and flattens the bottom. The set router plane is used as a marking gauge to mark the shoulder of the dovetail on the vertical divider. As the dovetail is only 4mm deep and the divider is cedar I do not need to saw this shoulder, I can simply deepen the gauged line with a single bevel knife. I planed the angle of the dovetail onto a scrap and used it as a jig to pare to my knife line; this only works with a chisel with a dead flat back. One side of this jig is dropped down slightly to form the taper.

Surface prep and kanna finishing

Once all the joinery was cut the surfaces could be prepared for finishing. For all the cedar components I attempted a *kanna* (Japanese plane) finish (**photo 9**). I used the kanna which I had learnt to make and use in Japan to take fine shavings and leave a glossy, smooth surface – much more pleasant than sanding, although it takes a lot of care for the tool and the material.

The eucalypt however was sanded (**photo 10**). Sandpaper is a tool like any other, and should be treated as such. Surface preparation is something not to be rushed, although this is much easier said than done. Visiting many schools and exhibitions in Australia and England, I noticed finishing seems to be a weak point or even non-existent in many courses. Finishing is part of the making process, as important as the rest; not just something we do at the end to make it look nice.

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The type of finish, how it will be applied, and when, should be considered at the design stage. For this piece I chose to use three different finishes and a few different ways of applying them. The inside of the carcase was finished before assembly with amber shellac, brushed on (around seven coats) before being waxed with a hard paste wax (beeswax, carnauba and turpentine).

The cedar parts were brushed in the same way but with an extra blonde shellac as the amber shellac looked a little too orange. The outside of the carcase would be finished with amber shellac again, but after assembly in a very different process.

Raw materials and assembly

Studying historic craft in a conservation workshop at West Dean, I learnt a lot about the importance of repairability. I am concerned with the longevity of my furniture, but beyond the life of the piece I also want it to be easily repairable. A carpenter with basic knowledge should be able to fix it. Too complicated in joinery choices, or things that are hidden and irreversible – these are factors that shorten the potential life span of an object. Partly for this reason

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I use animal protein glue to assemble my joinery; it is used warm and can be reconstituted with warm water at any time. This is also a safety barrier for me, if something goes wrong in the glue up and I don't notice until the next day, I still have the chance to take it apart – where as with PVA I would have no chance.

I like to know exactly what I am using, that what I am selling or promising to a customer will last 200 years. This leads me to use raw materials rather that modern synthetic products. I do not know enough about most synthetic adhesives or finishes to understand how they will degrade or exactly how

6. Using a plough plane to create grooves for the sliding doors.
7. A shallow tapered stopped dado is cut into the carcase.
8. Assembly is easier with sliding dovetails that are tapered.
9. Well turned, a kanna plane can take fine shavings and leave a glossy, smooth surface.
10. Sandpaper is a tool like any other, and should be treated as such.
11. Assembling the carcase with vertical and horizontal dividers in place.
12. The doors were a traditional construction.

13. Fitting the sliding doors.

14. After testing, a thick cut shellac was chosen to stiffen the hessian panels.

15. The hessian was fixed into rebates with hide glue and a few tacks.

16. Some of the joinery cut for the stand.

17. A joint based on Japanese temple joinery was used for the rail to leg joinery.

they will act as I use them. With raw materials, the mystery is gone. Hide glue is collagen, proteins. Shellac is tree resin that is excreted by a lac beetle. Beeswax is harvested from the beehive, carnauba wax from the leaves of a palm tree, paraffin wax is derived from petroleum. I don't know what is in chemical stains, so why not use raw pigment and a solvent to colour timber?

After finishing the inside of all components I was ready to assemble the carcase with vertical and horizontal dividers in place (**photo 11**). The frame around the drawer is just composed of the vertical divider and the horizontal divider above. The drawers do not run on any sort of side runners, just the bottom of the carcase.

The glue up was straightforward because of the tapered sliding dovetails. Without a taper, assembly is a nightmare as this ensures components slide in easily and tighten at the last moment.

Fabric door panels

The doors were a traditional construction (**photos 12, 13**). I am experimenting with different textures in my work. In line with The Bower's important objective of reducing waste I wanted the fabric to be recycled. By chance, on my way back from the beach one day I spotted a pile of hessian (jute) coffee sacks on the side of the road – two of these would become my door panels.

I experimented with many ways of stiffening the fabric instead of stretching it. I tested samples with hide glue, PVA, rice starch paste, beeswax, pigmented hide glue, and decided on a thick cut shellac in the end.

The fabric was stretched over sacrificial frames and brushed from both sides with shellac, four or five coats (**photo 14**). This was then cut with scissors and fixed into rebates in the rear of the doors with thin hide glue and a few upholstery tacks (**photo 15**).

The doors then had a tongue cut top and bottom with a rebate plane that would be received by the grooves planed into the carcase. The top tongue and groove is deeper than

13

the bottom, meaning you can lift the doors in and out. Alternatively, the doors could be fixed and assembled in place when the carcase goes together. The doors are the most handled part of the piece and are likely to be the first thing to break, so being removable ensures they are easy to repair.

Stand assembly

The frame was designed to be strong enough so components could be thin but also easy to assemble. The stand features half laps, mortise and tenons and a joint based on joinery seen at the top of corner posts in Japanese temples (**photo 16**). Technically it is a half lapped, double through bridle joint (**photo 17**). This joint is self supporting. It relies on mechanical connection rather than adhesion, meaning it needs no clamps to be assembled. The shoulders of the half laps are slightly offset (like a drawbored tenon) so they pull the shoulders tight when assembled.

Drawers

The drawer fronts are off-cuts from the eucalypt and the back, sides and bottoms are the same cedar used for the back. The sides were taken fairly thin – in combination with the fronts this gives the drawers a satisfying weight. They were constructed with half blind tails on the front and through tails on the back. The bases slide into grooves from the back and adhered only to the fronts.

The drawers are 5mm short of the depth of the carcase and collide with thin stops on the backside of the fronts. A drawer that is the whole depth and is stopped by the back of the carcase is problematic; firstly it's very difficult for that drawer to land in the right place with very little room for adjustment. Secondly, the drawer has opposing grain direction to the carcase; as the carcase contracts in depth the drawer will sit proud, and vice versa for expansion.

French polishing

The final task was to finish the cabinet exterior. I used amber shellac that was mixed from flake to French polish the top and sides; the underside was brushed. I have been practising traditional French polishing for the last two years, self taught and still learning. I polished the sides to a slightly lesser extent than the top. The compression of the polish in this process gives the grain a depth I have not experienced with a modern finishing technique. The top took around a week to complete. The outside of the cabinet was not waxed.

This cabinet was made to tell a story of my experience and be a showcase of what I believe to be valuable – heritage craft and hand skills, traditional materials and techniques, repairability, longevity, waste reduction and sustainability.

Photos: Harry T. Morris

1. Learn more about West Dean College at www.westdean.org.uk

2. The Bower Reuse and Repair Centre is an environmental charity. The Bower Woodworks is located in Redfern, runs workshops, and creates and sells items made from recycled materials. See www:bower.org.au

Harry T. Morris is a furniture maker in Bristol, UK. Contact him via www.HTMorris.com and Instagram @HTMorrisFurniture

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Vic Tesolin keeps his handplanes safe and at the ready in a wall mounted storage unit.

1. In order of size, jointer, jack plane and smoother. These three planes will allow you to work with any sized timber. The longer the sole, the flatter the surface you will get.

1

Bench Plane Basics

Vic Tesolin explains the rationale and usage of the bench planes, one of the foundational hand tools of woodworking.

Bench planes are named such because they were the first planes to get taken out of the tool chest at the beginning of the day and lived on or under the bench all day. In modern times, bench planes are a great place to start if you didn't begin your woodworking training with hand tools. There are many options available for these tools and sometimes names and terminology can be confusing so allow me to shed some light on these workhorses.

You may be asking yourself, why all the fuss about an antiquated form of woodworking? The truth is that hand planes definitely have a place in the modern shop. Whether it's flattening a board too wide for the power jointer or polishing up a surface prior to applying finish, these tools can help a modern woodworker out.

It would have been common for most woodworkers to have three main bench planes: a jointer, a jack plane and a smoother (**photo 1**). These three planes would allow the woodworker to take a piece of timber from rough to finish ready. The secret to these tools was their sizes, when it comes to Western style bench planes, size does matter.

The longer the plane body the flatter the surface will become. The reason for this is that the longer sole of the plane will ride on the high areas, allowing the blade to only cut the high spots.

Once the plane is cutting full length shavings across the board's width then you know the surface is flat. With that said, it stands to reason that having a jointer plane is great for creating flat, true surfaces as well as straight edges for joining boards together to later make panels (**photo 2**).

In the days of the wooden plane, there was no limit to how long a jointer could be made. I've seen them as long as 1200mm, but these were for more specialised uses like making flooring. In modern times it's more common to see them in the 550mm range which makes them ideal for furniture and cabinetmaking.

The jack plane is a hard working plane that was traditionally used for many heavy tasks that involved a lot of stock removal. Initial flattening and bringing boards to thickness – the jack was built for grunt work (**photo 3**). Wispy, gossamer-like shavings are not what this

plane creates. This is the plane I use when I have a few millimetres to remove and don't want to be at it for hours. The surface from this tool is often coarse but it certainly gets things done in a hurry (**photo 4**).

This jack plane is also ideal for other tasks. Used in conjunction with a shooting board and a fine setting, this tool can trim endgrain at 0.02mm per pass making it perfect for sneaking up on a precise fit (**photo 5**). Using the plane this way allows you to make a rough cut with a handsaw that is close to the line, then finish off with a few trimming cuts to bring the piece to length and square. Not only does this remove the stress of trying to get a fit off a saw, making handplaning the last step means you don't have to do any surface prep to that area.

The final step to most woodworking projects is applying finish. Many woodworkers know that the key step to getting a great finish, no matter which product you use, is surface preparation. This is the main task for the final bench plane, the smoother. The smoothing plane is too short to use for flattening and it wouldn't be my first choice for mass stock removal because of its lack of weight but nothing polishes up a board better.

Smoothers are where I really pay attention to blade bevel angles and mouth openings.


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I typically try to use the lowest cutting angle that I can because the lower the angle of attack the more lustrous the surface will be. That being said, no one knows better than the readers of this magazine that sometimes low angles are just not achievable. This is no problem because your options are so diverse.

If you are running a bevel-up plane, you can simply sharpen a higher angle on the blade or even keep a few blades available with varying angles for different timbers. The other option is to do as great planemaker Terry Gordon espouses and simply flip the blade from bevel-down to bevel up to get the higher cutting angle you are looking for (**photo 6**).

Lately, I have been really enjoying my wood-bodied planes again. The wood body burnishes the surfaces you are planing which makes them really shine (**photo 7**). It also gives me the opportunity to make planes and try out different styles and sizes to find just what I'm looking for. As well, wooden planes allow me to dial in a wafer-thin mouth opening that is essential to reducing tear-out (**photo 8**).

For the uninitiated, the thought of using tools like this may seem daunting but I can assure you, a bit of practise and care will lead to great surfaces and an efficient workflow that will make your woodworking even more enjoyable.

Photos: Vic Tesolin

Vic Tesolin is a furniture maker and also a Lee Valley Woodworking Partner. He lives in Canada and teaches workshops all over the world. Learn more at www.victesolin.com

2. Making long, true edges is a task the jointer excels at.

3. Working the surface at 45° to the grain helps to get things flat.

4. You're not looking for surface quality here, just flat.

5. The shooting board and jack are a great combination.

6. On this HNT Gordon wooden bodied plane the blade can be easily flipped to get a higher angle of attack.

7. Working with tools that you've made yourself is a joy.

8. A tight mouth and sharp blade can handle almost anything.


STANLEY

D is For Detail

Details are the difference, but it all starts with design, says Adelaide maker Darren Fry. Story by Linda Nathan.

D...as in Darren Fry...is for detail. Phone Darren for a chat and it won't be a quick call. You'll traverse personal histories, discuss individual aesthetics, attitudes to life, the realities (economic) of a career based on woodworking – and then there are hobbies (his) like surfing and skateboarding that balance life by revitalising the organism.

Perfectionism is a theme that often crops up. When you see the fineness and subtlety of Darren's work in both imagery and close-up it comes as no surprise to hear him say, 'You can't make great things by doing average work'. When Darren makes a piece he goes beyond what is required. 'Eighty per cent of your one hundred will exceed what the majority of clients would expect', he says.

'I'm probably a lot harder on myself than anyone else, that's for sure. I've quality controlled and I can spot a mistake pretty quickly. I guess that's what it takes, you've got to be able to see that. It's a bit like a sense. When I started out I didn't know how far you could take a bit of woodwork – it's an evolutionary process.'

When Darren entrusts the polishing of one of his pieces to another expert (and friend) he generally goes along and watches. 'He knows the level of finish required, and often two sets of eyes are better than one', explains Darren of their long-standing and business relationship. Ultimately though, perfectionism can be something you end up paying for out of your own pocket, says Darren, but for some, job satisfaction is more important.

His current workshop is small. Machines and benches are all on wheels or skids, moved out when required and back to the wall when

Opposite: Darren Fry in his Adelaide workshop.

1. Darren Fry's *Constance Chest (2018)* in European sycamore, has handcut dovetails and three way mitred joinery. Drawers that subtly gradate in depth, legs that taper gently along with a minute attention to material selection and grain matching are combined with faultless joinery and finishing.

2

not. It's same with other tools, they come out, but always go back. Everything is looked after. Hand tools have homes. It's a struggle to find a mess there, because there never is. Decades spent working and managing other people's workshops taught about the inefficiencies of untidiness, and the lesson was how not to waste time.

Taking into account fixed overheads is crucial if you want this kind of career to be sustainable. 'In furniture making we've all got times when we've got more work than we could imagine and then there's lean times, but you need to be able to ride both waves', says Darren, the surfer.

Apprenticed at 18 to a cabinet and chairmaker, Darren, now 46, also took weekly classes in traditional woodcarving. At Eureka Furniture he made furniture and chairs and later became production manager. In 2007 Darren started working independently under contract producing a range of high end bespoke and commissioned work for leading Adelaide furniture designer Khai Liew before taking up permanent employment in Khai's workshop from 2012 to 2016.

Darren defines his aesthetic as being 'somewhat minimalistic'. Detailing on furniture is important but should not be overt, it's a matter of 'pulling back' and not 'over embellishing'. 'There should still be enough detail that if you do go looking for it you can find it', he says.

Well designed and executed, traditional joinery gives structural integrity and timelessness. Georgian furniture (1730–1780) is one of Darren's main influences. 'That furniture is still around today and still highly regarded. Their joinery was exemplary. I apply that theory to my modern style of making', said Darren.

Joinery is about elegantly resolving a structural need. 'I don't like showing exposed joinery on casework. The Georgians really nailed it', says Darren metaphorically. 'You'll never see dovetails on the carcase of a Georgian piece. Joinery can detract from a design if you make that design all about its joinery', he explains. 'It should be about the overall flow, not the elements of craftsmanship within it.'

And perhaps also, when you've spent almost thirty years of your working life perfecting skills, the need to

2. Darren Fry's *Chess Table* in American oak with marquetry in American oak and maple is a recent commission.

3. The *Southern Light (2018)* in European maple features 11 carat white gold leafing and is the epitome of crafted design. Cordless technology illuminates the hand blown glass sphere.

4. *Sinclair Pendant Light (2019)*, European maple, white gold leaf, blown glass.

visibly display them recedes as their firepower expands and is assumed. Joinery is a means to an end, a given. 'I learned to make fine and refined furniture, and learnt to take that on board through restoring and making reproduction and high level contemporary furniture.'

'The details are about the design, not a single aspect of a piece,' says Darren whose design process is exhaustive. 'One of my goals when I finish a piece is to never be able to say "next time I'll do it this way" or "it could be better".' A no-regrets attitude means spending much more time in the design stage, modelling and mocking up ideas. 'Small details that could go either way are resolved, even to the point where it's going along nicely but I'll model a section

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sometimes two or three times, just to see what it looks like. Often what's drawn on paper or on a computer screen doesn't have the effect it does in real life.'

His *Southern Light* is a case in point. It was 'my most extreme design process to fault proof my work', said Darren. An initial sketch went to a 1:1 drawing, then a CAD drawing, then a complete full-sized sample with different versions of its components also made. Only after an 'exactly right' sample had been made were the two lamps made that he showed in Milan last year.

One of the good things about exhibiting work is that it gives you the freedom to create, he said. Making speculative work is an investment, he says, and can be considered as a marketing, as opposed to advertising, expense. Exhibiting in Italy was well worth it on many levels he said. 'I pushed myself to make the *Southern Light*, but then I met people, made contacts and it opened doors', said Darren. 'It's all about building bridges and fostering relationships in life.'

Later that year Darren won an AWR Studio Furniture 2018 award

5. *The Mollusc Table* (2018) in Tasmanian blackwood. The complexties of the leg to top joinery are masked by subtle design.

6. *Mahogany Occasional Table (2007)*, flame mahogany with satinwood stringing inlay, Brazilian kingwood border, Brazilian mahogany column.

7. *Walnut Credenza* (2009), American black walnut with rock maple stringing inlay bordered by quartersawn burr walnut feature. Traditionally French polished.

for his sublime *Constance Chest* in European sycamore. Connections made in Milan led to exhibitions at the recently established Gallery Sally Dan Cuthbert in Sydney where Darren's work is now represented.

Talk to Darren about wood, the material itself, and it's like turning on a tap of joy. 'Working with wood is an infectious thing. It's an amazing thing to work with beautiful timber. Man, for all of his breakthrough inventions, can't come near it. A tree takes a long time to grow so you've got to respect it. You have to use it appropriately, be mindful of where it came from.

And there are the different species and their characteristics. Some are almost passive and submissive in the way that they are worked and will just want to go there. And then there are other timbers that are reluctant to go where you want and you have to employ different tactics.'

But the challenges are also the attraction. 'No matter who you are and how good you are, you're dealing with nature. You could work with wood your whole life and you'll still come across a piece where you think you've got it sussed, and then it will do something that you didn't expect. Nature always has the last laugh so to speak.'

Details and detailing are the elements that add an overall sense of harmony to a piece. For Darren, they are intrinsic to the design process and developed through exploration and close attention to material selection and grain matching before being combined with faultless joinery and finishing.

Photos: Grant Hancock

Learn more about Darren Fry at www.darrenfry.com

See Darren's work at www.gallerysallydancuthbert.com

8. *The Watch Collector's Box* in cocobolo and curly American maple is lined in full grain leather and has pure wool cushioning.

Q&A

After decades in industry you're now working on your own. What does this give you that working in a team didn't?

A lot less rest! I guess that's self employment though. There's no one to fall back on except you and your own work ethic.

What is your attitude to tools and equipment? Are you a 'hand tools only' maker? Or a whatever it takes to speed things up type?

