AUSTRALIAN
Wood
REVIEW
91

ESSENTIAL HANDSAWS

Lost Trade Champions
Glen & Lisa Rundell

Chris Schwarz on SOAP FINISH

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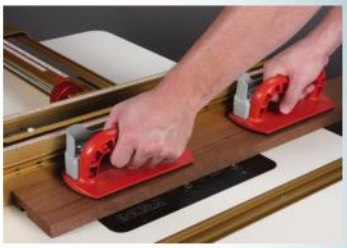

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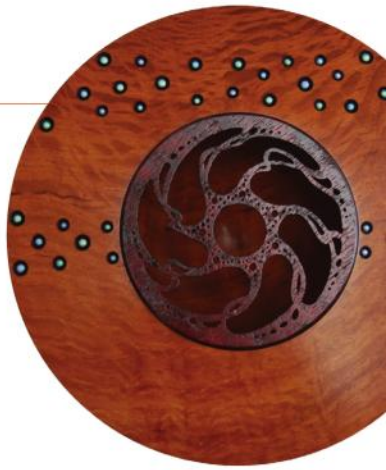

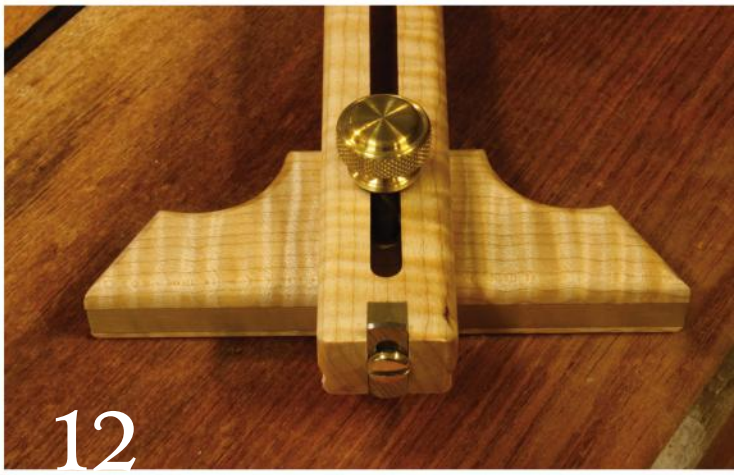

TOOLS & EQUIPMENT

Editor's Letter

New generation woodworkers

It's natural for things to change. We're familiar with an older generation of craft-based makers and we know there are tradespeople who have moved from traditional materials and techniques to the digital and fabricated. However there's now also a new generation who are discovering crafts, but not necessarily from their 'forebears'.

Recently I've met some younger makers who interestingly come from trade backgrounds but have gone more into the 'art' side of crafting things. Coming from apprentice-based training, Anthony Kleine and Mark Cedro (see p.54) are transitioning from commercial cabinetmaking into producing limited edition work. Joel Rodgers and Tom Rooney also have trade backgrounds but are now designing and creating their own furniture lines, albeit with digital and CNC tools, see p.76. Andrew Daniels, once earned his living as a photographer, but is also self-taught and now works full time as a woodturner.

Lost Trades Fair in 2014 arrived on the scene along with the so-called 'rise of the handmade'. I only heard about it afterwards, didn't get to last year's event, but this March finally visited. What an affirmation of support for the crafts and traditions this now is. I met the people whose vision has resulted in a country based event that now attracts the attendance numbers of a capital city show. Lisa and Glen Rundell are championing the trades, read about them on p.66.

Old ways are relevant

Christopher Schwarz is a noted scholar, author and also a champion of traditional woodworking methods and ideals. If you're familiar with his writings you will see that he advocates utilising old ways not out of nostalgia, but because he feels they are relevant today. Our re-evaluation of the handmade has come about partly because of the need for sustainability. This issue contains an excerpt on soap finishing from Chris's recently published title *The Anarchist's Design Book*. It could be worth trying – as the author says, finishing with soap is safe, cheap and effective.

Another story shows how traditional methods can take a community forward. Richard Vaughan writes about his recent teaching experience in Papua New Guinea on p.96. Building on his success, this training program is likely to take place again next year, and you will read how you can contribute much-needed hand tools towards this cause if you wish.

Vale Neil Scobie

Sad news came just prior to going to press of the passing of well known and highly esteemed woodworker Neil Scobie. Neil was one of those rare individuals who seem to tick an incredible number of boxes. He was a highly skilled and sensitive artist who has influenced many as a teacher, an author and a presenter, and even more directly through his attitudes and behaviour towards others. We offer our condolences to his wife Liz, son Paul and daughter Anna. A small tribute is now on our website and next issue we will review some of his work and achievements.

