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AUSTRALIAN Wood REVIEW 101

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Editor's Letter

AWR Studio Furniture 2018, an exhibition of work by 65 makers, opened at Bungendore Wood Works Gallery on October 20.

In a fine furniture making world perfection is very subjective. Truly perfect work might be more akin to 'plastic', and then just a story of repetition well executed. The discernible differences and even so-called imperfections of things that are individually designed and made is where the meaning of studio furniture lies.

People who spend their lives expressing themselves by crafting things of their own design are unique individuals, more so than many others. Without glorifying it too much, it's not easy. Self doubting one's own aesthetic, skills and acceptance can happen on a daily basis.

Living off a craft means being judged by buyers and critics and valued in terms of discretionary spending because things made by hand nowadays have to cost more, and most people don't recognise an investment value. For the record, most of the makers for AWR Studio Furniture 2018 were full time professionals and most professionals don't come under the same level of scrutiny.

Although AWR and Bungendore Wood Works Gallery have co-produced two other Studio Furniture exhibitions (2008, 2010) it did take eight years to get back on the horse. In 2018, the framework had to be reimagined on digital and social media platforms. It still had to have a message of relevance and mutual benefit for those who entered.

Awards in excess of $24,000 are the most offered for a fine woodworking exhibition in my memory, but I really doubt anyone entered with just that in mind. The flipside – risking reputation and spending time and money to make work that may not sell was probably more likely to outweigh that.

Dedicating the exhibition to the memory of David Mac Laren's son-in-law Matthew Harding, a prominent sculptural and wood artist was a deeply personal tribute, but it also struck a deep chord for many of the exhibitors who wove their sentiments into their work. For several it was the reason they entered.

Each piece presented tells its own story as determined by the preferences, influences, philosophy, skills and aesthetics of its maker. Work like this of a world class standard doesn't happen at the end of a production line.

In the end though, for me, it's become more about the people involved, the stories they tell through their work and the sensitivities they express, much more than any notion of perfection.

The exhibition runs until January 31, 2019 – I hope you can manage to see it and maybe even take part of it home with you. See just some of the work from p.48.

The next generation

In a different but also important part of the spectrum, AWR Student Awards is specifically about encouraging and showcasing much younger makers. Everyone has to start somewhere regardless of age, however this online competition is for secondary school students in years 11 and 12. It's also become a form of acknowledgement for the great work done by their teachers.

The deadline for entry is December 12, see p.32 for more information and enter via www.woodreview.com.au/student-awards. To vote for Popular Choice after the deadline head to www.facebook.com/woodreview

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Above: The fence can be angled to suit.

Hammer A-31 Planer/Thicknesser

Reviewed by Raf Nathan

Made in Austria, the Hammer planer/thicknesser comes in 410 and 310mm widths, but this review looks at the 310mm wide model. Three phase is standard but a no cost extra is the single phase with an impressive 4hp motor.

Apparently Hammer and Felder machinery are made on the same production line and there are to my eye many similarities in design and build.

The body of the machine is strong and refined, and machining of table surfaces is clean and accurate. At a weight of 290kg this is not a toy. The overall finish and detailing is excellent.

Controls are good, although the handwheel for the thicknesser seems a tad light duty. Planing height adjustment is via a simple lever.

The Hammer is available with straight cutters, or as reviewed here, with the proprietary Silent-Power system, a spiral head with 47 cutters. The spiral head handled gnarly grained wood well and is much quieter in use than straight cutters.

The machine arrived with the planer tables aligned perfectly so out of the box I could achieve straight planed board faces and edge joints. The fence is an aluminium extrusion supported by a pressed metal and box section assembly. I was able to easily set the fence at 90° and moving it along the table is smooth and quick.

The fence is long enough at 1100mm and very rigid, although I felt it could be positioned more forward on the infeed table in relation to the cutters.

A major point worth noting is that the machine is installed and set up by a Hammer technician so there are no headaches with delivery or set-up. The only downside is the machine arrives without a power plug, which means you need to get an electrician in to wire a wall plug so as not to void the warranty.

Change-over from planing to thicknessing, a key point, is reasonable. Both tables and the fence lift together, which is excellent – it's fast and easy. The design of the dust hood means a rather slow wind of the handwheel down to 180mm to

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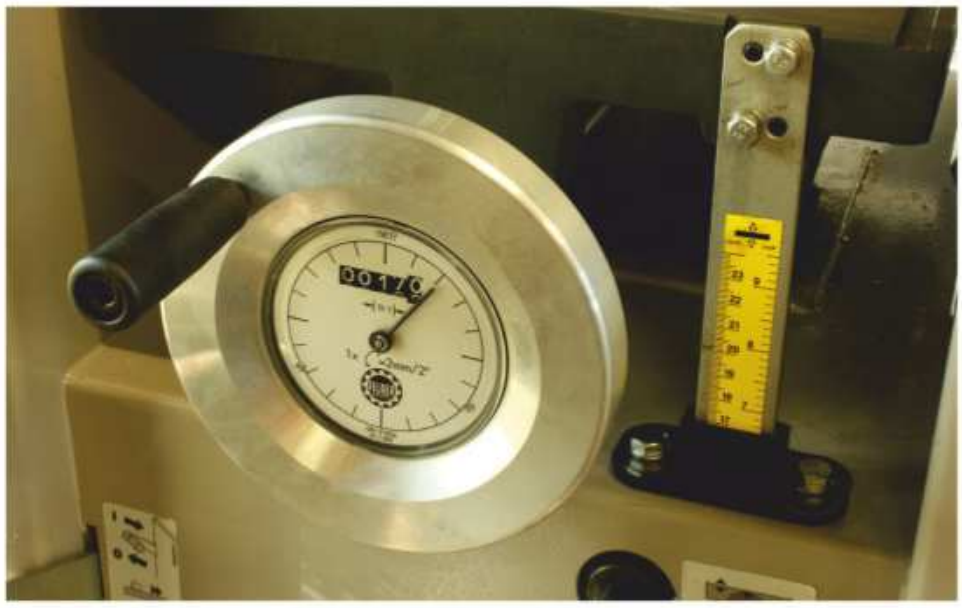

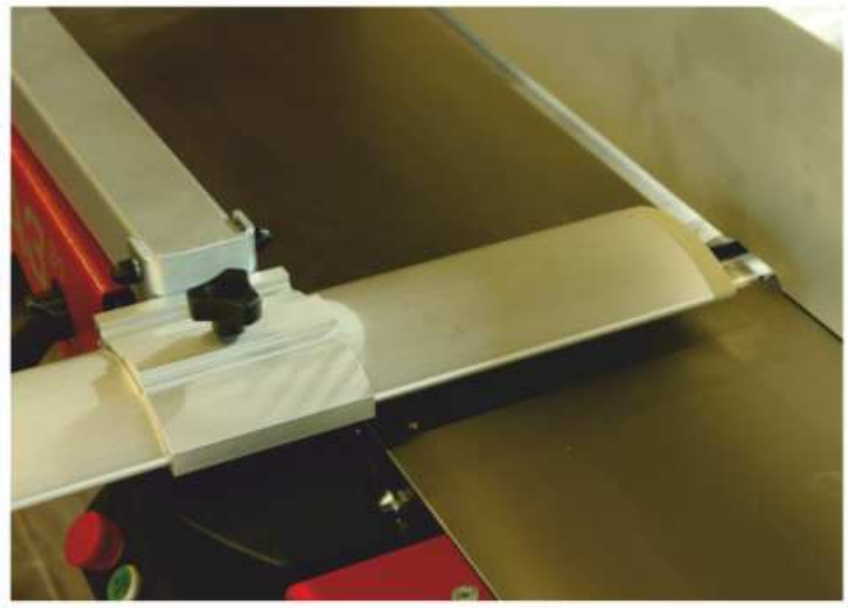

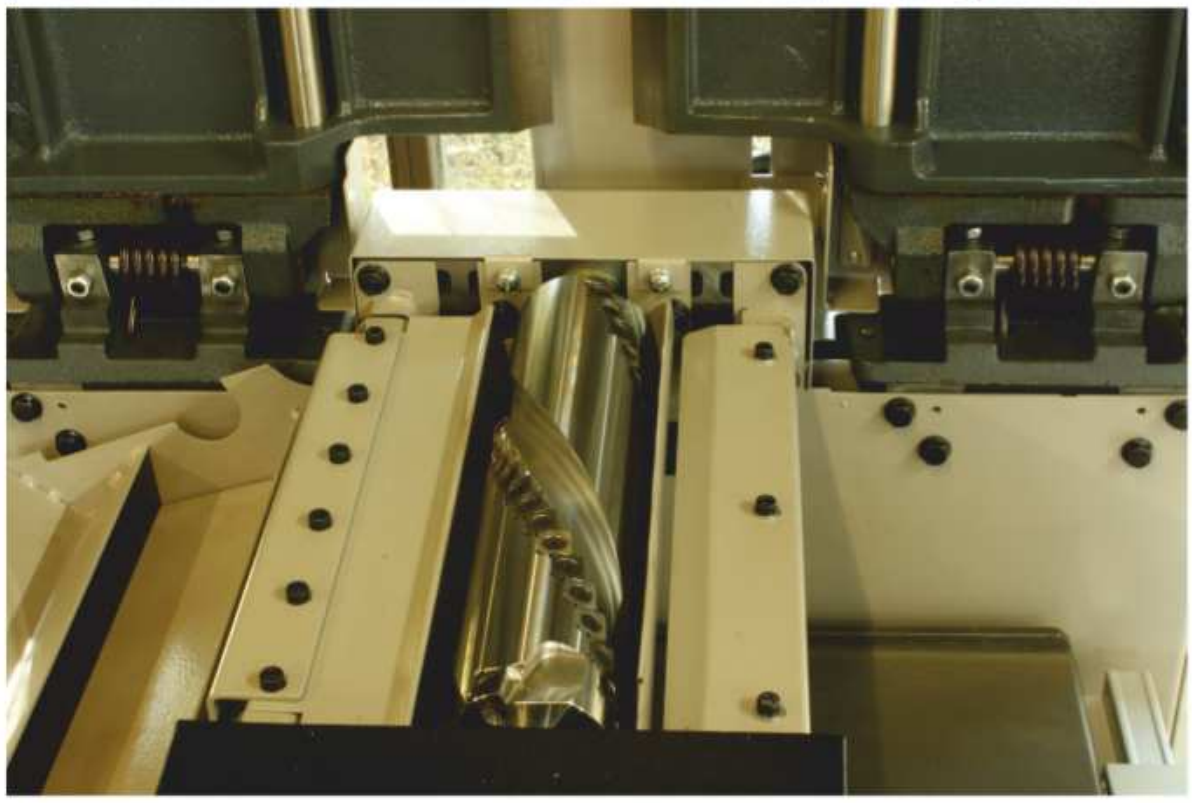

Clockwise from top left:

The digital handwheel for thicknesser height adjustment is a recommended option.

Showing the European style guard.

The Silent-Power spiral cutterhead gives superior surfacing and much less noise.

flip the hood over and set it up for thicknessing.

Thicknessing speed is a good six metres per minute which gave clean results. The spiral head gives a great finish to almost all woods with a lot less noise.

Initially I had minor issues with sniping at one end of thicknessed boards. Adjustment for this is quite straightforward, just wind up or down the springloaded bolts to increase or decrease feed- and out-feed rollers.

Thicknessing height capacity is up to 225mm which is ample for pretty well all furniture making and the A-31 will also thickness right down to 4mm which is excellent for small components.

After a few weeks of use I found the machine was easy to use and giving good results on pretty well all wood fed to it.

The spiral head cutter is a highly recommended option, in fact don't even consider getting straight cutters if you are buying a new machine.

The Hammer A-31 is a strong and accurate machine that will suit pretty well any workshop.

More information at www.felder-group.com/au-en

Raf Nathan is a Brisbane based furniture designer maker.

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HNT Gordon Front and Patternmakers Vices

Reviewed by Robert Howard

HNT Gordon, wooden planemakers, now produce vices. A bench vice was released some time ago and more recently a patternmakers vice.

The patternmakers vice is attached to the top front edge of the bench by a sturdy hinge allowing it to pivot through 90° with the jaws moving from vertical to horizontal. A pivoting arm, sliding through a locking mechanism attached to the underside of the bench, fixes it in any position along the way.

Another locking system allows the operating heart of the patternmakers vice – the front and rear jaws, and the screw thread – to rotate through a complete 360° turn. Again, it can be locked at any point along the way. Both functions can be used at the same time, giving enormous flexibility in holding odd shapes of wood.

Both HNT Gordon vices are made mostly from tool friendly aluminium (they use a regular block plane to chamfer the edges of components), with a new CNC machining centre providing the necessary production speed and very high accuracy. Strength is maintained by using generous amounts of material: the jaws, for example, are a full 25mm thick; the leaves of the hinge on the patternmakers vice are 20mm thick, and any hollow shafts have 12mm thick walls.

The unique feature of both vices is their opening and closing mechanism, which does not require the usual guide rods on each side of the threaded shaft, and which, miraculously, eliminates completely any racking of the jaws.

There are several keys to this system. The use of CNC achieves precision fits between the sliding components and their plastic bushes, which are given a generous amount of surface area. The bushes are also placed far enough apart to obtain the necessary mechanical resistance to any racking forces. And finally, replacing the usual small diameter guide rods with one much larger diameter, central, thick walled, hollow shaft.

The use of plastic bushes may raise your eyebrows, but the system has so far survived over five years of hard daily use in the HNT Gordon workshop.

Seals are precision fitted to stop any dust or debris entering the hubs, bushes, or the screw system and causing unnecessary wear.

The patternmakers vice has been designed so each jaw is a different height relative to the bench surface as it rotates into the top position, adding even more versatility in use.

Because of their precise manufacture, both vices only require a light hand to operate. The lack of racking in particular gives an exceptional grip with very little pressure on the handle. To emphasise this, HNT Gordon have kept the hand length small so that heavy hands are less likely to damage the operating components.

To better hold wood that is not quite parallel, HNT Gordon recommends fixing leather to one of the jaws (rough side out). A special swivelling jaw that attaches to the rear jaw will soon be available as an optional extra.

The overall quality of both vices is exceptional, as is their silky smoothness in use. About the only criticism I can imagine being made are that the maximum jaw opening is only 6" (150mm) for the patternmakers vice, and 170mm for the normal bench vice. If that bothers you, ask yourself how often you have needed more capacity than that.

I bought the bench vice some time ago, and added the patternmakers vice recently, and I am delighted with both.

See www.hntgordon.com.au

Robert Howard is a woodworker who also teaches woodworking in Brisbane.

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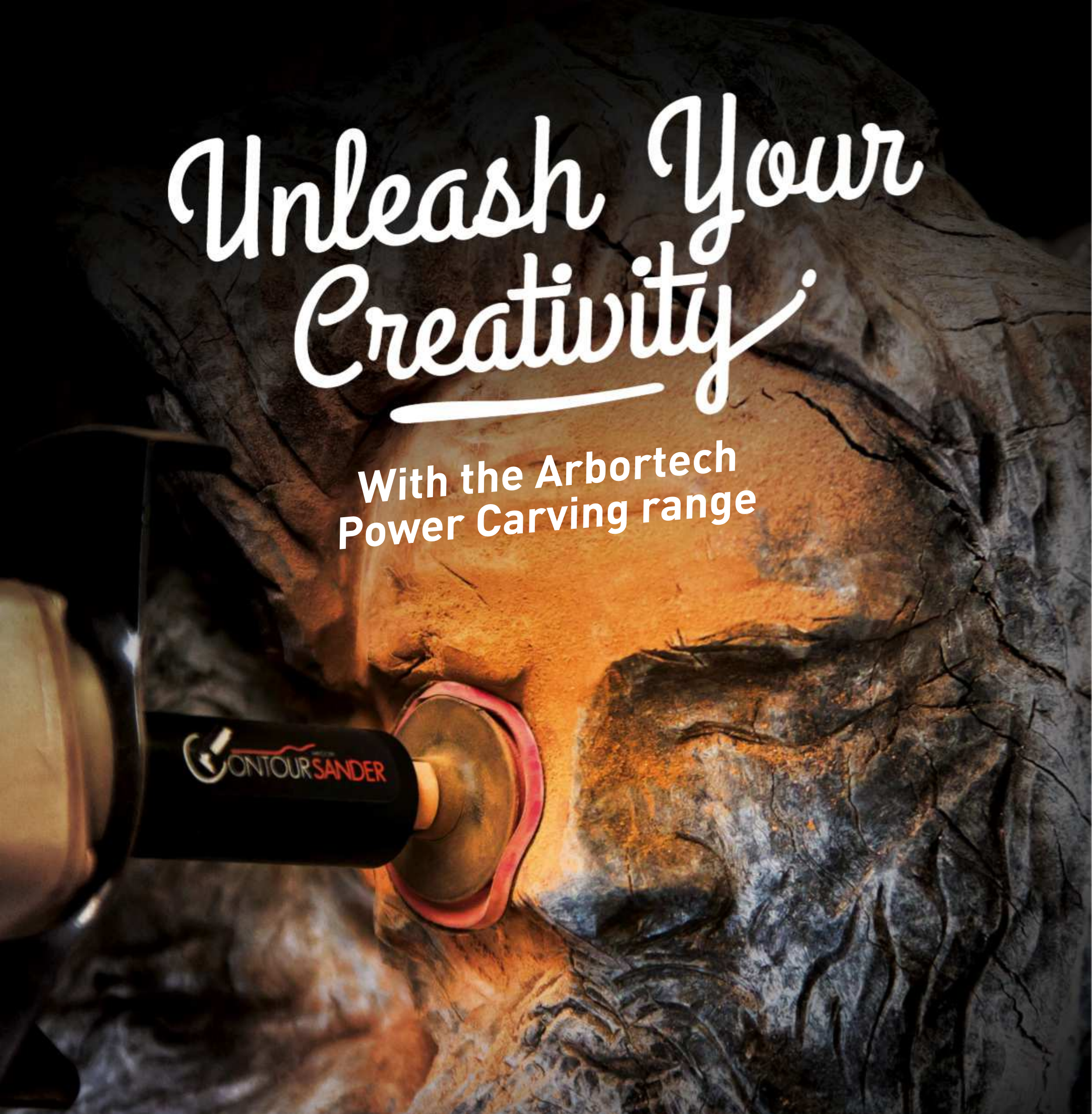

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Carbatec 250mm Cabinet Saw

Reviewed by Damion Fauser

Above: With a 30" rail and Beisemeier fence the machine sells for $2299; with a 50" rail and hi-low rip fence $2459.

Below left and right: Blade tilt control is large and smooth in operation. The mitre gauge is simple but solid.

Carbatec's new cabinet saws are on the money. Trialling one at their Brisbane testing workshop it was apparent this new range has had a lot of research and development invested into it.

Over the same basic cabinet, table, arbor and trunnion structure, there are four separate options to choose from. With a 30" rail and Beisemeier fence the machine sells for $2299; with a 50" rail and hi-low rip fence $2459.

Of course with an additional investment there is nothing stopping the user from having both fences, affording maximum flexibility in terms of ripping and jigging operations.

The saw runs on a single-phase, 2.5hp motor which can be run from a standard 10 amp general power outlet, yet still offers plenty of power for most types of cuts. Power is transferred via a single belt.

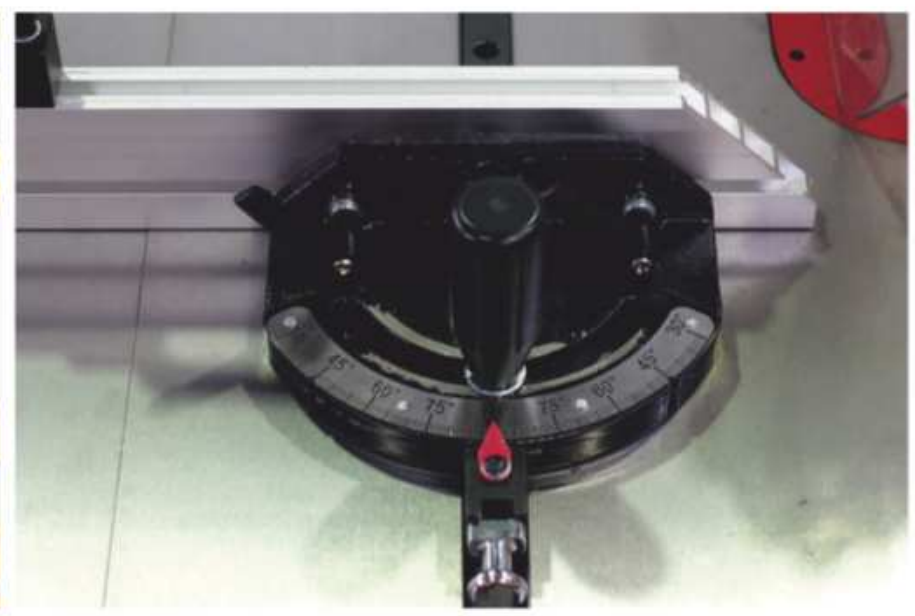
Safety has obviously been a major consideration in the development of this saw. They come with standard and low profile rise/fall splitters. The master switch is a magnetic NVR with emergency stop functionality, and the clear and significant blade guard tilts, rises and falls with the blade. There are also some very solid anti-kickback cauls built into the blade guard assembly.

Dust control is exceptional, with a master 100mm port at the rear of the enclosed cabinet and overhead collection plumbed through the blade guard, so dust is collected right at the front of the cut.

Controls for blade height and tilt are large, ergonomic, smooth in operation and can be locked once set. Maximum cut height at 90° is a useful 82mm and at 45° is 57mm, both of which are good for a 250mm tooled machine. The blade tilts to the left, which can be beneficial for a western style tablesaw.

The table is nicely ground and polished and has a mitre track either side of the blade, allowing for versatile use of the supplied mitre gauge or shop-made jigs and sleds. The mitre gauge is simple but solid and has a nice flip-down adjustable stop.

A fairly rudimentary 40-tooth blade is supplied but quality CMT tooling was used for the tests. The machine starts smoothly, runs free of vibration



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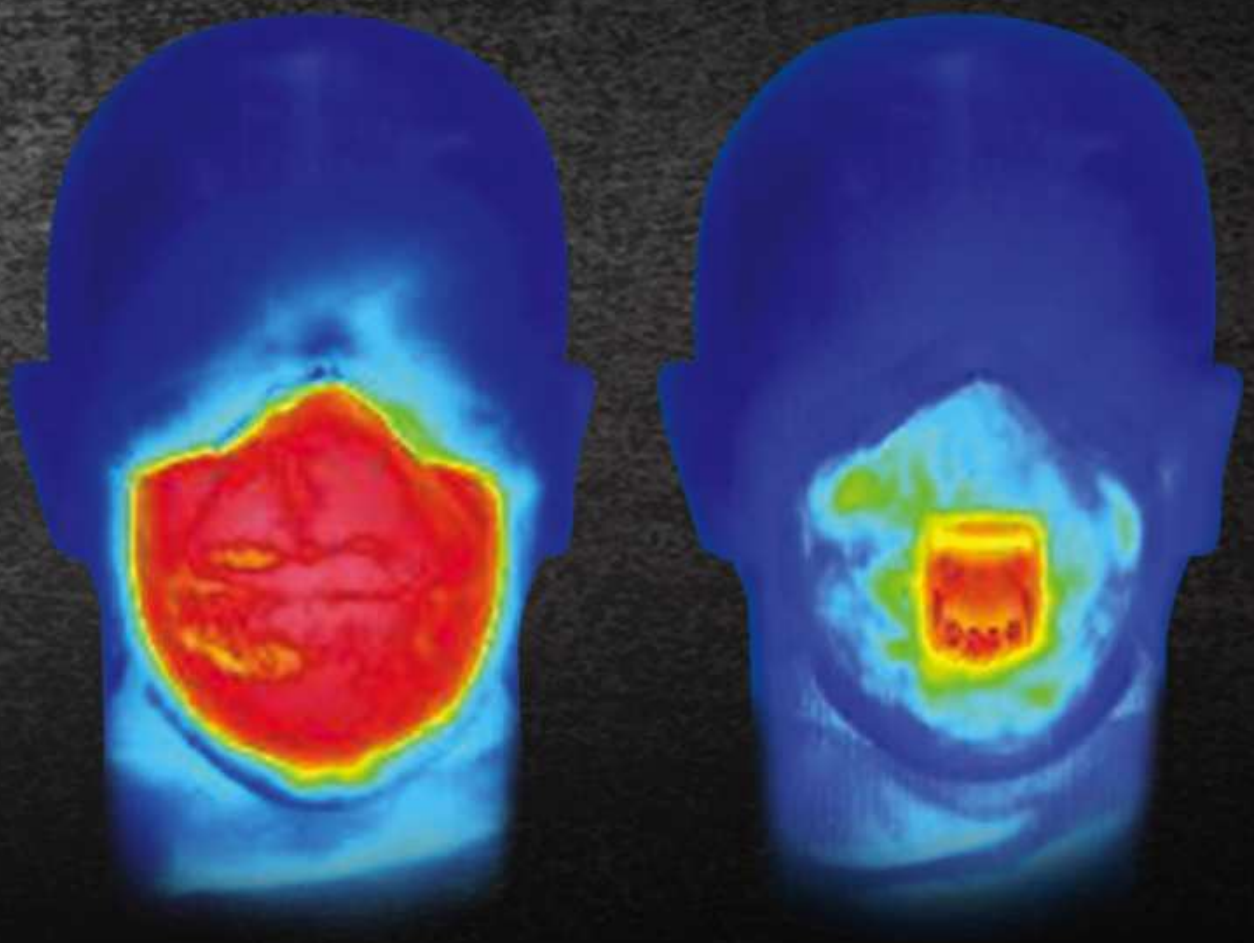

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Left to right:

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Blade changes are straightforward with the supplied tooling and arbor lock.

Mitre tracks on either side of the blade allow for use of the supplied mitre gauge or shopmade jigs and sleds.

and makes nice clean cuts with little strain on the motor. Blade changes are straightforward with the supplied tooling and the arbor lock. The arbor size is 5/8", ensuring that many aftermarket options are suitable. The machine is capable of running a dado stack out to 19mm (not supplied) and a second dado throat plate is supplied. Both throat plates are level adjustable courtesy of some built-in grub screws.

After a thorough walk around and dry-play to familiarise myself with the machine and its controls, I set up for and made a series of ripping cuts in some 40mm thick hardwoods. I was pleased with the ease with which the machine and tooling powered though the cuts, and the quality of the surface finish was more than acceptable.

After an inspection and a short trial I was left with an impression of a good quality saw with much to offer. It's worth considering against other saws in this size class and budget range.

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

Damion Fauser is a furniture designer maker in Brisbane who also teaches woodworking from his Darra workshop.

Bridge City Tools HP-8 Block Plane

Reviewed by Raf Nathan

Bridge City Tools have a name for high quality, cool looking tools. This mini block plane is made of mostly aluminium with steel screws and knobs. It's very small at a tad over 4" long, and beautifully made with crisp CNC machining of components.

The cap screw pivots on a small aluminium button that sticks to the iron with an embedded magnet, a very nice touch. This is a low angle plane with a 12° bed so it's always going to work best on endgrain; long grain planing quality will depend on how the straight the wood is.

The blade is 26mm wide and 2.5mm thick and was flat on the back out of the box. The factory grind is at 25° with a micro bevel at 30°. The blade was not ground quite square across the width in relation to the side. There is a small adjuster for blade depth adjustment but no lateral adjustment mechanism although most of the time it automatically aligned itself perfectly.

Depth adjustment is good but there is quite a bit of backlash on the thread. The sole of the plane was not flat, in fact to me it seemed that the whole plane was perfectly made and assembled and then an operator had poorly linished the sole and dubbed over both ends. Not great for a premium tool.

However, the aluminium was easy to linish, in fact two minutes of hand rubbing with an abrasive on a flat surface and the sole was flat enough. I didn't want to take too much metal off a review tool so flattened the sole properly but had to leave a few millimetres on each end unfinished.

Two skids are supplied that fix with screws to the sides. These allow the tool to be a thickness plane which can handle up to 46mm height. It's easy to set: sit the wood on a flat surface, sit the plane on the wood and put thin packing such as card under the skids. Lower and tighten the skids and it's now set up and will stop cutting when the skids bottom out. The first time I tried this on I got variance over the length by 0.25mm. With practice though I got a variance over 200mm length of (wait for it) 0.03mm! Now that's very impressive accuracy.

This is a small light plane but I tested it on hard myrtle endgrain and it worked well leaving a polished surface. Soft wood, as expected, was easier to plane both long and endgrain. I found the plane best for narrow stock up to 10mm wide.

After a bit of use I started to like the plane a lot. Its small size makes it like an extension of your fingers and it was fun to use for chamfering corners and making small bevels.