I love hand tools, but I learnt how to use machinery and I'm heavily oriented to wood machining. In my workshop I'm flexible – if there's a wide belt sander I'll use it every time. Here it becomes a question of do I outsource it? Or do I do it myself with what's at the ready.

Favourite tools?

I've got a lot – old, new, some fancy. Some fall into the user category, some fall into the obnoxious collector category. I like both and just like them to be well looked after.

Favourite machine?

A quiet one. They're all good. Spindle moulders are very versatile and yet specific.

Favourite timber?

Huon pine. It's Australian, unique, precious and really fine. It's beautiful, I love it. It's nice to work with – you don't have to sharpen your tools three times on the job.

Favourite maker?

Thomas Sheraton. I had the fortune of restoring some chairs for a client. Every component is sized to a minimum, the legs are thin and refined. The work of Thomas Chippendale, for example, is flamboyant. Sheraton is much more pulled back. Resolved, contemporary.

Favourite designer?

Khai Liew hasn't just influenced my work and my style – he's had an influence on my whole life as a maker. His work is profound.

How do you think most people would read you, judging by the work you do?

I don't know. To be honest I'm not too fussed. Maybe a bit obsessive. When it comes to my work it's not about me, it's about my furniture.

What's your best piece of advice for other makers who are early in their career, or who want to be professional?

Asking questions and the questions you ask are two of the most important things. Try and find people that are open to teaching and sharing their knowledge. If I'd known where to learn I could have learned quicker. We learn from mistakes, so you have to make them, so also maybe look at mistakes as opportunities to get it perfect.

Your best advice for makers who want to take their skills to the next level?

If you want to get better you've got to be honest with yourself. That's probably the biggest challenge makers face, getting an honest evaluation of where they're at. You need to learn really good skills but you also need to know a lot of stuff that's not wood-related as well.

Finishing Small Objects
Part 1

Your choice of finish can allow form and texture to dominate, or let the viewer see deep into the grain and colour of the wood. Story by Carol Russell.

Carol Russell in her Paddington, Qld studio.

Left: *Twirl Spoon,* white beech – 'The simplest finish is no finish at all.'

Below: Wood can be burnished by rubbing with shavings, or use hard objects such as the dolly peg and stones shown. The Japanese *uzukuri* brush of palm fibre is made specifically for burnishing surfaces.

Handling a small, beautifully crafted wooden object can evoke a silent conversation between you and the maker. It can calm your busy mind, causing you to reflect on the process and material, and the inspiration for its creation. I've seen it many times; that emotional response to the handmade object fashioned out of wood.

What the wood is coated with, or not, is a big part of the story. Finishing small objects can be so much more complex than simply creating a smooth, shiny, coated surface. The finish can tell its own story. If you obscure the grain, it allows the form and texture to be dominant, however a clear finish allows you to look deep inside the material, bringing the grain and colour into the design as a feature.

Finishing begins well before anything is applied to the timber. Each object requires a decision based on timber species, form, usage and what the maker is trying to say by making the piece in the first place.

Do you sand through many sandpaper grades and make it silky smooth to the touch? Do you leave a tooled finish that tells the story of the process, creating facets for fingers to follow and trace? How light falls on the piece, points of definition where light and shade are can be a factor as well.

Whether the object is to be used for cooking, eating, viewing or handling, will have an enormous bearing on which way you go with your finishing. I try to use as many non-toxic materials as possible, preferring shellac, milk paint, chalk paint, earth pigments and my own beeswax and flaxseed oil recipe of one part beeswax and three parts flaxseed oil melted together in a pot.

Keeping it raw

The simplest finish is no finish at all. You can leave a piece uncoated and let it change over time. If it's a decorative piece, it will darken with exposure to light and handling. With no coating to act as a barrier it may stain a bit too, particularly light timbers. I have often thought I liked a piece better before putting on a finish.

With cooking utensils, untreated timber will change more rapidly. There's no rule to say you have to apply a finish to utensils, if you can accept the fact that they'll age and take on the colours of turmeric and paprika and tomato, cinnamon and burnt sugar. The spoons will go furry and dry out and take on their own personality, the prettiness of the freshly worked wood will go but what's left is really interesting, spoons in particular start to look a bit like driftwood. A waxy timber such as white beech or crow's ash or the dense western desert timbers such as gidgee, mulga or brigalow age really well under these conditions.

How timber is worked in the final stages has a huge bearing on the look of an unfinished surface. If cut with a sharp blade or scraper, the pores of the timber are sealed and the surface is smooth and shiny. If sanded with ever decreasing grades of sandpaper, the surface is less likely to have a shiny finish. To achieve this after sanding you can burnish the surface for a shiny closed pore effect. Burnishing works beautifully on tooled surfaces too.

Burnishing

After a piece is finished and before any coating is applied, I usually

Shellac is versatile and can be used as a sealer, or built over many applications to a finish of exquisite depth and sheen. No two timber species finish the same way, however shellac is a beautiful finish on dark timbers such as the rosewood shown here.

burnish the surface. I started doing this because I had seen potters using smooth river stones to get a finish on clay. The surface is rubbed vigorously with the burnisher and the friction creates heat, bringing the oil in the timber to the surface, compressing and sealing the fibres. If you do this to a piece of gidgee, rose mahogany, red cedar, Tasmanian blackwood, myrtle beech or Huon pine, you'll be dancing with joy at the beauty of it. Timber with a more open grain, particularly silky oak, benefits from wetting down after sanding first to raise the grain. When dry, sand with about 400 to 600 grit sandpaper and then burnish.

After burnishing, I use my simple homemade wax finish and really buff it in, this supports the burnished look and doesn't raise the grain.

My favourite burnishing tool is an old fashioned dolly peg with a round head, you can also use wood shavings, smooth river stones or a fine Japanese *uzukuri* brush of palm fibre.

Finishing using shellac

No two timber species finish the same way, one of the keys to finishing is understanding the properties of the timber you're using. A dense, oily timber such as Huon pine or rose mahogany requires a different approach to silky oak or red cedar. In this situation it's worth using a sealer, shellac is my preference.

Shellac is the key material used in French polishing, a highly skilled and involved technique of applying and working the resin to gain a finish of exquisite depth and sheen. It's a beautiful natural finishing material. When used as a sanding sealer on open grain timber, it reduces the absorption of waxes and oil finishes.

You can also build layers and pull up a shine, and although this isn't French polishing, you can use elements of the technique to bring a warm glow to your work. It's a lot more water resistant than you would expect and is also food safe once the solvent has evaporated. Shellac is still used to glaze some lollies and fruits.

The nature of shellac

Shellac derives from a natural resin secreted by the lac beetle onto trees in India and Thailand. The production of shellac in its various forms is an intriguing process and remains largely unchanged from traditional methods. After harvesting the raw resin, it's removed from the sticks by grinding and scraping – it then resembles seeds and is referred to as seed lac.

The seed lac is then heavily washed, removing much of the twigs and rubbish and placed in long raw cotton bags that are held at each end over a charcoal fire. The bags are heated and twisted until the lac oozes through and is then scraped off and spread over the surface of a thin porcelain drum to cool. From here, the lac is called shellac.

The drum is then covered, and the shellac removed, softened and then stretched until it becomes a very thin sheet. After any remaining impurities are removed it's then broken up into the familiar orange flakes.

Some of the original softened lac is melted into small cakes, known as button lac. The poorer grades and by-products from the cleansing process also contain rosin that is marketed as garnet lac. This is a deep ruby colour and can be used to make newer timber looked aged as it can give a muddy look. (*Ct'd p.49*)

Making a Rubber

The sequence of making a rubber or polishers mouse is shown here. Use a square piece of pure cotton cloth and take a small amount of cotton wadding or cotton wool. Fold the cotton around the wadding to create a pear or mouse shape. Roll the excess material so it fits into the palm of your hand; you don't want any bits trailing.

Apply the shellac to the cotton wool centre and tamp it through; you can control flow by squeezing or releasing the pressure. These pads can last for a long time if you keep them airtight in a jar.

The first coat can be light – it doesn't need to be heavy. It will dry very quickly and may raise the grain somewhat so give it a light sand with 400 grit or finer sandpaper.

If you only want to seal the grain, a second coat will be enough, you can apply your wax or oil over the top and buff it in. I use a fine abrasive pad equivalent to about 1200 grit to rub in the wax. This gives a beautiful silky feel to the surface. I use this combination a lot for spoons and bowls as it stands up well to use, although you need to dry utensils immediately after washing and you can refresh occasionally with wax.

If you want to 'pull' the finish and achieve more depth and gloss, add another layer and let it dry. Use the pad to then burnish the surface, but try to avoid adding too much more shellac from this point.

Working this way is a delight, and as you get the feel of the material you start to understand its properties. If the rubber starts to drag on the surface, add a drop of linseed oil to the bottom of the pad to lubricate it. Don't press too hard, you don't want to burn back through the finish. You can build a very high gloss this way. Leave it overnight and burnish with your rubber again the next day. The warmth of shellac seems to come from within the wood, it has a luminous quality and highlights curves.

Clockwise from left: Natural pigments such as cassel earth, yellow ochre and red oxide can be mixed with shellac or milk paint to create beautiful colours. Chalk paint colours using an enamel base. Two spoons finished with shellac and indigo pigment.

(*From p.47)* From the refined orange flake shellac, the resin can be further bleached and dewaxed, producing white or dewaxed shellac. White shellac is a bright clear finish that when used on light coloured timbers will not yellow or deepen the colour too much, on darker timbers it will keep brown tones truer and still bring warmth to red tones.

Applying shellac

The thing with shellac is it's less about how many coats you apply, and more about building a body and then working with what's there using friction and buffing techniques.

You can use a pre-mixed shellac, or if you are buying it in flake form, follow the instructions for mixing. I find blonde shellac often clumps together in the packet – it's okay to use but can take a bit of time to melt.

My rule of thumb for mixing flakes or powder is to cover the shellac with 100% pure methylated spirits in a jar. Once it dissolves, double the quantity of liquid with more metho because you can make the mix stronger or weaker to suit. Apply to a prepared surface, that is one that has been cut with a sharp blade or scraper, or sanded to 400 to 600 grit.

The level of detail and shape of the surfaces will have a bearing on the way you apply the shellac. I use a brush if there's a lot of detail or tight corners. You can buy a special French polishers mop – my preference is a small hake brush as these are quite light and have goat bristles. On more clear or flat surfaces, I find the best way to apply shellac is with a polishers mouse or rubber made as shown opposite.

Pigments

Shellac can also be mixed with natural earth pigments to create a range of beautiful colours and textures. One of my favourites is indigo powder added straight into the shellac to give an extraordinary blue/black colour. I have also used crushed charcoal, burnt umber, yellow ochre and Venetian red. Always check the toxicity of pigments before using them.

Experimenting with finishes and textures can be a source of constant delight as you discover the possibilities of combining them with the woods you use and the surfaces you create.

Next issue we'll look at several finishing techniques that focus on adding colour to your work.

Photos: Carol Russell

Carol Russell is a Brisbane based woodworker who teaches woodcarving classes at The Cottage Studio in Paddington. Learn more at www.carolrussellwoodwork.com.au

Leading The Way

Presenting award winners and selected entries for Australian Wood Review's Student Awards 2019.

The 95 entries for Australian Wood Review's Student Awards 2019 that you can see on our website and Facebook page are as many reasons why we can have faith in the passing on of traditional hand skills. It's now our pleasure to present and congratulate the award winners and all entrants.

The awards were independently judged by Bryan Cush and Kelly Parker (USA) both professional furniture designer makers who share a passion for supporting younger woodworkers. 'What a process!', Kelly commented. 'We considered the level of technical difficulty, technical execution, design, originality and risk. We read every word, looked at every photo and watched every video. There were so many solid, impressive projects that didn't get awards but all the students should be very, very proud of their work!' 'They are all truly world-class student projects', said Bryan Cush.

We sincerely thank Kelly and Bryan for the dedication and attention they applied to this challenging task. Learn more about Bryan at www.sawdustbureau.com.au and Kelly at www.woodsongstudio.com

A very big thank you also goes to the industry support received from the sponsors of Student Awards. Carbatec, Hare & Forbes Machinery House, Arbortech and Triton Tools Australia are companies who not only lead as specialist suppliers for woodworkers but are fully committed to encouraging secondary school students and acknowledging the valuable support of their teachers and communities.

For six years, AWR's Student Awards has provided a platform for presenting the work of hundreds of year 11 and 12 students. This year however Australian Wood Review is expanding its awards scheme to include all woodworkers, professional and amateur, and students at all levels.

You can learn more and enter AWR's Maker of the Year awards at www.woodreview.com.au/moty

OVERALL BEST

Pod Chair
Katya Caterina, Year 12
Freshwater Senior Campus, NSW
Teacher: Ben Percy

Bryan Cush: Katya's Pod Chair was a unanimous winner between Kelly and I – the piece is exceptionally complex yet thoroughly refined. From the design concept through to the difficulty level and precision, this really is an exemplary piece of furniture for any professional maker, let alone a Year 12 student. The high level of design thinking and attention to detail is evident in every aspect of the project with regards to grain matching, the faceting of the legs and the complementary tessellations of the upholstery. Particularly impressive was the usage of full scale prototyping, complex jigmaking and beautifully designed 3D printed clamping cauls.

Kelly Parker: Katya's piece really spoke to me on all levels. Aesthetically it is a visually stunning design and I especially like the grain matching. Also, the overall form gives testament to the power of using a repeated shape. The facets of the legs complement the facets of the pods and their visual weight is nicely proportioned to the pod itself. Technically, I was impressed with the many jigs that were used throughout the construction process and the use of 3D-printed clamping cauls. This is truly a stand-out piece.

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BEST DESIGN

Hoop Chair
Guy Binns, Year 12
Freshwater Senior Campus, NSW
Teacher: Ben Percy

Bryan Cush: A chair that proves the mantra that 'less is more'. The simple lines, angles and use of positive and negative space within the design make it a tremendously compelling piece from all angles. While it draws elements from many Scandinavian designs, Guy manages to create his own unique aesthetic. The component sizing throughout feels spot on and results in a chair that is the right combination between appearing light and elegant, yet sturdy.

Kelly Parker: One of the design precepts I teach is that 'simple is strong' and Guy's project perfectly embodies that philosophy. This collection of three hoops and four legs creates such beautiful negative shapes in this highly refined, elegant design. I find the spare aesthetic to be quite lovely, managing to be simultaneously delicate and powerful.

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BEST USE OF NATIVE TIMBERS

Cabinet on Stand
Alice Turner, Year 12
Freshwater Senior Campus, NSW
Teacher: Ben Percy

Bryan Cush: This is an extremely beautiful cabinet which not only shows Alice's design influences but also demonstrates her individual design flair. The combination of Tasmanian blackwood and sassafras displays a refined palette and selecting fine-grained blackwood veneers for the bent laminated frame make the seams in the lamination barely visible. Her careful positioning of natural timber features help draw the viewer's eye across the piece and add interest.

Kelly Parker: This is a delightful piece. I love the juxtaposition of the curved elements with the linear nature of the carcase and the shapes created between the two. What really draws my eye is the door. I love that the grain of the mitred frame flows around the door and that the inset panel is quite lively in comparison to the quiet frame. The proportions and the detailing of this piece are exquisite.

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BEST HAND SKILLS

Acoustic Guitar and Guitar Stand/Seat
Mats Lea, Year 12
Waverley College, NSW
Teacher: Matt Barr

Bryan Cush: This was an exceptionally difficult decision (especially alongside several other beautiful guitars entered into the awards) but the uber professional quality throughout Mats' guitar/seat/stand make it a worthy winner. The array of skills demonstrated in the two pieces is extremely impressive – mould-making, bending, handcut joinery, veneer work, inlaying, hand shaping, planing, exemplary chisel control, metalworking and a high quality finish to round things off.

Kelly Parker: What caught my eye about this piece was the overall form of the stool, followed by the beautiful and complementary woods used for the project. The hand skills required to shape the seat and blend the components of the guitar were beautifully executed. What put the project over the top for me was that the hand skills Mats used went beyond woodwork and into metalwork as well.