Student Awards 2016

Finally, building on the success of last year's Student Awards, entry details for this year's competition are now online, see p.48 for info.

Please don't forget our now revamped website is updated almost daily with news, reviews and events and stories about people. Sign up to our free eNews at www.woodreview.com.au

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COVER:
Robert Howard in his Brisbane workshop.

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Shelix Byrd Retrofit

Reviewed by Troy McDonald

1

Spiral or segmented cutterheads can be retrofitted to the standard straight knife cutterblock that has been in use on planers for generations (**photo 1**). Small carbide cutters within the cutterblock present a shearing cut to the timber which is claimed to have three advantages over straight knife cutters: reduced noise, improved cut quality and quicker, more accurate blade changes.

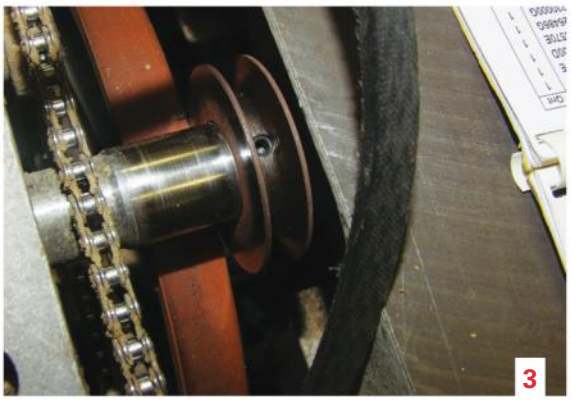
Noise reduction. Users of planers with conventional straight knife cutters will know the loud whine that these machines develop. This noise, often amplified by dust extraction, results from the high speed rotating knives compressing air as they rotate past the infeed tables and internal chip baffles. With segmented cutterheads, the change in blade geometry and reduced length of the individual cutters theoretically results in a significant reduction in air compression and noise.

Cut quality. Finish quality on straight knife cutters depends on the number of knives located within the cutterhead and the feed speed of the timber. On figured material the straight approach of the cutters is prone to producing tear out. By contrast, the helical arrangement of cutters within a segmented head produces a shearing action with obvious benefit.

The downside is that the individual segments need to be in perfect alignment to avoid the development of lines running the length of the board. Precision manufacture is therefore required to produce a quality cutterhead that avoids this problem. Of course the other variable affecting quality of finish is sharpness of the cutters. Whilst high speed steel conventional cutters are capable of a much sharper edge than carbide, the superior edge retention of carbide cutters means the tungsten material will typically present a sharper edge to the material being worked for a much longer time.

Quicker knife changes. Because they dull more quickly, high speed steel knives require relatively frequent sharpening and this requires the knives to be removed from the head. Repositioning the knives following sharpening is a job I love to hate and although there are a host of jigs and techniques which contribute to making this job easier and more accurate, for me it remains a tedious task. Segmented cutters require less

2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1. Spiral cutterhead top, straight knife below.
2. Basic tooling needed to effect the upgrade. Engineering drawings are critical.
3. Disconnect the source of power and the drive belt.
4. Ensure parts to be removed are marked in position and photographed. You'll thank yourself during reassembly.

frequent sharpening and when they do it is a simple process of loosening the individual cutters and rotating them a quarter turn to expose a fresh edge. Similarly, if you work recycled timber, an impact from a nail will typically require rotation of only one or two cutters. In a conventional head you would need to resharpen all knives or slide one of the knives along the head to ensure any damaged sections are not in alignment.

Availability. Segmented cutters have risen in popularity in recent years and are now available as standard or


4

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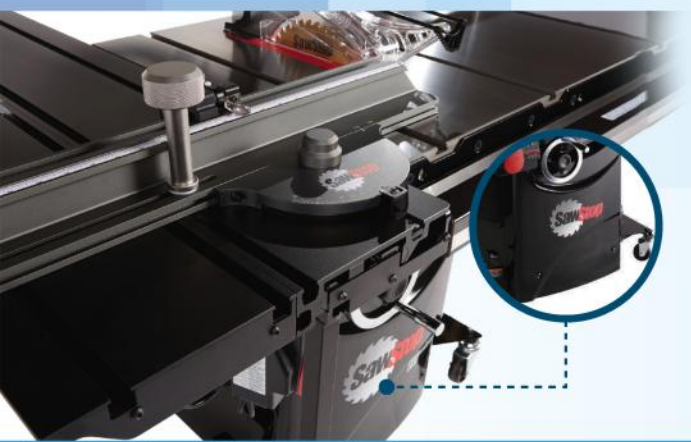