Review tool supplied by Protooling see www.protooling.com.au

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Tough and Sturdy

The X8-PLUS 200mm Industrial Bench Grinder with 915 x 50mm linisher and mitre table has a full cast iron body and base. There are four rubber feet to help eliminate vibration and allow the machine to run smoothly. This versatile machine has a 0.75kw, 1hp, 240 volt motor with sufficient power to drive both the grinder wheel and belt linisher simultaneously. The grinder wheel comes fitted with safety eye shields and toolrests which are fully adjustable to suit every application and operator. The linishing attachment is perfect for fabricators. Uses include basic tube notching, cleaning up welds, removing scale from steel, as well as quickly and cleanly removing burrs from freshly cut steel.
www.machineryhouse.com.au

Product news

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

Space Solution

MiniMax Genius, Classic and Elite combination machines aim to provide a machining workshop in a small and compact package. These versatile machines promise accuracy and give large capacities, meaning you get more bang for your buck. MiniMax Genius 4 in 1 combinations, for example, are designed to work both flat panel and solid wood. A great list of standard features along with with solid construction make this European designed combination machine a great addition to any workshop. MiniMax offers several models with different combinations including sliding table panel saws, surfacer/thicknessers and spindle moulders, with spiral cutterblocks options to add.
www.iwoodlike.com

Made For You

Superb hand made handplanes like the Damascus steel and ebony infill plane shown are made to order by fine toolmaker Brian Shugarue who trades as BJS Planes and Woodworking in Melbourne. This is Brian's Low Slung Smoother (LSS-35 model) which has a 156mm long body and a 35mm wide blade that is pitched at 50°.
www.bjsplanesandwoodworking.com

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PT310A 12"X8"

This quality combination Jointer/Thicknesser includes a helical head and 3hp motor, making board preparation simple and accurate.

DP300A 12" VS

Variable speed is adjusted with one simple lever and the speed is displayed on a large digital read-out.

DP430A 17"

Powered by a 1HP induction motor, there are 16 belt speeds between 160-3,000rpm to offer a wide range of speeds for wood and metal.

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BD150A is a powerful combination machine which allows you to sand the full range of your work.

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www.carbatec.com.au

They Fit Like Gloves Should

When handling rough boards it makes sense to protect your skin. For hand tool work and in particular carving and whittling, Ansell's HyFlex gloves are a boon. They come in a range of weights and coatings and fit like the proverbial. They're light enough to maintain sensitivity to carved thicknesses and surfaces while offering some cut protection and resistance. Check out their personal protective equipment for different industries as well.
www.hyflex.com.au

Joinery Magic PantoRouter

With its pantograph template following arm, the PantoRouter is a highly functional joinery jig for the accurate routing of mortise and tenon joinery, dovetails and box joinery. It's lightweight with a highly rigid construction, meaning you can move it around your workshop as required. Ease of use, safety, control and effective dust collection are the touted features of this innovative joinery cutting system.
www.hybridpantorouter.com

Food Safe Finish

Food Safe Wax from Gilly's Waxes & Polishes is a white and creamy paste that smells nice and is easy to apply to chopping boards, benches, bowls and spoons for pleasantly glowing results. It's beeswax based and made in Australia without petrochemicals. A 125ml tin is only $14.85.
www.gillystephenson.com

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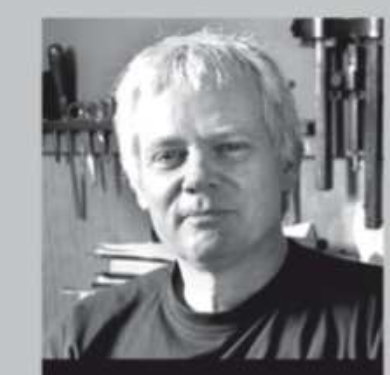

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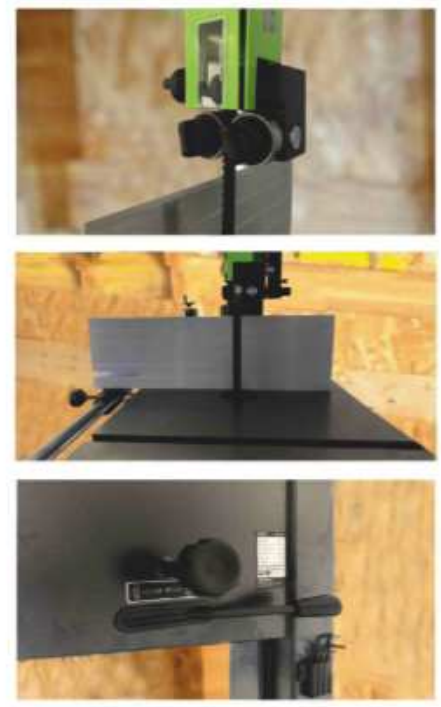


Woodfast is Back

Premium components feature in this 14" bandsaw. Weighing in at 96kg, the construction is solid and comes standard with spring-loaded tool-free guide blade system, a 150mm tall fence, 1.5hp motor (10amp) and two-speed function. The unique fence mount design allows the fence to be placed to the left or right hand side of the blade while a cam-action handle allows instant release and reapplication of blade tension. At $1299 the Woodfast BS350C bandsaw sports other innovations designed to enhance accuracy and ease-of-use.
www.woodfast-group.com

Pop-Up Furniture

PlayWood is a new knock-down joinery system made in Italy which allows you to create modular furniture with ease from 16–19mm (5/8" to 3/4") thick panels. The fixtures are available in six colours and at three different angles. Measure your space, cut your panels and assemble – job done. Customise your home storage, shelves, entertainment systems, furniture, shopfittings and more. With easy assembly and disassembly, you can adapt your design as requirements change over time. Perfect for pop-up or temporary shop fitting needs.
www.carbatec.com.au

The Zen Bed

Crossed edge-lap joinery is an attractive and satisfying solution for a bed frame that easily disassembles. Story by Vic Tesolin.

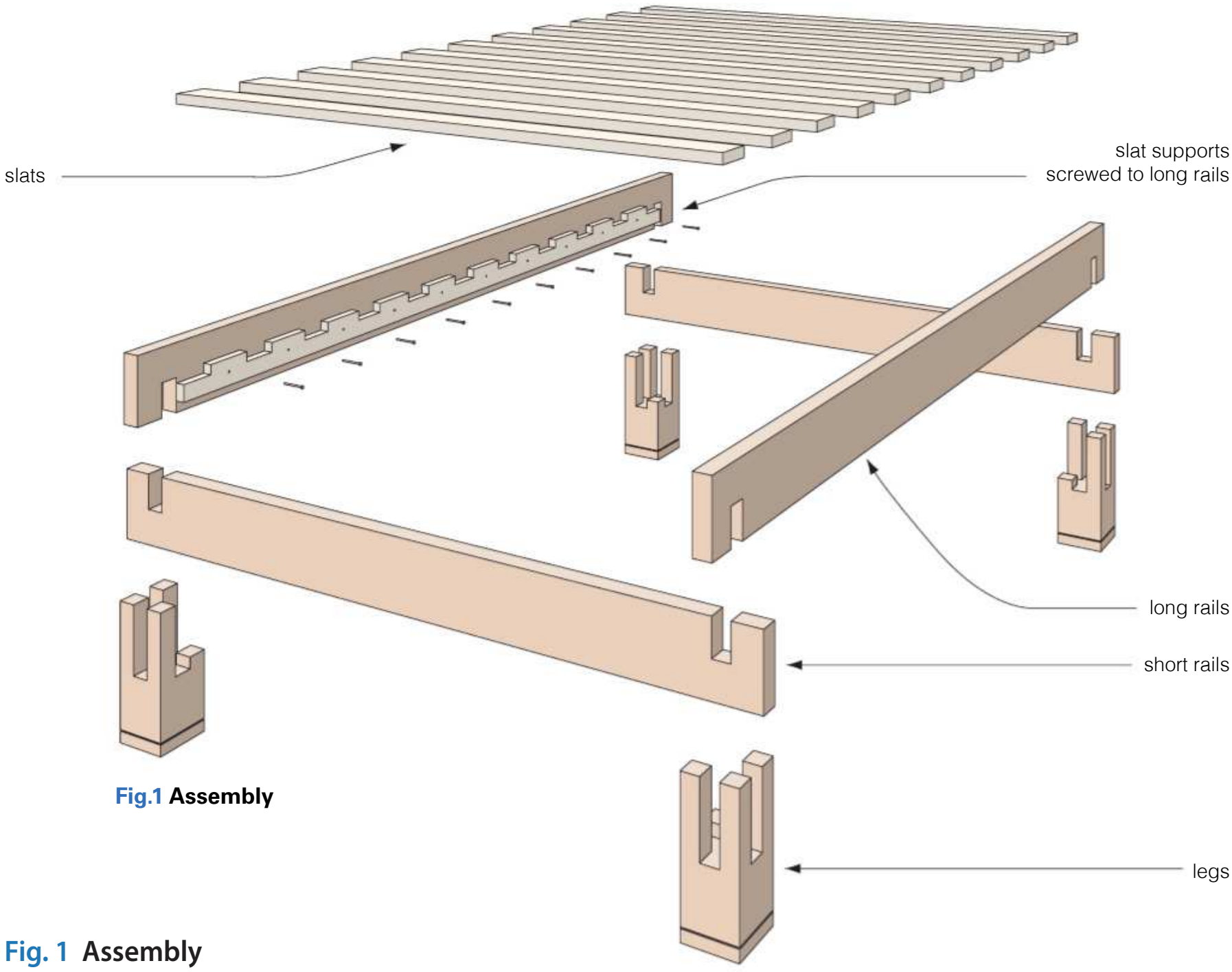


Fig.1 **Assembly**

Fig. 1 Assembly

When you have a child that is leaving the nest and heading to university, apartments need to be furnished. While much of my daughter's furniture was sourced from Ikea, she was keen to have Dad make her bed. We worked on the design together and decided that a Japanese-style bed was the way she wanted to go. Not only is this bed beautiful to look at but it is also quite practical. The joinery for the bed allows it to be taken-down easily without tools and moved or stored as required.

This was a new bit of joinery for me which was exciting. It's important as a woodworker to always try new things and expand your palette of skills. The rails for this bed are joined with an edge lap and the legs have a cross-shaped section removed from them to receive the assembled rails.

CUTTING LIST (MM)
FOR A 1890 X 1350MM MATTRESS

Part	Qty	Length	Width	Thickness
Legs	4	300	120	120
Long rails	2	2100	150	40
Short rails	2	1560	150	40
Slat supports	2	1890	60	22
Slats	11	1350	76	22

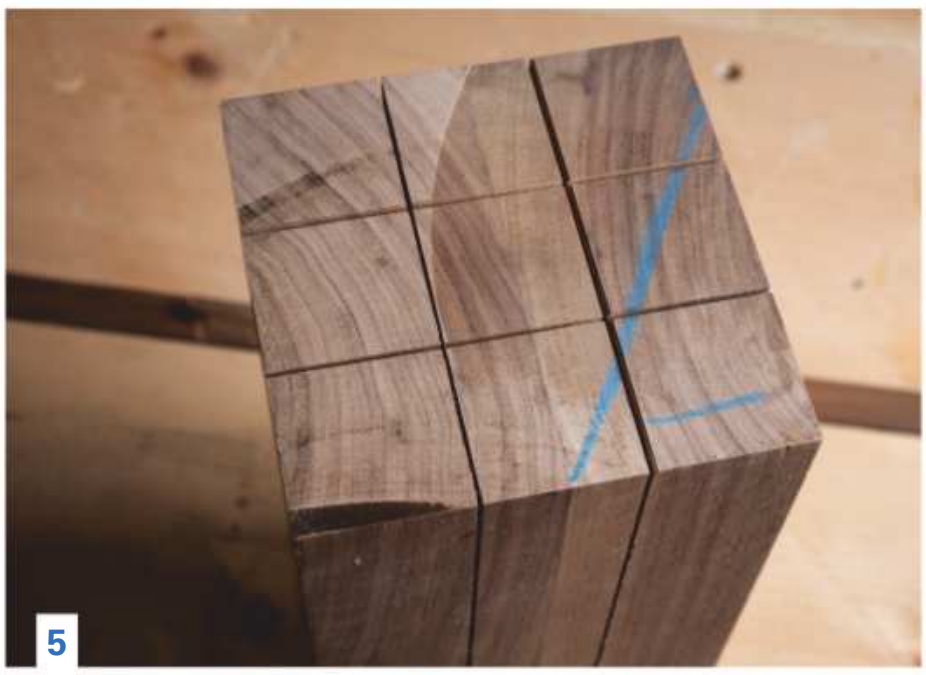

1


2

1. Pick your grain well so the laminations will look their best.
2. Dividers eliminate the math to make life easier.


3


4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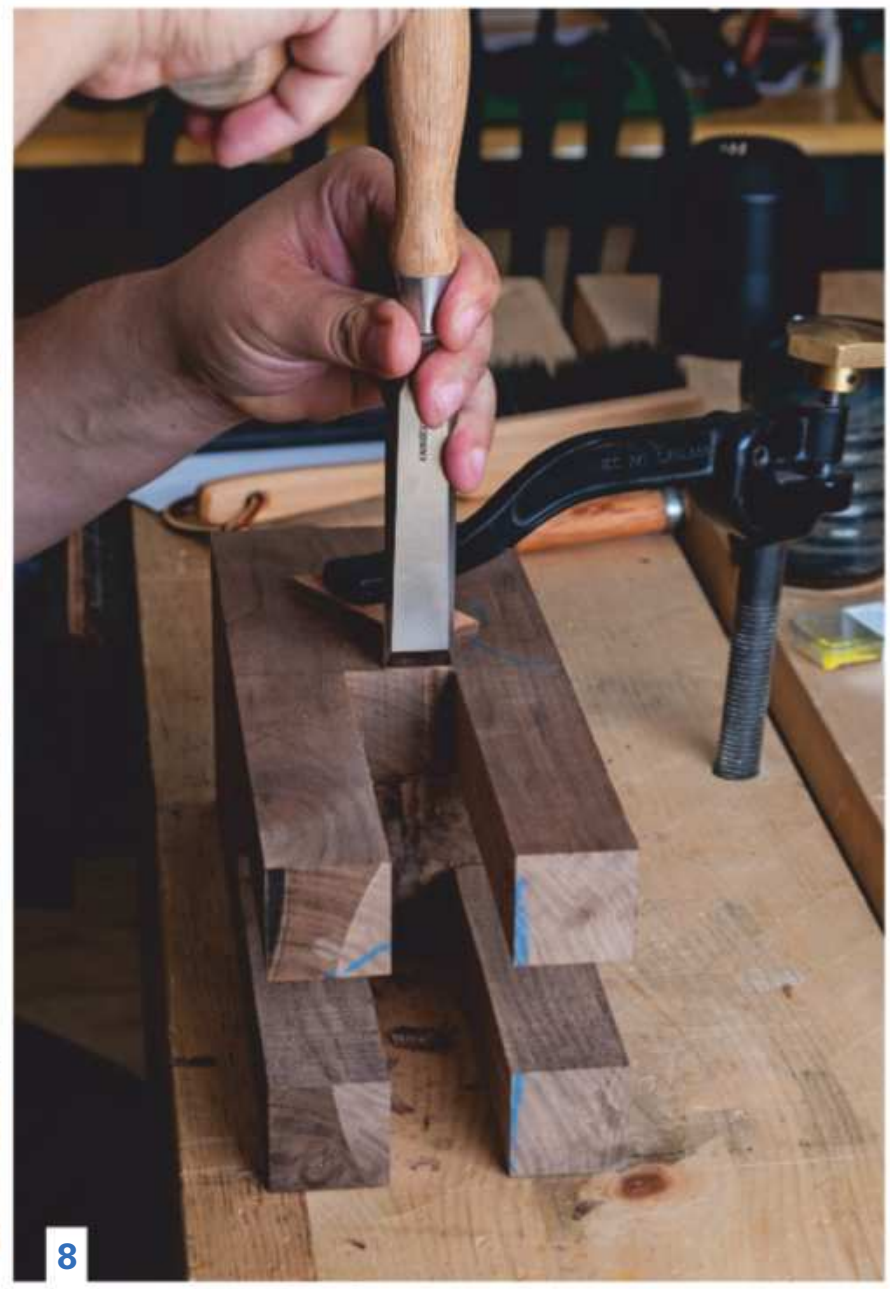
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6


7

3. Spend the time getting your joinery layout right.
4. The bandsaw makes short work of cutting the joinery.
5. Equal divisions are what you're after.
6. Drill out the waste to free it from the leg.
7. A few light hits should remove the big chunks.
8. Pare to the line and don't forget to undercut the joint.
9. Dock the inside finger short.
10. This stub will make assembly much easier.

The challenge with these joints is that they are larger than what is typical for furniture so cutting them and handling the large stock required some consideration. The end result however was worth it.

The first thing to realise is that mattresses come in all shapes and you want to build this bed to match. The best way to ensure that all will work out as planned is to measure the mattress. I have worked out the dimensions of the joinery so all you have to do is add the mattress measurements you have to figure out your rail lengths. In my case, the formula looks like this:

Long rails: 1890mm length of mattress + 210mm (105mm each end) = 2100mm

Short rails: 1350mm width of mattress + 210mm (105mm each end) = 1560mm

You have to double the joinery lengths for each length because there is a joint at either end. In my case, I built the bed out of black walnut but any timber you choose will be fine. Prep your rail material to final dimensions that move on to the legs.

Start with the legs

All the components on this bed are stout so the legs are quite beefy. The largest stock I could source for the legs was approximately 76mm, so I had to laminate two pieces together. If you take your time with this, you can create a pleasing look where the grain and colour of the two pieces works well (**photo 1**).

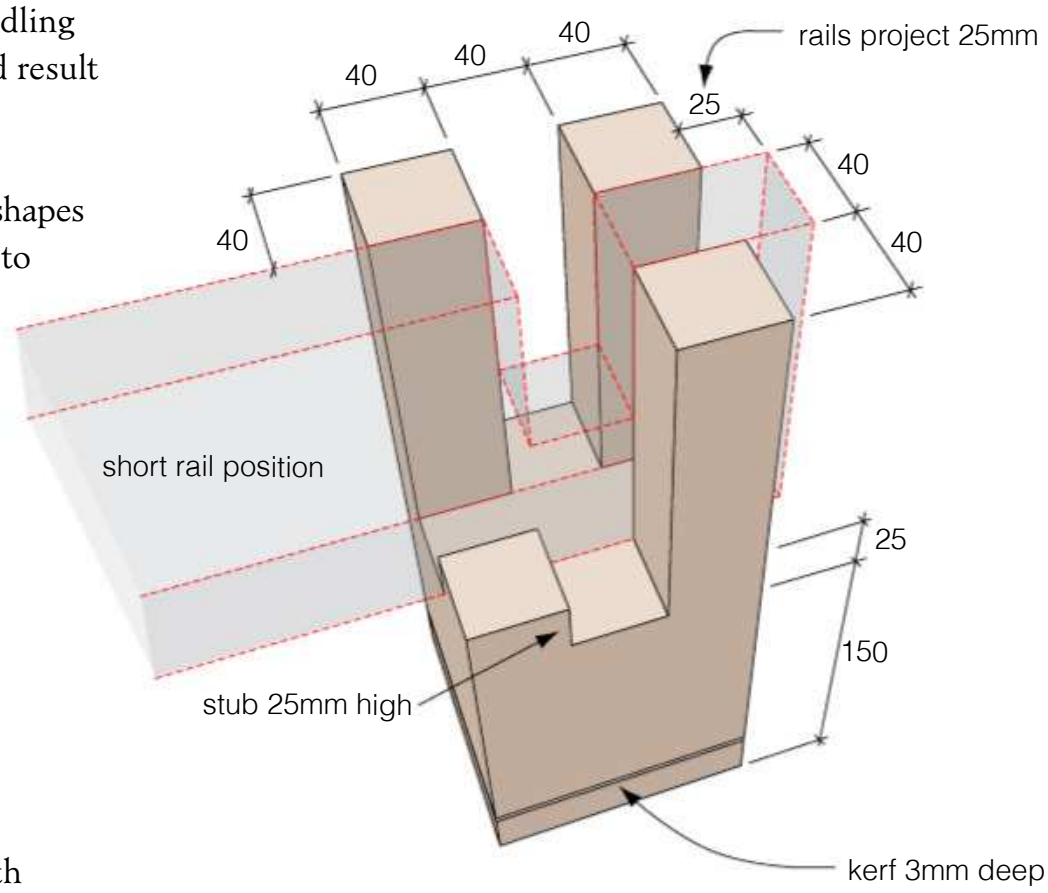
Once you have the legs laminated and dimensioned to the final size, you can begin laying out the joint. Start by marking a line all the way around the leg, halfway up (150mm). Lately I have been experimenting with marking lines in ink and having good success. Ink planes/sands off easily and the lines are much easier to see.

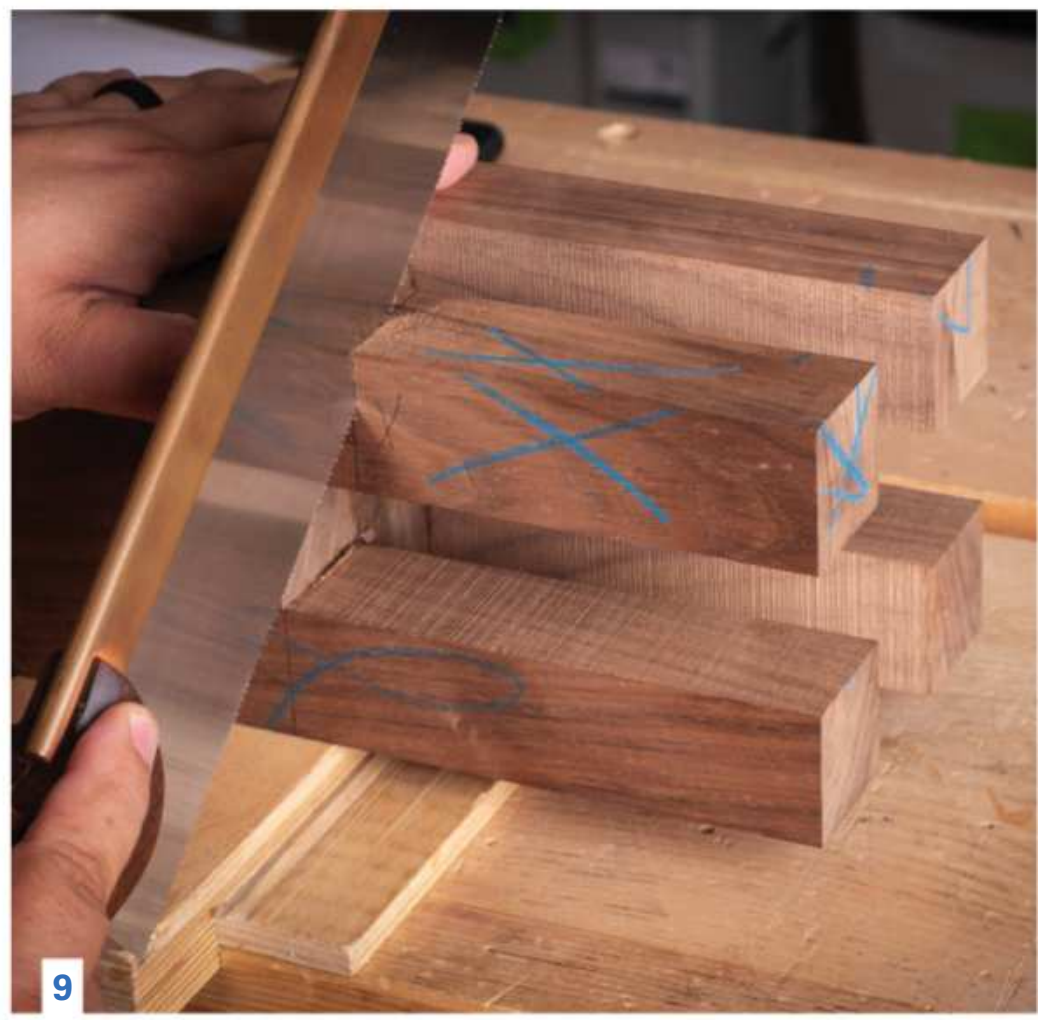
Next, take a pair of dividers and divide the width of the leg into three equal sections – approximately 40mm each. I clamp a block on the edge of the board to help ensure that I'm starting right at the edge (**photo 2**). Now, set a marking gauge to this mark and strike lines to your previously marked depth line, dividing each leg into three (**photo 3**).

I opted to use the bandsaw for cutting this joint (**photo 4**). Set the fence so you are cutting on the waste side (towards the centre) then make the cuts. These cuts are fairly simple to make because all you have to do is rotate the leg 90° after each cut – do this four times and you have all the rip cuts done (**photo 5**). Just be mindful of your depth line and don't cut past it.

While the leg was still mostly intact, I used the tablesaw to cut a 3mm deep kerf line all around the bottom of the

Fig.2 Leg joinery (mm)

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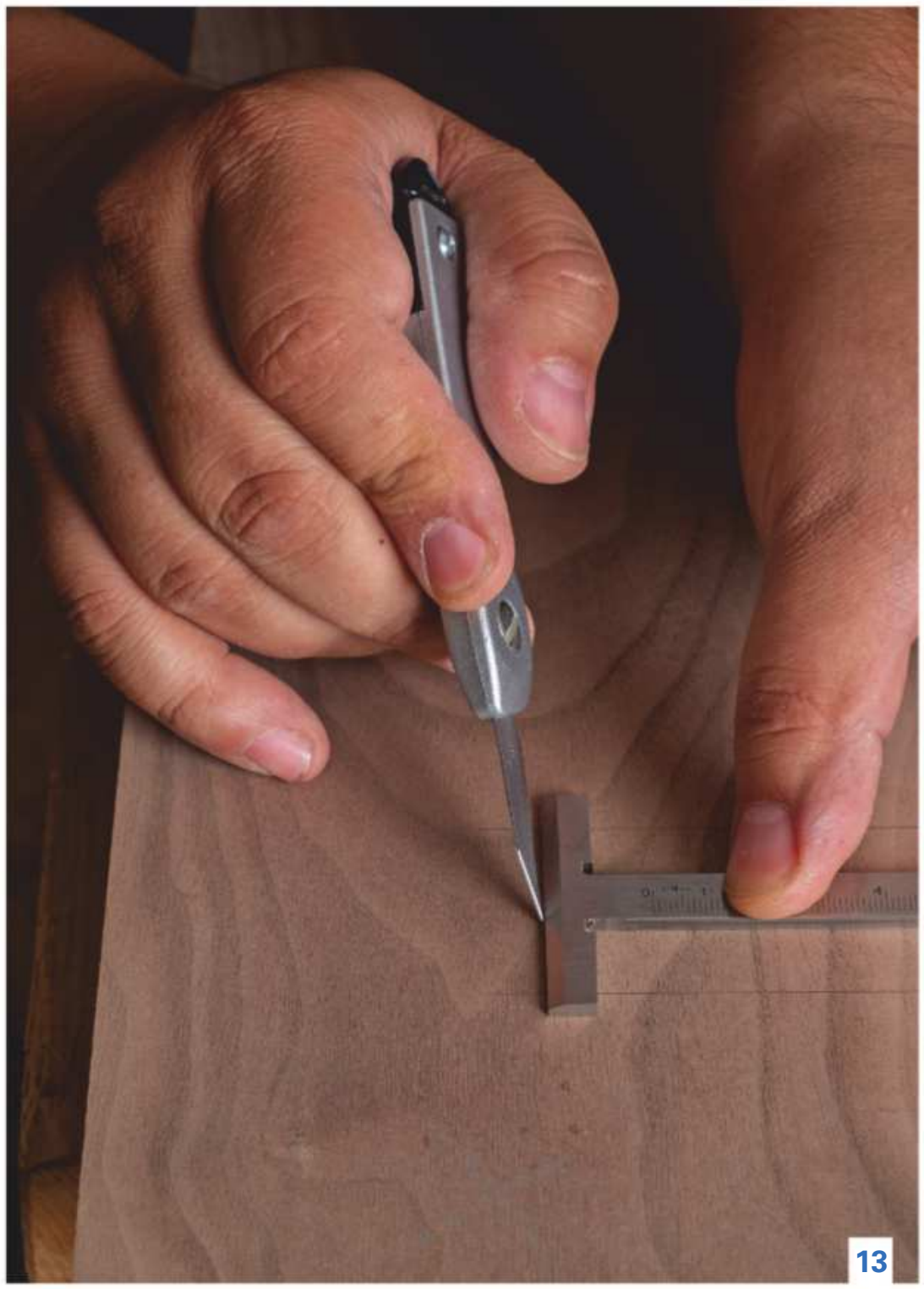
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14

leg around 25mm from the bottom. The kerf swallows light and creates the simple decorative line you can see on the main photo on p.24.

Next set up your drill press to hog out the majority of the waste (**photo 6**). Don't go any closer than 1mm to your depth line so you have some material left behind to pare. If you don't have a drill press then have a go with a hand drill or brace and bits. Drill the holes as closely to overlapping as you can so the waste comes out easily, then gently knock out the large chunks of waste with a block and mallet (**photo 7**).

Remove the last bits of waste with a chisel and mallet (**photo 8**). Work back to your depth lines and do yourself a favour by undercutting the joint as you go. This will ensure that there isn't a hump of material left behind causing the joint to not go fully home during assembly.

Finally, mark the inside finger of the joint at 25mm and cut it so you end up with a short stub (**photos 9, 10**). This step will allow you to assemble the bed easily and will pull the joint square. Take the time to place a light chamfer on all the outside edges and along the top of the fingers (**photo 11**). The stock for your rails should slide in between the fingers.

On to the rails

To ensure the joinery all lines up, clamp the two rails of each size together, lining up the ends. Measure in from the end 65mm and strike a line on both pieces and on both ends (**photo 12**). Then strike a second line 40mm from the first working inwards towards the centre. The last part of the layout is to knife-in the base line at the centre of the rail width – 150mm (**photo 13**). Boldly mark the waste. If you cut on the wrong side of the line here, you will have sloppily-fitting joints (**photo 14**). Do the same for the second set of rails.