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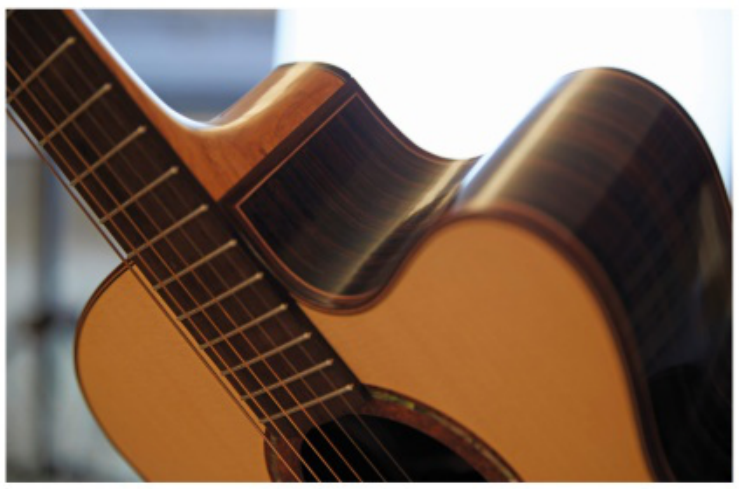

POPULAR CHOICE

Opulent Study Desk
Jared Horsfield, Year 12
Kotara High School, NSW
Teacher: Anthony Ryan

Judged by Facebook reactions

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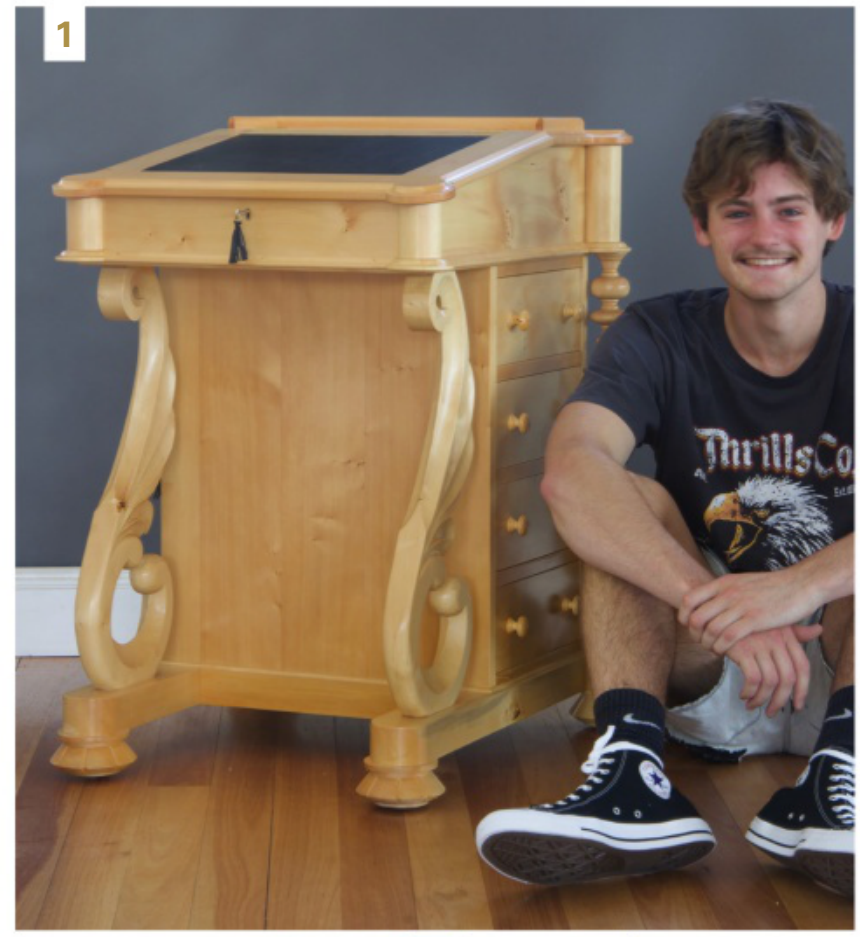
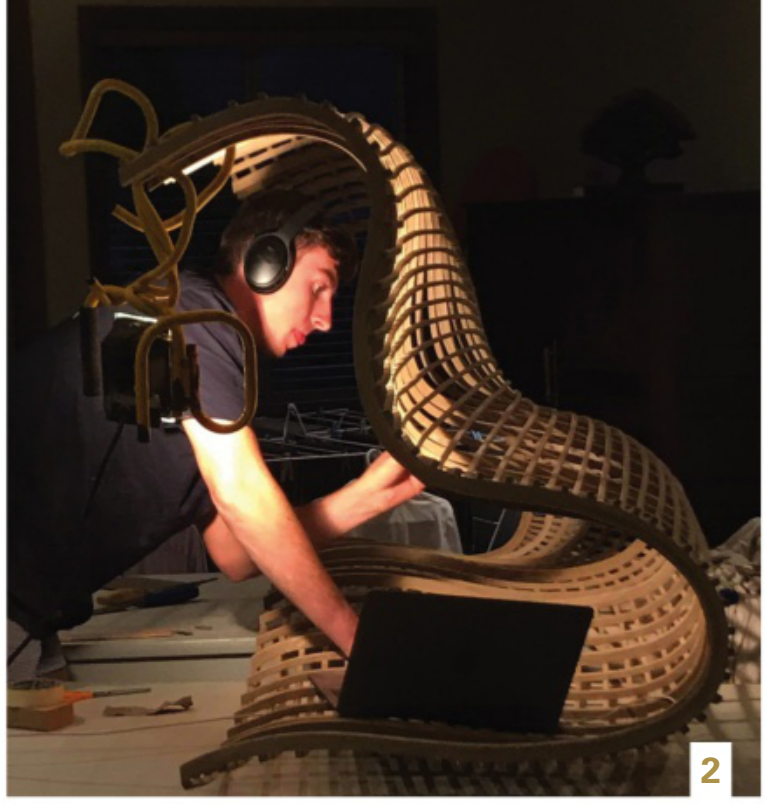


1. *Davenport Desk*, Hamish Tanner, Davenport Desk, Year 12, Kiama High School. Teacher: Adam Cupitt. Hamish taught himself to carve and turn and, with the use of Huon and King William pine also paid homage to his grandfather who was a traditional boat builder in Tasmania.
2. *Steambent Bench*, Miles Davey, Year 12, The Kings School. Teacher: Portia Beattie. Miles's sculptural bench was painstakingly achieved with steambending and laminating processes.
3. *Round Cabinet*, Lucie Robertson, Year 12, Haileybury College, Vic. Teacher: Stephen Hughes Inspired by Asian, Scandinavian and Art Deco styles, Lucie used recycled Vic ash fence palings for the tambour slats, while the body and frame were made from plantation hoop pine plywood.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4. *Canadian Strip-Plank Canoe*, Daniel Train, Year 12, Muirfield High School, NSW. Teacher: Wayne Keevers. In making his canoe Daniel explored techniques of steambending, pattern and jigmaking, inlay work and rattan weaving while dealing with complex curves and angles throughout.

5. *Live Edge Hall Table & Mirror*, Caleb Adams, Year 11, Nepean Christian School. Teachers: Ray Wilkinson and Jon Dunbier. Caleb used live edged wood sections to highlight the natural contours of the wood and also created his own 'mitred mortise and tenon joint'.

6. *Hybrid Roubo Workbench*, Harrison Layton, Year 12, Trinity Grammar School. Teacher: Ben Treloar. Harrison's was inspired by the traditional French 18th century Roubo design but included a flip bench divider along with modern vice hardware, traditional leg vice and sliding deadman.


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7. *Arm Chair*, Maia Moffat, Year 12, Freshwater Senior Campus, NSW. Teacher: Ben Percy. Intense shaping processes were used to create the curves on the stack laminated backrest and joined intersections in this 1960s Danish design inspired chair.

8. *Lifting Liquor Cabinet*, Jonathan Bakoulis, Year 12, Rosebank College. Teacher: Anthony Morrizzi. Inspired by Shaun Boyd's design, the storage compartment raises up by means of a TV lift mechanism.

9. *Modern Day Writing Desk and Chair*, Luka Heeraman, Year 12, Freeman Catholic College, NSW. Teacher: Flynn Drego. Luka set out to challenge himself and build skills that would help him further his education in the furniture making industry.

10. *Makeup Desk*, Mia Ballesty, Year 12, Freshwater Senior Campus, NSW. Teacher: Ben Percy. With bent laminated curves, this desk offers a surprise of marquetry inside the drawer.


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11. *Pod Chair*, Miki Trbojevich, Year 12, Freshwater Senior Campus, NSW. Teacher: Ben Percy Laminate bending, coopering and the creation of jigs were some of the techniques used. Calculating the angles of each coopered segment to two decimal places made sure there were no gaps.

12. *Tool Box*, Jack Opperman, Year 12, Trinity Grammar School. Teacher: Ben Treloar. Planning ahead for his career as a carpenter, Jack made a tool box that would be robust, aesthetically pleasing, and not too heavy.

13. *Unique Tenor Acoustic Ukulele*, Jordan Bull, Year 11, Nepean Christian School. Teacher: Ray Wilkinson. Mostly Australian species were used – the head and neck are made from jarrah and red cedar, while the soundboard is Huon pine.

14. *American Style Display Cabinet*, Tom Norman, Year 12, St George Christian School. Teacher: Joel Garlato. Along with a wide range of techniques Tom used fractal burning to create the detail shown on the inside of the drawers.

15. *Mahogany Sideboard*, Nicholas Cafe, Year 12, Edmond Rice College Wollongong. Teacher: Andrew Edmondson. Making this Garret Hack design sideboard opened up a world of techniques.

16. *Italian Riviera Sports Boat*, Marco Grasso, Year 12, St Patrick's College, Strathfield. Teacher: Matthew Herro. Marco's miniature Italian Riviera sports boat was made as a tribute to his grandparents who share a passion for woodworking.

17. *Entertainment Unit/ Credenza,* Sol Brownlow, Year 12, Freshwater Senior Campus, NSW. Teacher: Ben Percy. A bent-laminated base with marquetry veneering across the drawer and sliding door feature on this low-line credenza.

Left and below: The finished chair, made with sticks, branches and a board.

The Chair That Ran Away To The Woods

How to make chairs from sticks and discarded timber with very few tools. Story by Jeff Donne.

Forever the challenge is to get from an inspired beginning to a satisfied end without falling while you wander, bumping your head and forgetting where you were going in the first place.

That would be the muddleheaded approach to woodworking that sends you in every direction with the exception of the one place you want to go. But sometimes wonderful things come from a wander through the woods.

I was asked to make a chair, a stick chair that makes the most of the bits and bobs we have hiding in the shed, garden and woodpile. But I couldn't think which way to go. So I wandered.

I thought about memories of old Welsh stick chairs I'd seen, Jögge Sundqvist's folk art carving style, and Dan Mack's stick chairs that inspired my early work back in the 90s, but muddleheaded I remained.

Which is, or course, who I am, a muddleheaded man at best. And since we should try leaving a part of who we are in the things we make, I found a light bulb of inspiration being lit by none other than Ruth Park, creator of *The Muddle-headed Wombat*.

And so a chair was born, with the real challenge being not to make it a 'hidjus old pollywobble!'


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A few tools

Making a stick chair means you can use many of the tools you already use for carving spoons or other *slöjd** projects.

At its most basic, a stick chair can be made using the following tools:

- Basic carving knife – a Morakniv 106 does the job well
- Carving axe – I use a Gransfors Bruk Wildlife Hatchet
- Pruning saw – any will do
- Drill – hands up, I use a powered drill!

For this project, I used some extra tools:

- A tool for hollowing the seat – a carving gouge will do the job, but I used a hand adze and a Swedish bowl hollowing tool called a *trågskav*
- A froe for splitting wood, but your carving axe will do the same job
- A small Japanese gouge used for texturing the wombat 'fur'
- A homemade club for assembling the chair
- And a Veritas tenon cutter (5/8"), but a carving knife will do the same job

Sticks and boards

Use what you have at hand. I used thin sycamore stems for the legs, black sheoak sticks for the spindles, a chunk of poplar left over from a wood chop event for the wombat back splat, a bent cherry branch for the comb, and a small slab of cracked and sorry-looking silky oak for the seat. All of it I had sitting in my shed.

As a puppet and spoon maker these are my favourite materials because they are full of life, readily available, and devoid of straight lines. This can of course be a problem because there is no line of reference, but if approached

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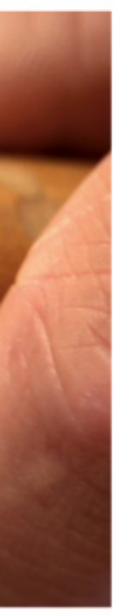

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1. Some of the tools I used, but all you really need is an axe, knife, saw and drill.
2. Swedish trågskav, also known as a scorp.
3. Future chair: sticks and an old, old board.
4. Sawing legs to length with a pruning saw.
5. First design: 'start with a picture you transferred from your imagination'.
6. Carving tenons: lean forward with elbows on knees for a safe carving position.
7. An alternate safe hold when whittling leg tenons.
8. Always chamfer the tenons to ease entry into mortises.
9. The leg tenons are now ready.

in the same way we make spoons and puppets, it becomes a chair that grows from the tree's will and limitations, producing a joyful collaboration.

Dry or green wood

Start with a picture you transferred from your imagination to your notepad and then cast your eyes around your shed, woodpile and garden. See what fits the bill. If you find things that kind of fit, then go with that, but if not, think about adjusting your design to the materials you have.

If all of the sticks you have are green (freshly cut), that's great as it will be easier to work, but keep in mind that wood warps and shrinks as it dries, so don't go carving all of your tenons to size just yet. I find using a dry slab of wood for the seat a better option to avoid any cupping or warping later on.

All of the wood I had was dry, so after cutting things to size I was able to whittle most of the tenons to size straight away. For the legs, I used an axe to get things started and then finished whittling with a knife. Everything else was done with just a knife or my fancy Veritas tenon cutter.

What size?

By now you may be wondering where the cutting list is. How big should this thing be? Well, other than the distance from floor to seat, everything else is open to your imagination and the materials at hand. For an adult chair, the distance from floor to seat should be about 450mm. Bear in mind the legs will be splayed so they will need to be cut longer than 450mm to accommodate the seat height. I made mine a little shorter because I wanted it to be comfortable for both adults and kids.

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When selecting wood for the legs, consider something fairly thick – but not overly chunky – because wood in-the-round doesn't have the same strength as cleft wood. For this reason you should keep the leg tenons fairly thick too; I made mine 25mm.

Shaping the seat

Carving the seat comes next. In more conventional chairmaking you would drill the leg and spindle holes before carving the seat, but this piece of wood was riddled with cracks and I wanted to get the feel of what I was dealing with before plunging a drill bit in. Sure enough, I found all manner of cracks and giant bug holes, but the strength was still there.

I started the seat carving with a hand adze to rough things out, and then I used my Swedish trågskav to refine things a little. The grain was all over the place so I found myself constantly changing from cutting across and along the grain. Going across is easier, but it leaves a rougher finish. I wanted a finish showing off the tool marks so I ended with gentle cross-grain cuts.

Next, I did some basic shaping of the seat rim using a combination of saw and axe. Again, I was looking for a textured finish that shows off the tool marks.

The back splat and comb

And now for the fun part: carving the wombat. The body – in chair speak this is known as the back splat – is carved from a piece of poplar. Far from being the toughest wood around, it did, however, make it much easier to carve. The strength was bolstered by the spindles either side, which are made from black sheoak, a much stronger wood. Carving the shape and details was achieved with two primary knife cuts:

1. Severing the fibres by pushing the knife edge into the wood to trace a line – for example the hem of the coat.


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2. Pivoting the back of the blade off your thumb to undermine the severed fibres, leaving a ledge where the line was.

Additional detail was carved with a 6mm Japanese carving gouge to achieve a textured finish for the fur.

The head and face are carved into the comb of the chair. To prepare this piece, I started with a naturally bent cherry branch and split it in two using a froe to guide the split. I used my axe and knife to tidy up the surface and I then applied the same knife techniques mentioned above to carve the details. The face requires slightly deeper cuts to really bring out the facial features, and the tip of the blade is used more for the finer parts such as the eyes. Take this part slowly for the sake of you and the wombat!

Drilling mortises and fitting spindles

Next, I drilled holes. Spindle tenon diameter can be dependent on the size of stick, but in this instance they were 5/8" at the bottom (I used imperial because my Canadian Veritas tenon cutter doesn't come in metric), and 12mm at the top to fit nicely into the comb.

10. The Veritas tenon cutter attaches to a power drill.

11. Sketching out the seat shape and contours.

12. Initial hollowing using an adze and supporting my wrist.

13. A trågskav, also known as a scorp, was next used to hollow the seat.

14. Using an axe to shape the edges and back of the seat.

15. Refining the seat shape and finish with a knife.

16. Splitting the comb with a froe ona workshop made log and branch sawhorse.

17. The axe comes out again for initial shaping of the comb.

18. A line is drawn on the angle guide to mark the spindle mortise angle. Every hole is set at a different angle to suit the stick.

19. Drilling leg holes using a scrap wood angle guide.


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20. One hole drilled with the aid of the angle guide.
21. A dry test fit allows for adjustment of angles.
22. Next job is to drill holes for the spindles and back splat.
23. Fitting the comb onto the back splat ready for positioning spindles.
24. Establishing spindle angles before drilling holes in the comb.
25. Lining up the spindles.
26. Marking spindle mortise hole angles.
27. Comb fitted. No glue needed because of ill-fitting tenons – extra strength can be achieved by drilling and pegging the end spindles.
28. Paint and linseed oil really bring out the texturing.


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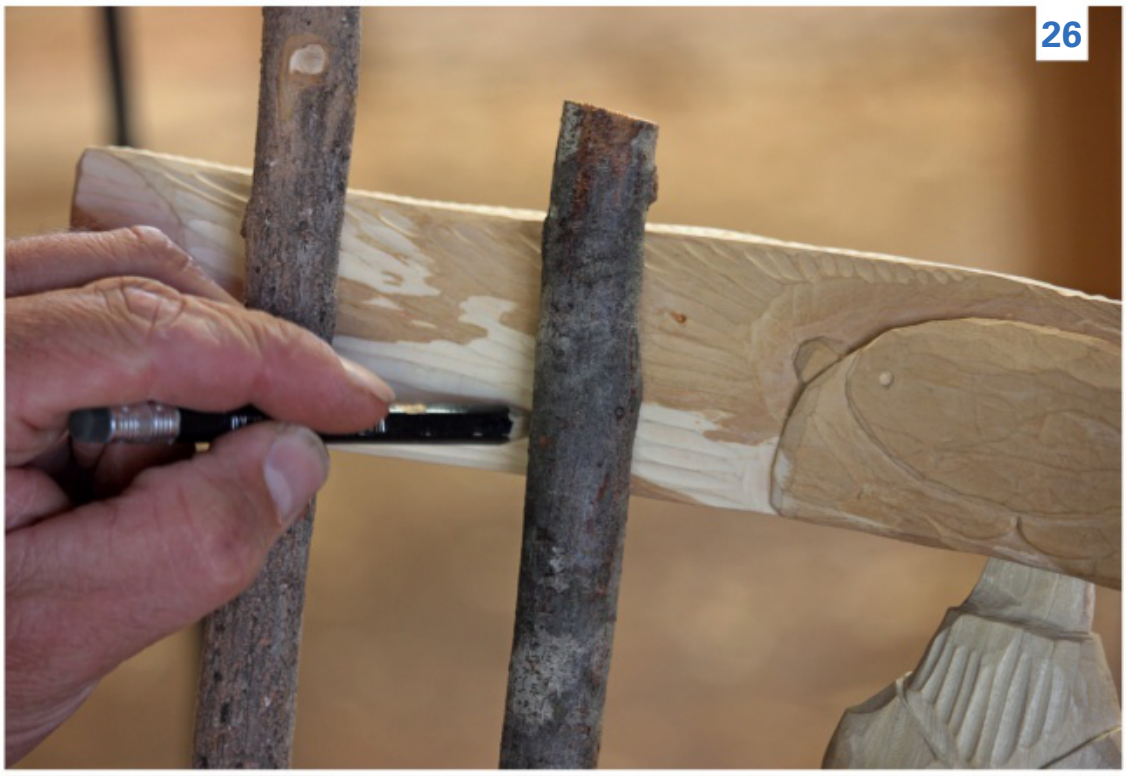
Whittling tenons to fit is where you curse not using straight wood. Every hole needs to be a slightly different angle to accommodate the curve of the stick. Much of this is done by eye, feel and memory, but is made a little easier once one end of the stick is in place.

Spindles, for example, can be tapped into their seat holes, while you hold and draw pencil lines onto the comb showing the angle of the tenon.

It is perfectly normal to get these slightly off, which is part of the miracle of stick furniture, because a row of slightly ill-fitting tenons pushing in opposing directions can really strengthen things up. This



eliminates the need for glue in most cases. Here the legs were glued in, but not the spindles.

With all tenons driven into place using your homemade mallet, you now have a chair ready for refining. If it wobbles, even up the legs using some wood scraps to prop up the short leg, check it's fairly level, and then use an off-cut and pencil to mark on each leg where it needs to be sawn.

And now sit. It's a glorious feeling.

I painted mine for that whimsical look. If you want to do the same I suggest some watered down artist acrylics sealed in with some linseed oil.

Is it fine furniture? No. Is it a chair that is a fine experience to make, sit and read the Muddle-headed Wombat in the garden while sipping elderflower cordial? Absolutely!