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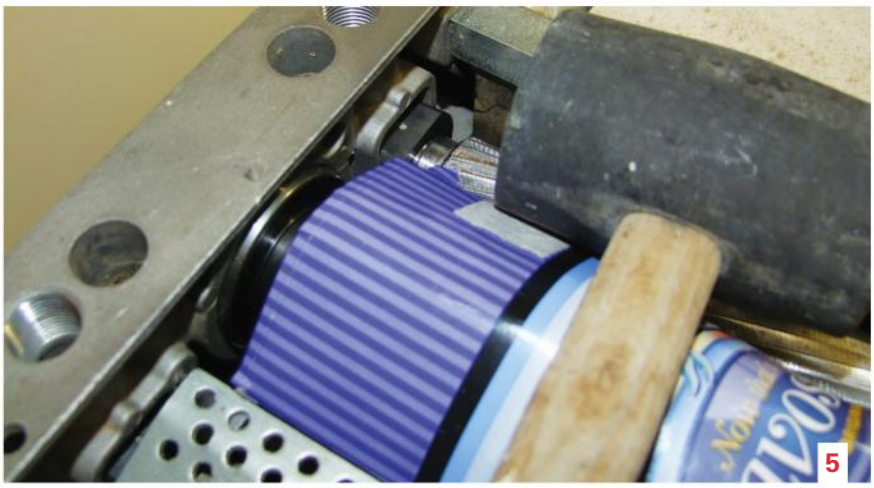
options on many machines. For those with existing machines there are a number of retrofits available. All my machining tasks revolve around a SCM Minimax CU300 combination machine and after some research I decided to retrofit a Shelix head by Byrd Tools to my machine. With an over and under style planer/thicknesser like mine, the upgrade effectively provides you with the advantages of a helical head for both planing and thicknessing operations. If you have separate machines, then it should be the thicknesser that receives the upgrade given this is where most boards are finally dressed.

Installation. There are a number of good sources of information on the web detailing how to upgrade machinery of both American and Taiwanese manufacture, however, I failed to find any information specific to European machinery. After receiving some advice from the Minimax distributor I found the upgrade relatively trouble free.

Don't attempt the change-out without at least an engineering drawing of your machine which again you should be able to source from your distributor. The basic tooling required for the change-out is shown in **photo 2** and the basic steps required to complete the upgrade specific to my machine are shown in **photos 3–6**.

The results. The table summarises the sound reduction that resulted from the upgrade. Remember that the dB scale for sound measurement is not linear and as such every 10dB increase in sound corresponds to ten times the sound intensity. The measurements confirm that decrease in sound is significant and very noticeable.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As for surface finish, I tried both cutting heads on a piece of quartersawn silky oak, a timber which can be prone to tear out across the medullary rays. **Photos 7–10** show the results. The improvement in finish was again quite significant.

Is it worth it? I personally put off upgrading for many years as I struggled to justify the cost. It was the potential reduction in noise that finally forced me to act and I'm pleased I did. The improvement in surface finish is also a considerable advantage for those that work with figured timber. In the end, the justification for upgrading will be very specific to your own application. For many the upgrade would still be seen as an indulgence, however, in my workshop situation the reduced noise justifies the purchase price alone.

Shelix Byrd spiral cutterheads available from Woodcraft Supplies, phone 07 4129 4644, www.woodcraftsupplies.com.au

5. Wrap old and new cutterheads to protect your hands. Unbolt and remove the bearing tower to allow cutterhead removal. Take care to note positions of tensioning springs for infeed and outfeed rollers prior to removal.

6. Keep notes as you go and store parts as they come off the machine in a logical order on a clean bench.

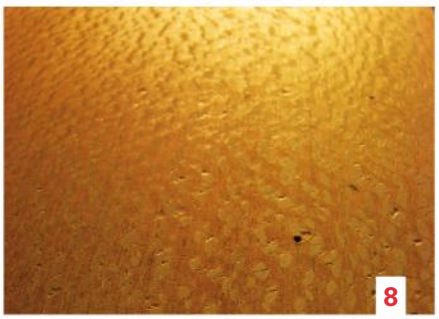
7. Quarter-cut silky oak off the planer with standard straight knife cutters. Tear out is evident.