Because of the limitations of my workshop I opted to use a router with a straight bit and shopmade T-square guide to cut the notches for the edge lap joints. I went halfway down on one side then flipped the workpiece to finish off from the other side (**photo 15**).

11. The Marcou chamfer plane makes chamfering fun.
12. Holding parts together makes marking multiple parts a breeze.
13. A knife line will allow you to place the chisel in just the right spot.
14. Be bold when marking the waste so you don't make a costly mistake.
15. A simple T-shaped jig for the router.
16. Pare to your lines and be sure the corners are clean.
17. Remove material from the faces to fit the edge laps.
18. Mark the slat supports together.

There are many ways to cut this joint so pick a method you are comfortable with. Then, using a chisel and mallet, remove the remaining waste. You should undercut this joint slightly as well to ensure a smooth assembly (**photo 16**).

Start test fitting the edge lap joints. If you have a pair that are tight then remove some material off the thickness of the pieces until they slide in easily (**photo 17**). There is no glue going into this joint and this connection is meant to come apart easily for knock-down and transport so don't make it as tight as you would normally. Cut a light chamfer on all the edges of the rails.

Now for some support

This bed does not require a box spring because it will be fully supported by a series of slats, in this case made from ash. The slats I used were about 76mm wide and there was 11 of them. There were 10 spaces in between were about 105mm. The layout of the slats requires a bit of math to suit the mattress size you have. The one thing to keep in mind is that you want one more slat than space, so you have support at both the head and foot of the bed.

19. Gauge the slats to mark the bottoms of the notches.

20. Saw out the bulk of the waste.

21. Chisel out the waste and create flat bottoms.

22. Pilot holes are always worth the time they take.

When you have the numbers worked out, clamp the two slat supports together and mark out all the notches to receive the slats (**photo 18**). Use a marking gauge to determine the thickness of your slat material (approx. 22mm) and mark the depth of your notches (**photo 19**).

With the slat supports still clamped together, saw out the notches for the slats (**photo 20**). In this case you can saw on the line instead of the waste side of the line. This will give you a slightly larger notch which will make installing the slats easier. Don't worry if the slats are a bit loose, they will be kept in place by the weight of the mattress. Chisel out the remaining waste and remove the sharp corners on the supports (**photo 21**).

Drill pilot holes into the slat supports in between each slat location and attach them to the long rails using screws and no glue. I have repaired a few beds of this style and it makes life much easier if the slat supports are not glued to the rails (**photo 22**). Now you can make up all the slats to match the width of the bed. I rounded over the edges so they couldn't damage the mattress and left them unfinished.

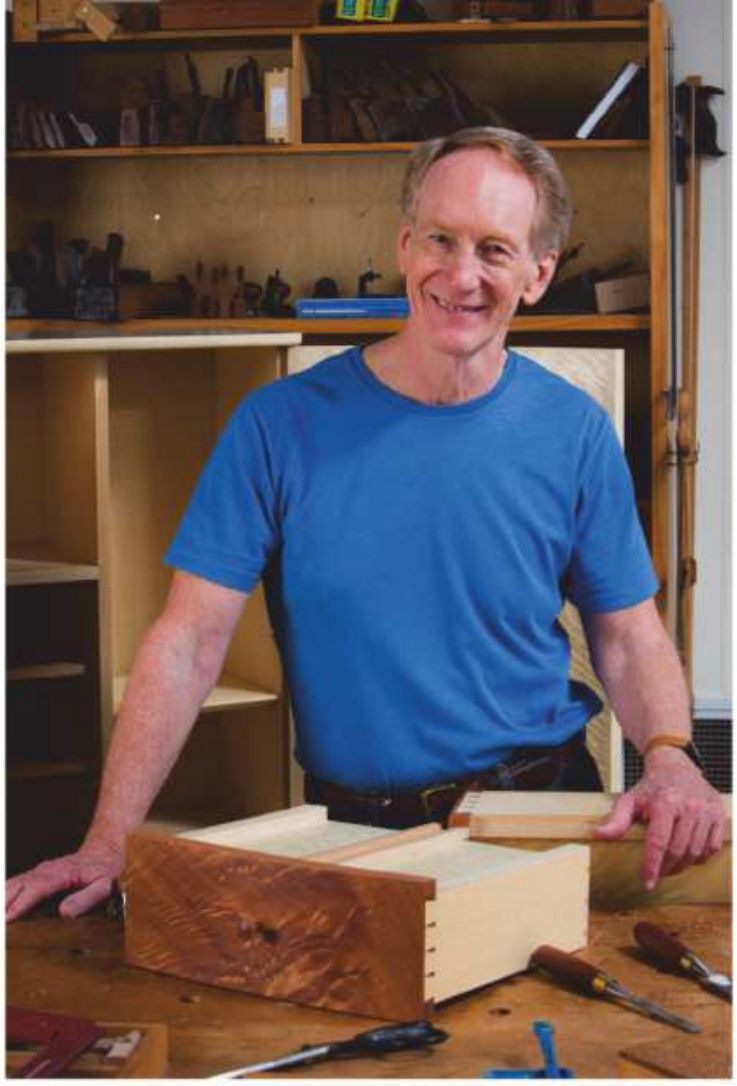
Finishing off

I opted to go with a beeswax finish with a high level of mineral oil mixed in. This finish is normally used for wooden kitchenware, but I really liked how it looked on the bed. The oil darkens the wood and the wax provides light protection. This sheer finish rubs out to a pleasing matt sheen and showcases the beauty of the wood.

All that's left is to set up the bed. I found the easiest way to do this is to lay out the legs on the floor, insert the short rails with their notches up, then drop in the long rails. Then you can install the rails and lay your mattress down. Whether you've made this bed for yourself or someone else, you can guarantee a fine night of sleep in style.

Photos: Vic Tesolin
Diagrams: Graham Sands

Vic Tesolin is a furniture maker and also woodworking/ technical advisor for Veritas/Lee Valley Tools. Learn more at http://victesolin.com/



Cutting Perfect Drawer Base Rebates

A quicker way to cut rebates accurately.
Story by Peter Young.

When making drawers with plywood bottoms it is common practice to cut a rebate into the drawer sides to house the drawer bottom. This can be achieved either at the tablesaw or the router table. If you have a router bit which matches the thickness of the plywood drawer bottom then it is a very straightforward task.

However, if that is not the case it is usually a matter of making two passes to get a rebate of the correct width. The location of the second cut is usually a trial and error procedure using a scrap sample of the drawer side.

The amount you have to shift the fence for the second cut is the difference between the width of the kerf of the sawblade or router bit, and the thickness of the drawer bottom. It is possible to measure these accurately with digital calipers and then make a shim to use against the fence.

An easier method which requires no measurement is to use two shims, one representing the width of the kerf and the other the drawer bottom thickness, preferably an offcut of the drawer bottom.

For the first pass, the drawer bottom shim is placed against the fence as in **fig.1**. For the second pass the blade kerf shim is placed against the fence as in **fig.2**. The resultant rebate should now be an exact fit for the drawer bottom.

I find this method particularly useful when I am applying veneer to both sides of a plywood or MDF drawer bottom resulting in a non-standard thickness. Using two shims I can quickly get an exact fit without spending a lot of time on trial and error.

Fig.1 First cut (not to scale)

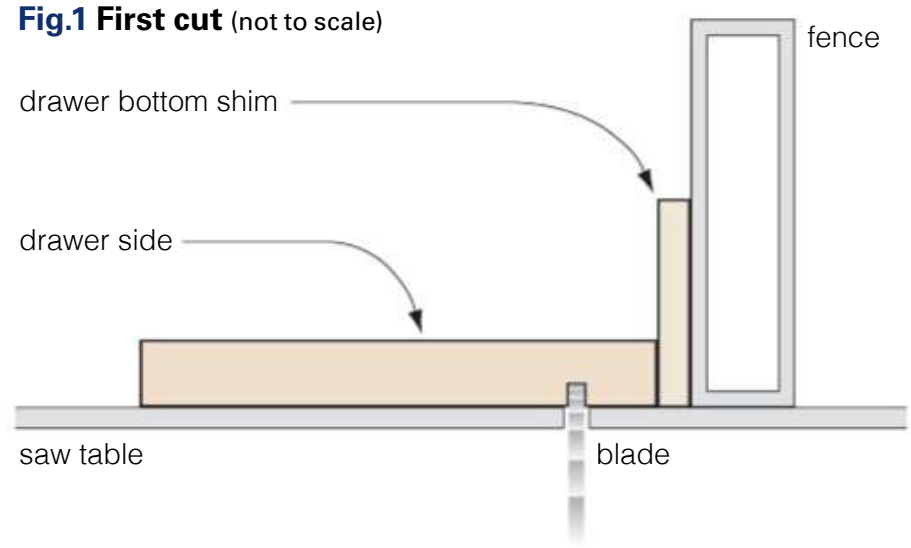
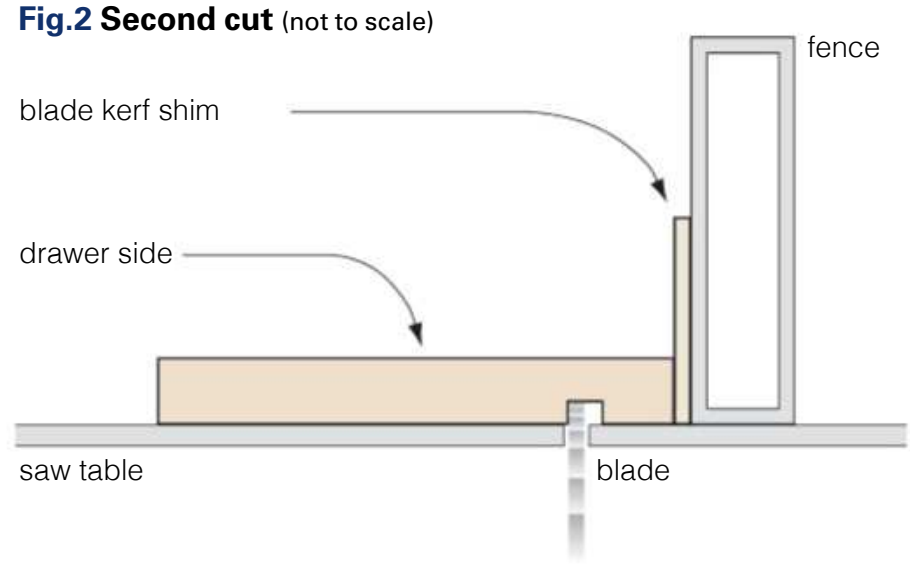


Fig.2 Second cut (not to scale)



Diagrams: Graham Sands
Photo: Andrew Porfyri

Peter Young is a studio furniture designer and maker who lives in Brisbane. In issue 98 he described how to make a splayed leg stool. Email Peter at pydesign@tpg.com.au

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The Green Wood Guide

Jeff Donne explores the workability of some Australian native species for green woodworking.

‘Green woodworking’ is an ancient method of fresh wood manipulation that remained nameless until Baltimore chairmaker, Jennie Alexander, coined the term in the 1970s.

Jennie, who passed away recently, was also fond of other words like ‘caddywompus’, which according to her good friend and green woodworking stalwart, Peter Follansbee, was used to describe something that just wasn’t right.

And for those of you who have dabbled in green woodworking using Australian trees you may have uttered through gritted teeth something akin to ‘this bloody log is caddywompus’!

Because there’s no denying it, Australian wood is hard, sometimes really hard, but so much of this confuses the workability of green wood with the dried and seasoned end product that’s as tough as a shady crim found bench pressing in a prison yard.

Main: Small axes are great for foraging wood and carving. Look for young trees, growing in competition with established trees. Above: Take only what you need and always get permission.

Clockwise from top left: Native cherry tree and freshly split log. Scoops, keepsake box and teaspoon, all made from native cherry.

Clockwise from top left: Blackwood, amazing colour when freshly split and lovely to carve when green. Breadboard, bowl, turned penguin and ladle, all making use of the lighter sapwood and the dark heartwood.

The sheer variety of tree species in Australia (currently estimated at around 5,500) means that opportunity and discovery, and challenges of course, are never far away; all you need do is explore. So buckle a hatchet onto your belt and join me as we go bush in search of raw material for treecraft*.

But first: get permission and be safe. Invading a neighbour's bush block in the still of night with a hand knitted balaclava over your head and an iPhone lighting your way will get you hopelessly lost, pitchforked, bitten by something poisonous and squashed under the tree you just felled. Ask around, there's nearly always someone pruning or removing a tree.

Working eucalypts when green

Our iconic tree. Eucalypts can be tough and ill mannered, even when green, and they're not shy of cracking as they dry, so why on earth would we carve them? Because like many tough and ill mannered folk, if you spend some time getting to know them, their resilience can be nurtured, and their beautiful hearts allowed to shine.

Tough woods equal tough goods. That's one key advantage of working eucalypts. I can carve crisp lines and push spoon bowls to dimensions similar to those found in their stainless steel counterparts.

Left: A Pinocchio doll carved from black sheoak, using the branch conjunction as the nose.

Centre: This small branch sticking out at a right angle to the trunk is a Pinocchio doll waiting to happen.

Below: Look for young trees, growing in competition with established trees. Once again, take only what you need.

And then there is the colour. With about 800 varieties to choose from, splitting open a gum log can yield everything from brilliant whites, to deep reds and something utterly psychedelic.

But what if that log won't split? What if that small, unassuming chunk of stringybark sends axes, wedges and block splitters bouncing off when trying to get at its fresh, green core?

You can do two things here: one is to keep going until the damn thing parts its interlocking grain and then design your creation by exploiting the amazing resilience of its fibres. Draw at angles that travel slightly across the grain, so when it comes to knife work you will be faced with fewer instances of catching and tearing at the fibres.

The other thing you can do is set aside the troublesome log for a day when you're feeling stronger, and work on a smaller and younger part of the tree. Most of the time this will give you a much easier ride.

Eucalypts suitable for treecraft

Silvertop ash (*Eucalyptus sieberi*) is so far the best treecraft species I have come across. The sapwood and heartwood both yield well when slicing along the grain. Splits very cleanly off the axe. Can crack if carving into the tangential face, so try if you can to carve radially. The bark is strong and easily peeled, making it suitable for basket or seat weaving. Its strong fibres make it suitable for steam bending and chairmaking.

Yellow stringybark (*Eucalyptus muellerana*) take a look at the bark: if you can see a twist running in opposite directions, then chances are there's a lot of twisting and interlocking going on inside. Look for bark that runs in a straight line up the trunk. Splits messy as hell off the axe, but don't be put off, the wood carves beautifully. The inner bark is incredibly strong and flexible, making it great for all kinds of weaving, and the outer bark is good for rope making and coil baskets.

River peppermint (*Eucalyptus elata*) this gum tree is fairly soft, and it has some nice defined growth rings too. Can be prone to cracking during the drying process, so carve into a radial face where shrinkage is at a minimum. Smooth bark that is fairly strong, so also suitable for treecraft weaving projects.

Alpine ash (*Eucalyptus delegatensis*) the clean and dense grain allows a smooth finish straight off the knife, and the defined growth rings make for beautiful bowls and spoons when carving in from the bark side. Work with branches, avoiding the deeply twisted trunk sections. There is little straight wood in these trees, so look for bent branches and forks to make beautiful ladles and spoons.

Snow gum (*Eucalyptus pauciflora*) as wild as the mountains it comes from! Expect twists, cracks that appear before your eyes, psychedelic colour, and surprisingly, a fairly easy wood to carve. You really feel the tree is in charge here, so expect something very different. The smooth grey and green bark of snow gums is stunning and easy to peel, but don't expect long and straight strips. A perfect material for wild weaving projects that reflect on natural landscapes.

Bloodwood (*Eucalyptus gummifera*) young bloodwoods are nice and soft. The bark hasn't much use, but the wood is easy carving for beginners. Watch out for big, blood coloured sap pockets.

Opposite, top to bottom: Alpine ash eating spoon

Silvertop ash frame stool. This wood is good for steambending and chairmaking and the bark weaves well.

Eucalypts are often identified by their gumnuts, like this bloodwood nut.

Bloodwood bark.

Right: Stringybark spoon and showing how this species' bark can run in two directions.

Below: Don't be put off by the messy looking grain inside, stringybark can be lovely to carve. Photo: Liam Edward Brennan

Working acacias when green

Acacias tend to suffer less from interlocking grain than eucalypts, although with about a thousand acacia varieties in Australia, it's easy to generalise. They can vary in hardness, from some of the soft coastal wattles here in the east, to the ridiculously tough arid zone wattles, gidgee and dead finish.

Acacias suitable for treecraft projects

Blackwood (*Acacia melanoxylon*) its deep chocolate and gold colour is stunning, it carves beautifully when straight grained and has a number of uses when it comes to treecraft. Its long fibres make it a strong and attractive option for furniture construction, suitable for legs, rungs, Windsor chair seats and steambent components. It makes a stunning spoon, and perhaps most of all I love to pick up a tiny offcut containing contrasting sapwood and heartwood, pop it on the foot powered lathe and make an instant penguin!

The bark, while not suitable for weaving, is packed with tannins, so it can be used in all sorts of staining projects, from leather tanning, to wood ebonising and fabric dyeing.

Hickory wattle (*Acacia falciformis*) very similar to blackwood, but the fibres are not as strong, making it a wonderful option for carving items with flowing curves. Couple this with its deep brown and occasional hints of pink, and you have yourself a great carving wood.

Late black wattle (*Acacia mearnsii*) not to be confused with blackwood, this tree is known as a bad boy outside of Australia, being one of the world's worst invasive species. It's something of a bad boy in woodcraft also, with a reputation for being tough and splintery. That said, with careful drying you can exploit the lovely dark heartwood for numerous uses as the tree will often grow tall and straight in clumps. The bark is incredibly useful both for its tannin and as a weaving and rope making material.

Clockwise from above:

Branch and stem conjunctions as for this casuarina make fine ladles.

A casuarina coat hook.

Casuarina flour scoops.

Young casuarina is hardy enough for children's toys like this log-bot.

Opposite, top to bottom:

Hickory wattle spatulas.

Norfolk Island pine is soft to carve and suitable for larger projects like this bilby bowl.

Native cherry can be carved green or dry.

Black sheoak cones.

A black sheoak sapling.

Other useful tree craft species

Black sheoak (*Casuarina littorallis*) Makes beautiful spoons because of the prominent medullary rays, the young trees are easy to carve and the branch and trunk conjunctions are perfect for coat hooks, animal figurines and Pinocchio dolls!

Broad leafed paperbark (*Melaleuca quinquenervia*) the smaller sections and branches are soft, and the flexible inner bark can be used for weaving. Often planted as a street tree, so city dwellers keep an ear open for the pruning gangs!

Native cherry (*Exocarpos cupressiformis*) I've not come across a native Australian wood that is better to carve than native cherry. It's soft, hardy and the colour, white, pink and purple, is beautiful. Its trunk can be used for many general green woodworking projects, and an abundance of branches means ladles and coat hooks galore. It also commonly has burls suitable for carving small bowls.

Norfolk Island pine (*Araucaria heterophylla*) Splits well off the axe, it's really easy to carve and so great for bowls and larger projects. No pine smell. Very useful bark that can be bent without ripping.

There are many, many more Australian trees suitable for carving, green woodworking and treecraft in general. I could fill every page of this edition, but the point of this guide is to get you started and to grow the green woodworking and treecraft community here in Australia.

There's no need to 'accidentally' reverse your truck into that perfect birch or apple tree on your neighbour's nature strip, and certainly with a bit of exploration we can discover that Aussie wood really isn't all that caddywompus!

** Last issue Jeff Donne wrote about 'treecraft', a way of utilising as many parts of a felled tree as possible.*

Note: Native Trees and Shrubs of South-Eastern Australia by Leon Costermans is a highly recommended resource. See also the Atlas of Living Australia at https://www.ala.org.au/ This is a fantastic citizen science project where anyone can submit and search for Australian flora and fauna, including trees.

Photos: Jeff Donne

Jeff Donne is a professional spoon carver and treecraft teacher from the far south coast of NSW. His roaming Spoon School travels to many parts of Australia, from the big smoke to Tassie, Alice Springs and beyond. See: www.spoonsmith.com.au

Tool Classics

Looking back, Raf Nathan highlights the tools he regards as classics, and the ones that became favourites.

Over the past 26 years (seems like 260 years actually) I have reviewed hundreds of tools for this magazine. Some really grabbed me due to their functionality, innovation and/or innate brilliance and have become essential tools in my workshop.

But what makes a tool 'brilliant' or 'classic'? Here are my thoughts.

1. Quality manufacturing. If it breaks within a year it's useless and a waste of time and money.

2. Good looks. Not all things are beautiful. Some hand tools make the cut though because of their design and materials.

3. Value. We all know the adage, buy once and buy well. Usually we learn this by buying cheap and regretting forever afterwards.

4. Functionality. If it doesn't do what it is designed to do, it's useless. Does it make your work easier or faster? Does it make your own work better?

5. Personality. Do you want to use it? Do you add in a process or change something as an excuse to use a particular tool?

Clifton block plane

With a bronze casting and generous brass fittings the Clifton is a great portrayal of modern British toolmaking. It is probably the most expensive block plane available so it's not for the bargain hunters. Nor was it designed for them.

Veritas large router plane

An interpretation of the early Stanley Tools version. This is very well made, easy to use and like all Veritas tools, reasonably priced. Veritas make two smaller variations but I find this size best for pretty well all jobs. Actually I sometimes plan a process like inlaying or grooving where the router plane gets to come out. It's so much fun to use.

Colen Clenton squares

Squares, an essential tool, were pretty plain 28 years ago. The Clenton squares elevated instantly what was possible with fine detailed woodwork, and it was a tool as well! If you use a Clenton square you can't help but be impressed and inspired to aim for perfection with your own details.

Lie Nielsen smoother

When I bought my Lie-Nielsen smoother it was all shiny and clean with the bronze glowing like gold. For the first week after the purchase the plane sat in the middle of the kitchen table as something to behold. It's comfortable with good mass and it is reliable. I know it's going to work every time it gets pulled out.

Vesper bevel gauge

Everyone likes wood and brass and polished steel, and a Vesper gauge gives all that. With perfect machining and hand fettling they are now de rigeur in workshops around the world… Yes there are cheap bevels but whenever you get out the Vesper you are reminded about what good work is.

HNT Gordon 3/4" shoulder plane

A very nice looking tool, brilliantly made in a precise manner. It is always ready when needed, handles most grain well and sharpens easily. Every time I use it there is a slight pause to admire it.

Bridge City Tools

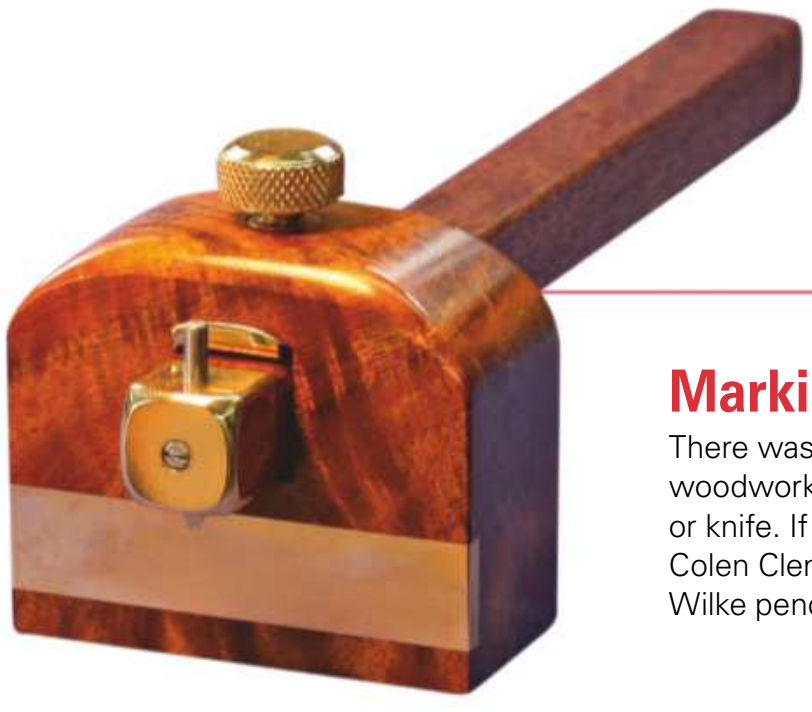
150 years ago woodworkers had access to fine wood tools from Norris, Preston and Stanley who often made superb planes and the like. But in my training days we had very few tools and Record and Stanley owned the hardware shelves. Bridge City Tools started making a few select rosewood and brass tools initially. Their range grew to include most measuring and marking tools but today their direction has gone into aluminium for some reason!

Bosch small cordless drill

Like a bonsai tree. Small, yet has so much innate power. For almost every job in the workshop the small Bosch 10.8 volt handles it easily. Drilling and driving 8-gauge screws is a breeze and with care 4-gauge screws are easily seated.

Titebond glue

Glue or adhesive is the most under-rated piece of kit in a wood workshop. Imagine if a major piece worth thousands of dollars started to come apart literally at the seams! As a cabinetmaker my grandfather used hide glue which is a process in its own right to prepare and use, and gives excellent long-lasting results. But it's way too slow for our age. Titebond didn't invent yellow glue and water resistant one-part glues. What they did was specialise in woodwork glue, and they marketed it well.

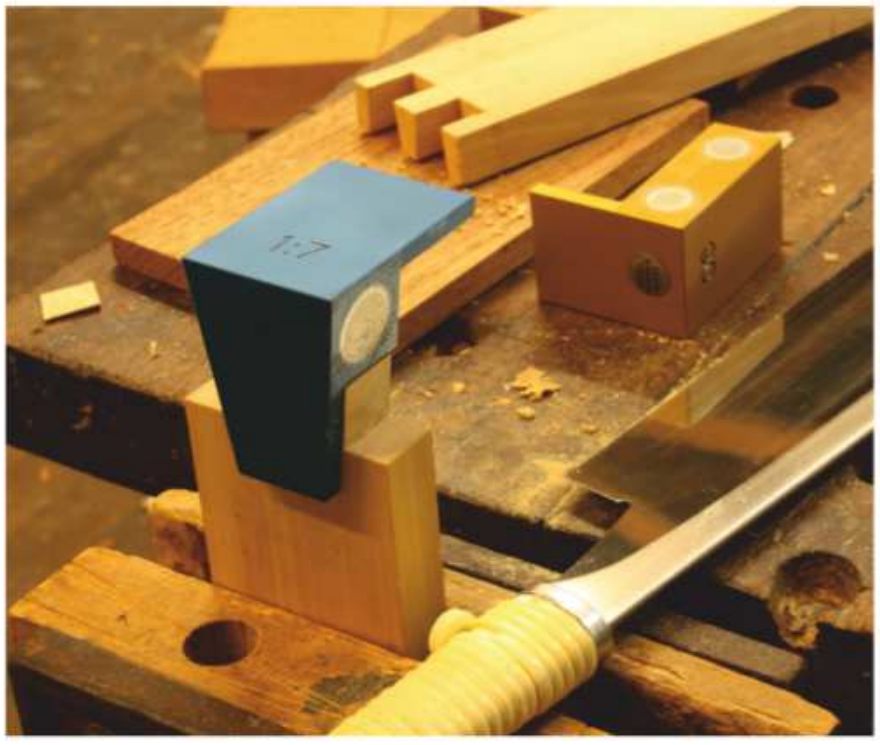


Marking gauges

There was no choice here. The reason is I have eight. An essential tool for a woodworker, you have to decide first whether to go for a round cutter, or pin or knife. If you can only afford one gauge then a pin is my choice. I have two Colen Clentons, Hamilton, Wilke and Vesper gauges, a Wilke kit I made up, a Wilke pencil gauge and my original Marples. All pin or knife cutters.

Barron dovetail jig

An Aussie developed the first magnetic saw guide, the Angle-Master, followed by Veritas marketing their own development. The Barron is a smarter looking tool and simpler to use. I have a 1:7 dovetail and 90° guide. By all means train yourself to freehand saw dovetails, but I will use my guide.



Digital calipers

Once you try these you can never go back to old style calipers. Large, easy-to-read display, superbly accurate and inexpensive. To be honest I almost get anxious if they get misplaced. Mine are in constant use particularly on the thicknesser.