** Slöjd or sloyd is a system of handcraft education developed in Finland in the mid-1800s that went on to be taught worldwide for varying lengths of time. It is still taught in Scandinavian schools.*

Photos: Jeff Donne

Jeff Donne is a professional spoon carver, treecraft teacher and puppet maker from the far south coast of NSW. He runs regular puppet and spooncarving workshops in many places, including Sydney, Canberra and Pambula NSW. See: www.spoonsmith.com.au

The design for the author's scraper plane is his own and quite different to James Krenov wooden planes, but wouldn't look out of place next to them.

Making a Scraper Plane

UK maker and woodwork teacher Theo Cook shows how to make his most useful wooden plane.

I picked up the planemaking bug when I studied under James Krenov at the College of the Redwoods in California, USA. The year I spent at what is now known as the Krenov School of Fine Furniture was part of the apprenticeship I did with Barnsley Workshop in the UK.

James Krenov taught his students to make wooden handplanes and I've carried that tradition on by also teaching my students at Robinson House Studio in London. Over the years I've made a variety of wooden planes, but this one, my scraper plane, is the one I find most useful and now teach as a set project.

The design for this plane is my own and quite different to the traditional James Krenov wooden planes, but it wouldn't look out of place next to them. It's not easily replaced with a metal alternative. It's also very light, easy to adjust and the blade is made out of high speed steel and so keeps a sharp edge for longer.

In general, scraper planes are great on tricky grain and highly figured woods. They are also excellent for planing glue off veneers. If I were to choose my favourite hand plane it would be the Lie-Nielsen No.164 low angle, but my scraper plane comes up second.

Materials

Blade. The blades I use are made of high speed steel and sized at 95 x 42 x 4mm. I have these custom made or you can source a blade from elsewhere*. If you use a different sized blade you will need to adjust the dimensions of the plane.

The sole. For this I recommend *Lignum vitae* for its hardness and natural resins. The finished size of the sole will be 175 x 54 x 4mm.

The body. Exotic woods such as the pink ivory wood I'm using here have a special use for this kind of project,

Fig 1 Components prior to shaping, mm, not to scale

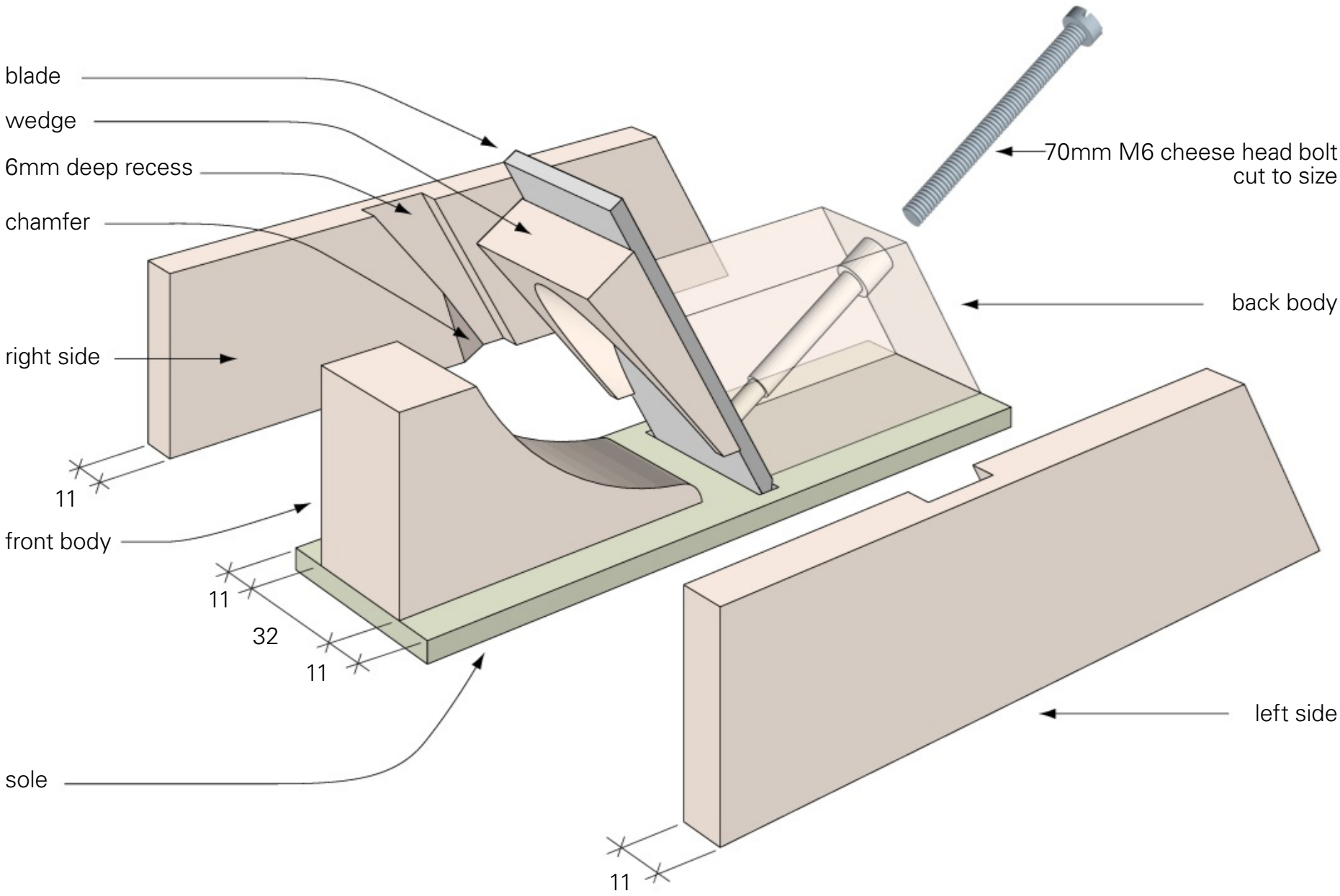
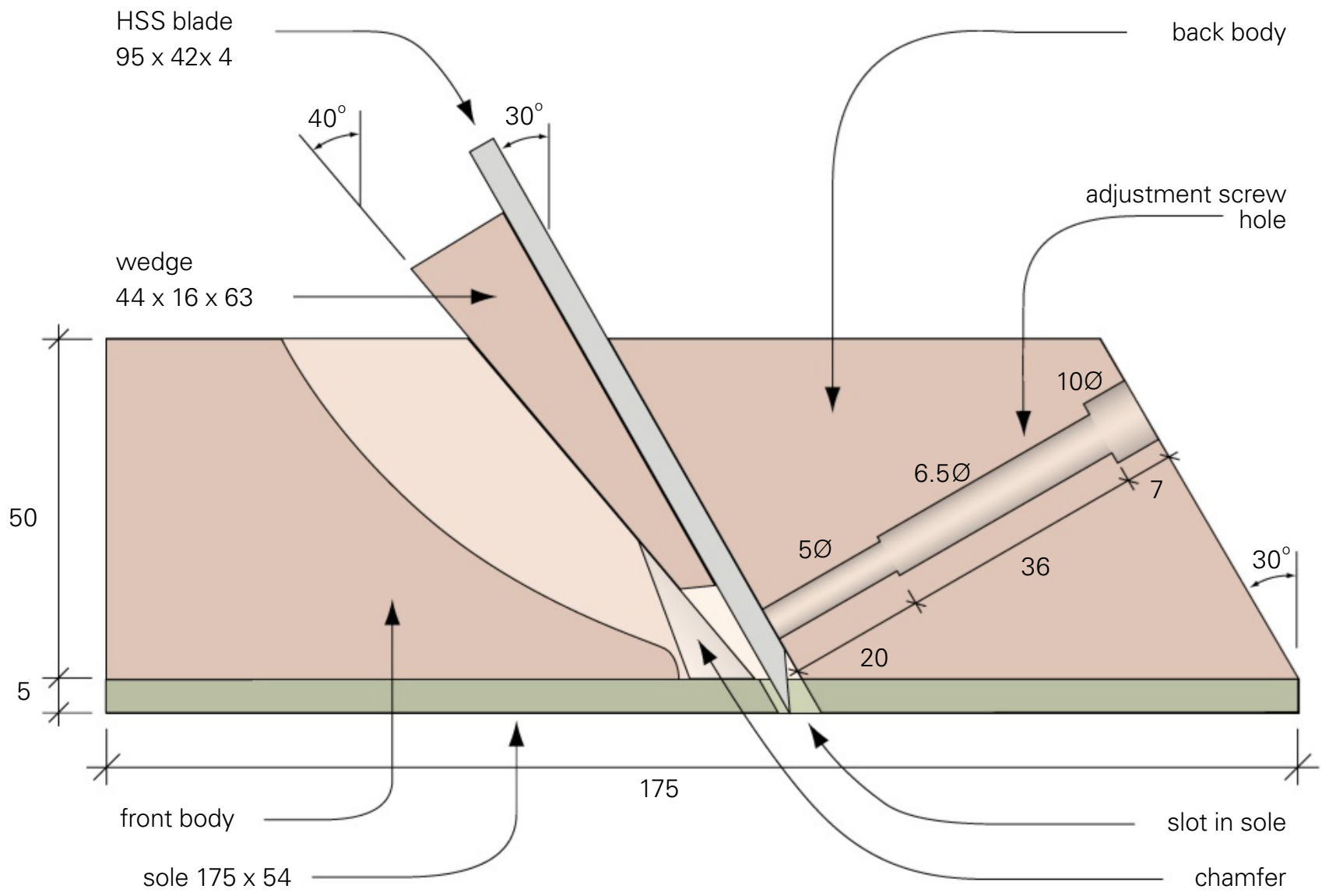


Fig 2 Longitudinal section prior shaping, mm, not to scale

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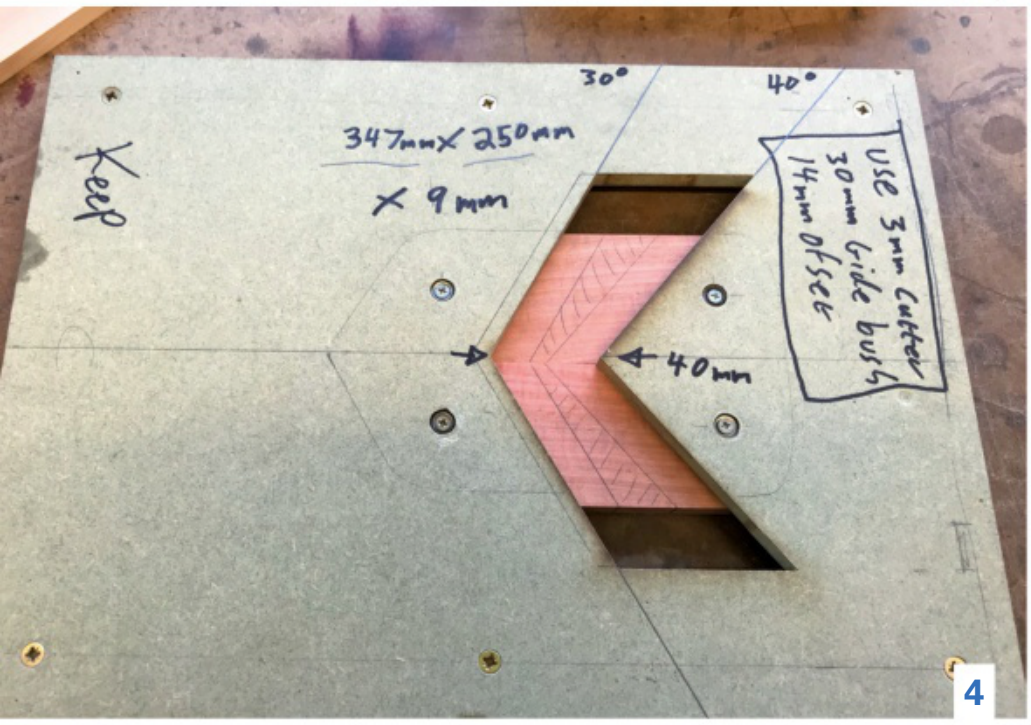

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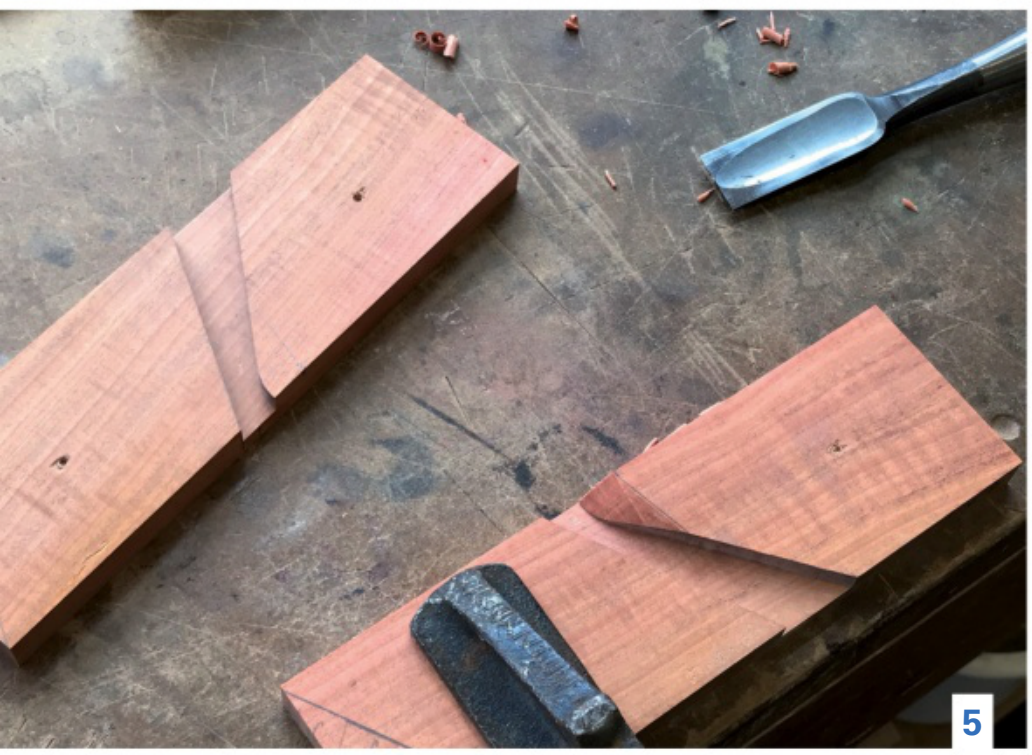
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or you can substitute a stable and readily available hardwood. Here in the UK, I've made several from sycamore. The finished size of the plane body is 175 x 50 x 54mm but I would recommend starting with a longer piece so you can machine plane it. You could make two planes – a gift for a friend perhaps?

The stock for the body will be sawn into three pieces and the well for the blade sawn and chiseled out before the pieces are glued back together to look as though they're one piece of wood again. You'll need a small piece of wood for the wedge as well.

Hardware. You will also need a 70 x 6mm cheese head screw. This is to push the blade forward a tiny bit in order to achieve a bigger shaving. The screw will be cut to correct length when your plane is finished.

Step by step

The numbered photos follow the steps below.

1. Plane your wood oversize to start with. Mark out where the saw cuts will go to cut your wood into three. Draw a 'V' on the top so you can put them back in the right order.

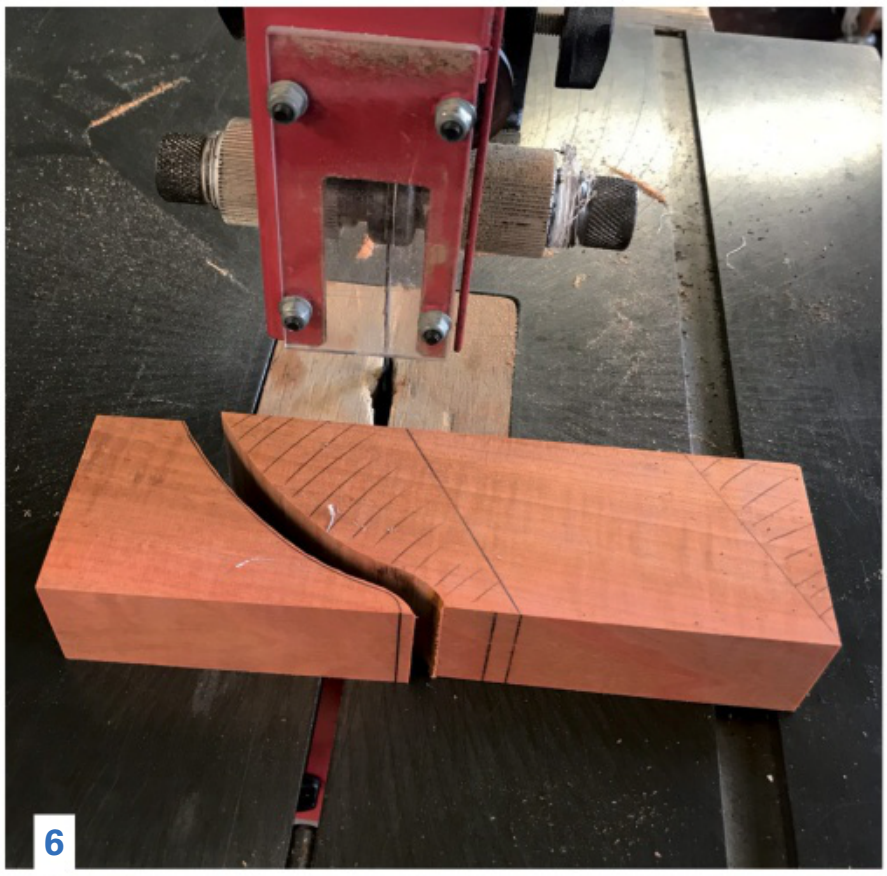
2. Bandsaw your wood into three pieces and plane the wood to size, see **fig.1**.

3. On the sides, mark out for the grooves for the blade and mark also where the waste will be.

4. You can rout these grooves using a jig, or you can do this with a chisel cutting to knife lines. Sand to clean the grooves up.

5. Mark out and chisel the small triangular-shaped chamfer that you see at the bottom of the grooves. This stops wood shavings getting clogged inside.