8. The reverse side of the same board fresh from the thicknesser. Better, but tear out remains.

9. The improved finish from the segmented head is significant in planing mode.

10. Thicknessing also shows a major improvement over the standard head.


7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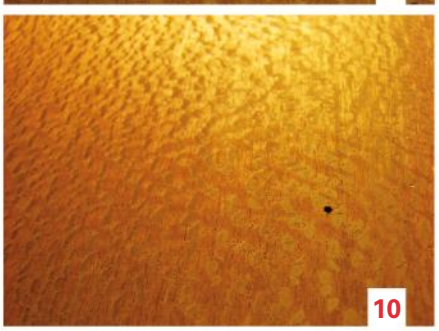
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AUDIOMETRIC RESULTS

Operation	Straight head (dB)	Helical head (dB)
Machine running – no extraction	75.7	73.7
Machine running – with extraction	83.5	76.9
Machine planing – with extraction	100.9	85.5
Machine thicknessing – with extraction	99.2	85.3
All measurements taken at 1m		

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

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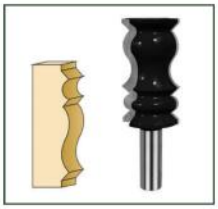

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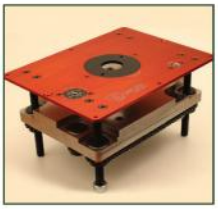

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Hamilton 6" Cutting Gauge

Reviewed by James Brook

Back in 2004 a young Jeff Hamilton attended the Marc Adams School of Woodworking in Indiana, USA. He arrived for the joinery class with a set of unsharpened chisels and other tools that were still in the packaging.

All went well until he was marking out a keyed-through mortise joint. His marking gauge was too large to lay out the joint properly and others in the class had the same problem. So teacher Marc went to his bench and picked up a little gauge that he had acquired years earlier. Using the simple gauge to lay out the joint Jeff fell in love. With the gauge!

After everyone had tried the tool, Marc said the original maker had grown tired of making the tool and if he could find someone to pick up the torch and run with it they had his blessing. Jeff took the bait.

The original gauge was serviceable but nowhere near what it is today after the final design was arrived at in 2008. Jeff lengthened the beam by an inch, added a brass wear strip, a custom knob and redesigned the blade. All that really remains of the original design is the signature bat-wing fence.

The sample I reviewed is made from very hard fiddle (or curly) maple although other woods can be ordered. The tool is available in 4" and 6" versions and has a beam that runs on a dovetailed keyway, with a brass knob that locks the beam to the fence.

The blade is made from spring steel, heat and cryogenically treated to a hardness of Rockwell 60-62. It has a fingernail grind that is designed to cut across and with the grain. It also helps to keep the fence tight against the work.

The dovetailed keyway leaves the factory as a neat and tight fit although I found with Queensland's very humid weather that it was too tight. I thus opened out part of the dovetail with a scraper to get a smooth sliding fit.

The gauge is great to use. Naturally as a cutting gauge, cross-grain and endgrain marking was the best, however going with the grain was no problem although you do get a fine cut line that can be hard to see in some woods.

A key part of the design is the bat-wing shape of the fence. Apart from its look, the shaped fence allows your thumb and forefinger to comfortably rest and apply force to effect the cutting action.

This is an ergonomically designed tool that functions very well. One of the best features is its small size that allows you to get up close to the cutter and apply pressure where needed. After a few days use it has become a favourite with its simple yet effective design that truly becomes an extension of your hand when used.

Review tool from www.hamilton tools.com

1. USA-made Hamilton 6" cutting gauge.
2. Close-up showing the blade.
3. Test marks made with and across the grain.
4. Endgrain marking was crisp.

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Clifton Block Plane

Reviewed by Raf Nathan

This new block plane is made with a bronze body and all up weighs just under a kilogram (975gm to be exact). With its heft and finish, when you pick it up for the first time you know it is something special. Made in the UK by Clifton, the word is that it has been coming for nearly 10 years. When Clifton was absorbed by Thomas Flinn & Co, the go-ahead was given to make a special plane that drew on the best of traditional and modern toolmaking methods.

Watch the *Last Man Standing* video on the company website and you'll see that most of the toolmaking is done not on modern CNC gear, but on old machines dating back up to 50 years. It's also clear that a lot of hand making and detailing takes place. This is how things were and still are made.