Domino tool

In 2007 Festool released their domino tool, a game changer for the smaller sized woodwork shop. Whilst the technology in the domino is not new, having been around for years in older heavy joinery machines, packaging it in a handheld power tool was unique. I sold my biscuit set-up and converted to dominos and have never left them. Based on traditional joints but using a floating tenon nothing comes close, except a looming end of patent…

De Walt trimmer router

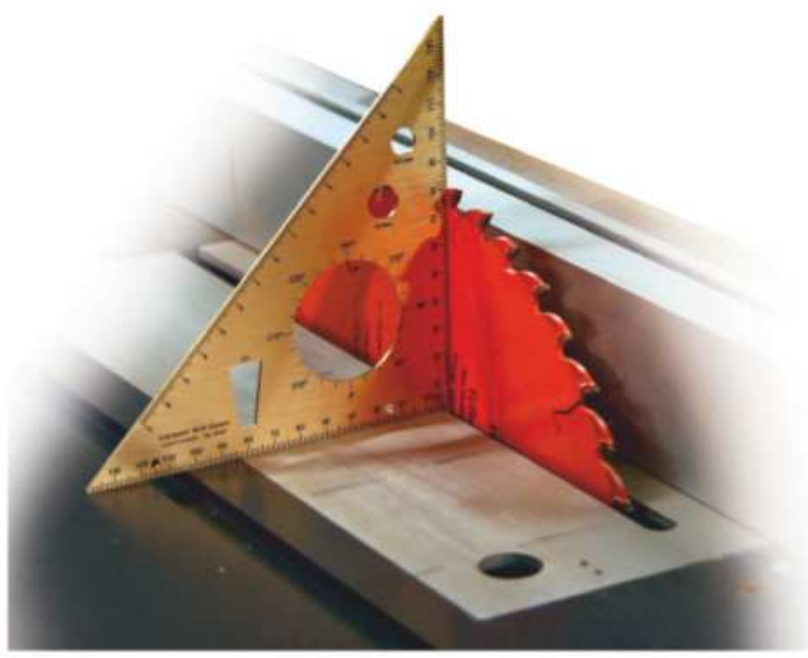
I called this 'power tool of the year' when it first came out. It still impresses me with its small size but big power and functionality. A little too big in the body and it has a fiddly switch, but otherwise it's perfect.

Tormek sharpening system

To be honest I got talked into buying this! My resistance then was the price, but 15 years later it's still going strong and gets used all the time. Grinds all the chisels and planes whilst the honing wheel will keep a chisel carving for ages before a regrind.

Interwood Multi-Square

Why is something I designed listed here? Made of brass with etched markings it will set square, measure, act as a depth gauge and centre rule. It's here because I have used it on a daily basis in my workshop for 20 years, and it has also found favour with many other people.



Raf Nathan is a woodwork designer maker and tool reviewer, some of which he also makes. He lives in Queensland. Email: raf@interwoodshop.com.au

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AWR Studio Furniture 2018

A landmark exhibition of work by 65 makers from Australia, New Zealand and Europe opens at Bungendore Wood Works Gallery, NSW.

Bungendore Wood Works Gallery First $10,000

1. David Haig, New Zealand, *Folium 3*, 1110 x 600 x 600mm, English sycamore, matai

The third iteration of three-legged chair that is stable and comfortable with a backrest that is strong and supple. Luminous sycamore is combined with quartersawn matai. *Photo: Daniel Allen*

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A table inlaid with a map of the stars at the moment man first stood on the moon. A sideboard that speaks of the dark history of European settlement and the hope of cross-cultural exchange. A drinks cabinet that echoes the misery of addiction.

Furniture that is redolent with memories, meaning, allusion and emotion. This is studio furniture. Furniture defined by its function but more so as a carrier of meaning and the personal reflections and influences of its maker.

The framework

On October 20, 2018 sixty five makers presented sixty works, five of which were produced in collaboration. This was AWR Studio Furniture 2018, an exhibition curated and produced by Australian Wood Review and Bungendore Wood Works Gallery.

The lead-up was long, almost 18 months, and launched via AWR's print and online channels with a global callout for entries, 105 of which resulted from mostly Australia, then New Zealand, Europe and the USA. At the end of June shortlisted makers were invited to design, make and deliver a piece for what was foreseen to be a landmark exhibition.

The opening

A birthing of intent and effort, SF18 was dedicated as a community homage to the passing of one of Australia's most prominent sculptural artists. Matthew Harding was also a woodworker, known and loved by many of the makers who had once studied or worked with him. Matthew was also the son-in-law of Bungendore Wood Works Gallery artistic director David Mac Laren, making the dedication a deeply personal one. The opening was an emotional one that took place in the gallery's upstairs Octagon space which was filled to capacity with the overflow standing by on the stairs.

Bungendore Wood Works Gallery Second $5,000

2. Darren Fry, *Constance Chest*, European sycamore, 1250 x 715 x 390mm

Solid sections and shopsawn veneers from a single figured board are arranged to highlight waterfall figure. The three-way mitre joined stand has subtle tapers on the legs to create lightness and gentle elevation. *Photo: Grant Hancock*

Bungendore Wood Works Gallery Third $3,000

3. Zina Burloiu (Romania) and Terry Martin, *Moon Table*, 750 h x 430 dia, jacaranda, jarrah.

'Dark-of-night slender legs' were turned to float a turned and sculpted a surface that was sandblasted to 'bony moon-white'. *Photo: Terry Martin*

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The awards

Sponsorships grew until finally over $24,000 in awards were presented. At the opening, David Mac Laren spontaneously increased the gallery's already large sponsorship to a massive $18,000 for three prizes ($10,000, $5,000 and $3,000). Added to this was the Hammer N4400 bandsaw valued at $3166 from presenting sponsor Felder Group Australia and three $1000 cash awards from Studio Woodworkers Australia, Interwood and Adrian Potter. This is arguably the largest awards amount ever offered for fine woodworkers in Australia.

Judging the awards

Six judges took six hours to hammer out the results for seven awards. I was one of them and can tell you it wasn't easy. We had expertise and experience from well known designer makers such as Michael Fortune from Canada and Australians Roy Schack, Adrian Potter and Scott Mitchell. Ann Cleary, a highly regarded architect, designer and lecturer at Canberra University also provided keen insights and different perspectives.

For me personally, judging an exhibition of this calibre is a privilege and an opportunity to learn. But how do you value one creative piece against another? Of course you can rate each according to set criteria, however superbly crafted dovetails do not always indicate a piece with the best overall aesthetics or ergonomics for that matter.

Should it be the piece you most want to take home? Should it be innovative or follow confidently in the steps of tradition? Sculptural or sleek? Imposing or restrained in its presence? Should it best reflect values of sustainability in terms of making the most of precious timbers? What if it makes a political or personal statement that provokes thought and emotion?

Execution and finish are easier to judge. At an elite level mastery is assumed, anything less than competence will detract from even beautiful lines, shapes and concept. And yet, many of the above mentioned factors can then tip the


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scales when it comes to judging the worthiness or desirability of one piece over another.

Fortunately, the work presented in this landmark exhibition does not wait for, or require judgement. For an individual there will be some works that are simply magnetic, so complete in their sense of visual, sensual and functional appeal that they draw you into them.

Within each piece presented in AWR Studio Furniture 2018 the voice of the maker is clear and undisputed in the story that it tells. Studio furniture is as much about the maker, their influences, history and sense of place as it is about the work itself.

AWR Studio Furniture 2018 is on show at Bungendore Wood Works Gallery, NSW until January 31, 2019.

Words: Linda Nathan, Wood Review Editor

Printed catalogues of the entire exhibition are available from www.interwoodshop.com.au

Felder Award Hammer N4400 value $3166

4. Will Matthysen, *Clock 195*, fiddleback blackwood, sycamore, Huon pine, ancient redgum, brass, steel, 1150 x 430–265 x 205mm deep

This wall mounted mechanical clock of eight day duration is fitted with a Brocot dead beat escapement and gold-plated brass components. For the design, a layering of geometric shapes were used to build up the geometry and composition. *Photo: Ian Hill*

Studio Woodworkers Australia Emerging Designer Maker $1000

5. Kristian Frandsen, Denmark. *MoOn*, 3,500 year old bog oak, 255 x 255 x 70mm

'Most of all a lovesong to the material itself, MoOn is also a delicate container for treasured objects.' *Photos: Kristian Frandsen*

George Ingham Chair Award $1000

6. Bernard Chandley, *CoCo Armchair*, kiln dried white oak, locally grown elm, 955 x 620 x 580mm

'I see myself down the line from 200 hundred odd years of makers, bringing my own sense of "right" to the balance between proportions, geometry and beauty of the continuous arm Windsor chair. When playing around with the traditional you want to be sure you have something positive to add and I hope with this chair I've achieved that.' *Photo: Bernard Chandley*

Interwood Design Award $1000

7. Rolf Barfoed, *Exo Desk*, Tasmanian oak, 750 x 1400 x 550mm

'This desk is designed around an awareness of material economy, modern fabrication methods and weight considerations, while respectfully paying tribute to the fine detailing and individuality synonymous with studio craft.' *Photos: Brenton Colley*

8. Darren Oates, *Equanimity Chaise Lounge*, American walnut, leather, 1800mm long

Tight curves were achieved with pre-steambent laminations. 'Inspiration for this chair came from Le Corbusier's LC4 Chaise Lounge, which I believe to be the most beautiful design in the history of furniture.' *Photo: Darren Oates*

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9. Marinos Drakopoulos, *MM02 Armchair*, American walnut, ebony, brass, 735 x 580 x 600mm deep

Hand formed sculptural elements are refined to achieve an organic yet modern silhouette. The pivoting backrest conforms to body movement. *Photo: Marinos Drakopoulos*

10. Christopher Neal, *Drinks Cabinet No.1*, black walnut body, white oak, 950 x 400 x 1500mm high

'The idea was to make a showpiece that would use traditional and modern details and marry them in a contemporary piece that would look at home in a modern setting, but also sit within a more traditionally styled home.' *Photo: Damien Ford*

11. Daniel Guest, *Lill*, Tasmanian blackwood, American white oak, 915 x 538 x 915mm high

Modern joinery techniques are combined with handcut dovetails in a piece designed for one-off or small batch production. *Photo: Grant Hancock*

12. Phoebe Everill, *Aubergine*, chaise, blackwood, silver ash, leather

'I wanted to play in curves and to showcase the beautiful blackwood that grows on our property, and that when storm fallen, is milled and air dried here and then made into furniture. Natural checks and knots in the wood were left to show the honesty of the process.' *Photo: Zan Wimberley*

13. Bryan Cush, *The Dish*, spotted gum, brass, 800 dia x 250mm high

'The Dish pinpoints a geographic and historical snapshot through the medium of a brass star map inlay. The brass dots simulate the exact stellar positioning of the southern sky as viewed for broadcasting live TV footage of man's first steps on the moon back to an estimated six million people in 1969.' *Photo: Vivienne Wong*

14. Benjamin Reddan; *Summer, Autumn, Winter and Spring Natsukashii* yosegi box sets in various species. Made to showcase small personal items, lift-away box lids and tray boxes can be displayed as standalone art pieces. Natsukashii is Japanese for a sudden, warm sense of nostalgia for the past. *Photos: Benjamin Reddan*

15. Byron Raleigh, *Poppet*, black walnut, stringybark, 1800 x 500 x 750mm dia base

'Poppet is the result of a love affair with machinery. It is a machine for lighting. Poppet is an illustration of universal forces. Despite the wonders of the industrial and digital revolutions, craftspeople offer something that no machine ever can. Objects unique and imbued with humanity.' *Photos: Marc Buckner*

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16. Dan Barker, *Alana* drinks cabinet, American white oak, fiddleback messmate, cast bronze hardware and bowl, 850 x 400 x 1600mm high

'I started making the triangles, with no real purpose or vision in mind. I only knew I wanted visible endgrain on the top of the legs but slowly the piece started to reveal itself as a direction appeared.' *Photo: Fred Kroh*

17. John Coventry, *Circumbendibus*, figured Murray River redgum, Australian cedar, ebony, plywood, felt, cork, stainless steel, 1340 x 560mm dia

A circular dresser chest with drawers that turn on pivots. 'Making this piece has been both a novelty and an ongoing enquiry into the geometry of circles.' *Photo: David James*

18. Louise Fuller and Robert Godoy, New Zealand. *Phoenix: A Daybed for the Dog Tired*, NZ silver beech, dyed obeche, Crypton One fabric, 840 x 570 x 330mm

'This opulent piece is a dynamic composition of elliptical and radial forms. Form, function and well being of the pet were all key factors in the conception of the piece.'
P*hoto: Digby Shaw*.

19. Stuart Faulkner, *Oxford Chairs*, white oak, leather, 850 x 600 x 600mm

'I have always been drawn to clean uninterrupted lines in furniture and the challenge of using minimal material to achieve maximum strength.'
Photo: Guy Wilkinson

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20. Simon Parsons, *Assemblage* nest of tables, red ironbark, hoop pine plywood, 555, 505 and 455mm cubes

The phi ratio was used in the veneer patterns and component dimensions. 'I wanted to create a random pattern that would appear woven together into a strong ordered structure, as a bird might arrange its nest from found objects.' *Photo: Simon Parsons*

21. Peter Young, *Fuschia Cabinet*, Tasmanian myrtle, Qld silver ash veneer, 510 x 350 x 250mm

The door is veneered with a delicate marquetry pattern. The carcase, doors and drawer fronts are all gently curved. Hidden magnets keep the door closed and dropdown drawer stops prevent the doors from being pulled all the way out. *Photo: Andrew Porfyri*

22. Martin Jones, *Ikebana Cabinet*, American black walnut, American red oak, 760 x 470 x 175mm deep

'Japanese ikebana employs a minimalist approach that often highlights the linear qualities of stems and leaves in an asymmetrical balance that is fragile and yet dynamic.' *Photo: Greg Piper*

23. Matt Pearson, *The Veil* drinks cabinet, American walnut, 1100 h x 1080 x 590mm

'A personal exploration into depression, anxiety and the crutch that alcohol can be for some people.' *Photo: Matt Pearson*

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24. Julian Glencross McCartney, *Promontory* bar/liquor servery, Gippsland ash, celery top pine, granite, mild steel, leather, 1800 x 700 x 500mm

The Promontory bar is an oasis that invokes a sense of reflection, and the maker's response to the landscape and lighthouse at Wilson's Promontory, Victoria.
Photo: Keelan O'Hehir

25. Ross Williamson, *Betty*, standing note taking desk, Tasmanian blackwood, European maple, brass, kangaroo leather, 1070 x 720 x 305mm

'*Betty* is a contemporary version of a telephone table that offers modern design coupled with traditional joinery.'
Photo: Ross Williamson

26. Simon Hooper, *untitled*, screen, river sheoak, bamboo veneer, 1260 x 1360 x 400mm

A lightweight casual space divider for open plan living designed to be demountable with simple half lap joints bolted together. The feet are spline laminated and painted.
Photo: Michael Leadbeatter

27. Damien Wright, *Tread Lightly,* ancient redgum, Snowy Mountains walnut, King Billy pine, blackwood, sterling silver, 2400 x 450 x 750mm high

'I have made a sideboard with a "deep time" story of place and place making, of violence, ignorance, myopia, of great and abiding love of everything and nothing at all. The silver binding comes from a cross-cultural collaborative project, *Bala Ga Lilli* (Two Ways Learning), with Yolngu man

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Bonhula Yunupingu. It is about working together and learning from each other.' *Silver casting: Katherine Bowman, photo: Fred Kroh*

28. Douglas Maloney, *Aeris* liquor cabinet, American oak, copper, curly maple, ebony, glass, leather, 927 x 446 x 1840mm high

'I wanted to push boundaries and chose to experiment with copper purely for its natural beauty in its raw state and more so in its oxidised state. The interior is left natural for a theatrical effect when opening.' *Photo: Lisa Saad*

29. Shinobu Kobayashi, *Iki*, gateleg table, American white ash, walnut, bamboo cane 1200 x 800 x 760mm

Childhood memories of hide-and-seek brought on a lifelong appreciation of the internal details of furniture construction. Iki is Japanese for the hidden beauty that may only reveal itself, like a time capsule, to future generations of craftspeople. *Photos: Shinobu Kobayashi*

30. Peter Bollington, *Barion Sideboard*, American walnut, black filmface birch plywood, 1800 x 450 x 600mm high

'The facets can be interpreted as an abstracted landscape or cityscape depending on the viewer's own experiences and life journey.' *Photo: Peter Bollington*

31. Myles Gostelow, *Latitude*, Tasmanian myrtle, macadamia wood, 500 w x 450 d x 820mm high

'Latitude tells some of the story of my journey as a maker. It was designed in part as a homage to George Ingham, and also to my father. It references Cooktown where I grew up and Mt Tennent where I now live.' *Photo: Myles Gostelow*

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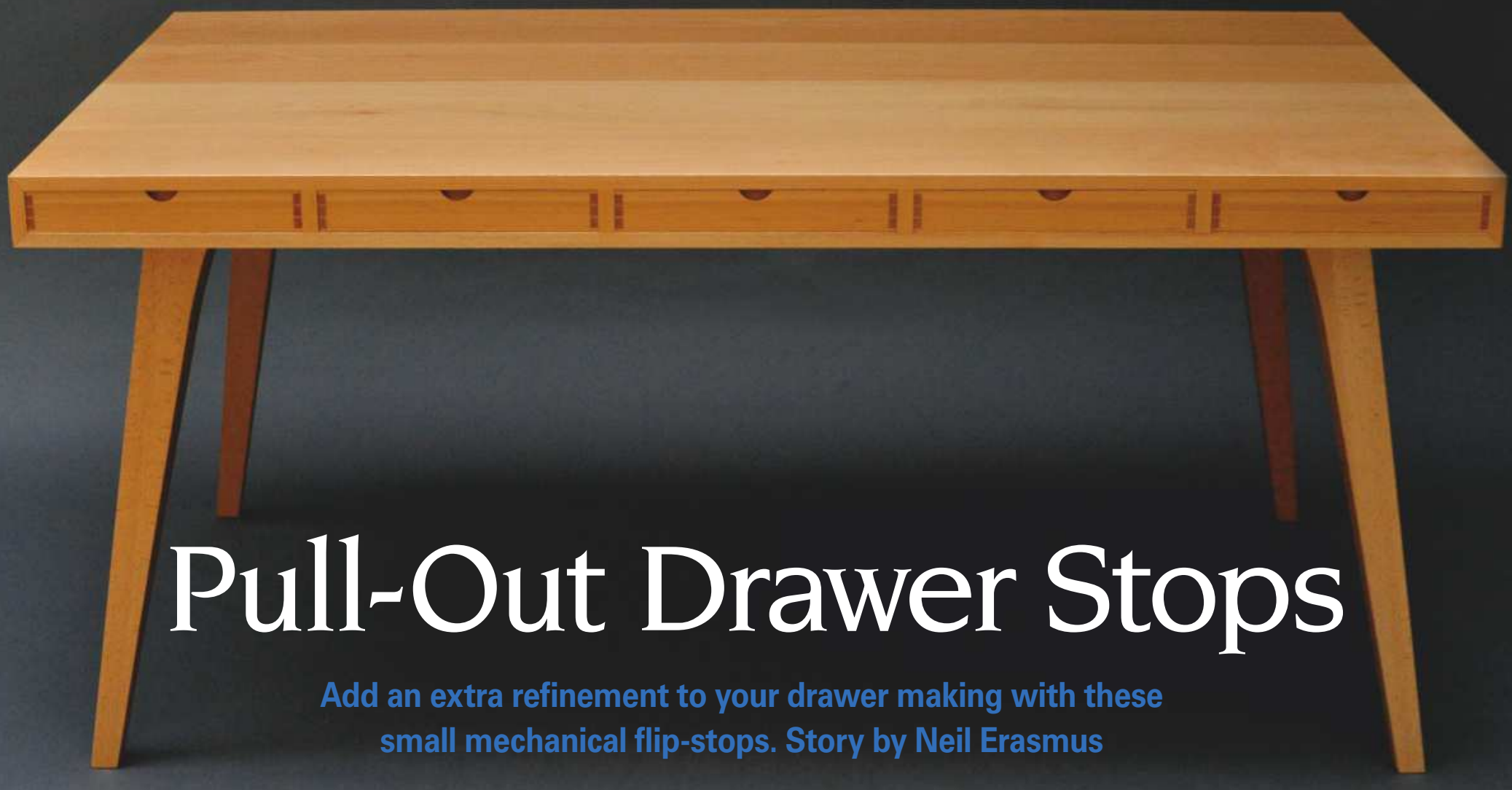
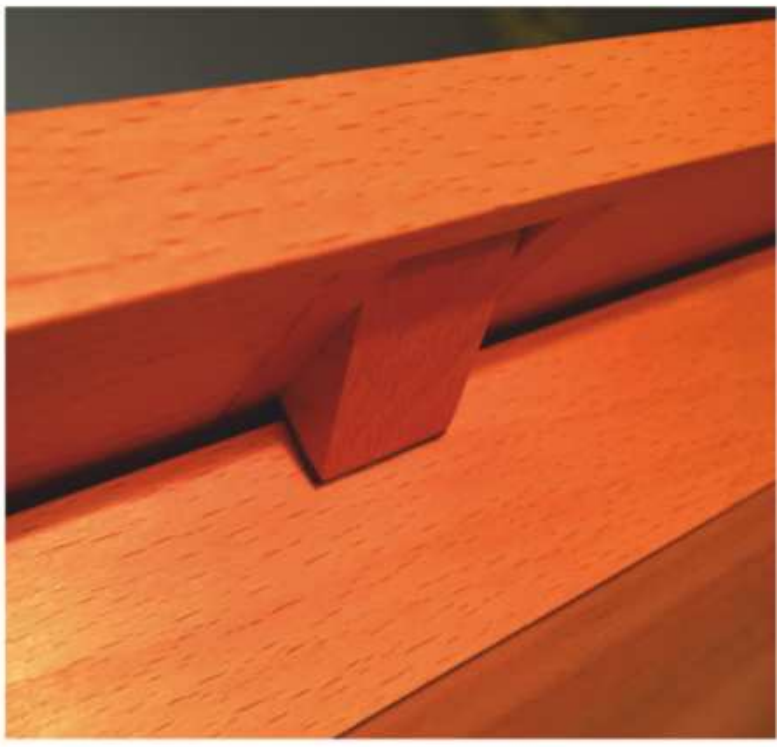


Pull-Out Drawer Stops

Add an extra refinement to your drawer making with these small mechanical flip-stops. Story by Neil Erasmus



It seems the debate amongst fine furniture makers about the best methods to stop drawers is as old as the one about drawer making itself. Often there is a tendency to invest more time in the quality of the drawer, and cut corners in the design and making of the stops. This story deals with a flip-stop mechanism that stops a drawer from being pulled all the way out.

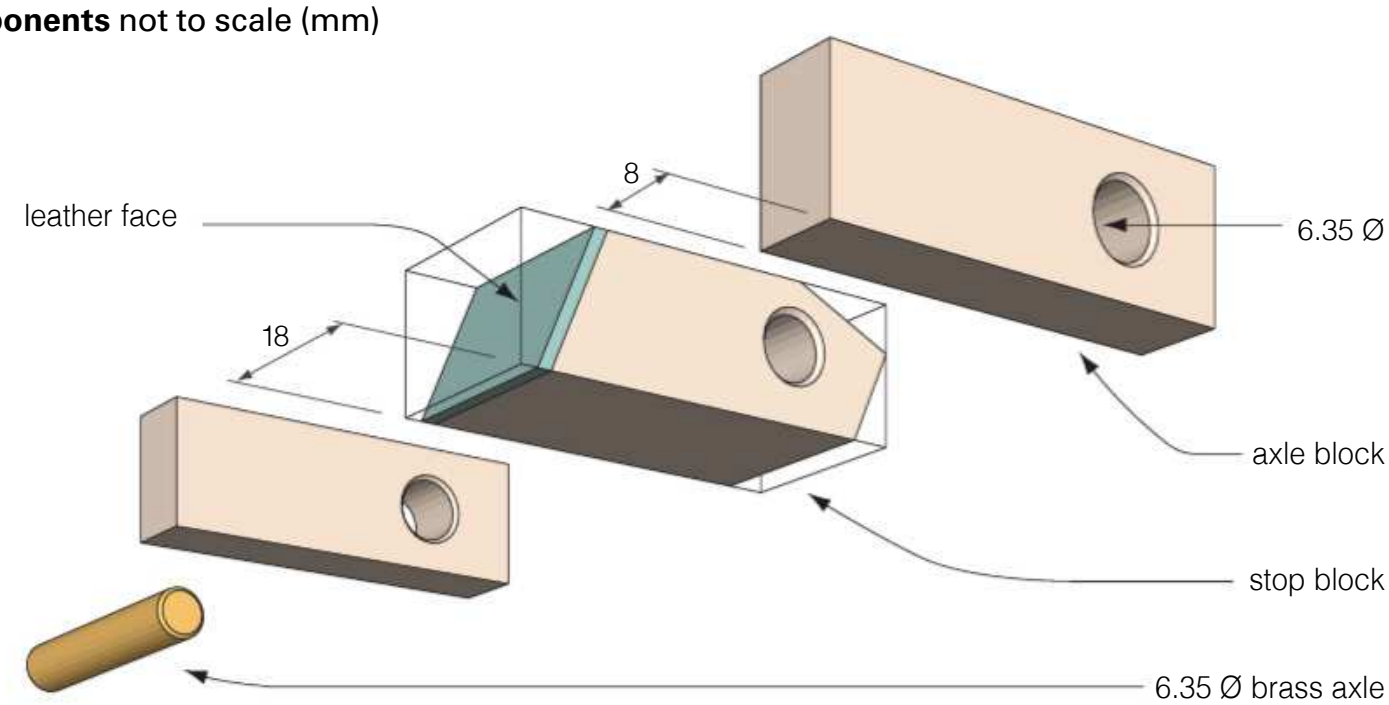
A drawer stop prevents a drawer from being pushed in beyond a certain point, while a pull-out stop prevents the drawer from being pulled right out. In my furniture practice I make two kinds of drawer stops and one pull-out stop. The latter is a relatively complex little device to make, which also allows the drawer to be removed easily when required.

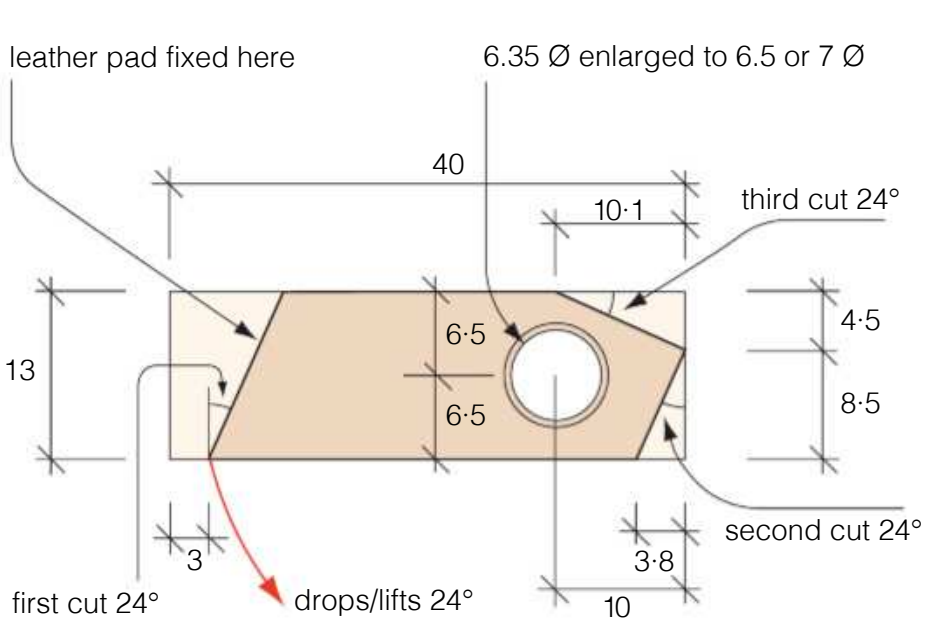
Every drawer must be stopped at some point within its carcase, while there are only certain times where a pull-out stop is a must, such as for big, heavy drawers, and very deep ones such as those I recently built for *Kathy's Desk*, shown above. Regardless of any need to have them, they are a nice feature in a fine piece.