6. Mark out and cut the body into two parts. I used a bandsaw and a tablesaw but you could use a coping saw for the front body and a handsaw for the back.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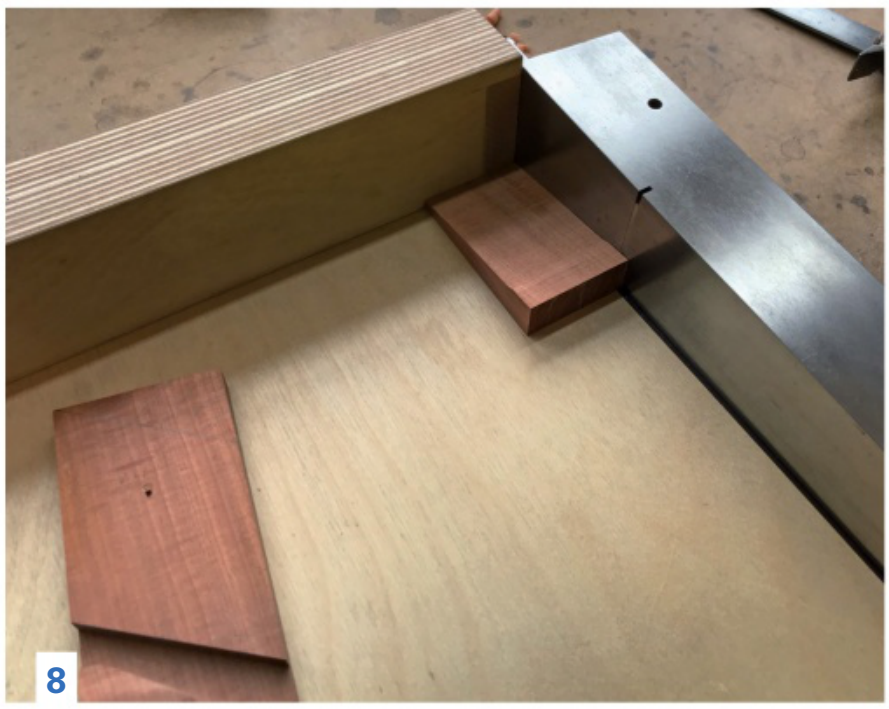
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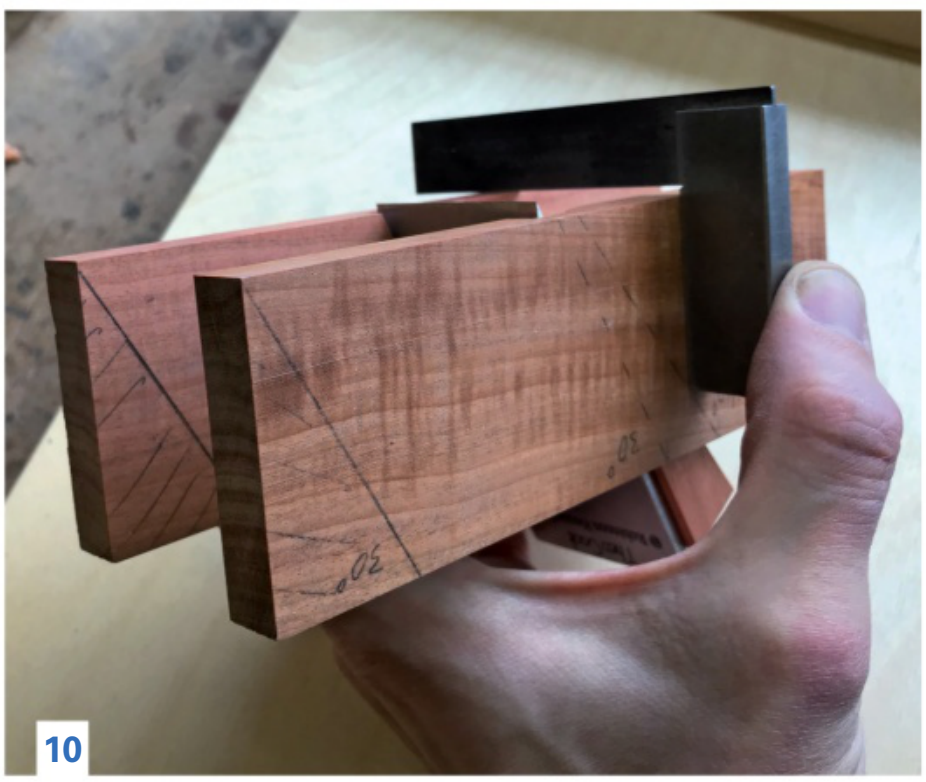
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7. Mark out and cut the wedge oversize in the length but to the correct width.

8. Plane the wedge to a 10° angle to fit the grooves. Take your time here as the wedge needs to fit evenly on both sides. The wedge will also be used to keep everything lined up when you're gluing the body back together.

9A, 9B. Sand the inner surfaces of the plane body now before they are glued back together.

10. Hammer the wedge in between the two sides, then position the two central body parts. Clamp these all together and plane the bottom and the top flat. If you don't do this you will find gluing up will be very tricky.

11. Make a few flat clamping blocks to help keep everything flat when gluing up.

12. When gluing up the body use another packer to stop the wedge coming out at the bottom. Make sure to

remove the wedge when everything is clamped up. Do a few test clamp-ups to get the process down. Use packing tape on the clamping block and packer to prevent them being glued to the block. Try not to not glue right up to the inner edges of the front and back of the body to limit the amount of glue squeeze-out in the cavity.

13. The cut-out on the wedge makes it easier to clean out shavings. You can rough this out on the bandsaw or by hand with a coping saw. I then used a die grinder or a rasp to get into the tricky part followed by a small drum sander attached to a cordless drill. A lot of this could be done with carving chisels as well. You can then sand the shaped surface. After the glue has set on the plane body clean up the inner slope where the blade will sit. Use a chisel or a flat tool with sandpaper stuck to it.

14. If you haven't already done so, cut the *Lignum vitae* for the sole.

15. Cut the plane body and sole to exact length, and plane the sole to the exact width. This is a very important step to help with gluing the sole on. Plane also the underside of the plane.

16A, 16B. Place the plane on the sole and mark through the body to show you where you need to cut the slot for the blade.


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17. I used a milling machine to cut the slot but you could mark out a 4mm slot with a scalpel or marking knife. I then used a router to cut through before cleaning up the line with a chisel. The corners can be filed square.

18. Chisel a slope on the inside of the sole. This is to prevent the shavings from clogging.

19. Dry clamp the sole to the body to make sure everything fits. Before gluing up clean the sole with acetone to help the glue stick as this species of wood is very oily.

20. Glue on the sole once again using a packer covered in packing tape. I used a medium viscosity superglue as this sticks really well to *Lignum*, but you could also use epoxy. Make sure you don't put too much glue around the central cavity (the area you drew around earlier). Another advantage of superglue is the fast drying time, about 20 minutes should do. After the clamps come off you can clean up the mouth a bit more on the underside of the sole. This can be done with a file and a bit of sanding.

21. Mark the 30° angle at the end of the plane body and cut off the excess. I did this on the tablesaw but you could use a handsaw.

22. Next mark out exactly where you need to drill for the adjustment screw.

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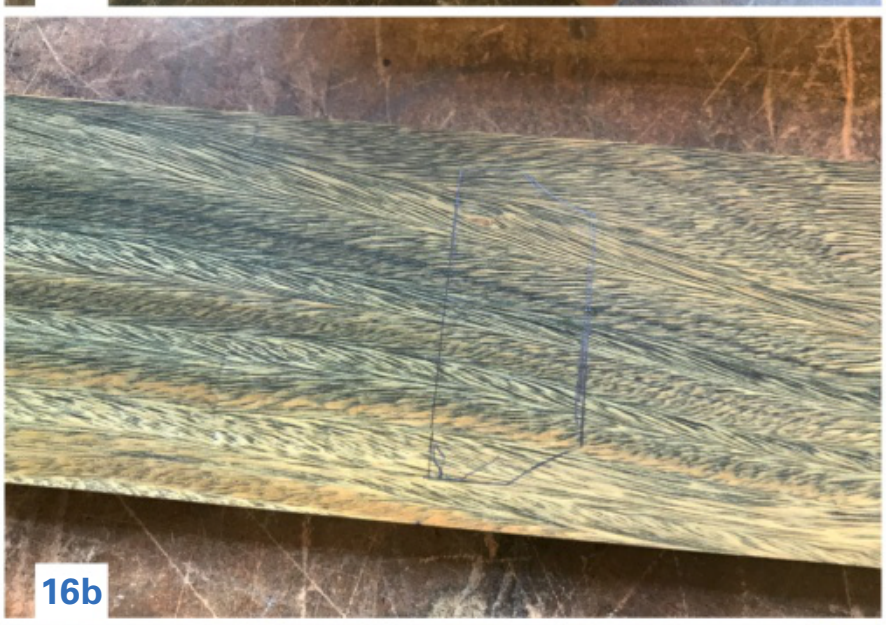
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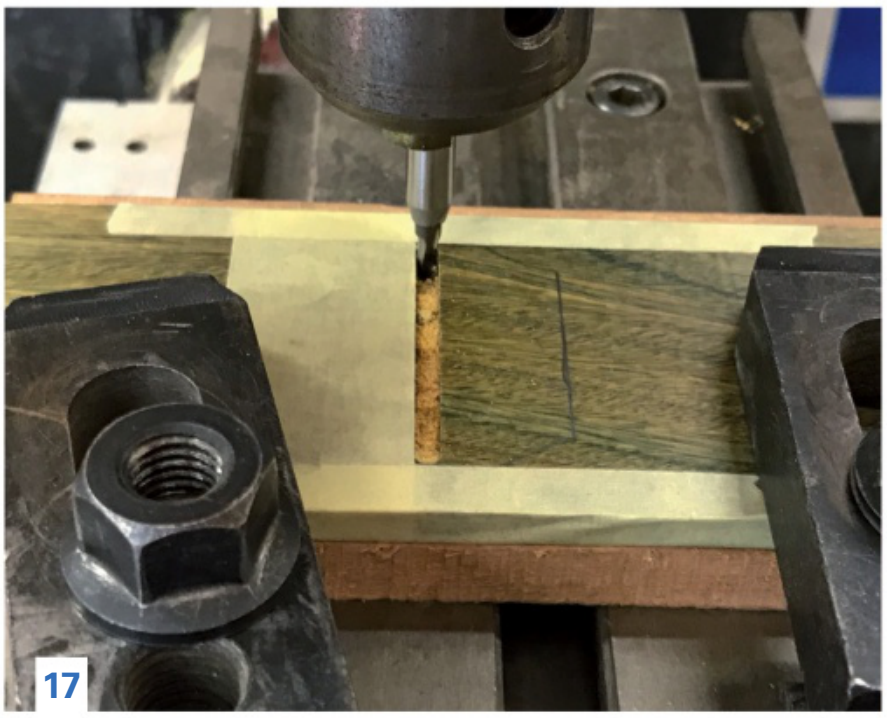
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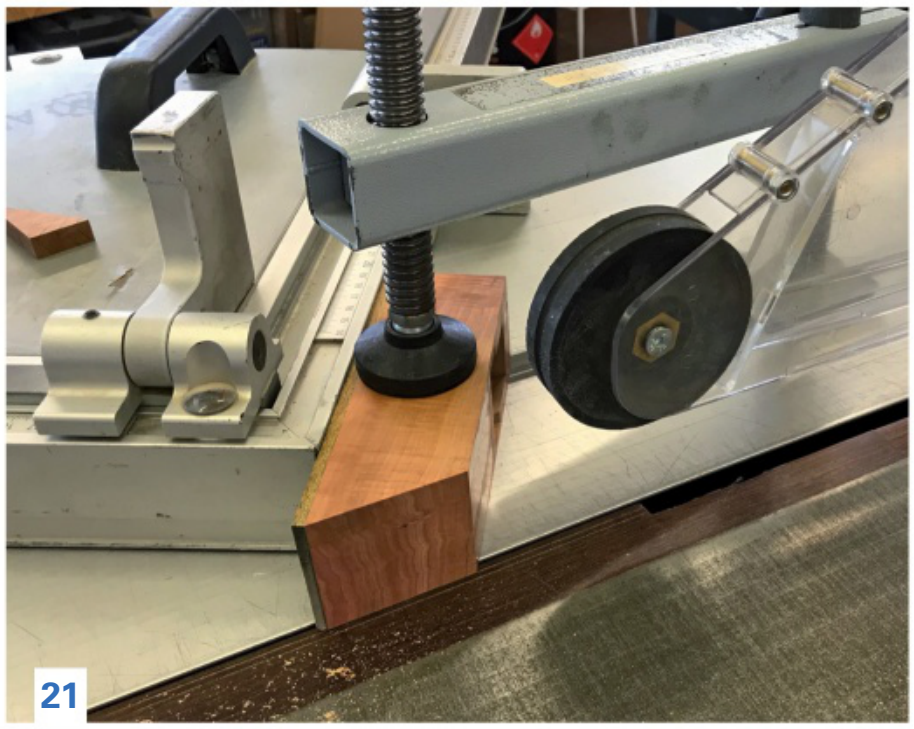
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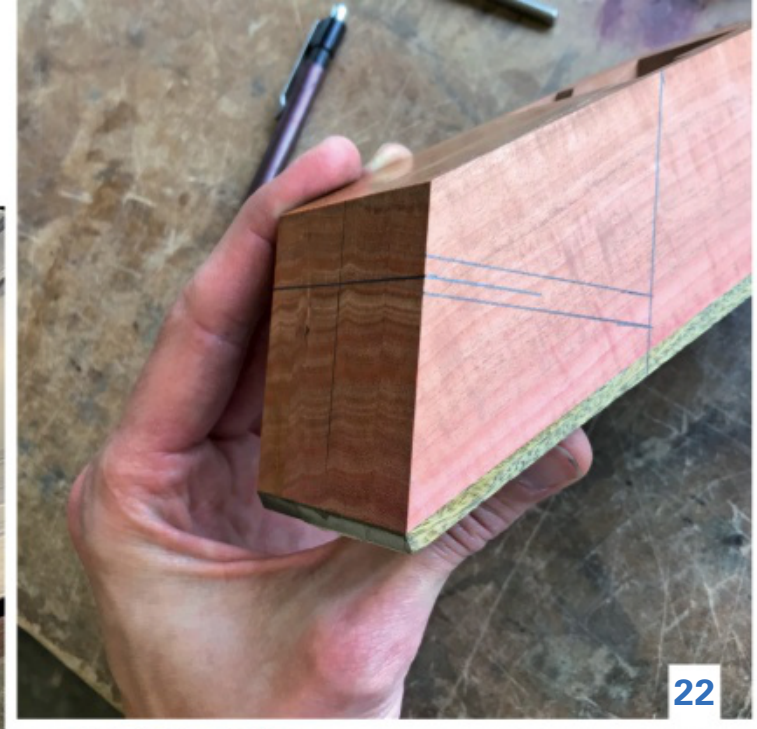
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23. Select the drill bits you need and use tape on them as a depth gauge.

24. Drill the 10mm hole first, then the 6.5mm, then 5mm.

25. Use an M6 tap to cut the thread for the adjustment screw. Test the screw and cut to length if need be. The screw should only just touch the back of the blade.

26. Now for the fun part – well the shaping of the plane definitely is for me. I used a disk sander to rough out the shape.

27. A spokeshave was next used to refine the outside of the plane before sanding up to 240 grit and then using 0000 steel wool. Take care sanding as the *Lignum* wood dust can contaminate paler timbers.

28. The wedge needs to be trimmed to length.

29. Here you can see the wedge trimmed and finish sanded.

30. Mask off the contact areas of the wedge prior to applying oil. Oil or wax on the wedge as it tightens into these areas will prevent it from working properly.

31. When the finish has dried, flatten the sole by sanding it on a flat surface like a machine bed.


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Setting the blade

This blade should be sharpened at 30° and the edge then burnished using a burnishing tool. Make sure the adjustment screw is set back before you start. Place the plane on a flat piece of wood and then put the blade in until it contacts the wood. Position the wedge and give it a gentle tap with a hammer.
A hammer can also be used for the lateral movement of the blade as well. The adjustment screw can be used to achieve a bigger shaving.

I hope these steps will help you build a Theo Cook scraper plane of your own. I have enjoyed using mine so much over the years.

Photos: Theo Cook

** Hock Tools make Krenov style blades in 1.5" (38mm) or 1.75" (44mm) widths. The come with breakers but can be ordered without them. The size of the scraper plane can be adjusted according across the width. Hock Tools blades are available from www.woodworksupplies.com.au*

Theo is senior tutor and vice-principle at Robinson House Studio Furniture School, London, UK, see www.robinsonhousestudio.co.uk Email theotcook@gmail.com to enquire about his custom made blades.

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1. Combining functions, the shavehorse can be a welcome workhorse in your workshop stable.

The Shavehorse Project, Part 1

Add to your stable of work-holding equipment with a versatile shavehorse. Story by Phoebe Everill.