The cast bronze body is to my eye precision-machined with a 12° bed. The sole appeared perfectly flat. While one side was perfect at 90° to the sole, the other was slightly out. The mouth on this model is adjustable and locks down with a brass knob.

Inside the mouth are two guideways to help position the blade, which is a nice touch. The blade is 3.3mm thick and 40mm wide (1/8" and 1 5/8") and the back appeared quite flat, say 95% over the length. The blade is 01 steel cryogenically treated and ground to 25°, and seemed perfect to me. I did hone it before use.

Ajustment of the blade is with a Norris style adjuster with depth and sideways movement. There is very little backlash in the depth adjustment which I liked a lot.

The lever cap is hefty 5mm thick brass with a comfortable bubinga pad glued to it. A thumbwheel below the cap locks the blade in place via a domed brass pin. It is solid in use.

It's not a smoothing plane so there are limitations in what it can do. Finish planing some hard blackwood was a breeze and with the mass of the bronze body the tool sailed over the wood.

Fiddle blackwood with its changing grain directions was not possible but endgrain of course was good. I loved it for smoothing various sized boards and planing in bevels. In fact after a few days it became my 'go-to' plane for nearly all small jobs.

At around AUD$475 it's not cheap and sits well above other block planes on the market. Comparing prices and where applicable adding in equal quality blades, the Lie-Nielsen is $300, Veritas $260 the HNT Gordon $210 and the Record $189. Premium handbuilt planes from makers like Holtey are in the thousands. So for a bronze hand finished plane like the Clifton the purchase price is not too bad.

Review tool supplied by Thomas Flinn & Co, UK, see www.flinn-garlick-saws.co.uk

1


2


3

1. Detail of machine bed and adjuster.

2. Dis-assembled plane.

3. The bubinga hand grip is fixed to a thick brass cap.

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Virutex CE53S Edge-Lipping Planer

Reviewed By Damion Fauser

There are several ways to flush solid wood edging down to veneered panels (*see my story this issue p.84*). One quick and accurate way is with a very clever handheld power tool developed by Virutex.

The Virutex planer is a slight variation on the handheld planer. The cutterblock is on the edge of the machine, offset from and independent of the sole of the machine. The sole then acts as a reference point, running on the face of the veneered panel. The sole is teflon coated, meaning the tool will glide over the surface without risk of scratching the veneer.

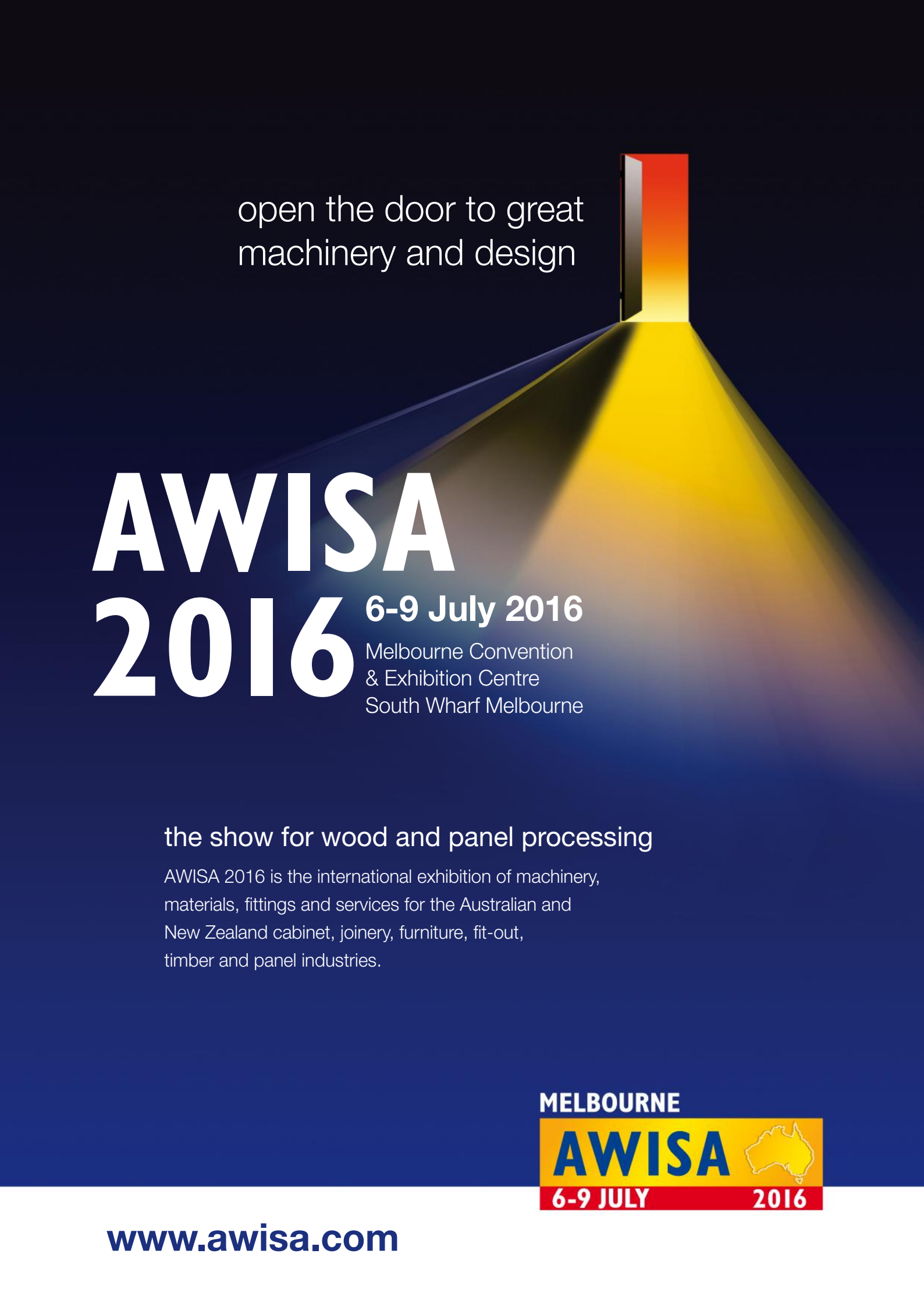
The cutterblock can be raised and lowered to determine just how close to the surface you will cut. Adjustment is continuous with no minimum and therefore can be set and then locked to cut the edging perfectly flush with the surface. You do need to carefully consider the species and quality of edging material before deciding on the depth setting. Careful planning when machining and gluing will also allow you to cut with the grain direction, further minimising the risk of tearout.