Where they fit

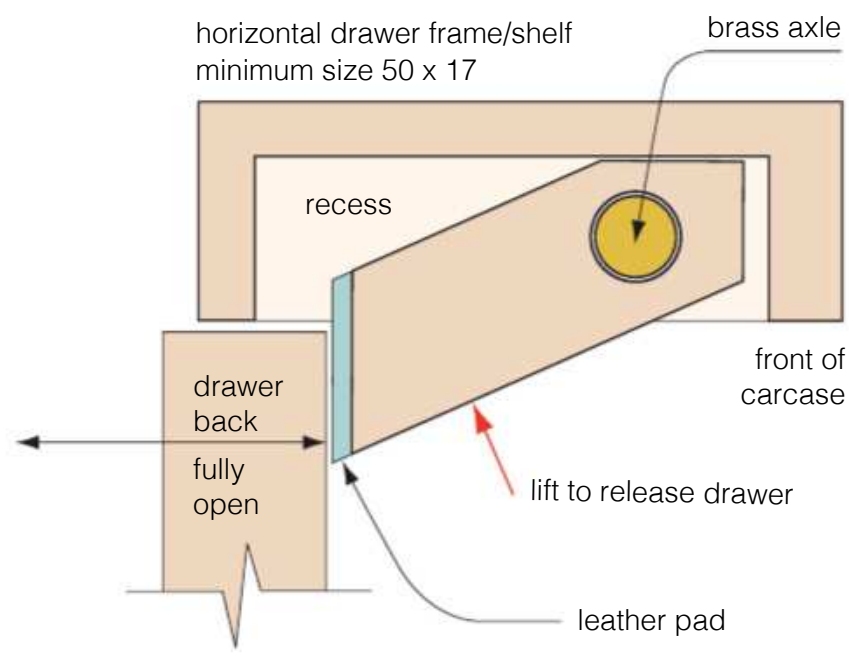
Unlike conventional drawer stops that are fitted to the carcase underneath the drawer, the pull-out stop is

Fig.1 Components not to scale (mm)



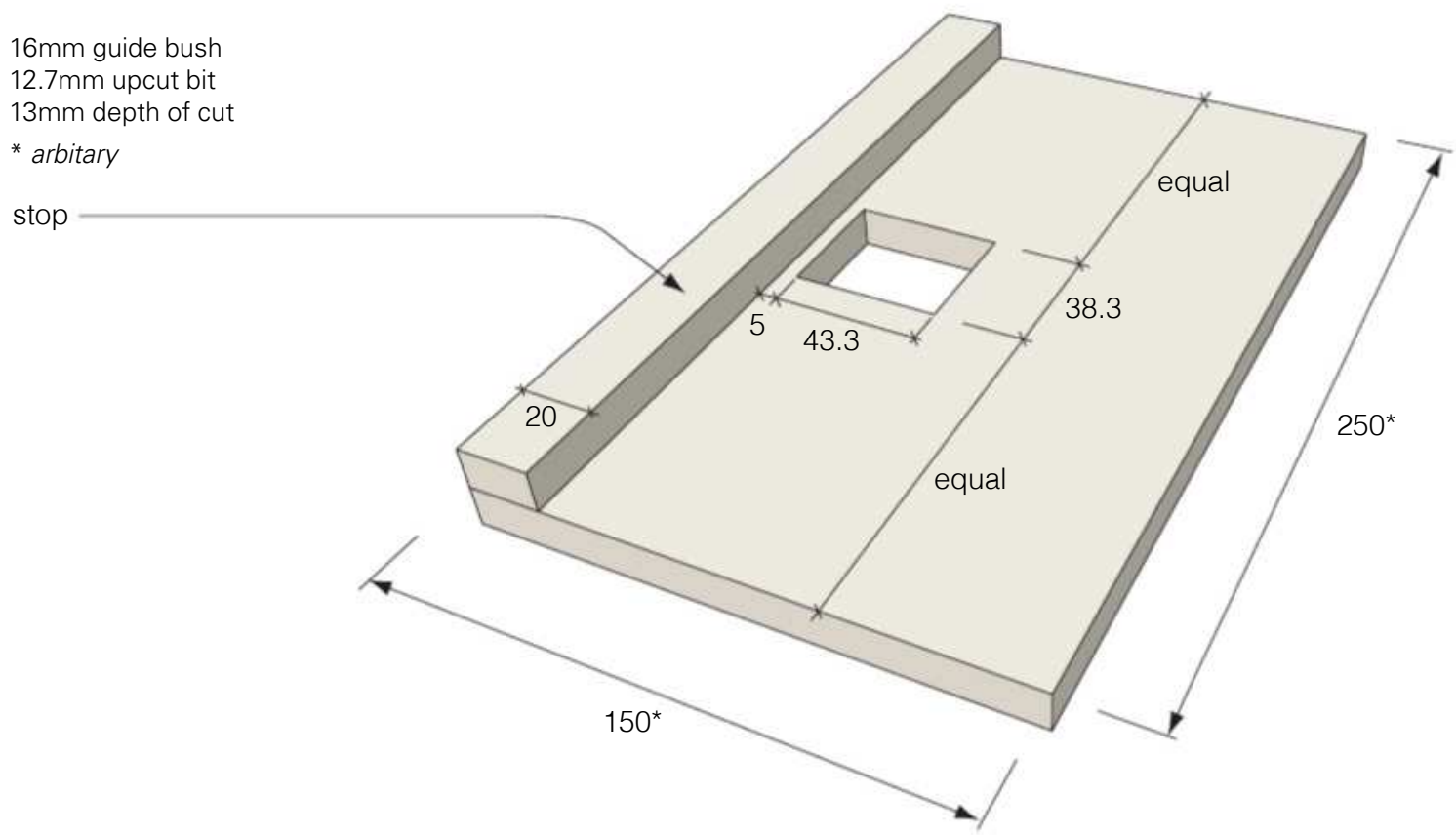


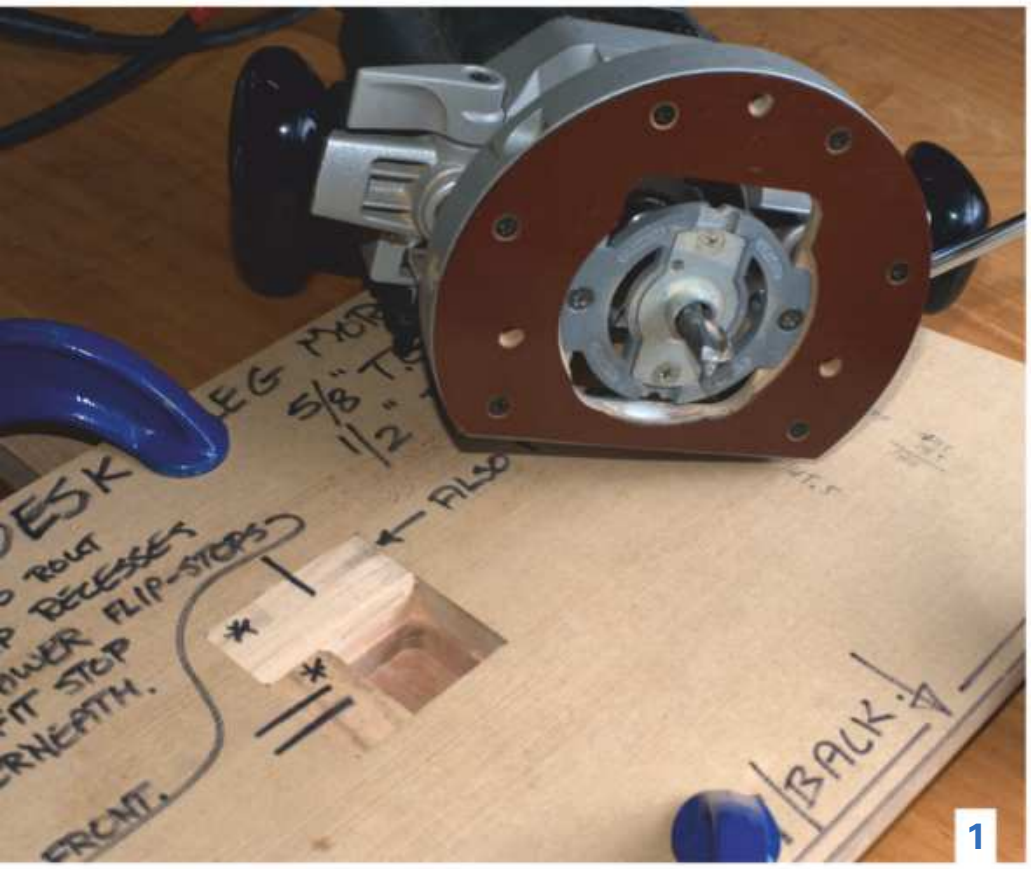
Stop block profile
not to scale (mm)



Section through assembly – down position
not to scale (mm)

Fig.2 Router jig underside – not to scale (mm)





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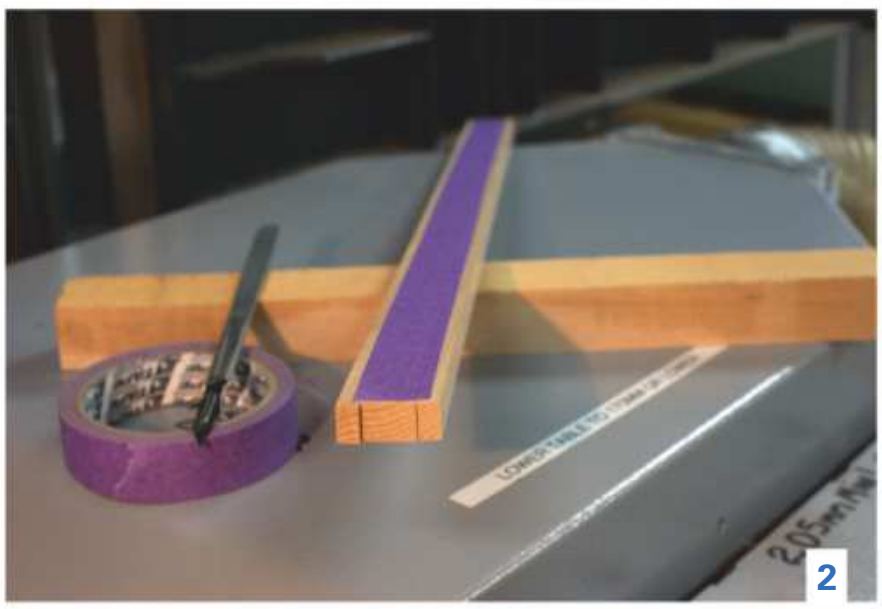
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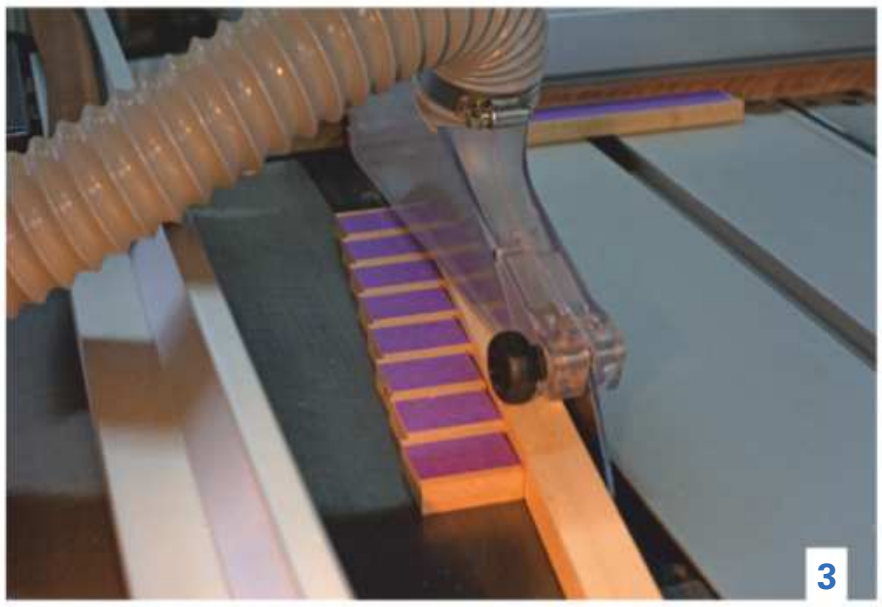
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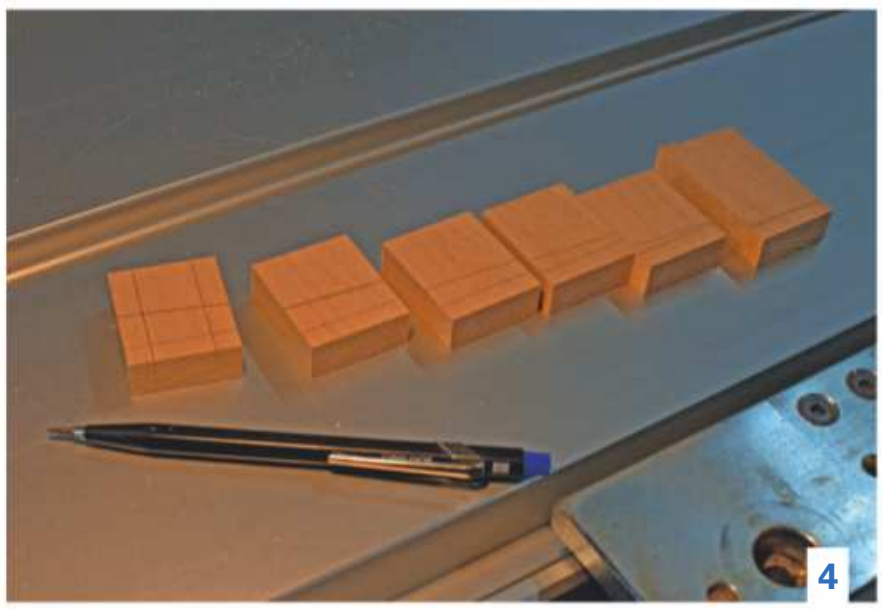
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mounted above the drawer and is designed to 'catch' the drawer at the inside of the drawer back.

In the case of *Kathy's Desk*, it stopped the drawer at the central drawer divider/back that helped conceal the space behind. It also serves as a safety device to prevent drawers from dropping on your feet.

Gravity keeps the leather-faced, pivoting stop mechanism facing downwards, but it can easily be lifted out of the way with a finger or two. The entire four-part stop (**fig.1**) fits in a shallow recess.

Make the recess first

The recess is excavated in the carcase before the cabinet is assembled. For small drawers, one centrally mounted device will do; for wider drawers you'll need two pull-out stops, one at each end.

A plunge-router is fitted with a 12.7mm upcut straight cutter and a 16mm guide bush, and the cutting depth is set to 13mm. I use an MDF jig that has a 43.3 x 38.3mm window for a 40 x 35mm stop (**photo 1**, **fig.2**). For this size, the piece of wood needs to be at least 50mm wide and 17mm thick. Once routed, the corners are neatly squared with a chisel.

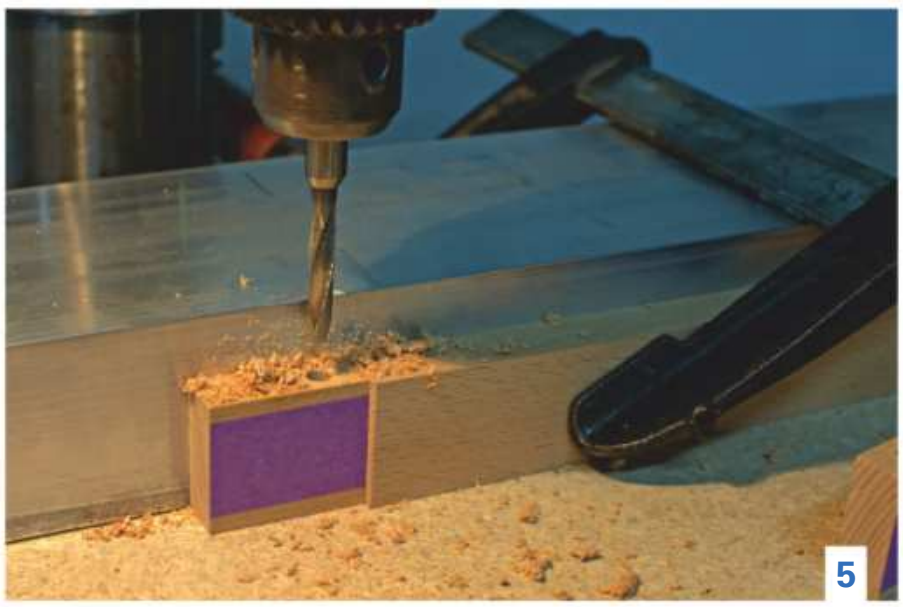
Making the stop

The drop-down drawer-stop pivots on a 6.35mm (1/4") brass axle between two narrow blocks which are glued into the recess. The geometry shown in **fig.1** allows the stop block to clear the recess housing and catch the drawer back at the correct angle.

1. Machine up sufficient lengths of wood to sections of 13 x 8mm for the axle blocks, and 18 x 13mm for the stop blocks. Add on at least 150mm of 'holdable' waste so these lengths are safer to machine.

2. To cut to length, set up the tablesaw with an auxiliary rip fence whose end is clear of the blade, or retract the existing rip fence, and set it to cut 40mm. Also, bring the

1. A plunge-router and an MDF jig are used to create a cavity for the pull-out stop.
2. Tape the stop and axle block lengths together with the stop block in the middle.
3. Cross-cut these lengths into 40mm pieces. Leave them taped – each set is a unit.
4. Mark a triangle in pencil on the other side to keep track of their order.
5. Drill through all with a 1/4" brad-point bit.
6. Leave the tape on and fold in the axle blocks. Open up the holes in the stop blocks to 6.5 to 7mm, using the same set-up on the drill press.
7. Tilt the sawblade to 24°, and set the cross-cut fence to cut the stops to 37mm long on the long axis.
8. Be sure to use a hold-down stick like the one shown for small pieces such as these.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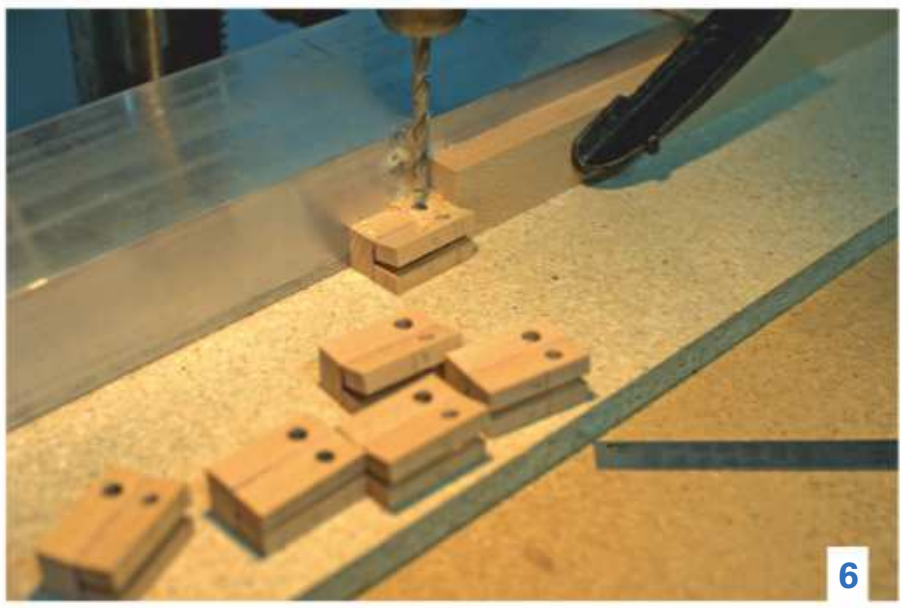
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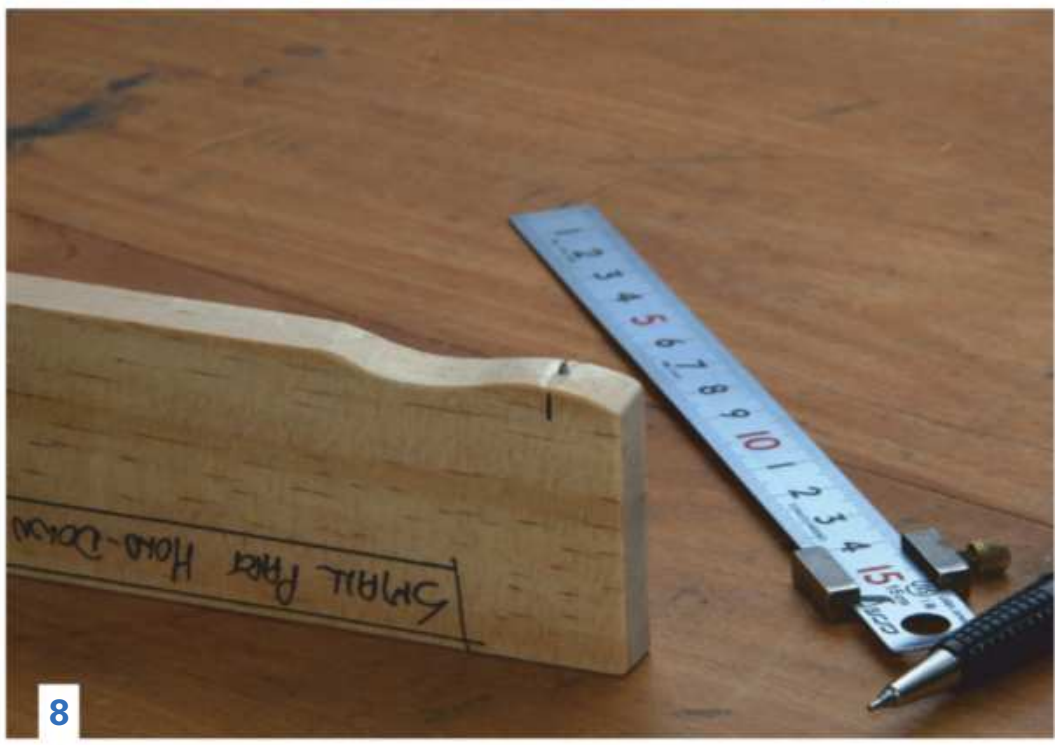
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cross-cut fence within a few millimetres of the blade for maximum support.

3. Tape the stop and axle block lengths together with the stop block in the middle (**photo 2**). Cross-cut each assembly to 40mm, leaving them taped together – they must remain a set (**photo 3**), so a triangle mark in pencil on the other side will help once the tape has been removed (**photo 4**). Let's call this our reference face.

4. Next, set up the drill press with a 1/4" or 6.35mm brad-point bit to drill through the entire face of each assembly (**photo 5**). A back fence and end stop block are essential to line the bit up with the hole centre which is in the middle and 10mm from one end. Reference face against the back fence.

5. Now, leaving the tape on, fold the outer axle blocks out of the way, and open up the stop block holes only to 6.5 or even 7.0mm using the same drill press set-up (**photo 6**). Again, reference face against the back fence. A tiny countersink on all holes cleans them up nicely.

6. By rotating the stop block through 24°, and cutting the stop end at the same angle, together with a relief cut above it to clear the bottom of the recess, it can drop down into the drawer space by around 10mm. This is more than enough to 'catch' the drawer back, provided it is positioned around 2 or 3mm down from the drawer side.

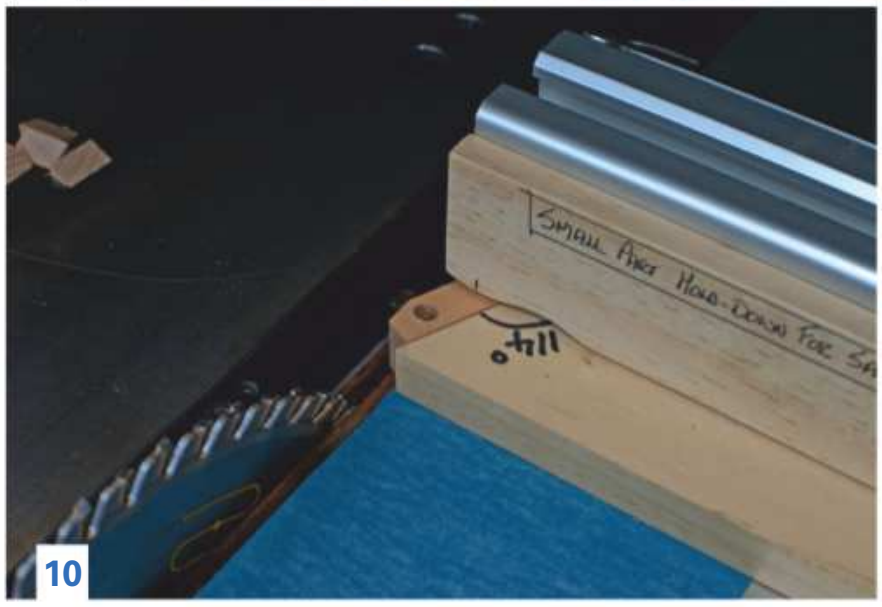
7. Now, tilt the sawblade to 24°, and set the cross-cut fence to cut the stops to 37mm long on the long axis (**photo 7**). Sandpaper on the cross-cut table gives added grip. I use a special safety hold-down stick fitted with a sharpened nail to hold these small pieces firmly down, *never use your fingers*! (**photo 8**). A piece of leather may now be attached to this angled end (**photo 9**).

8. Next stage is to mark out for the two cuts at the other, hole end. Check the dimensions on **fig.1**. As before, these small cuts are safely executed with hold-downs that keep fingers at a safe distance. In **photo 10** an angled stick is used to rest the block against for the third and final cut. Cuts 1 and 2 are done with the blade tilted to 24°, while cut 3 is done with the cross-cut fence set at the same angle.

9. The last components to make are the axles. Brass bar is simply cut to a length of just under 35mm, and the ends deburred for easy assembly (**photo 11**).

Now, it's time to test the assembly in the recess to ensure that it all swivels easily with nothing more than gravity.


9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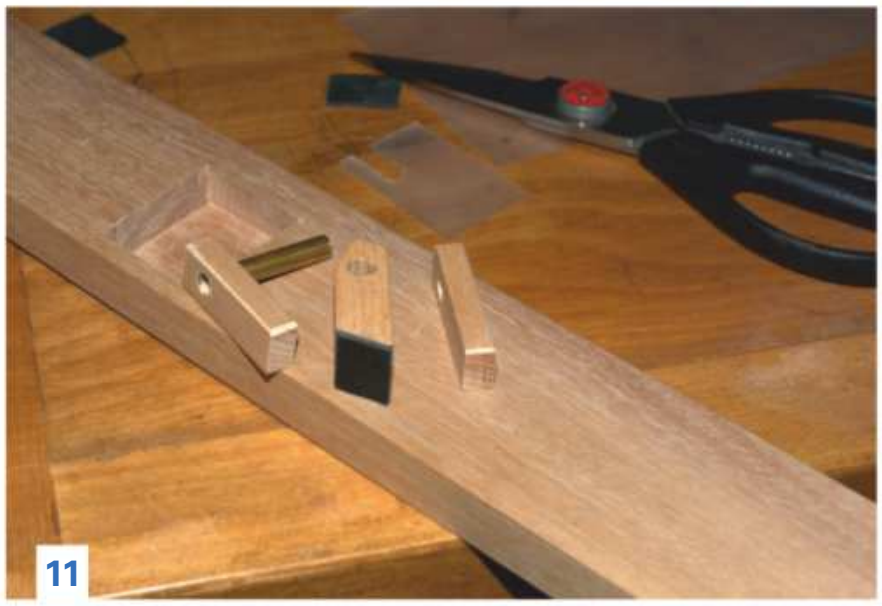
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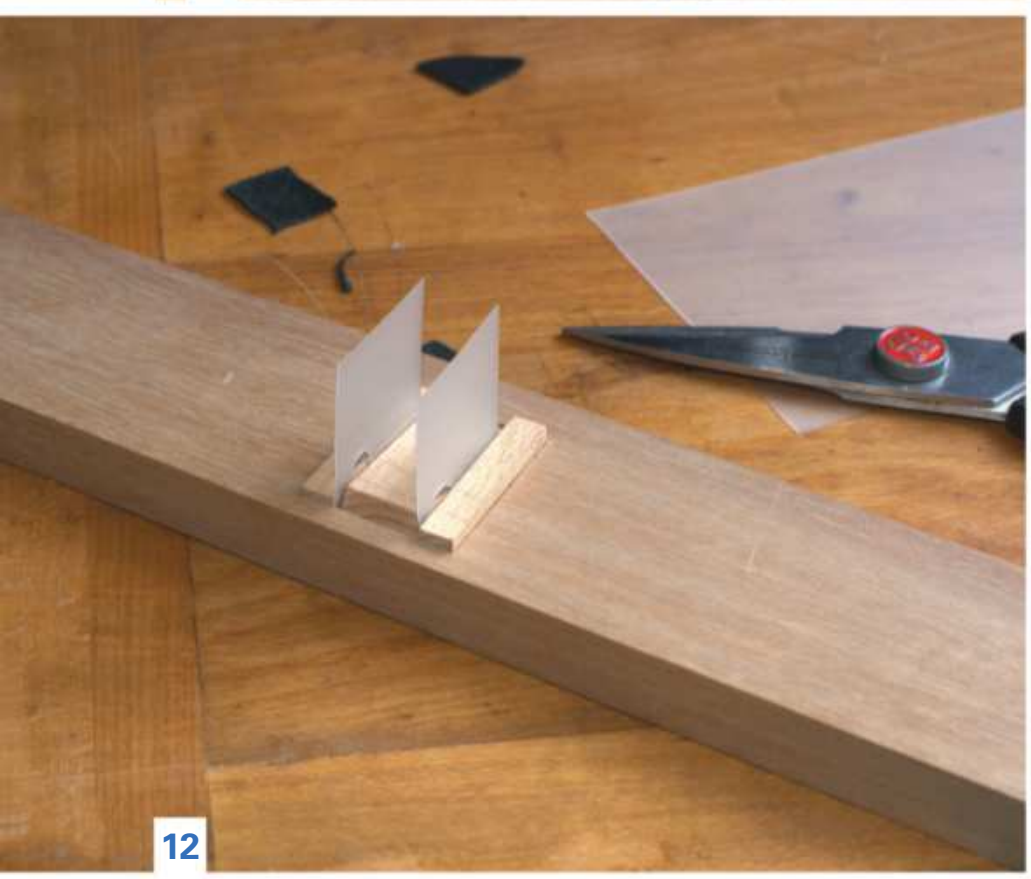
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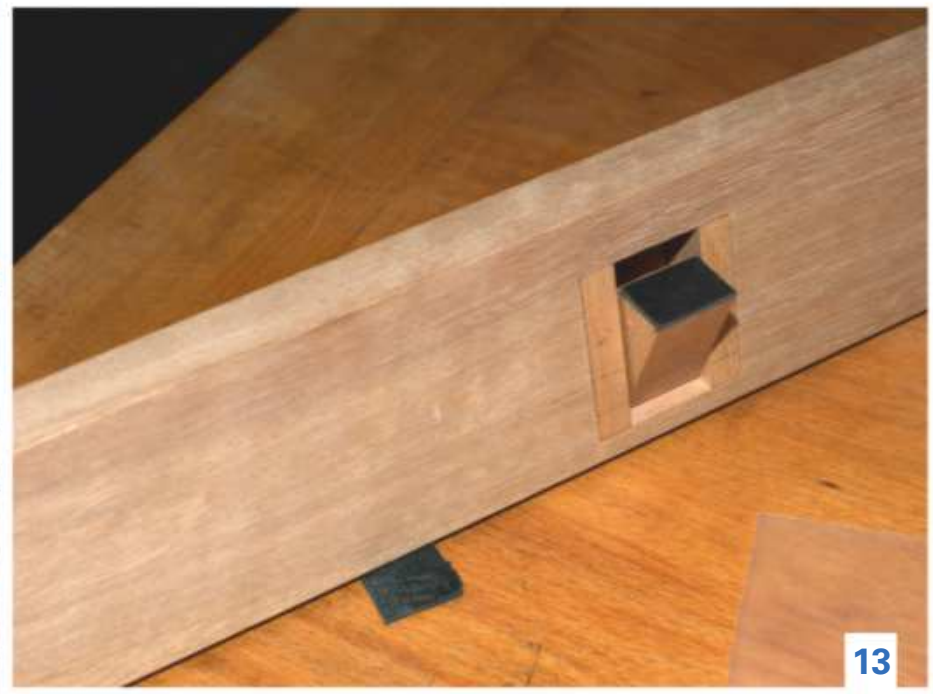
9. Leather is attached to the angled ends.
10. An angled stick is used to rest the block against for the third and final cut, also at 24°.
11. For the axle, brass bar is cut to just under 35mm lengths.
12. To create a small gap between the blocks 0.4mm plastic is used.
13. The pull-out stops fitted. Flush sand after the glue has dried.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The areas that can obstruct are the bevelled ends of the stop. A little fettling here and there with a small block and sandpaper may be required.