Fig.1 Components mm, not to scale

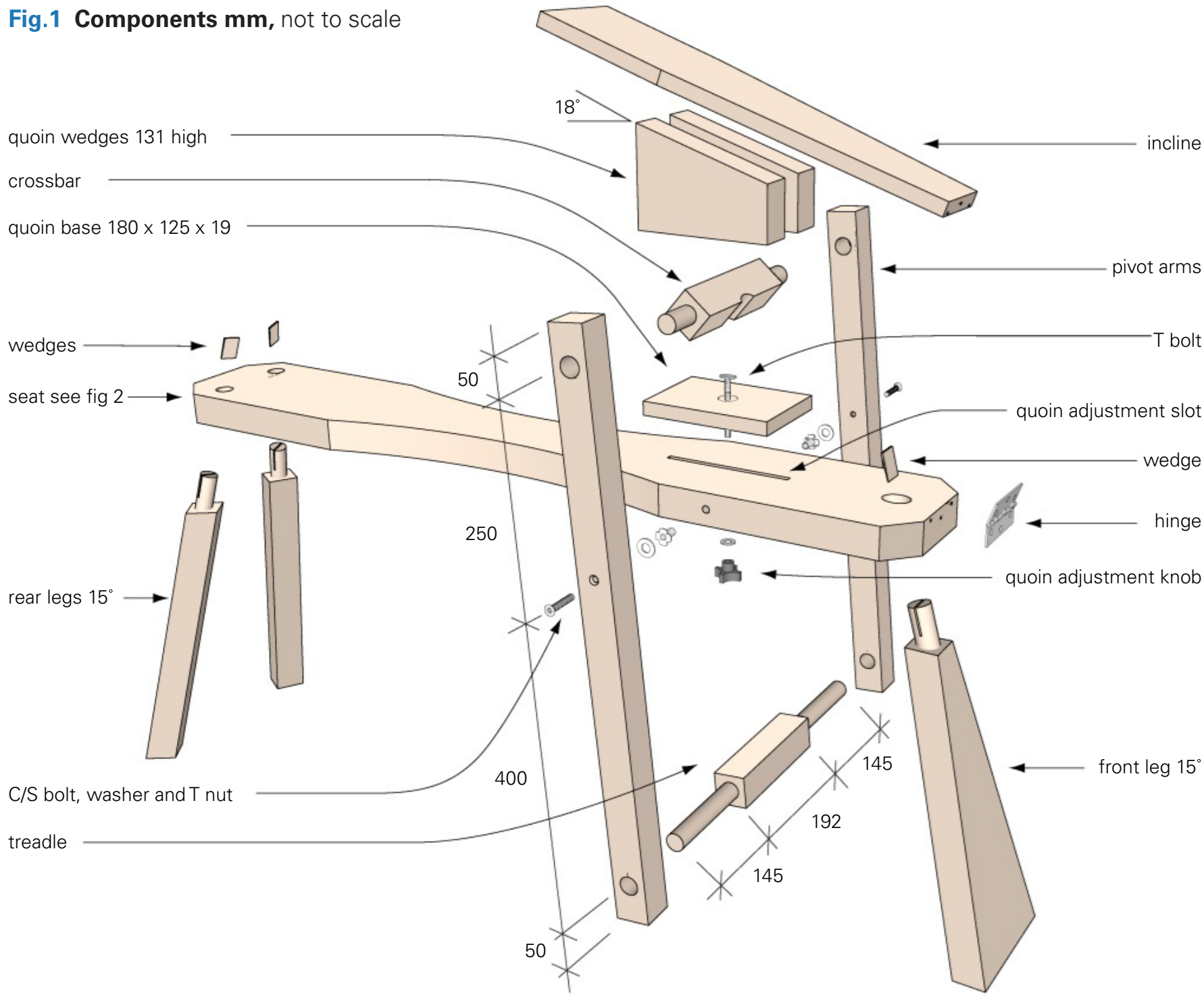
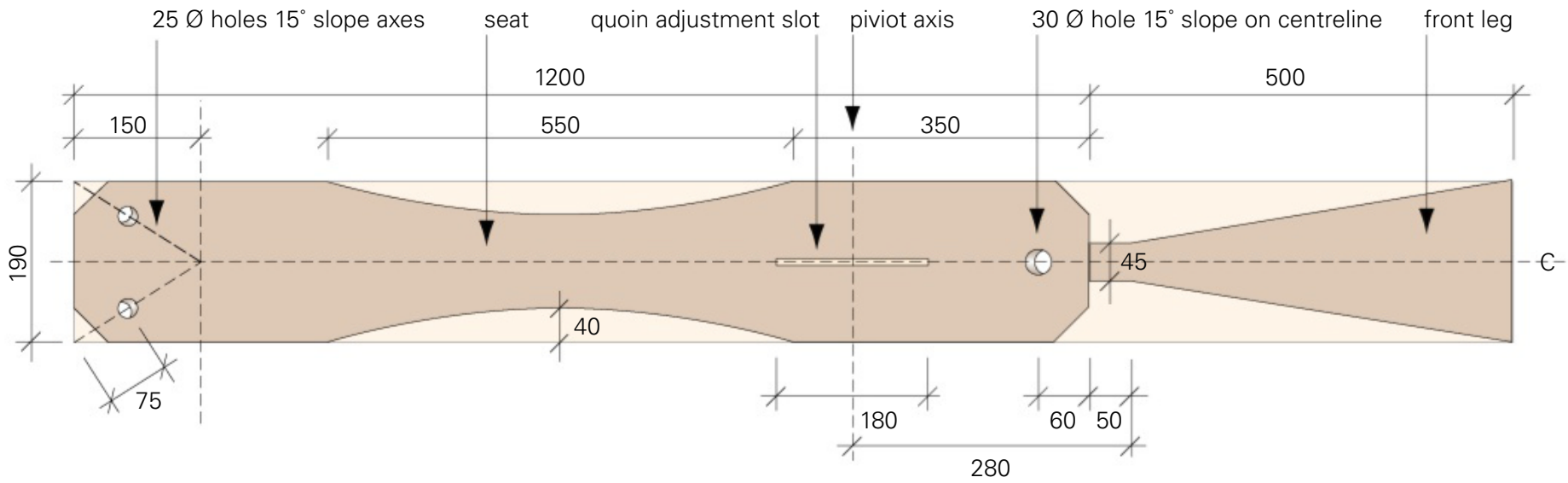


Fig.2 Board breakdown mm, 1:10



The shaving horse aka shavehorse is a sit-down workbench for holding stock while it's worked with a drawknife or spokeshave. This device has a long history of useful making and I believe deserves a place in the modern workshop alongside the workbench.

The horse or 'mule' centres around a quick release foot powered clamp, that holds the workpiece firmly while you are able to shape with both hands free to hold the shaping tool.

By moving the treadle bar back and forth the user is able to engage and disengage the clamping action of the crossbar against the incline board.

CUTTING LIST (mm)

PART	QTY	LENGTH	WIDTH	THICKNESS
Bench seat	1	1200	190	45
Incline board	1	580	190	20
Wedged raiser block (quoin)	1	200	150	120
Pivot arms	2	760	45	45
Crossbar	1	300	45	45
Treadle	1	500	45	45
Rear legs	2	500	45	45
Front leg	1	500	190	45

2. Cutting the cross for centre back leg.

3. Bandsawing the shoulder in preparation for the lathe work.

4. Turning the spigot on one of the back legs.

5. Sizing the spigot.

6. Cutting the slot for the back leg wedge.

7. Ripping the front leg spigot on the bandsaw.

8. Shaping the front leg.

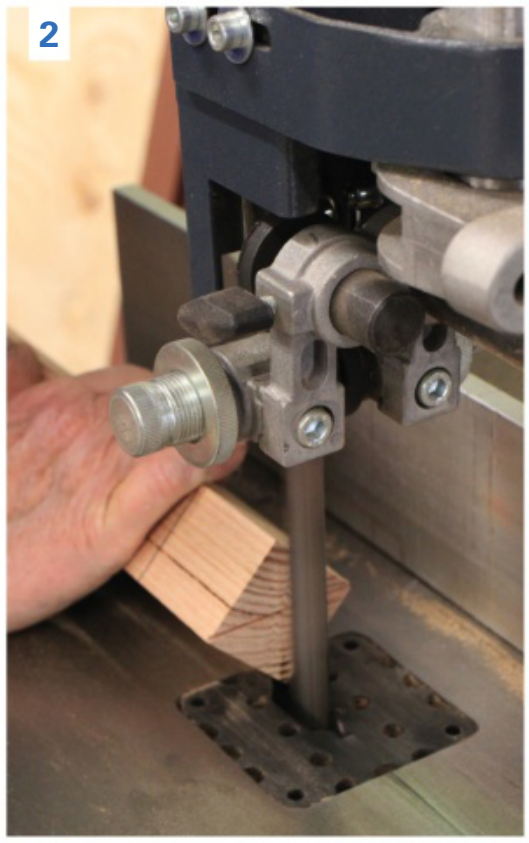
9. Turning the front leg spigot.

10. Cutting the slot for wedge.

11. Drilling the angled mortise.

12. Cutting a slot for the riser block.

13. T-bolts are used for smooth travel.



There are two different styles: the British or bodger's style which has two pivot arms, and the German, which has only one arm that pivots through a slot in the bench. I am building the British style for this article, as shown in **photo 1** on p.74.

Timber choice

You can use any solid seasoned board around 45mm thick and 190mm wide. A 1.7 metre length will give you the seat and the front leg. I am using F17 kiln dried Vic ash here, but I am keen to start using locally sourced cypress (*Macrocarpa*) to improve the 'green' credentials.

Traditionally, bodgers used green timber, allowing the joinery to dry before driving the wedges home. Many of the processes described in this build are machined, but please use hand tools and make your shavehorse in a more traditional way if you prefer. The cutting list and **fig.1** on p.75 show the construction and dimensions. You can vary the length and thickness of the seat or other parts if you wish.

Bench seat

Check your timber for cracks or knots where the joinery will come through and plan accordingly, but otherwise don't be too fussy. This is a workbench!

Back legs

Machine your wood for the two back legs. Use the bandsaw to mark a cross for centre, or use a pencil and then an awl (**photo 2**). The reason I like to use the bandsaw is it makes a nice slot for the drive spur on my lathe to get a good grip.

I like the V-shaped jig shown in **photo 3** where I'm cutting the shoulders on the legs in preparation for turning the spigots on the lathe. This technique is really useful for giving you a good clean shoulder to turn to (**photo 4**).

Another simple jig helps to size the spigot (**photo 5**). I make these gauges to use on the lathe using my most common forstner bit sizes. It's a safer way where the actual drill bit has made the gauge. Finish off with a coarse paper until the gauge slides along the spigot.

The V-jig comes in handy again here when bandsawing the wedge slot for the back legs (**photo 6**). Now that the joinery is finished on the back legs, you can shape and clean them up any way you like.

Front leg joinery

The front of the shavehorse is supported by one leg with a wide base. For the joinery, first bandsaw relief cuts in from each side before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ripping down to what will be your spigot (**photo 7**). Complete the cut by bandsawing to the line back from the other end (**photo 8**). Keep the wedge offcuts as they can be used for the riser block or quoin. You can clean up the leg afterwards with a handplane.

Prep the front leg for the lathe by crossing for centre with a pencil and ruler. Use an awl to make a good centre locator, then hand cut the corners of the spigot off.

Be very careful that you have a good tight fit and 'pulse' start the lathe to make sure of this (**photo 9**). I run at a slower speed for this turning (under 900).

In **photo 10** I'm cutting the slot for the front leg wedge.

Back and front leg mortises

We need to drill mortises for the leg spigots at an angle from the top (**photo 11**). For the back legs I'm using a 25mm forstner bit or sharp spade bit. It's a bit hard to do this, so I find this drilling jig does the job.

You may reach the full depth of the drill press before you go through the board. If that is the case take the jig away and finish it off freehand. There should be enough of a hole for the drill to relocate. Clamp a piece of scrap to the underside to minimise tear out.

To drill the front leg mortise, use the centre line on the seat as a guide to set the drilling jig to. Drill the 30mm hole in the same way as you did the back legs.

Riser block slot

I like to cut the slot in the bench seat for the riser block on my tablesaw. In this way the board can be clamped to the fence and the blade brought up through the timber. Find the centre of your blade and mark it onto the saw fence (**photo 12**).

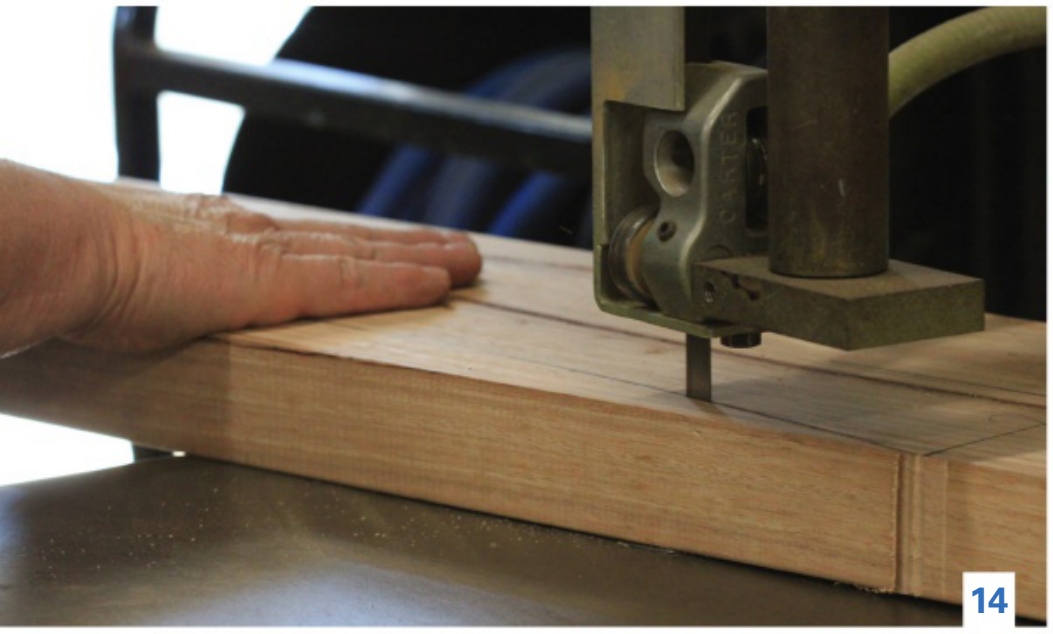
Adjust the width of the slot by turning the board 180° and repeating the same upward plunge cut. This will ensure the slot is in the centre of the plank and you can slide the bolt through easily. I am using 5/16" T-bolts so I make the slot 8mm wide so the bolt will travel smoothly (**photo 13**).

Shape the bench seat

You can bandsaw the curves on the seat sides (**photo 14**), or if your blade is too wide use a jigsaw and then clean up with a spokeshave and sandpaper.

Making the treadle frame

I am using some recycled messmate (dressed 45mm square) for the treadle frame (**fig.1**), whatever you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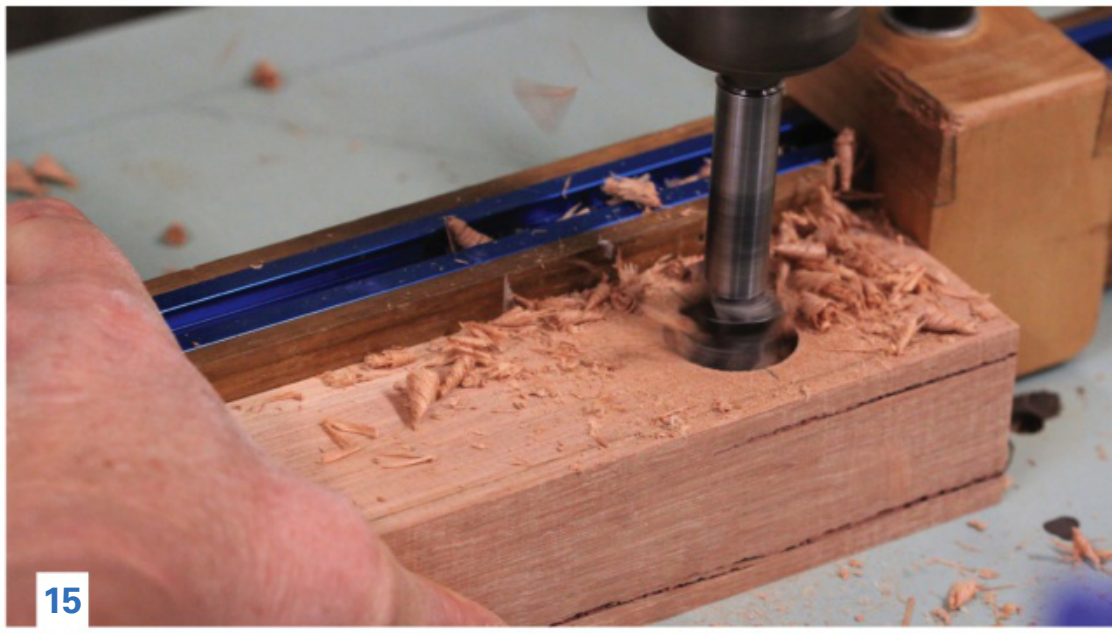
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choose make sure it is quite dense as it needs to take the weight of your feet in the clamping position without flexing. The 'weight 'of this frame makes the shavehorse a pleasure to use as it 'grips' the workpiece easily with a minimum of force.

Drill the uprights of the frame with a 25mm forstner bit, the same as you used for the back legs, keeping the distance the same from both ends (**photo 15**). This will ensure your work is parallel and the frame is square.

Crosspiece joinery

Prepare your crosspieces for the lathe and I then like to use a jig in the thicknesser to dress the edges off (**photo 16**), or of course you could use a handplane.

Carefully measure the width of your seat as the 'shoulders' of crosspieces must be longer by 3mm to allow for a washer on each side to be inserted when fixing the frame to it.

Proceed with the lathe work to create the spigots in the same way as for the back legs. The foot bar has of course a much longer spigot so you can place your feet on it.

When you are happy that you have got the internal spacing right you can glue the frame up. The washers and the spacing are critical to allow the frame to pivot easily. If it is too tight you can plane a little off the seat – if it's too loose add extra washers.

Gluing up

Dry fit the legs to the seat. You will need to adjust the shoulders on the legs to accommodate the angles, scribe off the base of the seat onto the legs, handsaw the corners being careful not to saw too deep, and then chisel.

Hand cut or bandsaw wedges. I like to make these long (50mm) and with fine tapers (1.5–2°). Do a test fit and if they haven't enough 'grip' trim the point back until the spigot expands completely to fill in the mortise.

When you are happy with the dry fit, glue up the legs to the seat. When dry, test the bench seat for height and then decide if you want to add an additional seat (if any) as it will affect the height.

Mark and trim the angles on the leg bases by hand. To do this sit the

14. Shaping the sides of the seat plank.

15. Drilling the uprights of the frame.

16. Thicknesser edge jig.

17. Showing the riser block base with the T-bolt glued in.

18. Riser block glued up.

19. Incline board with hinge attached.

20. Installing the treadle frame.

21. Using the shavehorse. Portability is another of the strength of this workbench and workholding system.

shavehorse on a level surface, scribe the angles, cut and clean up.

Riser block

Cut a 200mm piece of 150 x 19mm wood, mark a cross for centre, drill and countersink for your 90mm T-bolt then epoxy in place being careful not to get glue on the thread (**photo 17**).

To make the riser block simply glue some offcuts to the base you have prepared, and add the wedges that came from the front leg shaping, this will give you a starting point for working out the best working angle height (**photo 18**). The angle of the riser block from the horizontal seat is around 18°.

Incline board

Cut 560mm off a piece of 150 x 19mm hardwood, taper the sides down to the width of your hinge. Mine is 90mm, then screw the hinge on (**photo 19**).

Slip the frame over the front leg and use a spacer (about 6mm), on the floor to keep the foot bar clear and able to pivot.

Drill and install the T-nut into the side of the seat plank, 280mm back from the front. The fit needs to be tight so test drill into a piece of your scrap wood. Add a little epoxy as you hammer it home, just to be sure!

Measure up from the base of the upright, then drill and countersink for your threaded fixing (**photo 20**).

The height will vary with each shavehorse. The only critical factors are firstly that the treadle is free to pivot above the floor level; secondly, that the foot bar doesn't hit the front leg before you have gripped the workpiece; and thirdly that the holes are at the same height so it stays parallel.

There are many variations to this project. You may choose to add a seat or you could add the 'spoon mule' that I'll show how to make in the next issue. Think about making a bench in the same way and you have a great place to keep your tools when you're working, and a useful saw bench.

I've cut a notch in the crossbar so that small work is held securely and lining the notch with leather will help you from marking the work (**photo 21**). The addition of sandpaper to the top and base of the riser block will help things from moving around. The shavehorse is a wonderful workshop addition to any workshop (**photo 22**). Really make it your own and enjoy using it!

Photos: Phoebe Everill, Heather Waugh

Next issue Phoebe will show to make some shavehorse add-ons.

Phoebe Everill is a furniture designer maker who runs her own woodworking school in Drummond, Victoria. She is a regular teacher at Sturt School for Wood in Mittagong, NSW. Contact her via www.phoebeeverill.com

Twelve

Last year's graduates at Sturt School of Wood showcased their work in an end of year exhibition. Peter Young outlines the focal points of their study.