The cutterblock is driven by a powerful 1300W motor and has two straight carbide knives. It is comfortably able to remove 2mm in depth of material in one pass and leave a clean surface. Maximum cutting depth is 3mm. If you have more than 2mm to remove, it's better to make several passes, changing the cutterblock position in between. The cutterblock is able to cut 55mm in width, so even wider edging stock, such as the framing on a tabletop, can be trimmed down with ease. Replacement blades are $21 per set.

Like all handheld planers, chip extraction is important and the tool has a port located right near the cutterblock for easy and effective shopvac extraction. This is a deliberately heavy tool at 6.5kg. This is to minimise vibration in use and the design cleverly has the centre of gravity focused away from the cutterblock side, reducing the risk of the tool tipping off the surface and biting into the panel. Another nice touch is the electric brake, which brings the motor to a standstill very quickly, allowing you to move on more efficiently.

This is a single purpose tool that at $745 will not be justifiable for everybody. For those in fast-paced manufacturing shops who work with a lot of veneered panels, it could however save you a lot of production time. My friend, owner at QDoors Manufacturing, bought one of these at AWISA 2015 and tells me that it has since seen daily use in his factory. This was in fact the tool loaned for this review. I was so impressed that I've since bought one myself and regularly use it to great effect.

Available in Australia from Beyond Tools, www.beyondtools.com and Gregory Machinery, www.gregmach.com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Mirka Deros Random Orbit Sander

Reviewed by Raf Nathan

Based in Finland, Mirka specialise in abrasives technology for the automotive, woodworking and building industries. For Australian woodworkers Mirka's Deros is a new random orbit sander that is now available locally and well worth taking a look at.

The Deros sander is conveniently supplied standard with two base pads, 125mm and 150mm in diameter. As such it's almost like having two sanders in one with the smaller pad suitable for well, smaller work. The motor is a brushless style which is now the industry standard for longevity in power tools.

Mirka manufacture a range of coated and flexible abrasives, notably their Abranet abrasive discs. These have an open mesh design that allows maximum dust absorption through the sanding pad. With no holes to align Abranet discs will fit any random orbit sander and at around $1.40 per disc, the price is comparable with other abrasive discs.

The tool I trialled came with a 5mm diameter orbit however 2.5 and 8mm orbits are also available. In my experience the smaller 2.5mm orbit leaves less scratches but is slower for hogging off material. The interesting thing though, is that after using the 5mm orbit with 80 grit abrasive attached there were no discernible scratches on the wood surface. The Abranet abrasive I used would have helped, but either way this was an impressive performance.