Once right, arris all corners slightly, and seal and wax. The axle blocks must also be treated this way, but mask off the face and edge that come in contact with the bottom and walls of the recess. A small gap must be allowed for between the blocks, so I use two pieces of 0.4mm plastic (**photo 12**).

Last, apply a small bead of glue along the bottom, outer corner of the recess, just enough to contact the bottom edges of the axle blocks, without creeping onto the stop block itself. Push the whole thing home and try to push the axle blocks to the outer edges to prevent them from pinching the stop block. Once the glue has dried flush sand (**photo 13**). Job done.

It often comes down to the little, neat details such as those described here that differentiates the highly valued, beautifully crafted piece from the ordinary one. They are a reminder of quality just like the reassuring sound made when a prestigious motor car door is closed. Quality lasts long after the effort to realise it has been forgotten.

Photos: Neil Erasmus
Diagrams: Graham Sands

Neil Erasmus is a furniture designer/maker in Perth, WA and also teaches woodwork. Email him at: erasmus@erasmusdesigns.com

Wrap Around Bookcase

Finger joints and contrasting timber are combined in an attractive and functional storage unit. Story by Graham Sands.

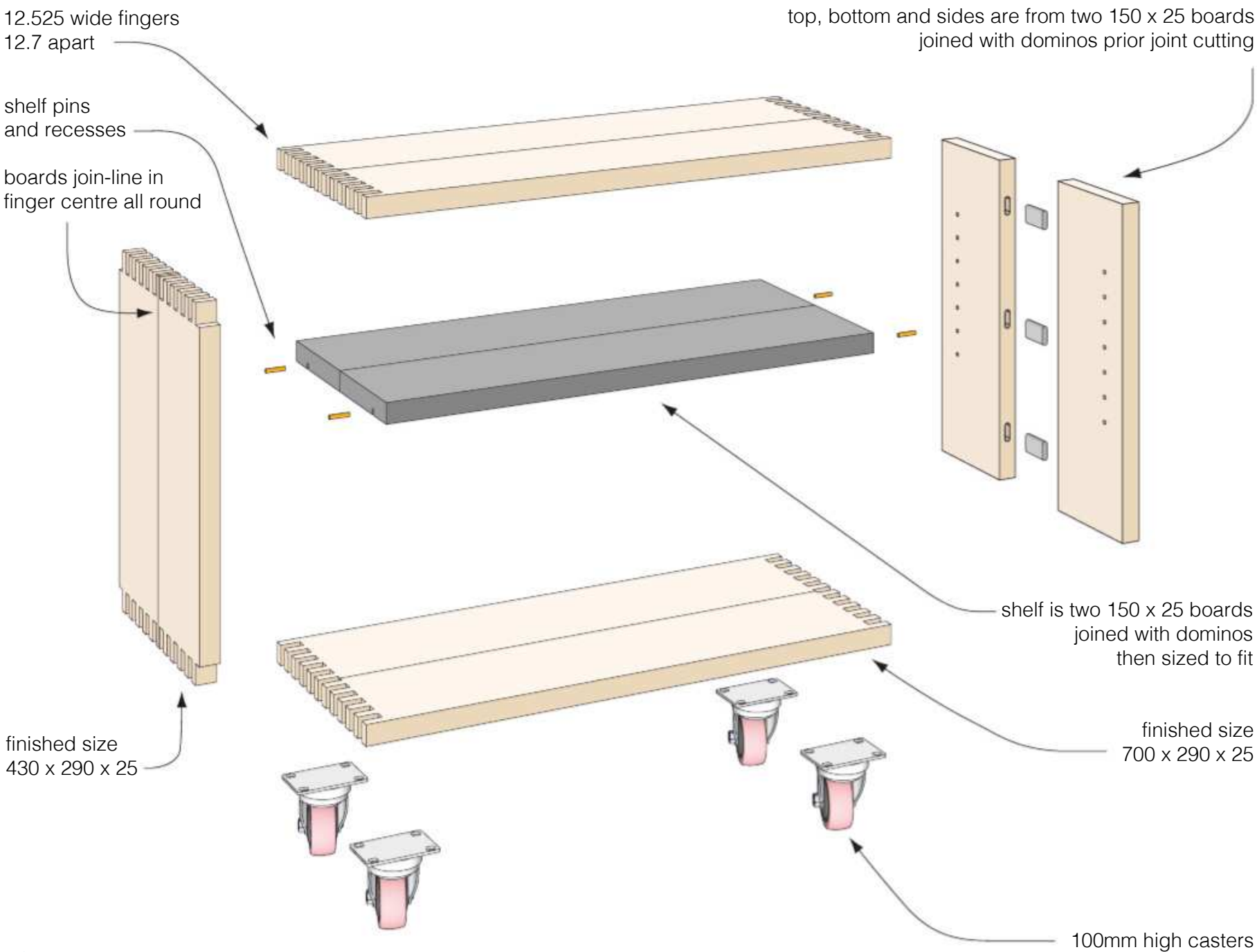

Fig 1 Components (mm)

1

1. Freshly cut test piece. Note the 12.7mm spiral up-cut bit fitted actually cuts down in table and set to cut 0.5mm longer fingers than board thickness.
2. Two dust extractors clear larger chips, one above and one below. Note clamps, sacrificial board and extra finger portion on the workpiece, which will be trimmed off when all joints are cut.
3. Final test pieced used as guide, from finger jointer start point 'reference', to make sure that board joint line falls in centre of central finger on piece to be jointed.

This bookcase is a 25mm thick 'wrap around' rectangle with no back. Its purpose is to hold large books in a lounge room. Figured wood and strong visible joints embellish the case. It has an adjustable 25mm shelf which is visually separate from the external frame, blending in with the books.

New Zealand rimu

Rimu (*Dacrydium cupressinum*) is an exceptionally beautiful timber which was used extensively here in New Zealand as a structural and finishing timber, much like jarrah (*Eucalyptus marginata*) in Western Australia. However, it has been protected now for many years and supplies for furniture making have become scarce.

I was lucky to source only six 900mm lengths of 30 x 150mm sawn heart rimu which had been in storage for twenty years. I would have liked to continue the grain around the frame, but with the short lengths this was not achievable. The shelf is wenge (*Millettia laurentii*) being the blackest timber I could source. All the boards were machined, matched and joined with dominos.

2

Joinery

This project was also a reason to tune up my Triton finger jointer after many years of lying idle. I used it on my workbench (*AWR#53*) and a frame for a set of drawers (*AWR#56*). The Triton RTA 300 router table and FJA 300 finger jointer are designed and made in Australia, were introduced in 2001 and are still available today.

The finger jointer comes complete with a special half inch diameter router bit which has segmented cutters so the chips are small and don't clog the extraction ducts.

To get the best quality cut achievable I used a tungsten carbide spiral up-cut bit (which actually cuts down on a router table) instead (**photo 1**). To clear the much larger chips I used two extractors: one clearing under the table and the other with a large diameter hose clearing above (**photo 2**).

I did multiple test cuts, each time adjusting the finger width using feeler gauges to get a gap free joint that I was happy with and could be fitted together without too much friction.

The jointer comes with a start point guide which offsets the mating boards so they can be cut together. The number of fingers for the joint is uneven so each end of the joint is the same and there is a central finger. I used the final test piece as a guide to determine the start point for each joint so the line between the two joined boards fell in the centre of the central finger (**photo 3**).

3

The stock was rip sawn to the start point and parallel to board join line. The stock was left a little wider than required for the 23 fingers to be cut and trimmed to the last required finger after making the joints. The jointer can accept two sets of joints at once (four 25mm pieces) however I just did one joint at a time to ease chip extraction, and not a skerrick remained after each pass.

Following the jointer instructions I set the bit height for a 0.5mm longer finger than the thickness of the boards. I taped all surfaces of the joint area and added a sacrificial board at the end of the cut to prevent tear-out (**photo 2**).

The glue-up

The two bottom joints were glued separately, then together with the top. To get even pressure to pull all the fingers tightly together in two 90° directions (unlike dovetails) and to allow room for positioning the clamps I used curved cauls longer than the joint (**photos 4, 5**).

Segments of 2mm plastic, to which glue doesn't adhere, were taped to each finger as well as a strip on the caul to concentrate the pressure on the finger sides (**photo 5**). After glue-up the finger ends sanded flush easily using a sander fitted with a hard backing disk (**photo 6**). This is the 'reveal' moment where you are thrilled with a gap free joint. I really like the pattern of endgrain and long grain alternating in equal amounts along the sides of the joint!

Fitting the shelf

The inside faces of the sides of the bookcase were drilled to fit 3/16" dia pins which I cut from some spare brass rod. One set of holes is positioned so the shelf sits half way up. The holes are 40mm from the sides and at 32mm centres vertically.

The shelf has corresponding slots cut underneath with a guided router and stop (**photo 7**). This is an idea borrowed from Ikea's *Billy* bookcase. It locks the shelf in position, and leaves the underside of the shelf free of protrusions so


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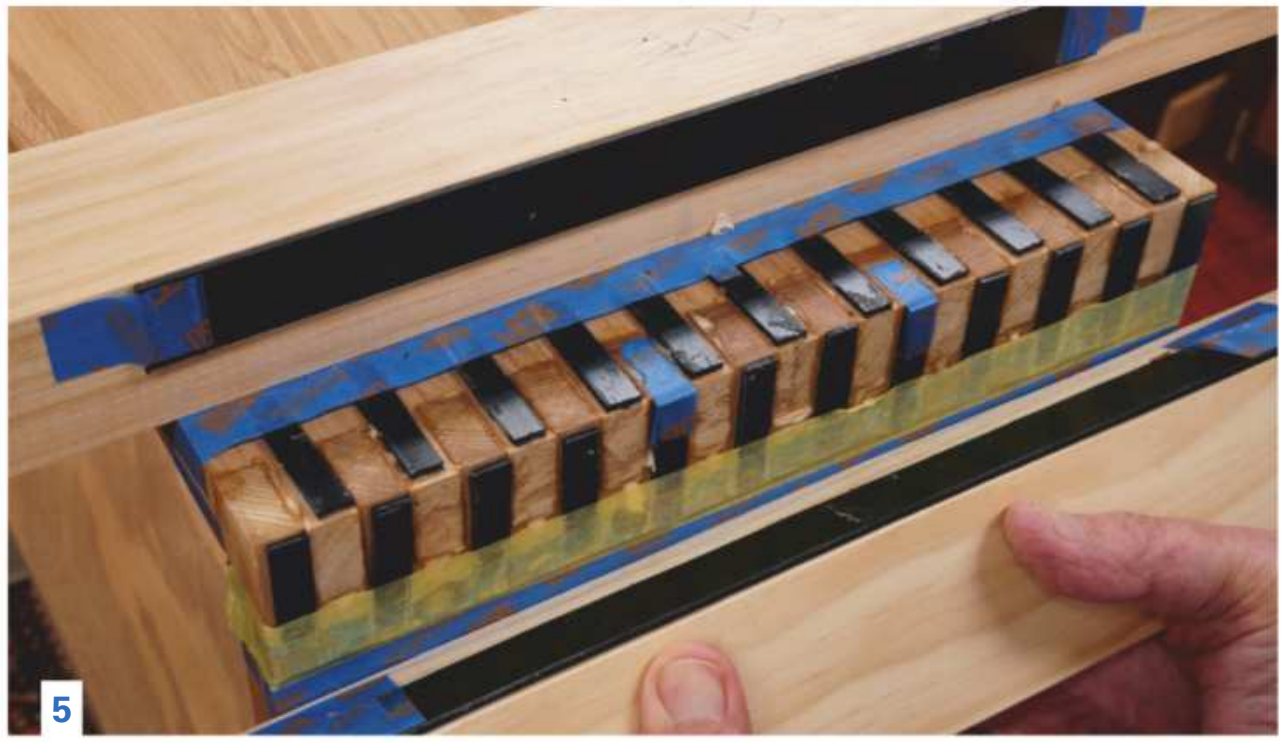
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4. Glue-up. Clamping in two directions on each of two joints. Four long curved cauls enable clamp bars to run beside each other. Only the very corners can be seen while clamped, so a dry test is important.

5. Pieces of 2mm thick plastic were taped to each finger side. Plastic strips are also taped to the cauls to apply pressure only to finger sides.

6. The 0.5mm protruding finger ends are easily sanded flush. This is when you find out if the joint has pulled together.

7. A router on a guide rail with a stop fitted is used to cut a recess for the shelf pins.


6


7

books can be stacked up without catching. Instead of brass rod you can pull the 5mm steel pins out of Hafele shelf supports and drill 5mm dia holes.

Guide lines are marked on the shelf while fitting so the edges can be trimmed flush to the sides of the case. Red tyre casters give a 'design magazine pop' to the piece which was professionally finished.

Photos and illustration: Graham Sands

Graham Sands is AWR's illustrator and a keen woodworker who has written several stories for the magazine. He lives in Titirangi, New Zealand. Email: gsands@iinet.net.au

Making More of Design

At Wood Review's live event in August, 2018 Adam Markowitz discussed how woodworkers need to pay more attention to the design side of woodworking.

In the great pantheon of woodworkers, from Nakashima and Krenov to contemporaries such as Brian Boggs and David Upfill-Brown, you consistently find most belong to a particular type of woodworker, which we've come to refer to as a 'designer maker'. This captures the essence of what has drawn me into the field. You're both – you design, and you make.

And yet when woodworkers come to both the study and practice of their craft, their efforts lie almost exclusively on the maker side of the split.

When you think of a Maloof chair or a Krenov cabinet – it isn't purely the workmanship you are thinking of. It is the lines of the piece, the relationship between the parts, a unifying language in the way parts meet or the way a particular joint has been expressed. It is the relationship between the case of a Krenov cabinet and its legs. It's his contemplative compositions of the interior of the cases. It is the disjunct between Nakashima's live edge top with his considered, highly orthogonal bases. No doubt it is also the way these have each been crafted, but without the design element, the work is anonymous.

For many woodworkers, design is seen as this sort of 'magic' that you either have or you don't. As a result, many woodworkers produce the most incredibly crafted yet rudimentarily designed pieces. How can we get past this? Here are some key points.

1. To be a designer/maker you need to focus on both parts of that phrase equally

Most woodworkers can name their top five makers…but naming the top five designers is not, I've noticed, so easy for most.

Why is it, as designer makers we'll spend hours on YouTube how-to videos, or go to masterclasses learning how to do a particular skill, why will we discuss to death whether to cut tails or pins first or whether micro bevels actually do anything, but we don't spend the same amount of time learning design skills?

If you see becoming a studio woodworker as a goal, you should be spending as much time learning how to design as you should be spending learning how to make.

For me it is a shame that the furniture design world has become dominated by fast fashion and the designer who draws but cannot make. As designer maker woodworkers, we have the advantage of intimately knowing our medium and our process. I would like to see designer makers gain greater skill and confidence in their ability to design, so that we can retake the conversation about what is a good piece of furniture and why.

2. Design is not divine inspiration, it is a skill that can be learnt and developed

As someone who has been taught to design, and someone who teaches design, I can assure you that design is not mystical. It is a skill that can be taught, just as cutting to a line with a handsaw can be taught. Yes, some people are innately good at it, but everyone can learn how to do it with time, focus, application and an open mind.

Students in their first year of design school have no clue but are hungry to learn. I really think that's the only difference. The same students after five years will be trained design professionals. The difference between the start and the end is like primary school and university. Over those five years they don't teach you how to better commune with the gods to access all the good ideas. They teach you how to design.

Opposite page main: Jonathan West's *Kamaji* sideboard in white oak and Tasmanian blackwood is part of the AWR Studio Furniture 2018 exhibition (see p.48). *Photo: Shauna Greyerbiehl*

Opposite page bottom: *Settlers Chair* by Jon Goulder, another woodworker who manages to straddle the furniture design worlds. *Photo: Grant Hancock*

Below: Now a classic design, rocker by Sam Maloof. *Photo: Steve Scudder*

3. Ways to start to honing your skills as a designer

Design school methodology generally involves a study in design history. Most contemporary woodworkers work with some elements of the modernist school of design in their work but very few will know anything about the Bauhaus, for example. It's sort of like starting a rock and roll band but never having heard The Rolling Stones. Or Robert Johnson.

If you're practising as a contemporary designer, you should have a working knowledge of the history of the Modernist design movement, and of its luminaries such as Mies van der Rohe, Alvar Aalto and others.

The critical thing in studying the history of design is to cast your net wide. Most woodworkers, and anyone who takes their chair design reasonably seriously, will be conversant with a range of chair designers. You may know the names of Finn Juhl, or Grant Featherston or Hans Wegner but what about the key figures in jewellery design, typography or graphic design? These designers are speaking the same language. Their tools are different, but when Nakashima was making his furniture, he was not working in isolation. He was part of a school of thought that was drawing inspiration from a whole host of other disciplines. The point is, follow your contemporaries but study other fields too.

One of the main focuses of design training is to learn how to talk with the language of design. To start to consider and understand how elements within a design relate and why.

An analogy is composing a piece of music. You have a melody which is perhaps your main line of thought, which might be sung or played out on a guitar, but it is supported by a specific drum riff or a bass line. If you change these up the whole song changes. Bob Dylan was almost strung up for electrifying the same songs! Each part is considered in relation to the other parts – there is a reason why the parts are composed one way and not another. The same applies for a piece of furniture. Every decision you make, from the joints to the edge treatment, to the choice of finish, needs to relate to a conceptual process that is driving the entire design.

Learning how to develop a consistent conceptual methodology that unifies your design approach is a skill that is honed over time.

4. Learn to give and receive critiques and feedback

Another critical element of design teaching is the idea of critiques. In a design school you are subjected to continual review, in a formal setting, whether by your peers or by your tutors.

Usually once a week you will trundle in with your design, and be given

some guidance and feedback. At certain points in the semester, guest critics will be brought in for a formal presentation and review.

The feedback can be savage. I've seen plenty of students on the verge of tears. Some critics don't hold back. I've let rip before – generally when I see a lack of application rather then poor decision making. The point is not to destroy the student's design but teach them to be self critical, self reflective and also to trust their judgement, and learn to defend it.

My favourite thing to happen as a teacher of design is when a student listens to my advice, digests it, thinks about it, but then decides to follow their own path. As a result they will have far more ownership of the outcome and often come up with something even better. That's a success.

I would encourage you to not design in a vacuum, but arrange an evening or an afternoon with some of your peers who you respect to have some beers and hammer out your designs. It's one of the advantages of being in a shared space. It's very easy to get convinced by your own bullshit when it's midnight and you're by yourself running on coffee and music.

If you're part of a crit session – don't say something is amazing if you genuinely don't think so. We can be very encouraging and positive as woodworkers, which is great – but sometimes I think this can hold us back as a design community. There's a lot of well-made ugly things out there. But be constructive in your feedback. Say why. Often formulating an intelligent explanation of why you don't like something is as insightful for your own development as it is for the person receiving the feedback.

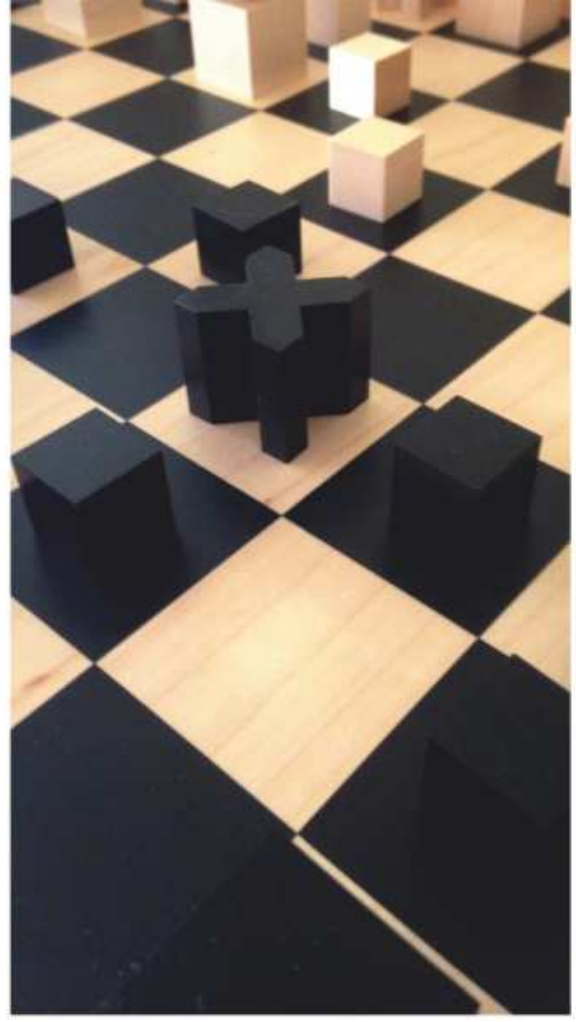
As someone receiving feedback, don't take the criticisms personally. It's easy to get defensive. If the person giving feedback really didn't care, they would just say 'it's great' and move on, as that's the path of least resistance. That's what most of us do. And like the example with the student, sometimes the best response is to consider the feedback, and then not agree with it. That's okay too.

I find it better if feedback sessions are one-on-one or in a small group, as people aren't grandstanding, they're being honest. This is not an encouragement for you to go on someone's Instagram feed and tell them their design is rubbish. The feedback has to be requested.

Learning to be better designers as well as makers is something we all can do by following certain processes, much as we do to learn basic techniques and skills for making.

AWR L!VE talks by Adam Markowitz, Helmut Lueckenhausen, Laura McCusker, Roy Schack and Ben Percy are now available on Vimeo, see https://vimeo.com/ondemand/woodreviewlive

Adam Markowitz is a designer maker in Melbourne and was profiled in AWR#98. Contact him via www.markowitzdesign.com or Instagram @markowitzdesign



Left: The chess set designed by Josef Hardwig whilst he was at the Bauhaus in 1924 is a perfect example of a consistent design that has cast off the idea of ornately carved knights and castles and looks to a more contemporary expression of the pieces and the way they relate to each other.

Opposite, from top: David Upfill-Brown's *Amatory Chairs* reflect this designer maker's sculptural approach.

Adam Markowitz's *Hanging Studio Table* was designed to reflect and harmonise with its surrounds and fulfill a function as a meeting table for large and smaller groups of people.

An Exercise in Design

When I was at the Royal Academy in Denmark I was asked to design a chess set. This is a great exercise you can set yourself with the following criteria:

- The board has an 8 x 8 grid with each square differentiated from its neighbour.

- Six different pieces need to be differentiated from each other.

- You need to differentiate between your pieces and your opponents pieces.

- And yet, the whole thing needs to work together as a 'chess set'.

This excercise distills many of the core ideas you're faced with when designing furniture. You might be resolving the intersection between a crest rail and the frame, but that detail needs to be conversing with your entire idea of 'what is this chair about'.

A key point here is the idea of a conceptual whole, influencing your decision making throughout the design process. Having a genius idea is really only a fraction of the work in design. The rest is in the fine resolution which is not a series of further moments of inspiration, but rather an uphill slog of considered and reflective decision making. It is hard work.

The best designers are not the ones that come up with the million dollar idea, but the ones that can take that idea and then refine it to a point where you look at it and say – no more can be added or taken away.

The Kiso Experience

Yu Ting Tan writes about the intensive study course she undertook with Shinobu Kobayashi in Japan this year.

I've always had a fascination for Japanese style woodworking. When the opportunity arose to participate in a week long course in Kiso, Nagano Prefecture, Japan, I pounced like a ninja. The course, organised by Australian based Japanese craftsman, Shinobu Kobayashi*, focused on setting up three Japanese hand planes (*kanna*) – a main kanna, a scraper kanna and and compass kanna. These were then used to shape the handle of our Japanese hammer (*genno*) handle.

Eight international students (Australians, Swedish, German, Danish, American, Polish and one Singaporean) travelled to Kiso with one purpose in mind – to learn how to properly set up a Japanese kanna. We ended up with more than that, sharing stories and experiences from our own cultures.

Getting to Japan was fairly easy for most of us, but getting to Kiso was a challenge for all during the Japanese typhoon season. Our individual stories of getting to the school provided a wonderful ice-breaker and before long, we felt like we'd known each other for ages.

Like all Japanese hand tools, the kanna does not work properly straight out of the box. The journey of the kanna starts with the maker of the *dai* (the wooden body of the kanna). The dai maker prepares the Japanese oak (*kashi*) and cuts the mortise that the

Clockwise from main: Shinobu Kobashi welcomes and briefs the eight people who came to Japan to learn about preparing and using Japanese kanna. Front row, left to right: Laura McCusker, Piotr Domanski, Johanna Metsalo, Peter Wu. Rear, left to right: Daniel Love, Jonathan Hurst, Yu Ting Tan, Jacob Mortensen.

Each student's place was marked with a kit of the tools and equipment they would use throughout the course.

A display of different Japanese kanna.

Information, question and answer session.

Photos: Yuko Morita

Top to bottom: Finally shavings – the fettled kanna are used to plane handles for genno (hammers). *Photo: Yuko Morita*

Genno hammer heads and components to be shaped and fitted. *Photo: Yuko Morita*

Shin-sensei takes a shaving. *Photo: Masaharu Maruta*

blade fits into. The dai then travels to the forge where the blacksmith makes the blade and chipbreaker specific for that dai. As is the case for many traditional Japanese tools, the end user, the craftsperson, is responsible for the final fettling.

We spent the first two days preparing the blade and chipbreaker for the main kanna. This involved flattening the back by peining and lapping on a steel plate with silicon carbide powder and polishing with aluminium oxide powder. Once flattened, careful to preserve the *ura* (the hollow on the back of the blade) we sharpened the edge and carefully ground out the peining marks on the bevel.

Two days might seem a long time to achieve the level of finish we achieved, but in reality, once done, the only thing needed going forward is to sharpen the edge. It was a lesson well learnt. We each progressed at our own pace, making sure to really understand the process of flattening the blade, what to look out for and what to do

to achieve a flat surface. After really understanding this, preparing the other blades went much faster.

Next up in the process was to condition the dai, to make sure the blade sits nice and flat against the back of the mortise and to flatten the base of the dai. As it happens, Japanese woodworkers would often have a few of the same sized kannas. They customise the sole of each one to perform a specific task, for example, smoothing or jointing.

After flattening the base of the dai slightly on some sandpaper, we used a scraper plane and further conditioned the base of our kannas into a three contact kanna suitable for general work. The contact points are 1: at the heel, 2: just in front of the cutting edge and 3: at the toe of the dai. If we were setting up as a smoothing plane, then two contact points only would be needed; directly in front of the cutting edge and on the toe.

With the blade razor sharp and the dai conditioned, it's time to take the first shaving. Working on a Japanese style floor workbench, we kneeled on cushions as we took our first shaving on a piece of locally grown *hinoki* (Japanese cypress). The feeling of taking that first shaving after spending days working on getting a nice sharp blade and a properly conditioned dai was something that cannot be described, it had to be experienced.

With our kannas all set up nicely, we spent the last day and a half practising to use them, by creating and shaping the genno handle.

After five days of setting up and using our newly tuned kannas, the sixth day, test day, was upon us. We were given just half an hour to sharpen our blades and re-condition the dai in preparation for the test – to achieve a full length, full width shaving with our main dai. Only three chances were given to each student. With our blades and chipbreakers out of the dai, we waited

Top to bottom: Piotr Domanski sets the blade with a few hammer taps. *Photo: Yuko Morita*

Piotr Domanski and Yu Ting Tan at their sharpening stations. *Photo: Masaharu Maruta*

Australian Dan Love undergoes the final test – attempting to produce one continuous unbroken shaving with the plane he has prepared. *Photo: Yuko Morita*

Clockwise from right: The blade backs are peined flat. *Photo: Yuko Morita*

Shin-sensei checks Peter Wu's blade. *Photo: Masaharu Maruta*

Students received a certificate at the end of the course. *Photo: Masaharu Maruta*

with nervous anticipation as we watched each of our fellow students being put under the spotlight.