In 2019 yet another group of 12 people from varied walks of life have experienced a life changing year at Sturt School for Wood. Sturt is one of a handful of schools worldwide which offer a one year fine furniture program. Past graduates have established its enviable international reputation and iconic status.

Prior exposure to woodcraft is not essential to gaining admission, but a passion for making and designing fine furniture is a pre-requisite. The demographic has changed in recent years and the majority of graduates are now likely to be in their thirties or forties with a strong desire to become woodwork professionals. The number of women who complete the course has also increased and this welcome trend is likely to continue.

The year at Sturt is divided into four terms, each with a specific purpose and each with a different instructor. In Term 1 students are introduced to machine and hand skills while in Term 2 they undertake their first design exercise, known as the drawer project. Students design and make a piece of furniture which features a high end Arts and Crafts style drawer.

This is followed by instruction in various methods of bending wood and then designing and making a curved object. Eliza Maunsell's *Round Wall Shelf* took components of differing lengths to create a striking bent laminated form which played with ideas of negative space. In another approach, David Briggs blackwood *Tree*

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Root Table forms a striking silhouette by the imaginative use of bent leg forms penetrating a tabletop.

In Term 3 students undertake a 'multiples' project as an exercise in production runs and the development and use of jigs and patterns. Eliza Maunsell's *Chelsea Stools* were produced using a number of different jigs, one of which made an undercut facet so that although the legs are splayed, the top of the leg actually joins the underside of the top at 90° thus simplifying the joinery.

In the design phase students are also encouraged to come up with as many different product applications using the same set of jigs, bending forms or patterns.

Main image, front l-r: Matthew O'Brien, *Desk*; Matthew Wheeler, *Smokey Sunsets Chair*, rosewood, rock maple, Chi Yusuf, *Coffee Table*, Matthew O'Brien, *Chair*. **Rear l-r:** Eliza Maunsell, *Apothecary Cabinet*; Chi Yusuf, *Walnut Desk and Chair*; David Briggs, *Tree Cabinets*; Americ Motte, *Drinks Cabinet*; Matthew Wheeler, *Kindred Harmonies Record Cabinet* with Tyla Veney's, *Kerf Desk Light* on top. **Wall mounted:** Daniel Leone, *Blackwood Pitcher*, Leon Curtis, *Yacht Wheel*; Tyla Veney, *Lap Table*.

1. Daniel Leone @danielleone_art, *Hallway Table*, river redgum
2. Eliza Maunsell @eliza_maunsell *Round Wall Shelf*, rosewood
3. Matthew O'Brien @matto1275, *Desk*, Australian red cedar, leather

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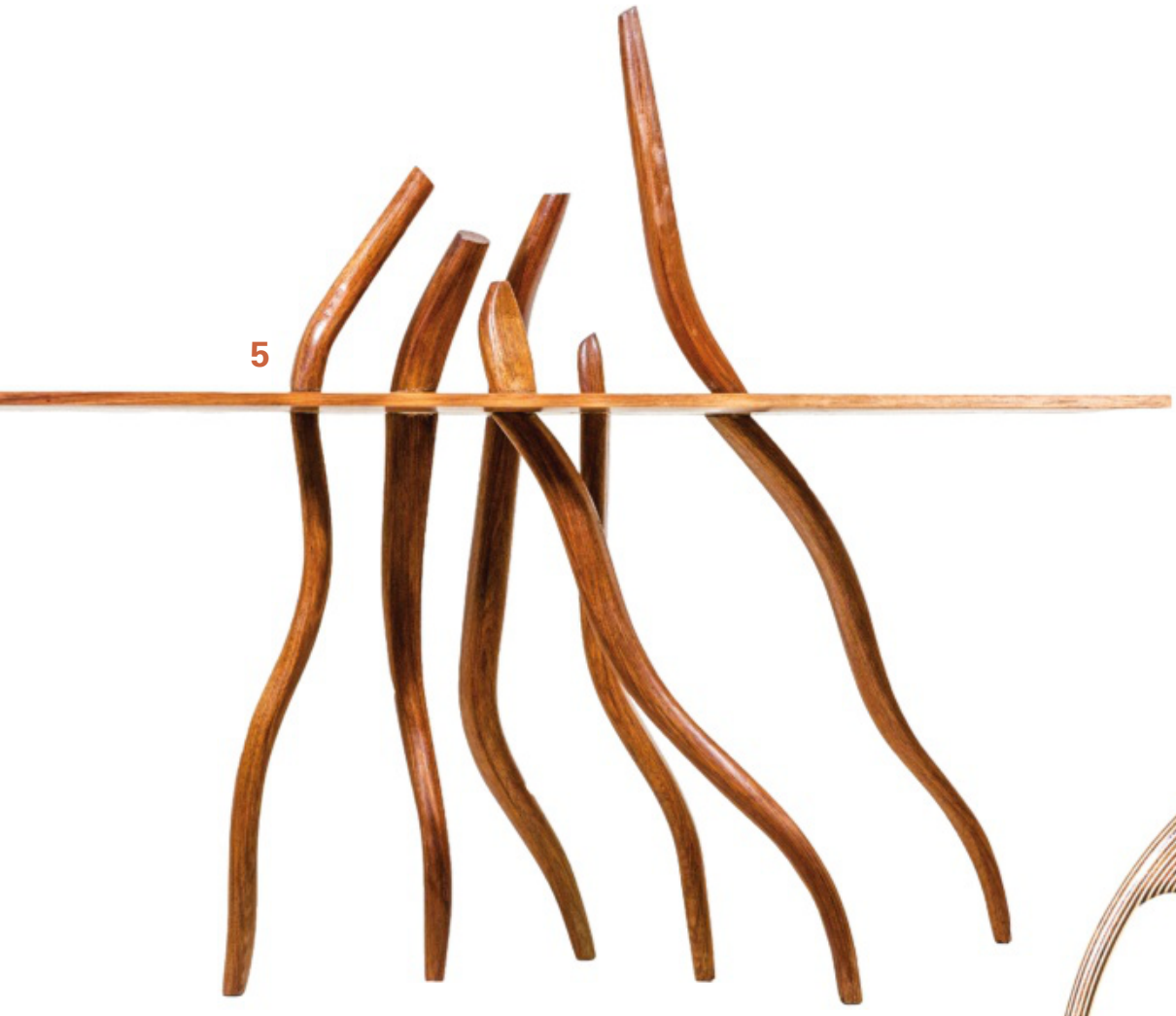
Tyla Veney, for example, used a kerf-sawn bending technique to make coat hooks, lamp shades and a breakfast tray, while Matt Wheeler worked with a basic triangular shape to produce nested bowls and lamp shades.

Term 3 is also when students undertake their major design project for the year, a cabinet piece. A cabinet on stand might appear to be a relatively simple design, but it is in fact incredibly difficult to get all the proportions just right. There is a good reason why James Krenov devoted so much time to making full scale mock ups of his cabinet on stand designs and why 'krenockoffs' often don't quite work.

Kazu Quill's delightful *Kamidana Cabinet* in Qld silver ash is a 'reimagining of a household altar which holds articles of veneration of daily offerings in the Shinto religion'. This apparently simple design was very carefully thought through and each element is essential to the overall design. There are two screens which run in tracks around the whole cabinet, so that each screen can be placed either at the front, sides or back creating a wide variety of effects.

Steve Gianuzzi's *Leaf Boy Credenza* in southern mountain ash started as a challenge to make something which was not rectilinear and which would give him the opportunity to learn new skills. A very challenging build required two large bending forms. Two layers of bendy ply were sandwiched between two layers of 3mm MDF over which shop-sawn slip matched veneers were added.

The front was further complicated by the need to include solid wood verticals for the drawer and door openings, so after the initial ply/MDF layers were glued up, the front needed to sawn vertically, the solid wood added and faired and then veneer glued over the top.



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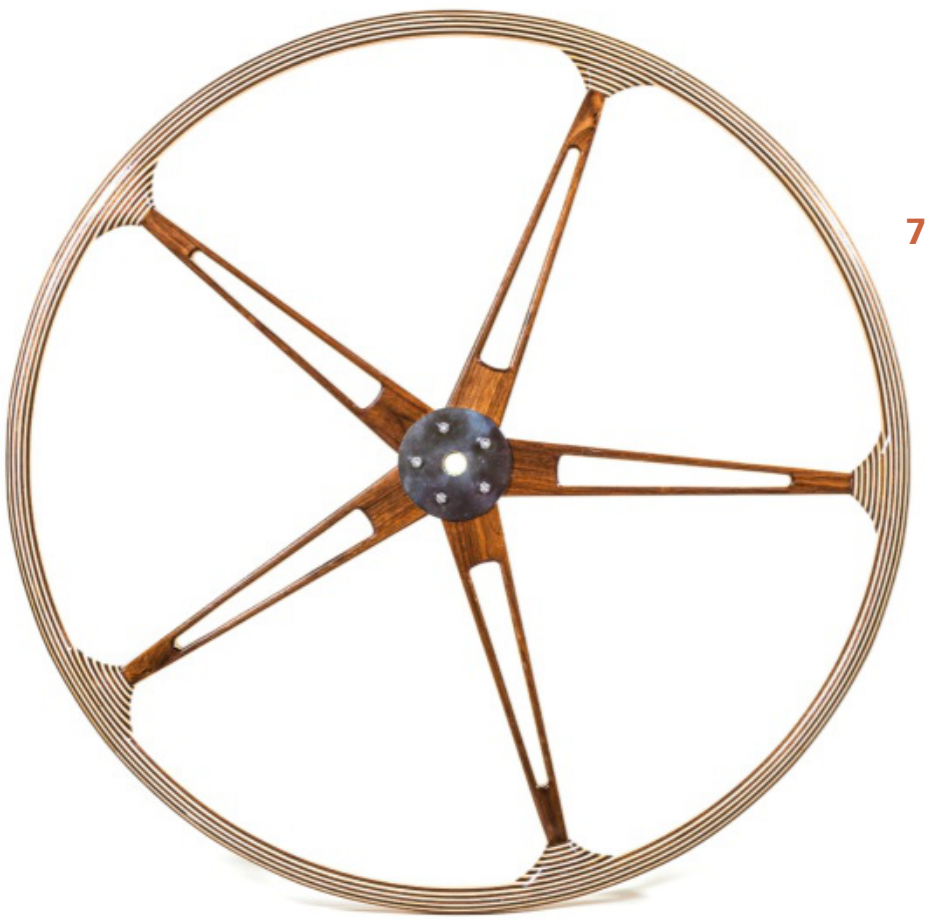

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4. Steve Giannuzzi @stevengiannuzzi, *Leaf Boy Credenza*, southern mountain ash

5. David Briggs @david_briggs_udo_furniture, *Tree Root Table*, blackwood

6. Matthew Wheeler @mw_out_of_office, *Triangle Light Shade*

7. Leon Curtis, @leon.curtis, *Yacht Wheel*, walnut, rock maple laminations, stainless steel hub

8. Tyla Veney @tylaveney, *Kerf Desk Light, Lap Tables and Rosie's Hooks*, all in rosewood


9

The front doors of Leon Curtis's *Tall Boy Herringbone Cabinet* use woven American oak veneer to make a big impact. The cabinet uses dovetail construction with the leg assembly providing bracing and adding to the visual interest of this lovely piece.

Tyla Veney's *Display Cabinet* in American maple is a beautiful example of understated design beautifully executed. Working in these light coloured woods gives you nowhere to hide but Tyla's joinery is superb. The design arose from a consideration of kumiko and how to use the background structural elements in a different and interesting way. Although it appears light and delicate, the interlocking members provide considerable strength. Interestingly the cabinet has no top, allowing light to flood in and give exposure to whatever treasure might be displayed within.

Matt Wheeler's *Kindred Harmonies* cabinet on stand is a beautifully executed mid-century modern homage to Hans Wegner. The functional purpose of this piece is a record cabinet but it would of course make an elegant sideboard. A major feature is the use of a tambour with carefully placed shop sawn blackwood veneer.
A very thoughtfully considered and elegant piece.

Jeff Conroy's *LP Console* record cabinet in blackwood has an intriguing design feature in the legs which are


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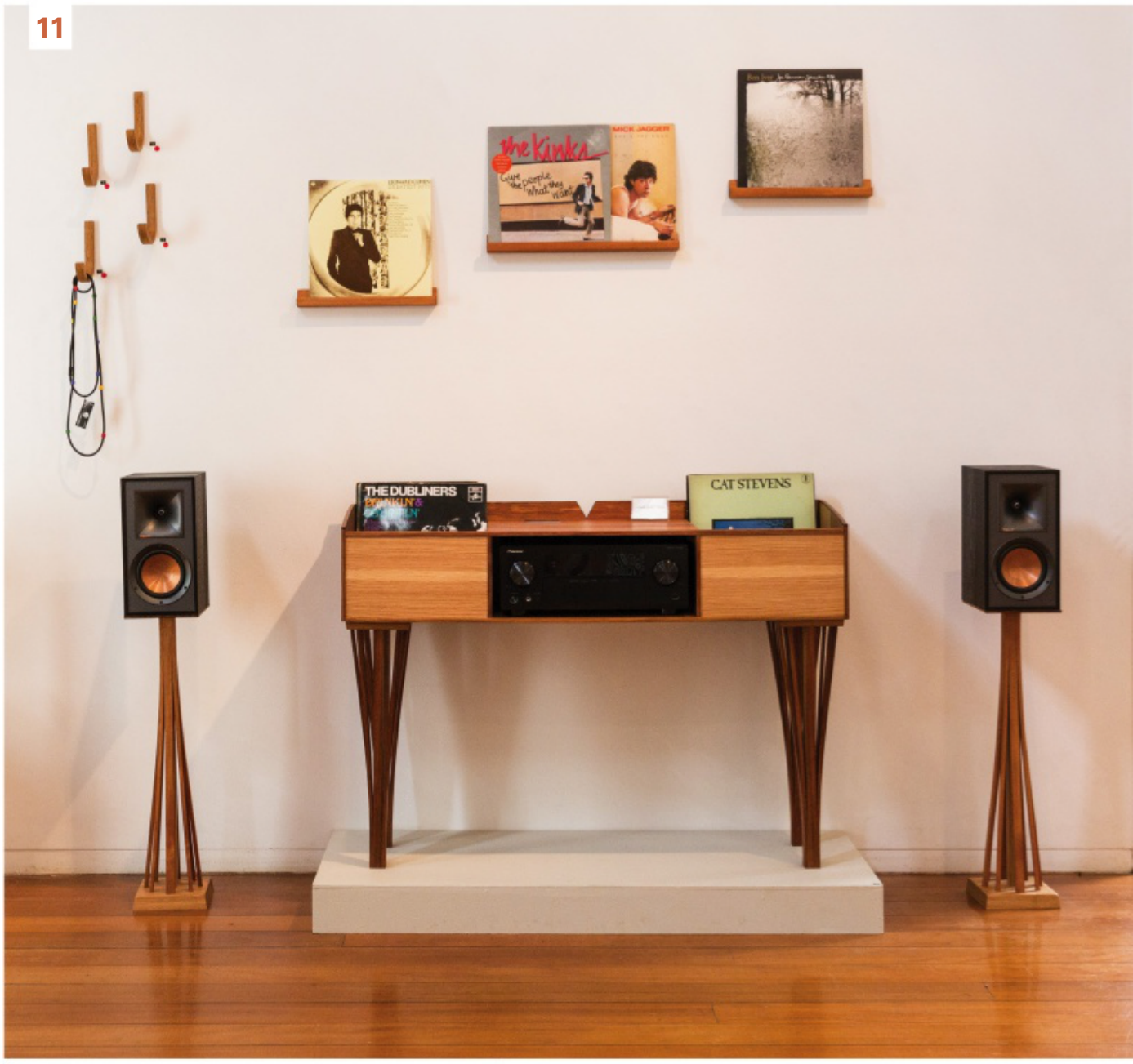

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echoed in an inverted shape in the speaker stands. Jeff made use of a technique to partially bandsaw leg stock and then splay the components out to produce an interesting visual effect. The negative space created in the centre was partially filled with a contrasting darker element to add visual interest.

One of the benefits of each student taking on an individual project is that it provides a learning experience for the whole class. The pros and cons of various approaches and techniques are discussed and evaluated. There is also a lot of peer to peer discussion about design and technique which provides a huge amount of energy in the room and builds a very collegiate atmosphere.

Daniel Leone was interested in allowing the wood to speak for itself and so chose to make pieces that were not too far removed from the original form of the tree. In his *Casuarina Bench and Drawer* the natural form of the slab forms the seat, with just a minimal seating position excavated from the seat and the backrest. Exposed dovetails in the drawer box give a nod to the fine woodworking aspect of the Sturt program.

Chi Yusuf's mid-century walnut modern desk design is thoughtfully and carefully executed. The legs are inserted into thicker elements inside the drawer boxes which also serve as muntins or guides as they bear on the inside edges of the drawer sides. To reduce the likelihood of cupping, cross braces are inserted under the tabletop.

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9. Leon Curtis, *Tall Boy Herringbone Cabinet*, American oak, glass shelves, woven American oak

10. Tyla Veney, *Display Cabinet*, American maple

11. Jeff Conroy, *LP Console and Splayed Leg Speakers*, blackwood, white oak, leather. On the wall: Tyla Veney's *Rosie's Hooks*.

12. Jeff Conroy @jeff_con84, *Hall Table*, white oak, jarrah

13. Daniel Leone @ danielleone_art, *Bench and Drawer*, Casuarina

14. Chi Yusuf @chi_y, *Desk*, walnut

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15. Matthew Wheeler @mw_out_of_office, *Kindred Harmonies*, Hans Wegner inspired record cabinet with tambour, blackwood

16. David Briggs @david_briggs_udo_furniture, *Hall Table*, silver ash, leather

17. Eliza Maunsell, *Chelsea Stools*, ash, furniture linoleum

18. Kazu Quill, *Kamidana Cabinet*, silver ash, copper

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17

Finally in Term 4, students take on the most demanding of all furniture items when they design and make a chair. As this is the last project of the year photographs of the completed pieces were not available for this article.

Many of the pieces made throughout the year are presented in the end of year gallery exhibition. Students at Sturt are particularly fortunate to have a commercial mixed media gallery on site where their exhibition is held. Throughout the year they can see the work of former students and other makers and gain exposure to a range of designs and construction techniques.

This year's graduate exhibition was aptly named 'Twelve' and featured around 90 pieces. These ranged from small items such as boxes and vases to large cabinets and desks. The standard of work is always high but this year the range and quality of work produced was outstanding.

Photos: Matthew Wheeler, @mw_out_of_office

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

Peter Young is a studio furniture designer and maker who lives in Brisbane and also teaches at Sturt School for Wood. Email Peter at pydesign@tpg.com.au

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Naming Australia's Trees

A unique and invaluable reference for Australian native species.