1

The Mirka Deros is very compact compared to other random orbit sanders. The motor is mounted within the handle so the centre of gravity is low and with the paddle style switch mounted centrally the balance is very good.

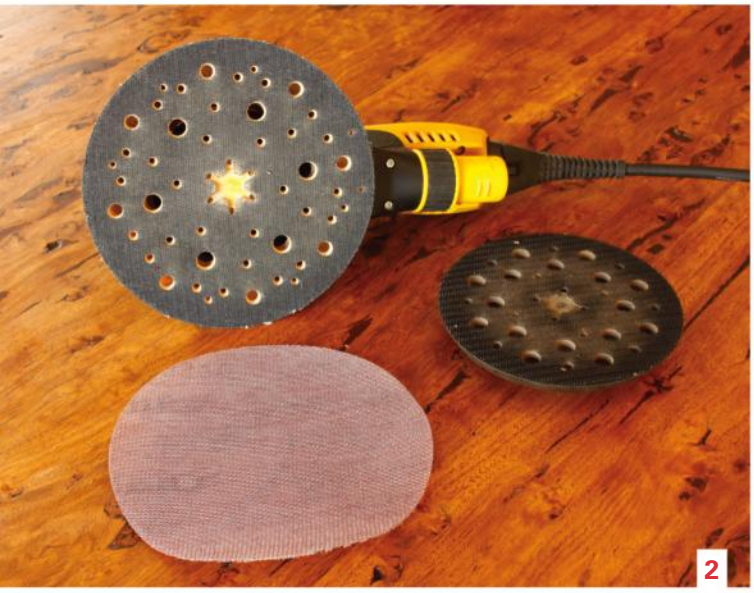
Power and orbit speed is digitally controlled via buttons. The paddle switch is simple to use, just push down, however unlike other sanders there is no on-lock which would be a better option for extended use. Releasing the paddle activates the brake which brings the tool to a stop quite quickly.

Changing pad sizes is easy by slipping in a spanner and spinning the pad off. With the pad removed you can also vary the vibration level of the tool to your own liking by adding or removing small screws in the base. This seems a bit hit and miss but I did add in one screw and it seemed to lessen the vibration coming through the handle.

After a few sanding sessions the tool became a favourite to use. It is reasonably quiet, balanced and very efficient. At around $800 it is not cheap, although you are getting a brushless motor, excellent dust extraction and two sanding pads.

The design of the pad means you can use pretty well any brand of abrasive discs so you are not limited to Abranet, although having now used these for a while I am a convert to their perceived superior dust extraction ability and efficiency.

Review tool supplied from www.bestabrasives.com.au or phone 0412 011 160.



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1. Tool comes standard with 125 and 150mm diameter pads.
2. Abranet abrasive discs allow maximum dust extraction through the base although other brands of abrasives will also fit the Deros.
3. All-digital control for power and speed with a push-down paddle to activate the tool.

3

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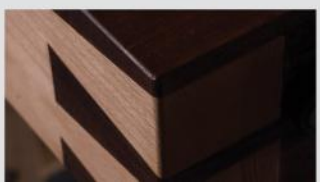

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Triton TRI-TA1200BS Belt Sander

Review by Damion Fauser

Triton Tools has recently released a new player onto the belt sander market. Featuring a 1200W motor that drives a standard 76 x 533mm belt over an effective sanding area of 76 x 150mm, this is a solid tool out of the box.

Triton has attempted to increase the flexibility of the tool with two new features. Firstly the front handle is position-adjustable for comfort and the front wheel is a significantly smaller diameter than on typical machines. Triton claim this will allow the machine to be operated better in confined areas such as up against a wall when sanding a floor.

The machine has good heft at 4.8kg, and operates smoothly with minimal vibration. Dust extraction is passable with the supplied bag that fits onto the port, but as with all sanders, using a powered extraction source would be far more efficient.

A good range of belt speed adjustment is available, ensuring that both coarse and delicate work can be conducted.

With a standard belt size, commonly available off-the-shelf belts can be used. Belt changes are straightforward by releasing the locking lever, changing belts and locking the lever in place. Subsequent tracking of the belt on the platen is a simple affair. The platen has an insulating layer of cork under the steel plate, which both reduces heat transfer and softens the effect of the machine on the surface.