When my name was called, I replied with an assertive *hai* (yes) as I stood up and presented Shin-sensei with my blade, chipbreaker and dai. He inspected my blade and chipbreaker before returning them to me, asking me to present the skills I've acquired over the course. I tapped my blade and chipbreaker into my dai and adjusted them to what I thought would be a nice thickness shaving.

I placed my kanna on the hinoki board, and the moment my blade started cutting, I knew that it would definitely be a full length, full width shaving as I could hear just how much blade was exposed. I continued with taking the shaving as it was the first of my three chances to impress sensei. The shaving was nice and thick – 'like a veneer' as Shin-sensei exclaimed, the aroma of the freshly planed hinoki filling the room. Everyone laughed while I re-adjusted my blade for next shaving, hoping to get a thinner one.

Like anything, practice makes perfect. Even though not everyone managed to get nice shavings during the test, the knowledge that we acquired over the previous five days was sufficient for us to continue honing our skills back in our own workshops.

Whilst the process of preparing the kanna took days and each of us spent hours with our own blade, chipbreaker and dai, I like to think the Japanese toolmakers left the tools for the woodworker to 'finish' so as to give the woodworker time to bond and get to know the tool that they will be using for life. It becomes something personal as you know everything about it – for example – just how many taps it takes to get the blade in the perfect position.

I feel really lucky to be given the opportunity to learn from Shinobu Kobayashi in Kiso, Nagano, Japan. Although it was an intensive kanna course, learning how to tune and set up a kanna was not the only thing that was taught. We were given the opportunity to learn some Japanese traditional etiquette, behaviour and spirit. Located in an old high school, the space was transformed into a community centre where people from all around can come by to learn about the local history, craft and cuisine.

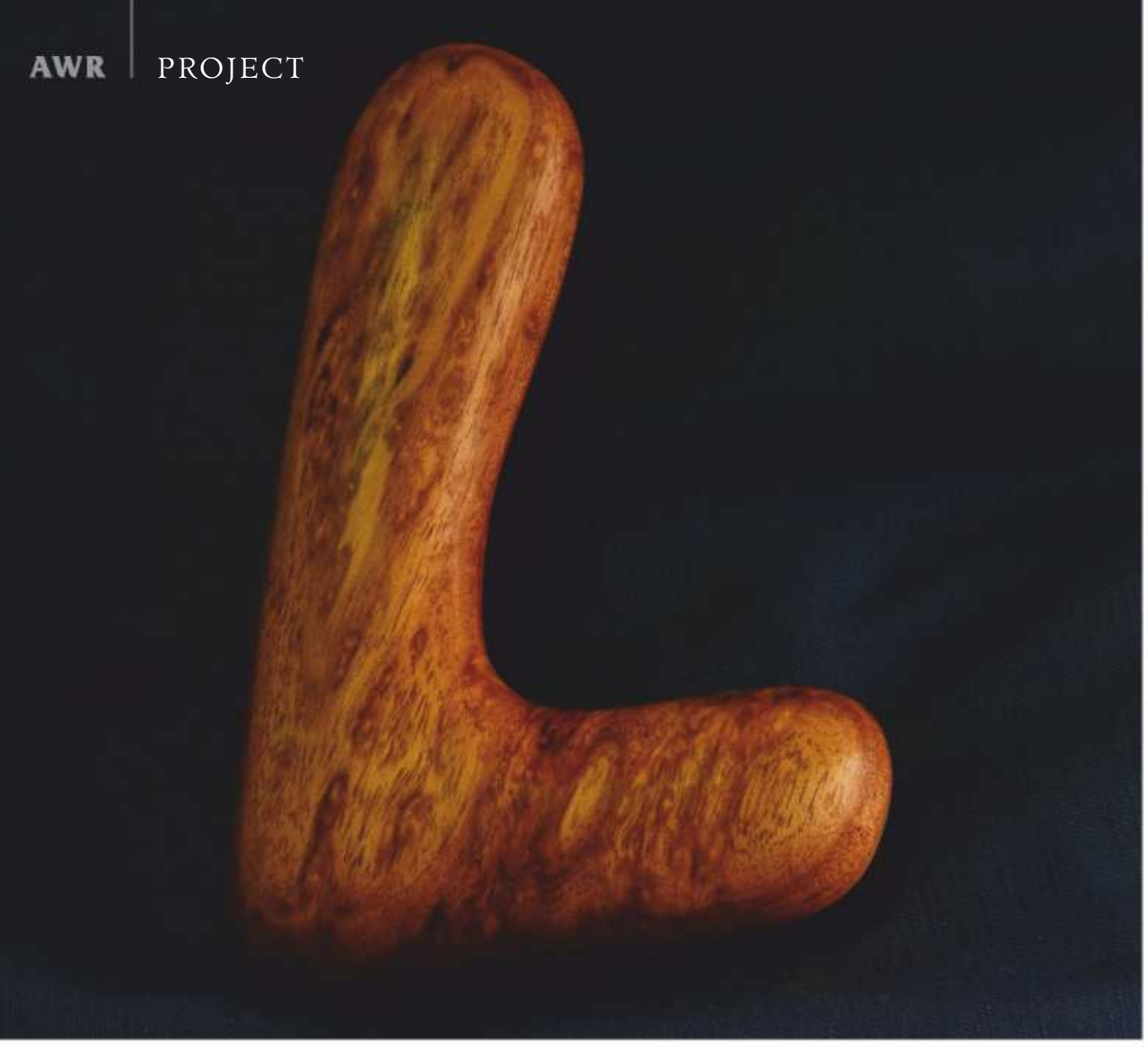
Working on a Japanese traditional floor-style workbench, we kneel on the floor *seiza* style and meditated for a minute at the start and end of each day, with our eyes closed and listening to the sounds of the nearby stream. We'd bow after the one minute while saying *onegaishimasu* in the morning, and *arigatou gozaimashita* at the end of the day which, in this case, means 'please teach me well' and 'thank you so much for the day'.

While everyone was having a fun and relaxed time in Kiso, we all switched to a focused learning mode during the time between the morning and evening meditation, even the usually cheeky Shinobu transformed into a firm but fair Shin-sensei.

Learning about kanna was not the only thing that I got out of this course. Having everyone with different experiences and backgrounds allowed me to observe and pick up little tricks from my fellow students, and the chats that we had every night gave me insights on different cultures. I felt like I grew a little after this trip, both in my woodworking career as well as a person.

** Shinobu Kobayashi is a Melbourne based woodworker who was profiled in AWR#95 and also featured on the cover of that issue. Email shinobunny.com@gmail.com*

Yu Ting Tan is a woodworker based in Singapore who has also studied woodworking in Australia.

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Shake it Baby

Richard Vaughan fights back against plastic with the rattle he made for his newest niece.

Newborn babies tend to attract plastic until the cot becomes a scale version of the Great Pacific Garbage Patch in the clutter of shiny gifts meant to delight the little one. Fortunately we woodworkers can make playthings that are truly unique and carry the love of being handmade, as well as being more environmentally friendly.

There is currently archeological evidence that baby rattles have been delighting kids for at least 4,000 years, so clearly we're on a winner here. Not only are rattles extremely simple to make but they can also justify stashes of small bits of wood just too gorgeous to part with.

Here I'll go through the process of making my most recent baby gift. The recipient is named Lucy so I opted for simply making her an L. Past versions include a '1' for a long awaited first child, a '4' for a fourth, a wee four-wheel drive for a boy whose family did serious exploring, and so on.

The offcut of birds-eye silver wattle, (*Acacia dealbata*), was trimmed due to cracks decades ago but was simply too interesting to bin (**photo 1**).

The wood was dressed and then split on the bandsaw. Note the marking to ensure correct rejoining. The bandsawn faces were then jointed flat and the halves glued back together with newspaper in between (**photo 2**).

You only need a light coat of PVA brushed onto each face before bringing them back together with the paper in between. You need them to hold together just securely enough to enable bandsawing the profile. Too generous with the glue and you'll struggle to get an easy and clean separation.

Draw up the profile on cardboard or MDF till you're happy with the shape, keeping in mind that you need to have enough room to hollow it out and have free movement for the rattling components. Keeping the dimensions appropriate for infant hands is essential. Then cut it out for tracing onto the wood to make the most of the figure, and to avoid flaws (**photos 3, 4**).

Next comes the shaping using rasps, hand and/or rotary carving tools. You may even choose the often forgotten pleasure of whittling it (**photo 5**). You can also use the lathe to create a profile.

Take it to the final shape being aware of having only soft lines and no corners to catch tiny tender fingers. Sand to about 120 grit.

Now use a sharp chisel to gently prise the halves apart along rather than across the grain. With minimal glue the paper should simply split (**photo 6**).


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Although I didn't for this one, it can be insurance to leave a tab of 10mm or so square at one end when bandsawing the profile to allow for damage that may happen when starting the chisel to make the parting.

The next stage is to hollow out as much as possible so the sound is transmitted easily – 5–6mm thick will be sturdy, (as long as the dog doesn't get hold of it,) but will allow for clear sound. If you have a rotary carver, as shown here, it will be quicker, but a couple of carving gouges will do the same job (**photo 7**).

There's really no need to sand the internal surface OCD smooth, just enough for free movement of whatever you choose to rattle.

Now you can apply the carnauba wax which will counter any glue squeeze when you rejoin it. A narrow brush helps keep the wax only on the interior surface.

You are now ready to clean the newspaper and accidental wax off the edges to prepare them for gluing. You want as invisible a join as possible so there is wonder about how you did it.

An effective method to get clean flat edges is to use spray adhesive to stick 180 grit sandpaper to a truly flat surface such as glass, or MDF that you've checked for flatness. When rubbing the workpiece over the sandpaper be steady and deliberate so you don't rock and round any edge (**photo 8**).

To make the noise you could use beads or tiny bells from a craft shop, sterile seeds or perhaps stone hammered into small enough fragments to move freely (**photo 9**). Test for sound before the glue up.

Baby rattles are bound to get chewed and sucked, and are likely to do time in the bath etc so you do need to use a very water resistant glue. The crosslinking PVA glues, often labeled as 'exterior', are highly water resistant.

Once glued it's simply a matter of sanding with 180 grit till smooth and the joint is indistinguishable from grain. The finish I use is Osmo, an extremely durable oil that has been certified food and toy safe in Europe. For good penetration it is recommended to sand only to 180 grit.

The result is a unique and handmade gift to welcome the new arrivals in your life.

Photos: Richard Vaughan

Richard Vaughan is a furniture designer/maker in Brisbane who also runs woodwork classes. See richardvaughan.com.au

Step By Step Stool

A fold-out step makes this stool handy to have but with angled legs challenging to make. Story by Charles Mak.

I rarely work with published drawings. By matching an image of a finished build in my head, instead of following detailed plans, I have been able to free myself from a fixed path of work and allow myself to experiment with tools and techniques. Designed for everyday use and pleasure, this stool is another example of a project I completed using that approach.

Step stools are often your trusted helper for reaching hard-to-reach spots. Folding step stools made of polypropylene are therefore popular, and they are functional and economical. But – they have no personality. So, I was intrigued when my wife told me about a foldable two-tier step stool she recently came across. After hearing her out (including her desire for something similar but more elegant), I did my research and saw an opportunity to make a refined version of the 'assembly required' stool.

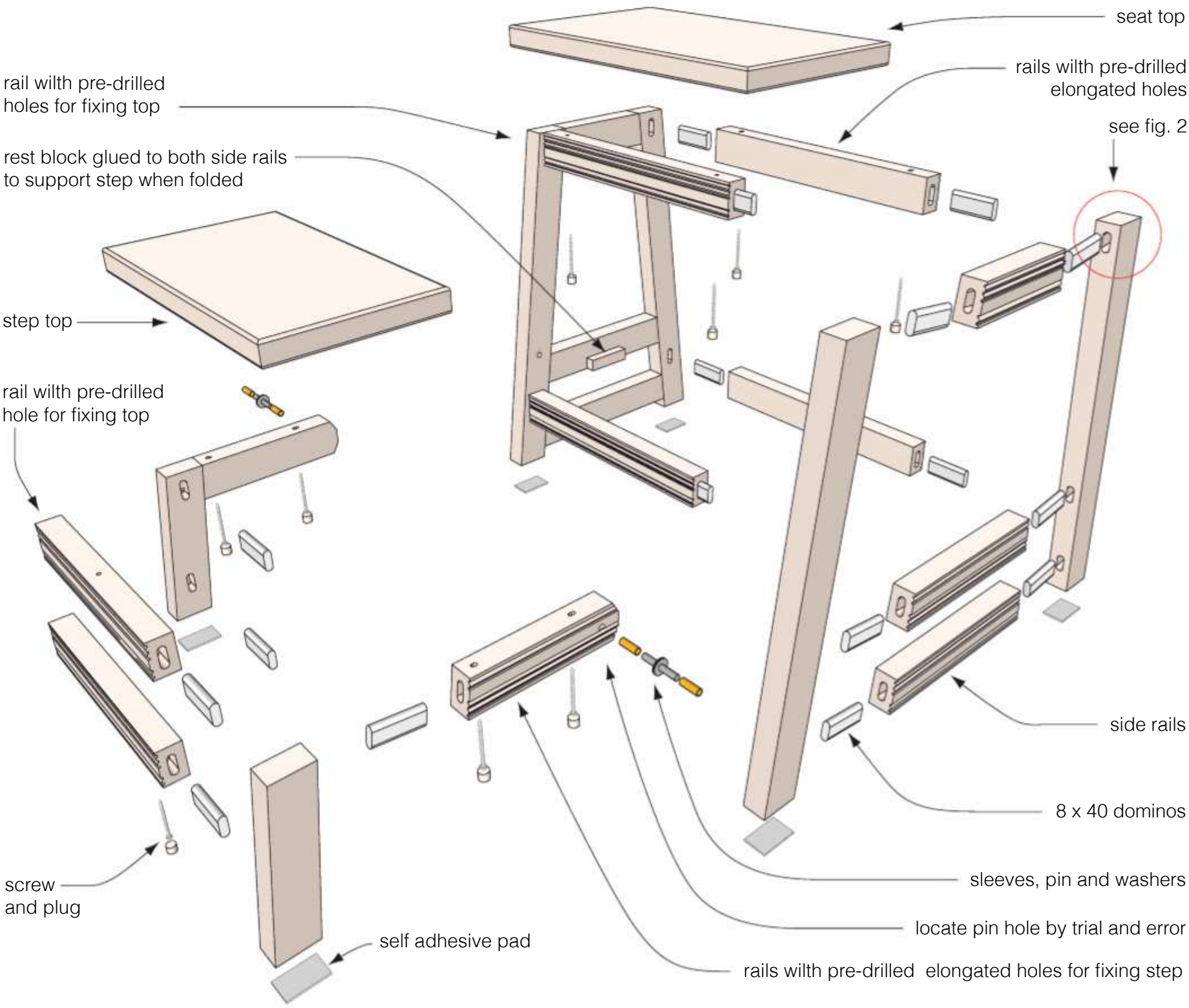
Redesigning the stool

My version preserves the two-tier and foldable design seen in a mass-produced copy. My wife wants the top to serve as a seat and not as a step, when the bottom step – to be used for quick up-and down-tasks – is folded up. I customised the dimensions to suit her purposes and also planned to include some embellishment in my version to add that touch of class.

Tastes are subjective, but we can influence how people look at our work by making good decisions on, among other things, choice of timber, joinery, and details. The first change, therefore, was to use nicely grained wood to give the stool a warm and quality feel. Cherry and maple were chosen for this reason.

The author's step stools in cherry and maple.

Fig.1 Components (mm)



CUTTING LIST (MM)

Overall dimensions: Open – 360 w x 465 d x 510 h **Folded** – 360 w x 310 d x 510 h

PART	QTY	LENGTH	WIDTH	THICKNESS	PART	QTY	LENGTH	WIDTH	THICKNESS
Stool					**Step**				
Seat	1	380	230	25	Step	1	298	180	25
Stool Support					**Step Support**				
Leg	4	450	40	25	Leg	4	175	40	25
Upper rail	2	310	40	25	Side rail	2	165	40	25
Lower rail	2	310	40	25	Upper rail	1	255	40	25
Top side rail	2	125	40	25	Lower rail	2	255	40	25
Middle side rail	2	200	40	25	Pin	2	6.35mm dia. bolt cut to length		
Bottom side rail	2	230	40	25	Sleeve	2	7mm dia pen tube		
Step rest	1	40	8	8	Washer	4			


1


2

Well-executed joinery, even if it is hidden, is at the heart of most of my work. I replaced the 'screws and plugs' assembly with floating tenon (domino) joinery. This change instantly removed the low-price item look of the original design. Of course, dowel joinery is also a viable option, so is the handcut mortise and tenon joint for the traditionalists.

Finally, to transform a utilitarian object like this into an attractive piece, decorative details, especially those that carry a handcrafted feel, are essential. That was why I turned to a recent addition – a Veritas combination plane – instead of a router to embellish the moulding details. The result is a functional household accessory reborn with style and character (**fig.1**).

Getting the stock prepared

After acclimation, I milled all the parts on the tablesaw. Since the final dimensions of the step and its support were not worked out until after the main stool support was dry assembled, I cut the parts for the step and step support over length.

Hard maple is prone to burn marks during ripping. I ripped the maple in two passes, with the first pass a little proud. In the second pass, the saw shaved the wood as clean as a planer would. I then remove all the machine marks with a handplane.


3

Embellishing the rails

Adding decorative details with a plane is a good opportunity for you to put your hand skills on display. I turned to my plough plane for beading, and the combination plane for reeding, dispensing with the need to change cutters.

To get the new blade ready, I put a finishing hone on the bevel face of the reeding cutter using a dowel wrapped with abrasive to gently hone the curve profile. Using a combination plane is no different from handling a plough plane*. Here are a few more suggestions that have served me well:

- First, choose straight grained stock for the mouldings to keep any tear-out concerns to a minimum.

- If you are new to using this type of joinery tool, start with a simpler profile (for example, a bead instead of a reed) to practise your cuts on a softer wood like pine. Try out the more complex cutters or on harder wood after you have gained your confidence.

- For complex profiles, set your cuts light, especially when working with harder wood, like maple, to have better control of your cuts. For reeding the maple, I set the depth of cut to about 0.25mm (**photo 1**).

- Lastly, wax the skates as well as the fence often, to reduce friction and binding.

The combination plane allows you to switch the fence to the other side of the body so you can cut from either side of the plane, to handle grain direction better (**photo 2**).

After cutting the reeds, I used the plough plane with a bead cutter to complete the moulding profile (**photo 3**). When doing handwork, remember slow, careful work without mistakes will get the job done faster.

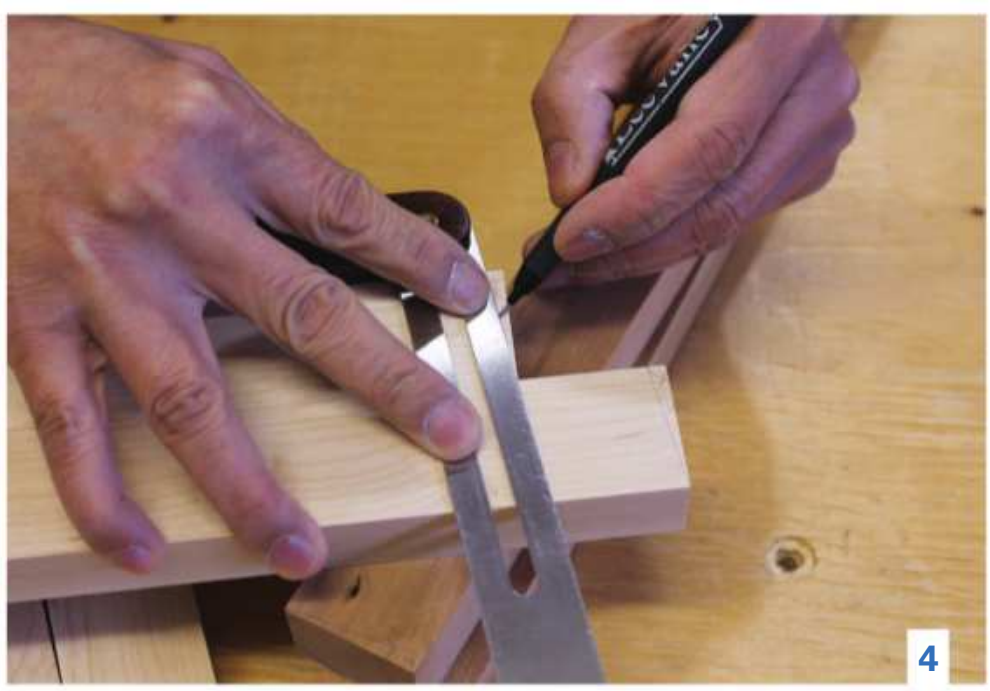

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Fig.2 Leg top joint detail not to scale (mm)

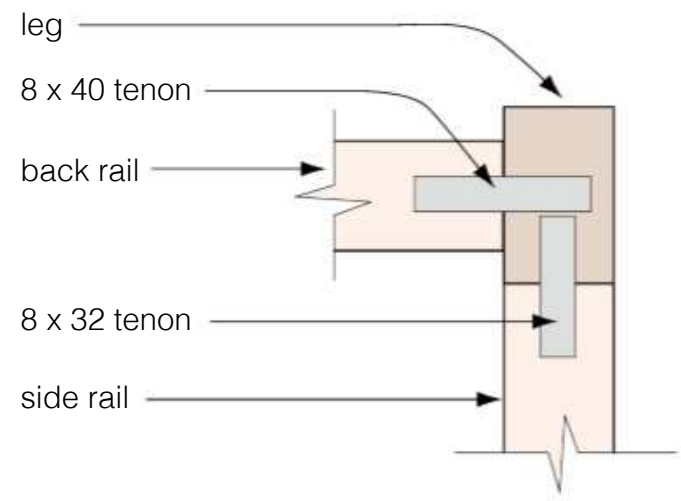
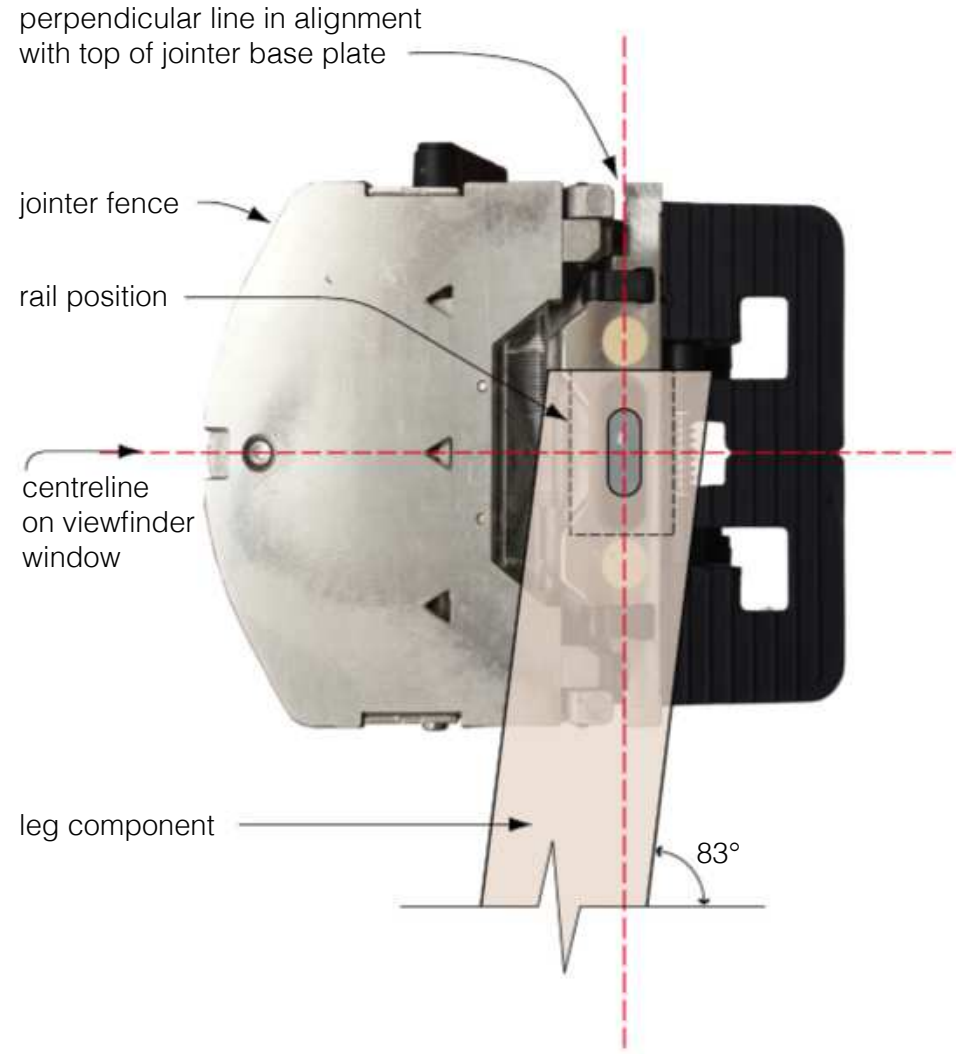


Fig.3 Positioning joiner on leg side not to scale

1. Lock fence at 0° and stand jointer fence on workpiece.
2. Position domino jointer so component is at bevel angle.
Use viewfinder centrelines to centre and square jointer to baseplate.



1. Set the sliding skate in line with the outer quirk when using a reeding cutter.
2. I switched the fence and my hand now and then to save overburdening my shoulder.
3. Labelling and marking helps when you have a lot of parts to deal with.
4. Mark the angled cuts clearly and use the marks to check with the blade or laser line before cutting.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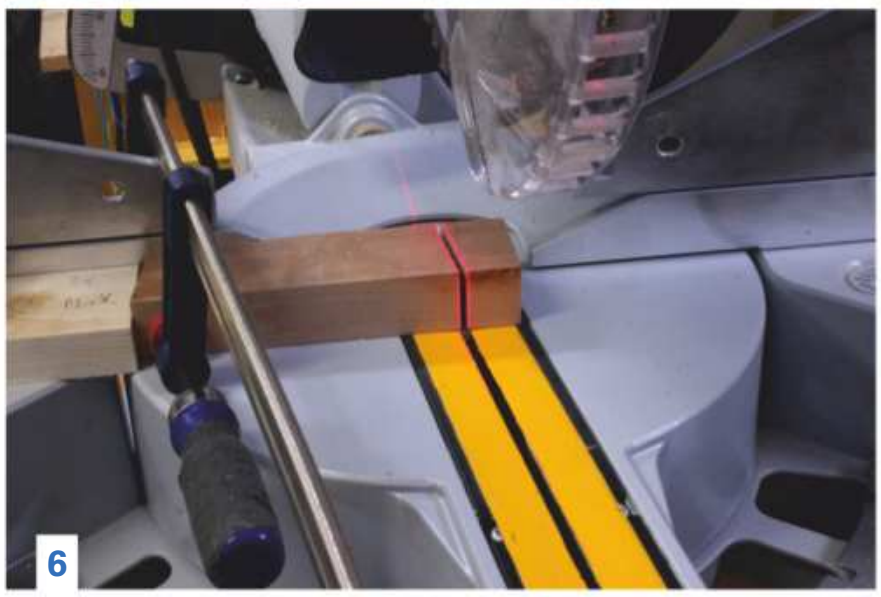
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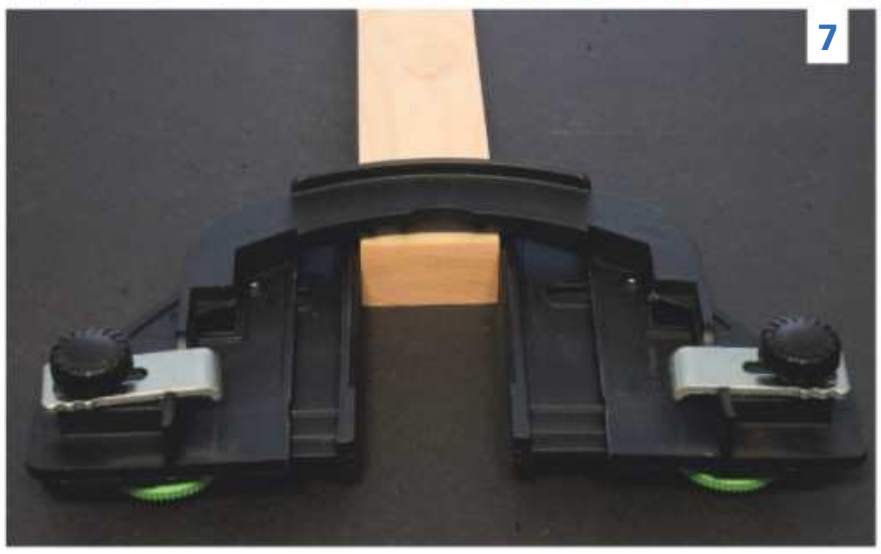
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Starting with the stool support

The stool support consists of the legs and the rails on four sides. The stool legs are angled for stability and the side rails are bevelled to match the angle. A mock-up – a tool often neglected by woodworkers – is a great way to work out configurations and details such as size, proportions, and mechanics in a three-dimensional manner. After trying a few mock-ups, I set the angle of the legs at 7°.

With so many similar looking members, I labelled all the parts and marked out all the angled cuts on the stock as well, to avoid unnecessary cutting blunders (**photos 3, 4**). The angled legs and bevelled side rails were cut on the mitre saw (**photos 5, 6**).