This is a book which should be on the shelf of every woodworker and wood lover in Australia. In fact to take it a step further, it should be in every Australian household.

Australian Trees and Shrubs – common and scientific names and toxic properties is a book that lists 5,700 common names used to identify over 4,450 Australian species, subspecies and varieties of woody plants, in other words trees.

Authored by Morris Lake, this is the just-printed third edition, following earlier editions in 2003 and 2006. It is dedicated to Colin Ward who assisted with the first edition. This latest edition was updated with assistance of members of the International Wood Collectors Society (IWCS) and sees updates that include around 1400 name changes.

The IWCS is a worldwide not-for-profit group devoted to distributing information on collecting wood and correctly identifying and naming wood specimens. Morris Lake is former Australasian Regional Trustee for the IWCS whose most recent publications include *Australian Rainforest Woods* (2015) and *Australian Forest Woods* (2019), both published by CSIRO.

Introductory pages to the listings include steps to identifying wood (when you only know the common name), as well as basic information about plants and naming systems. An eight page listing of toxic Australian and imported timbers along with their effects follows the main listings.

Common names are a continuing source of confusion in Australia (and elsewhere). For example, there are many varieties of 'oak', 'ash' and 'pine' that have no actual botanic connection. When Europeans came to Australia they named species for perceived likenesses to those they knew in other countries. On top of that, today we are likely to encounter commercial names such as 'wormy chestnut' which have been created purely for marketing purposes. We accept widely used commercial names such as Tasmanian oak and Victorian ash which describe a group of eucalypt species that share features that are deemed to be similar.

For furniture makers, carpenters and others who use wood, knowing species names can be the start of understanding their working properties and, importantly, knowing their provenance and the sustainability of their supply.

On a deeper level, to name something is to acknowledge its existence by differentiating it from others. If we care about preserving our environment and its diversity, this is a highly recommended reference book that can be a basic step towards that. This book is unique and invaluable in terms of the reference it provides.

Words: Linda Nathan, Editor

Australian trees and shrubs – common and scientific names and toxic properties is printed and distributed by the International Wood Collectors Society. It is available for $25.50 including postage from IWCS member Ian Heffernan, email ianheffernan20@gmail.com

Learn more about the International Wood Collectors Society at www.woodcollectors.org

Wood Diary

For more events and news sign up to AWR fortnightly newsletters at:

www.woodreview.com.au

Diary listings are free. **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.

15 FEBRUARY–26 APRIL
BROACHED GOULDER
Gallery One, JamFactory, Adelaide
www.jamfactory.com.au

16 FEBRUARY–29 MARCH
EDGE – EXPLORING BOUNDARIES
An exhibition of work by Studio Woodworkers Australia
Sturt Gallery, Mittagong, NSW
www.studiowoodworkers.org.au

23 FEBRUARY
THE TRADITIONAL TOOLS GROUP
Sydney Tool Sale, 9am–1pm
The Brick Pit Stadium, Thornleigh
www.tttg.org.au

28 FEBRUARY–1 MARCH
2020 BOWNA TURNABOUT
Albury-Wodonga Woodcrafters Inc
Borambola facility near Wagga Wagga
Harry Dennis: 0428 578 859

7–8 MARCH
LOST TRADES FAIR
Bendigo Racecourse, Bendigo, Victoria
www.losttrades.info

7–8 MARCH
WOODCRAFT EXPO, DEMOS & SALES
Kiama Woodcraft Group, NSW
Masonic Hall, Collins St, Kiama
David Bywater 0425 249 148

21 MARCH
OPEN DAY DISPLAYS AND DEMONSTRATIONS
Blackall Range Woodcrafters Guild, From 9am to 1pm,
Montville Sports Ground, Montville-Maleny Rd,
Montville, Qld
www.blackallrangewoodies.org.au

12–22 MARCH
MELBOURNE DESIGN WEEK 2020
Talks, tours, workshops, launches and exhibitions linking creativity with business and community
www.ngv.vic.gov.au/melbourne-design-week

12–22 MARCH
EXQUISITE CORPSE
Work by A&A (industrial designer Adam Goodrum and straw marquetry artists Arthur Seigneur)
Tolarno Gallery, Melbourne
www.tolarnogalleries.com

20–22 MARCH
BRISBANE TIMBER, TOOLS & ARTISAN SHOW
RNA Showgrounds,
Bowen Hills, Brisbane
www.timberandworkingwithwoodshow.com.au

27–29 MARCH
TURNFEST WOODTURNING SYMPOSIUM
Sea World Resort & Water Park,
Gold Coast, Qld
www.turnfest.com.au

28–29 MARCH
BATHURST HERITAGE TRADES TRAIL
Featuring over 100 Artisans over multiple venues in Bathurst, NSW
www.bathursthtt.com.au

20–24 APRIL
WINDSOR STOOL MAKING COURSE
with Geoff & Colina Tonkin, Molong, NSW
www.geofftonkin.com.au

2–4 MAY
MALENY WOOD EXPO INCLUDING
Wootha Prize exhibition
Maleny Showgrounds, Qld
www.malenywoodexpo.com

16–17 MAY
AUSTRALIAN SCROLL SAW NETWORK, BIENNIAL EXHIBITION
in conjunction with Goulburn Region Woodworkers
Family friendly wood show and craft fair
Veiola Multi Purpose Hall, Goulburn Showground
Braidwood Rd, Goulburn, NSW

16–17 MAY
LOST TRADES FAIR
Cobb & Co Museum
27 Lindsay St, Toowoomba, Qld
www.losttrades.info

JUNE (DATES TBC)
SYDNEY TIMBER, TOOLS & ARTISAN SHOW
Rosehill Racecouse, Sydney
www.timberandworkingwithwoodshow.com.au

5 JUNE–18 JULY
THE HANDMADE TALE: 50 YEARS OF QLD CRAFT & DESIGN
Main Gallery and Small Object Space
Artisan, 45 King Street,
Bowen Hills, Qld
www.artisan.org.au

6 JUNE
OPEN DAY DEMONSTRATIONS, CRAFT SALE, RAFFLES, DOOR PRIZES
Gippsland Woodcraft Group Inc
Clubrooms, 843 Maffra-Roseday Rd,
Nambrok, Vic
Graeme: 0437 510 950
Ian: 0408 361 848

18–20 JUNE
DENFAIR
Melbourne Convention and Exhibition Centre
1 Convention Centre Pl, South Wharf
www.denfair.com.au

1–4 JULY
AWISA 2020
(Australian Woodworking Industry Suppliers Assoc Ltd)
ICC Sydney, Darling Harbour, Sydney
www.awisa.com

25 JULY
ANNUAL WOOD & CRAFT EXPO
Maryborough Woodturners & Woodcraftsmen Guild
Maryborough Showgrounds,
Bruce Highway, Maryborough Qld
www.mwwginc.squarespace.com

31 JULY– 2 AUGUST
WA WOOD SHOW
Claremont Showgrounds, Perth, WA
www.wawoodshow.com.au

AUGUST (DATES TBC)
MELBOURNE TIMBER, TOOLS & ARTISAN SHOW
Boulevard Pavilion,
Melbourne Showgrounds
www.timberandworkingwithwoodshow.com.au

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tdwoodcrafters@gmail.com

10–11 OCTOBER
ILLAWARRA FESTIVAL OF WOOD
Bulli Showground,
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www.illawarrafestivalofwood.com

12–23 OCTOBER
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24–25 OCTOBER
LOST TRADES FAIR NSW
Hawkesbury Showgrounds, NSW
www.losttrades.info

26 OCTOBER–3 NOVEMBER
JACARANDA WOODWORK EXHIBITION & COMPETITION
Work by Clarence Valley Woodworkers
South Grafton Ex-Services Club, Grafton, NSW

4–7 NOVEMBER
AUSTIMBER 2020
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Carving the Divine

Shot in Japan over a six year period, Yujiro Seki's documentary film is an intimate study of the everyday lives and attitudes of modern day Buddhist sculptors. Story by Linda Nathan.

This is a film that has much to say on many levels. For anyone who practises a craft or an art, the depiction of dedication, perseverance and the challenges faced will resonate deeply.

Carving the Divine is a documentary shot over a six year period which looks at the traditions and practice of *busshi*, the Buddhist sculptors of Japan. Theirs is a strict discipline that entails the faithful and artistic reproduction of Buddhist deities. Each sculpture is painstakingly reproduced according to tradition. The finish is achieved with chisels only – sandpaper is never used.

Through the eyes of the camera we observe the daily working lives and living conditions of the busshi who are members of Master Koun Seki's guild. We see how skills are handed down from masters to apprentices. Those who desire to be apprenticed are grilled as to their motivation, and the rigours of learning the craft to the required standard are explained with brutal clarity. Early on in the film an exchange takes place between Koun Seki and a potential new apprentice. 'You are wrong if you think we're in a place of tranquility making sculptures – just because they're called "Buddhist" sculptures,' he says. 'Ours is a world of craftsmen. We

won't calmly teach you…we'll yell at you if you do something wrong… And ours is a world of learning by stealing. No one will "teach" you.'

The method of passing on skills may seem brutal: 'This is almost like a hero's journey – young apprentices learn to restrain their egos, build character and grow into mature human beings[1]', says Yujiro Seki who single-handedley shot, edited, produced and now shows the documentary at film festivals and screenings the world over. 'At first, apprentices may have a hard time understanding this difficult training and the relationship with their master', he says, 'but as they continue their training and become bread-earning busshi, they realise the love and compassion of the master and respect and appreciate him/her for the rest of their lives.[1]'

Through years of exacting practice, busshi sculptors develop their craft through an attitude of humility and the dedication required to faithfully reproduce traditional representations of the Buddha and bodhisattvas. 'These sculptures created by busshi are not mere crafts', says Yujiro. 'They have a deep spiritual connection to the collective Japanese psyche.[2]'

As the son of a Japanese Buddhist altar maker, Yujiro's connection is personal and deeply felt. 'Throughout my childhood, I was surrounded by not only Buddhist altars but also other Buddhist objects, including

Top row, **left to right**: Images taken from the film Carving the Divine depict Master Koun Seki watching on as Grand Master Kourin Saito works, apprentice Yonezawa, Master Seki senior with apprentice Aoki.

Above, left to right: details of work in progress, film producer, director and cinematographer Yujiro Seki.

Images pp.90–91 courtesy of Carving the Divine

Opposite: Master craftsman Koun Seki at work.

Clockwise from above: butsuzo sculptures by Koun Seki depict Bisyamontenzou, Daizuigubosatuzou and Syakanyoraizou**.**

Photos pp.92–93 courtesy Koun Seki

butsuzo (Japanese Buddhist sculptures). My father took me on trips to see his clients at Buddhist temples all the time. I did not think anything about my environment; it was just a family business and all I knew.[1]' Yujiro Seki discovered his passion for filmmaking in high school and went on to study film in the USA. 'As naive as it sounds, my dream had always been to make a movie that inspires people. After obtaining permanent residency in the US, I decided to leave the job in order to finally be true to myself. I'd slowly realised the environment in which I grew up was uniquely profound. In that realisation I found my subject: the Buddhist sculptors of Japan.[1]'

Japanese busshi have a 1400 year lineage and yet their traditions are largely unknown in the Western world. Before the eighth century they worked in government sponsored workshops but now continue to work independently creating work for temples or private clients. The rewards of their ascetic lifestyle are being part of a lineage that seeks to leave great works behind and the joy that that can bring is revealed in this documentary as well.

Importantly the film shows Grand Master Kourin Saito (1937–2016) at work, and also at an annual dinner where he appraises the work of apprentices. His dedication and love for the art which he continued to practise into his 80s is apparent.

Making the film was not without hardship. 'It was a long, painful, heartbreaking journey for me', says Yujiro. 'It took seven years to reach the point where I am finally proud to present this documentary to the world. As a Japanese person, I felt that I had a responsibility to tell an authentic story of Japan, especially if the subject is about 1400 years of tradition. This is the precise reason why I took my time to complete *Carving the Divine*. I captured a tremendous amount of footage and organising it was a pure nightmare. But, as I patiently made revision after revision, I felt great for so many years of work coming together.'

Carving the Divine depicts the world of a group of craftspeople who in many ways have to learn and adopt the attitudes they depict in order to faithfully portray them.

1. Carving the Divine: Filmmaker Yujiro Seki documents the Buddhist sculptors of Japan, interview with Andrea Miller, Lion's Roar, www.lionsroar.com

2. The Way of the Busshi Bridging Past and Present, East and West, Discover Nikkei, www.discovernikkei.org

Photos courtesy Carving the Divine and Koun Seki

For information on screenings see www.carvingthedivine.com

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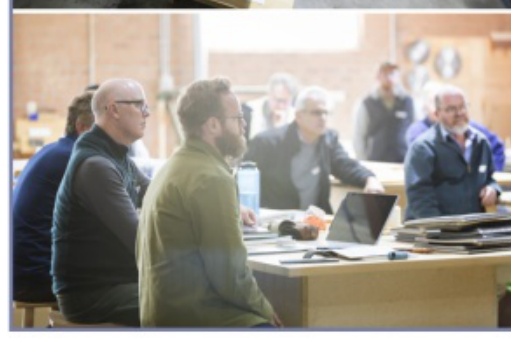

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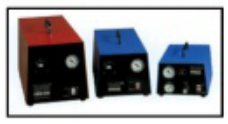

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Shoulder to Shoulder

Raf Nathan takes a look at the strengths of the shoulder plane, along with some of the models available.

After a smoothing plane and block plane, a good shoulder plane should be on most woodworkers' tool lists. These planes are great for planing the shoulders (hence the name) of tenons and will plane with the grain as well. Use them for cleaning up grooves or planing in tricky situations.

The blades on these run the full width of the body, in fact they extend a fraction beyond the body for planing right up to the edge of a workpiece. The blade must always be ground square or they won't work well. The sides and base need to be ground at 90°. That is why better quality planes are more expensive. Lower priced planes may need 'tuning', that is, squaring up the sides and preparing the blade. Better planes also have good depth adjustment mechanisms.

These planes are very good on endgrain, given the low bed angle which usually comes with a bevel-up blade. I say usually because whilst most shoulder planes are bevel-up the Hock plane kit and HNT Gordon planes run with a bevel down blade, giving them a different action. Blade depth adjustment is usually by a knob but on these two brands you tap the blade with a small hammer to the desired position.

Most shoulder planes are based on the famous Preston planes of the UK. Preston no longer operate, but left a design legacy adopted by Lie-Nielsen, WoodRiver, Clifton and Luban.

The width of the blade, usually measured in inches, is how these planes are sized. All makers have their own tool steels and its an arcane world of naming with blades called A2, PM-V11, O1 and simply 'tool steel'.

Bigger is not always best in plane sizes. I base this observation on the premise you can plane large work with a small plane but can't always plane small work with a large plane. In other words a medium or small plane is better for general wood jobs in the shed. The very small shoulder planes are very cute to behold and use, and are great for small work and cleaning out grooves.

Lie-Nielsen, it is fair to say, set the standard years ago in modern Preston style design shoulder planes. They are beautifully made tools with fine attention to detail. The polished bronze cap iron is a very nice touch, as is the adjustable toe.

The models shown on these pages illustrate some of the options available.

** Prices quoted throughout were correct at time of writing.*

Photos courtesy of manufacturers/ suppliers shown.

In the British Tradition

Clifton are the only production plane maker left in the UK but pride themselves on maintaining the tradition of British toolmaking. They make four different shoulder planes and we picked out these two as desirable users. The Clifton 400 (left) is based on a Preston rebate plane and has an 11mm wide blade and a rosewood wedge. It's a great small plane for tight areas or small work. Sells locally for around $200. The Clifton 410 is machined from grey iron casting and is precision ground on the sole and the sides. A great sized plane for general woodworking with plenty of heft at nearly 0.6kg. This one costs $310.

www.beyondtools.com.au

In Many Sizes

Veritas make shoulder planes in five sizes: from a miniature plane with a 1/4" (6.35mm) wide blade, up to a larger one with a 32mm wide blade. The two larger Veritas planes have adjusting handles for using with the tool on its side. All but the miniature plane have an adjustable toe and four embedded set-screws along the body so the blade, once set, always lines up square when replacing it after sharpening. Blades are 3.2mm thick with the option of their own secret PM-V11 blade steel technology. One of our favourites is the small model (second from the right above) with 12.7mm wide blade at $359 with its comfortable slim handle.

On the far left, the large model at 1.7kg is the tool for serious cabinetmaking. This is a new design with a different lever cap, plus the extras of two adjustable wood handles. It sells for $459. On the far right, the small bullnose plane ($359) with a 1" wide blade weighs half a kilo and packs a punch way above its weight, so to speak. It also has a removable toe so it can work as chisel plane.

www.carbatec.com.au

Make Your Own

Hock Tools shoulder plane kit is for a plane you make yourself from pre-machined beech and bubinga components. It comes with a genuine Hock blade that is 3/4" wide and a generous 4mm thick. This is a 37.5° bevel-down plane. Our experience of Hock blades is great; they are tough and yet hold the edge well. You can make one of these planes with just a drill and clamps as the main tools. Currently $143 from

www.woodworksupplies.com.au

Setting Standards

Shown here on the left, the Lie-Nielsen #041 has a 5/8" blade, weighs 0.6kg and currently sells for $319. The large #073 is based on the Record 073 and original Preston planes. It has a 1-1/4" blade, weighs 1.8kg, $499. This is one to get if you need a full size plane. They also make a 3/4" plane. All have 3.5mm thick blades.

You have to have at least one Lie-Nielsen in your tool cabinet. Any of the above are a good choice.

www.lie-nielsen.com.au

Fully Adjustable

There are three sizes in the WoodRiver range of shoulder planes. We like the No. 92. This handsome 3/4" plane is proudly based on the original Preston design, but with an improvement of an adjustable toe. The body is stress-relieved ductile steel and the finish and detailing is very good. Retails for $305.

www.woodworksupplies.com.au

Versatile in Wood

Locally made HNT Gordon shoulder planes range from 1/2" ($220) to 3/4" ($240), 1" ($250) and 1–1/4" ($280). Made from Australian gidgee, and sometimes in other select woods, the blade sits bevel-down. It has a 60° blade angle or acts as a 90° scraper when you reverse the blade to bevel-up to handle difficult grain. The 1" model is our favourite as a good all-round size. The planes are a minimalist design and have an attractive air of handmade about them (which they are). The 4.7mm thick blade certainly adds to the mass with the plane weighing 0.8kg.

www.hntgordon.com.au

Well Priced

Luban, the Chinese company who have developed a name for quality tools, offer three well priced shoulder planes. The 20mm wide medium plane is a good general purpose tool and weighs a formidable 950g. An adjustable mouth and iron along with stainless steel components make for an impressive plane at around $200.

www.timbecon.com.au

Raf Nathan is a woodwork designer maker based near Brisbane.

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