Handling the joinery challenges

Achieving precision with the domino joinery in this project presented several challenges. For dead-on alignment the standard (smallest) mortise width setting is used, leaving no room for careless work. This requires accurate marking of all the lines and careful plunging of the cuts. Even a slight movement away from the pencil line when you plunge the machine would result in a misalignment of the mating pieces (**photo 7**).

Secondly, the top front and side rails are joined to the legs adjacent to each other and if the usual domino placements and plunge depths are used, one of the adjacent tenons would bottom out. My solution was to customise the plunge cuts so no adjacent tenons would hit each other (**fig. 2**).

Thirdly, the side rails meet the legs at an angle of 7°. When laying out the mortise lines for those joints, use a tenon to guide the marking to avoid the mistake of penetrating through the workpiece (**photo 8**). To mark the mortise placement for the angled joint, clamp the rail and leg in position and draw a pencil line square to the leg (**photo 9**).

5. A sliding bevel was used to verify the settings as the mitre angle gauge has identical vernier indices on either side of the 0° mark.

6. Use a stop block for consistency when cutting identical pieces.

7. If you struggle with mortising narrow workpieces, a trim stop will hold the rails in place for precise and repeatable mortise placement.

8. Guide the layout with a tenon to prevent cutting the mortise all the way through the workpiece.


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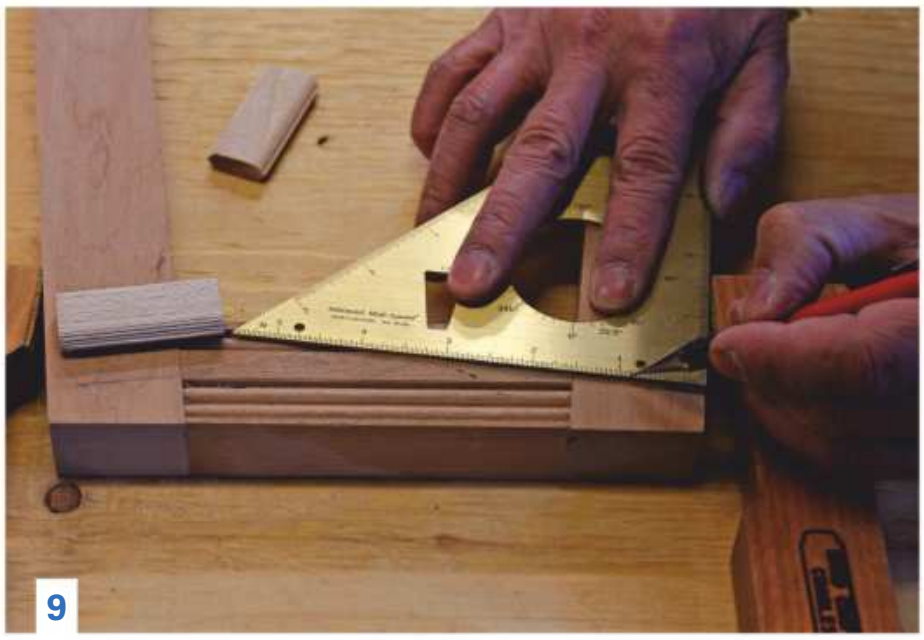

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Lastly, although the legs are sloped, the front and back rails are joined to the legs perpendicular to the floor. To cut mortises for such arrangement, we turn to a technique using the milled flats as well as the scribed centrelines of the machine to position the domino joiner (**photos 10, 11**). This special technique is explained step by step in **fig.3**.

Ending with the step support

The step support consists of the legs, two side rails, two front rails, and a mounting system to connect the step support to the stool legs. After dry-assembling the stool support, I made a template of the bottom step including the step, leg and side rail, and used it to determine the position of the hinge holes as well as the exact dimensions of the step support and the step leg. The parts for the bottom step were then cut to size based on this template (**photos 12, 13**).

The commercial version uses a long dowel to mount the step support to the stool legs. A round dowel here does not fit in with the whole build, made of all rectangular parts.

Bolts could be used to mount the step support to the stool legs, but its use would likely give that 'assembly required' feel. After experimenting with a few ideas, I settled on a concealed pin system, made out of a few hardware supplies: a bolt cut to length, a pen tube to prevent wear on the wood and some washers (**photos 14, 15**).

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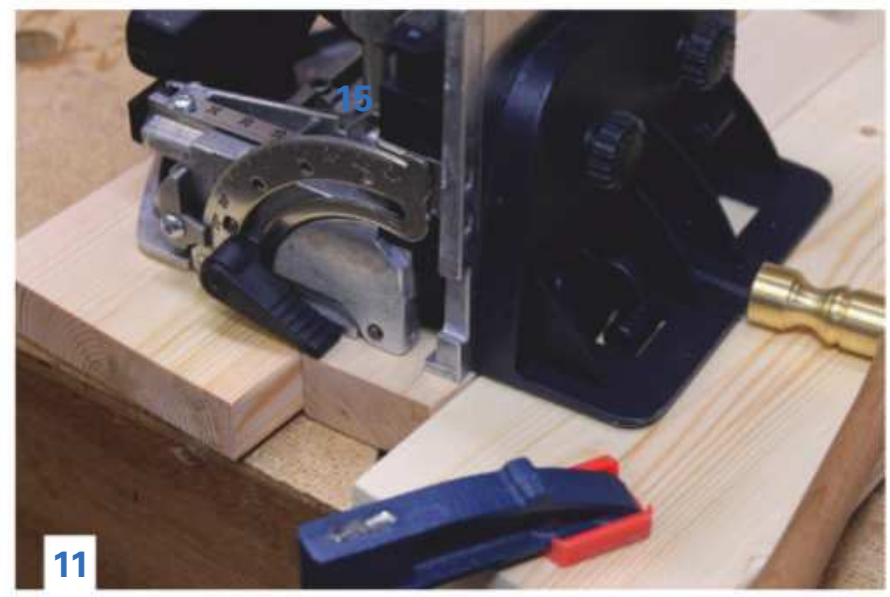

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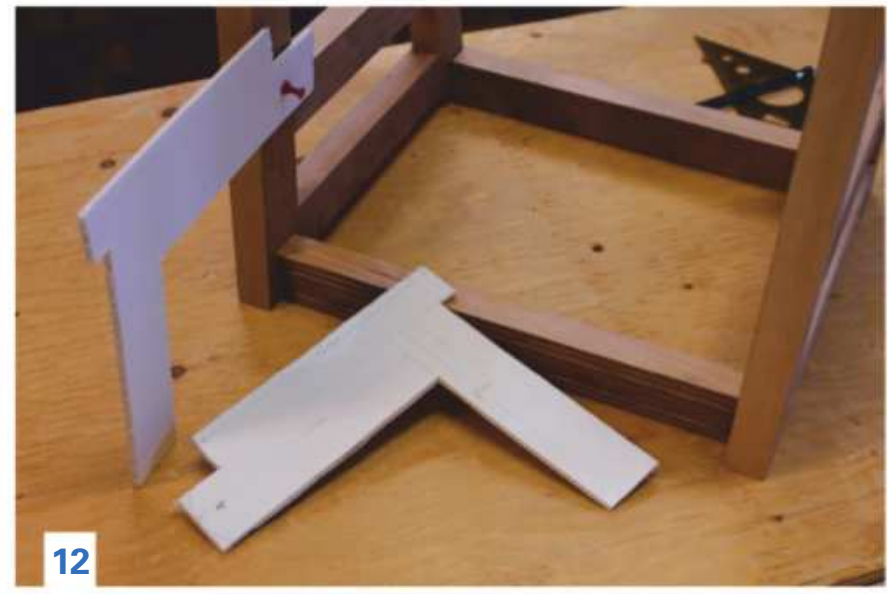

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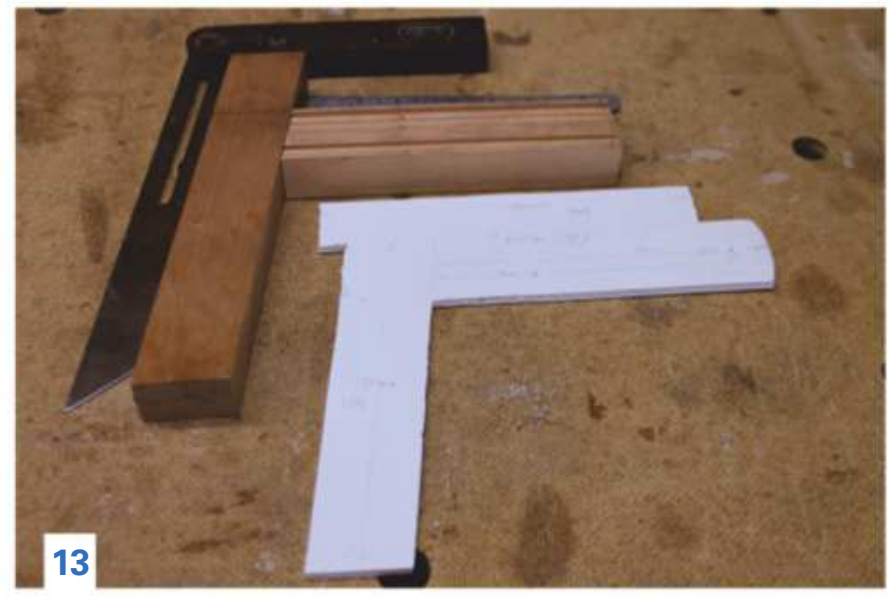

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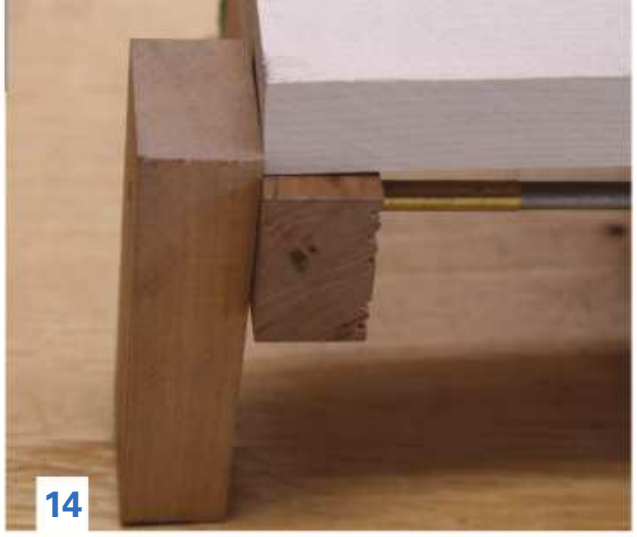
9. Not interfering with the clamps, a flat body square was ideal for marking the square line on the rail.

10. For narrow pieces, add boards to their sides to extend the intersecting lines and to increase the registration surface for the machine.

11. A hammer is a fine-tuning tool, used here to align the joiner with the intersecting lines.

12. A full-scale template made of cardboard easily finalised the step support set-up.

13. The final template was used to mark out the workpieces before cutting them to size.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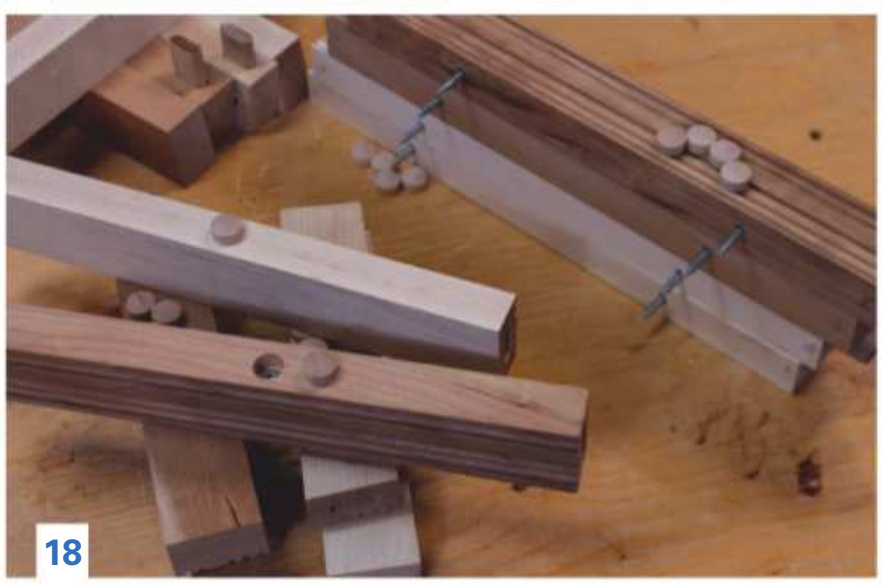
18

14. Does the idea hold up to a real life test? I stood on a scaled mock-up fabricated out of scrap materials to stress test the pin system.

15. Nothing is more satisfying than finding your own solution to a taxing problem using simple materials.

16. To prevent blow-out, rout the ends before the sides.

17. Reduce glue-up stress by breaking down a complex assembly into sub-assemblies.

18. To mark the holes for predrilling, clamp the step or seat in position and make an indentaton with a screw. Cover plugs can then be fitted.

In the final step before assembly, I did all the drilling, removed all the pencil marks, and broke the sharp edges. For the seat and step, I put a small round over to give them a softer, smoother look. Furthermore, rounding those edges makes them more durable against dents and splinters (**photo 16**).

Assembling and finishing

The usual assembly advice applies here: Dry fit, dry fit and dry fit. In addition, I broke down the assembly into phases, starting with gluing up of the sides first, which are composed of the legs and the side rails (**photo 17**). The pins were also glued to the predrilled holes on the stool's front legs and the sleeves glued to the step legs, with a drop of oil added to the inside of the tube. After the subassemblies were cured, I assembled the front and back rails as well as the step support to the stool's front legs at the same time.

It would be easier to apply the finish to the assembly before the seat and step were installed. So, I put a few coats of polyurethane to highlight the raw beauty of the wood grain with light sanding between coats, and then attached the seat and step. To cover the screw holes, I microwaved the plugs for 30 seconds or so and drove them home – with ease (**photo 18**). Mission proudly accomplished!

After all the stools I have built in recent years, I still have one stool that I have been wanting to do, one that is to be made based on measured drawings (from a book): Tage Frid's iconic Three-Legged Stool. Sometimes, you just crave a classic. And, I am confident that Frid would have approved of my plan to build his three-legger where function meets beauty, and put it with one of my two-steppers under the same roof!

Photos: Charles Mak

Diagrams: Graham Sands

** See AWR#97, Joinery with Handplanes, also by Charles Mak.*

Charles Mak enjoys writing articles, authoring tricks of the trade, teaching workshops, and woodworking in his shop.
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Wood Diary

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www.woodreview.com.au

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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.

UNTIL DECEMBER 2
ADELAIDE MODERN
Gallery One | JamFactory Adelaide
www.jamfactory.com.au

UNTIL JANUARY 31, 2019
AWR Studio Furniture 2018
Bungendore Wood Works Gallery, NSW
Presented by Felder Group Australia
www.woodreview.com.au/studio-furniture

17–26 NOVEMBER
Arbor: Annual Exhibition
Coffs Harbour TAFE School of Woodwork
Bellingen Gallery and Framing Studio, NSW
Tom Hook 0404 866 724

24 NOVEMBER–2 DECEMBER
2018 Graduating Exhibition
ANU School of Art & Design Gallery
Australian National University
www.soad.cass.anu.edu.au/gallery-exhibitions

UNTIL 25 NOVEMBER
DESIGN Canberra
Over 100 events linking makers and designers including exhibitions, talks, tours, open studios
www.designcanberrafestival.com.au

24–25 NOVEMBER
Woodturning exhibition
Woodturners Society Qld
Mt Coot-tha Botanic Gardnens
www.woodturnerssocietyqld.org.au

24–25 NOVEMBER
Annual Woodcraft Exhibition & Sales
Barwon Valley Woodwrights Inc
Masonic Centre, 25 Regent St, Belmont, Vic
www.barwonvalleywoodwrights.com

24 NOVEMBER–9 DECEMBER
Sonder: Graduate Exhibition 2018
Sturt School for Wood
Mittagong, NSW
www.sturt.new.edu.au

7 DECEMBER–27 JANUARY 2019
Tree Place exhibition
Work inspired by an ancient fallen eucalyptus
Noosa Regional Gallery, Qld
www.treeplace.com.au

14 DECEMBER–11 JANUARY 2019
2018 Exhibition of Student Work
Centre For Fine Woodworking
Refinery Artspace
3 Halifax St, Nelson, New Zealand
www.cfw.co.nz

2019

16–17 FEBRUARY
Tools & Techniques Weekend including Alumni 2 exhibition
Work by selected graduates
Sturt School For Wood
Mittagong, NSW
www.sturt.nsw.edu.au

24 FEBRUARY
TTTG Sydney Tool Sale, 9am–1pm
The Brick Pit Stadium, Thornleigh
www.tttg.org.au

9–10 MARCH
Lost Trades Fair
Kyneton Racecourse, Victoria
www.rundellandrundell.com.au

9–10 MARCH
Woodcraft Expo, Demos & Sales
Kiama Woodcraft Group, NSW
Masonic Hall, Collins St, Kiama
David Bywater 0425 249 148

18 MARCH
Hand Tool Preservation Association of Australia Tool Sale
St Anthony's Parish Hall
164–168 Neerim Rd, Carnegie, Vic
www.htpaa.org.au

22–24 MARCH
Brisbane Timber & Working With Wood Show
RNA Showgrounds, Brisbane
www.timberandworkingwithwoodshow.com.au

4–5 MAY
Lost Trades Fair Qld
Cobb & Co Museum, Toowoomba, Qld
www.rundellandrundell.com.au

4–6 MAY
Maleny Wood Expo including Wootha Prize exhibition
Maleny Showgrounds, Qld
www.malenywoodexpo.com

18–19 MAY
Bathurst Heritage Trades Trail
Featuring 100 Artisans over multiple venues in Bathurst, NSW
www.bathurstthtt.com.au

7–9 JUNE
Sydney Timber & Working With Wood Show
Rosehill Racecourse, Rosehill, NSW
www.timberandworkingwithwoodshow.com.au

23–25 AUGUST
Melbourne Timber & Working With Wood Show
Rosehill Racecourse, Rosehill, NSW
www.timberandworkingwithwoodshow.com.au

4–6 OCTOBER 2019
Oktoberfest Felder Group
Emu Plains, NSW
www.felder-group.com/au-en

5–6 OCTOBER
Lost Trades Fair NSW
Hawkesbury Showgrounds, NSW
www.rundellandrundell.com.au

1

A Simple Edge Tool

A very simple, homemade tool can take double curves and recurves in its stride. Story by Ian Wilkie.

Decorative edge-treatments can add greatly to the appearance of a piece of furniture, and there are plenty of bearing-guided router bits available in numerous profiles. These can do a good-enough job for you in many situations, but what if the edge you wish to profile is curved?

A bearing-guided bit can follow a simple convex curve if it is gradual enough, but it is tricky to pull off without using a jig of some sort to steady the router or hold the piece as you feed it past the bit. Sometimes hand tools trump the electron-burners, and one such situation is when you wish to add small decorative flourishes to parts with complex curves.

However the task is well within the capability of the scratch-stock shown in **photo 1**. This very simple, home-made tool can take double curves and recurves in its stride. And the best part is it takes far less time to cut a bead than you may think.

Photo 2 deliberately shows an old war-horse that was made from a piece of scrap wood for some job at least 30 years ago, tossed in the toolbox, and re-used many times with different cutters as you can see from the extra bolt holes. It consists of nothing more than an L-shaped piece of wood with a slot cut through the long arm and part-way into the shorter, wider arm.

A single 5mm bolt and wingnut are all that is required to hold a small cutter in place. There are no rules as to size, just make it big enough for your hands to hold comfortably. Note the rounding of the inner edges, which enables it to follow concave curves more easily.


2


3

Main: Three table legs safely profiled by the author in around 30 minutes. No dust, no noise!

1. Basic scratch-stock fitted with a cutter profiled to cut a quirked bead.
2. Stock, shaped cutter, and the files used to prepare the cutter.
3. The bead on the right side has been completed, while the one on the left has been defined, and is being worked to full depth a little at a time.

Makng a scratchstock

Cutters can be made from an old card scraper, or a scrap of sawblade. Metal about 0.8mm thick is ideal, easy enough to file and shape, but rigid enough not to flex in use. The profile has to be a negative image of the shape you wish to make, of course. Here the cutter is shaped for a quirked bead, the 'quirk' being the groove that defines the inner edge of the bead. It was shaped in a few minutes with a chainsaw file and a small, fine-toothed, flat file (**photo 2**).

For cutting a simple bead, I make the profile just a tiny bit deeper than a semi-circle, then ease the outside corner a little, so it won't leave a line on the outside of the bead. The little projection that cuts the quirk needs to be wide enough to be solid, but a narrow quirk looks better, so you may need to experiment to find the width of quirk your cutter material will manage.

Tapering the outer edge helps to cut a neat quirk. File carefully, keeping the files at right angles to the blade. You can refine the filed edges with stones, and/or apply a burr, but I find they work well enough straight off the file on most woods.

Once the cutter is shaped, slide it into the stock and set it so that one side of the bead is flush with the stock. Some like to make the top of the bead flush with the cross-arm, to act as a depth stop, but I find this doesn't work very well for me.

I make mine protrude by at least 1.5mm. This is because it's easier to cut with the tool leaning slightly towards the direction of cut (so the cutting edges are 'trailing'). It also minimises build-up of shavings, which will otherwise stop the cutting. You don't really need a depth stop, as it's quite obvious when the profile has been fully formed.

The scratchstock shown was set up to bead the outer edges of a set of tripod table legs. These could have been done with a router, but there is a rapid transition from the parallel part where they join to the stem and to the taper, which would make using a beading bit very awkward.

Using the scratchstock

I first made a few light passes along the whole length to define the quirk, then work the profile to full depth in short sections, about 50–60mm at a time (**photo 3**). Once you have reached full depth, at the front of the section being worked, move back a similar amount and blend that in, and so on, until you have completed the full length.

While scraping cuts are not too sensitive to grain direction, it does depend on the wood you are working with (softer woods are generally more difficult to scrape and may leave a 'furry' surface), so you might have to work predominantly in one direction to obtain a smooth finish.

The wood being used here is New Guinea rosewood, which can have pretty wild grain at times, but responds very well to scrapers. With a little care, you should end up with a very clean result that requires only minor sanding. The occasional small imperfections sign your work as truly handmade!

Photos: Ian Wilkie

Ian Wilkie is a Brisbane furniture and hand tool maker. In AWR#99 he showed how to make an infill shoulder plane.
Email iwwilkie@bigpond.com

Making a Burl Box

Inspired by a ceramic form, Andrew Potocnik turns a box with a burl edged lid.


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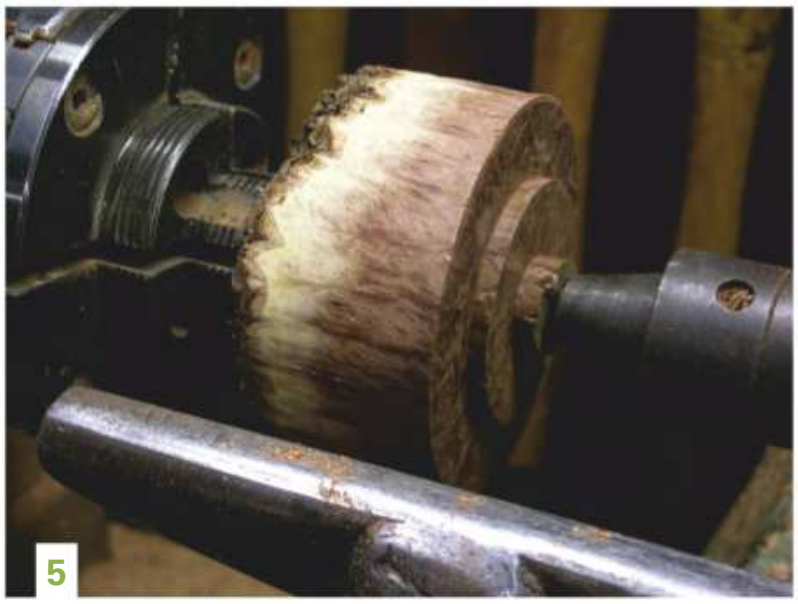
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6

Some time ago a ceramicist friend was showing me her work in an exhibition catalogue, but flicking through the pages several forms jumped out as having potential for woodturning.

I photocopied the images and put them aside, and every time I caught a glimpse they sparked my imagination and I scribbled down an idea for one of my own pieces. Time passed and the drawings and notes built up until I found time to tackle one.

The ceramic piece had a black hemispherical base with a flat-topped collar equal to about one third of the overall form. The collar was crackled white and had a small drop-in lid held in place with a horizontal rectangular black handle with ends cut down at about 10°.

Eventually thoughts led to using a burl for the collar but flipping it upside down so the natural edge points down to the body of the box. The body of the box changed from hemispherical to barrel-shaped with the belly of the curve quite high on the form. Quite a departure, but it was time to begin searching through my endless stash for suitable materials of appropriate size, texture and colour…

1. The jarrah was roughed down to a cylinder leaving room for a tenon at one end.
2. Now in a scroll chuck, the outer shape was formed leaving enough material to prevent chatter when hollowing.
3. A tenon was turned before hollowing the form.
4. Cleaning up the interior with a shear scraping tool.
5. Trimming waste before reversing the form into a scroll chuck.
6. A recess into the burl was cut to match the jarrah.


7


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7. The tailstock used to clamp the lid and form glued with epoxy.

8. The centre was saved – the wood was too nice to waste.

9. An insert kept the collared form in place during the final shaping.

10. Trimming the inside surface of the collar.

11. Using a granny tooth scraper to cut a small rebate.

12. The lid will rest on this recess…

13. …which is also a reference point for completing the base.

14. Preparing stock for the lid.

I settled on coolabah burl for the collar and jarrah for the body based on material I had in stock. The problem in coming up with new ideas is that appropriate material needs to be found, which can again alter the design, but once that matter was resolved it was time to get the project going.

A block of jarrah of about 70 x 70 x 120mm was mounted between centres, trimmed down to a cylinder approaching final size (with a bit to spare) and a tenon turned at one end so it could be reversed and gripped in a scroll chuck (**photo 1**).

Fitted to a scroll chuck the tailstock could be removed and the main form of the vessel refined to a near classical Grecian urn form with its belly roughly a third of the way up the piece tapering down to its base, but not trimmed right down, as strength is needed to prevent chatter when hollowing the interior (**photo 2**).

A tenon was turned to later accept the collar (**photo 3**) before the interior was hollowed. There are now so many tools on the market claiming to make turning faster, easier… I opted to use a ring-like tool that removes material very quickly before moving on to a shear scraping tool which enabled me to 'clean up' the interior (**photo 4**).

With shaping completed and sanded to 320 grit I applied a polyurethane finish to surfaces that would overlap, reducing a messy clean up later in the 'finishing' process when components are glued together.

To create the wavy-edged top I cut a section of burl as close to parallel to the natural edged surface. This would become the underside of the collar and was mounted between centres. Waste material could now be trimmed away and a tenon cut so the wood could be be reversed and gripped in a scroll chuck (**photo 5**).

Now I could trim the interior of the rough burl surface and cut a recess that matched the rim of the jarrah form (**photo 6**) so I could join both components together with epoxy glue, using the tailstock as a clamp (**photo 7**).

Once both components had bonded overnight the centre or 'waste' material was cut out with a parting tool. It would be easy enough to convert this wood to shavings but I prefer to save wonderfully figured wood for another day. Maybe this frugality is part of my post WWII parental upbringing (**photo 8**).

15

16

15. The edge to the recess needs to be neatly cut.

16. Vernier calipers were used to match the recess opening.

17. Using V-scraper to cut shadow lines.

18. The finial for the top was turned into a trumpet shape.

17

18

I find that once there is a transfer of forms between chucks and mounting methods items don't always run perfectly truly, which is a key in woodturning. To overcome this I turned an insert which held the collared form in place via my tailstock, and allowed me to trim it down to a final shape (**photo 9**).

The inner surface of the collar was trimmed with a finger-shaped scraper and sanded through to 320 grit (**photo 10**), before a small step or recess was cut with a 'granny tooth' scraper (**photo 11**). This step is where the lid rests (**photo 12**), and also serves as a flat surface for aligning the container on a jam fit carrier used to complete the base (**photo 13**).

The tailstock was kept in position for as long as possible to add support to the form and reduce risk of the form working itself free of the carrier. Hot melt glue can be used to add strength to the temporary carrier.

For the lid an endgrain piece of jarrah was glued to a carrier and trimmed to size with a concave underside (**photo 14**). This was then cut free and reversed into another jam fit chuck so a recess could be cut to accept a burl insert. The same granny tooth tool was used to ensure a neatly cut edge to the recess (**photo 1**5).

A piece of burl, mounted in a scroll chuck was turned to match the recess opening, checked frequently with vernier calipers (**photo 16**), and then glued into the lid before shaping and sanding. A V-pointed scraper was used to cut a groove where the two pieces met to create a shadow line between each component (**photo 17**).

To top the container I planned to carve an organic twig-like form emerging from a narrow turned base, but then thought the turned trumpet shape with a burl edged upper shown in **photo 18** might work well.

The ceramic form that inspired this piece is quite different and I still plan on going back to something closer to the design that caught my attention all that time ago.

Photos: Andrew Potocnik

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

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