A set of clamps is supplied for fixing the machine to a benchtop for operation in a stable inverted position. Available, but not supplied in the box, is a sanding frame that can be attached to the machine to assist with controlling the depth of cut and reducing the risk of tipping the tool or gouging the work. If you're going to use a belt sander for delicate work then this would be an excellent option to purchase.

At around $235 this is a solid and affordable entry-level sander that will handle most home improvement or workshop tasks with ease.

Review tool supplied by www.tritontools.com.au

Gilly Stephenson's Clear Cabinetmaker's Wax

Reviewed by Damion Fauser

For smaller projects I like to use a wax finish – it gives a great polish that not only nourishes the wood but also leaves a wonderfully tactile surface.

Gilly Stephenson's is a Western Australian business that produces a clear cabinetmaker's paste wax that I've found to be ideal for this purpose.

Based on beeswax and carnauba wax, this is a very easy polish to apply. With appropriate surface preparation, sparing application and diligent buffing, you will achieve a finish that is pleasing to both the eye and the touch.

I also like to use this product for my steel machine table surfaces. A light application achieves two purposes. Firstly, it makes the tables slick, which assists with the machining process. Secondly, here in the humidity of Queensland, it helps protect the steel from corrosion.

Available in 100gm, one and two litre cans from hardware stores or www.gillystephenson.com, this is one of my favourite workshop products.

More information from www.gillystephenson.com

Complete System

Mobile dust extractors are an integral element of the Festool system concept. This is why Festool not only develops its own tools, but its own extractors too. They are compatible with all Festool electrical power tools and air tools. They are designed to optimise your work, and your health by removing up to 99.9% of dust. There are extractors with container volumes ranging from 10 to 48 litres, as well as some with or without automatic main filter cleaning (Festool AC stands for 'autoclean'). They are equipped with an integrated hose garage, Sys-Dock for holding the Systainer, Sortainer and Workcenter and embedded in a complete system of accessories and consumables – from self-cleaning filter bags to various suction hoses through to handles or tool holders.
www.festool.com.au

Product news

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

Portable Combo

With Hafco Woodmaster's portable machining duo, onsite and shed set-up is easy. The PJ-6B 153mm planer/jointer, currently $473, features a cast iron table, base and fence for medium-duty applications. Two HSS blades powered by a 1.5hp, 240V motor give a 10,000rpm blade speed. Includes built-in fan with dust chute and waste collection bag. Partnering this the T-13A Bench Mount Thicknesser (at time of writing $539) has generous 330 x 152mm cut capacity, auto feed rollers, and two double-sided HSS blades driven by 2.4hp, 240V motor. Turn the top handle to pinpoint your cut depth with height and thickness gauges.
www.machineryhouse.com.au

Cordless For Comfort

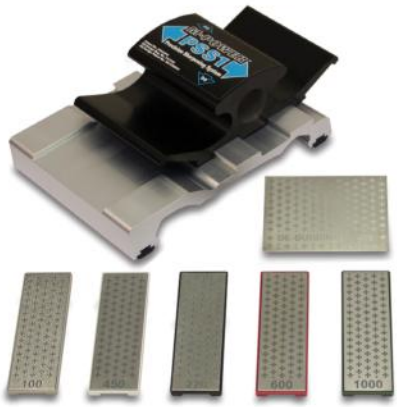
Bosch Blue's new slim (200mm dia) barrel grip jigsaw combines easy handling with 18V power. Weighing 2.4kg and only 282mm in length, it's designed to reach more material from any which-way, held up or down, and in tight spaces. Auto-stop-brake means it does just that when switched off and the LED function switches on and off as required. Speed selection is 550–2700 rpm, and 23mm stroke length blade change is via 'One-hand SDS' system. Target users are tradies and on-site workers.
www.bosch-pt.com.au/professional

Make a Knife

In Norway knife making is a traditional hobby and now Scandinavian kits like the one shown are available in Australia from online retailer Creative Man. The kits require different levels of skills and tools. Beginner kits come with already sharp blades, pre-shaped handle scales and are easy to build. With the Scandi Bushcrafter Kit shown however you get the fun of shaping scales and spacers from scratch, while other kits offer even more build opportunities. Kit prices range from $52 to $110.
www.creativeman.com.au

Simply Sharp

With M-Power's Precision Sharpening System blades are held firm in a holder as DMT stones of varying grades are run over edges at the desired angle. Blades are held in a base while interchangeable stones slide into the removable base. It's that simple.
www.woodworksupplies.com.au

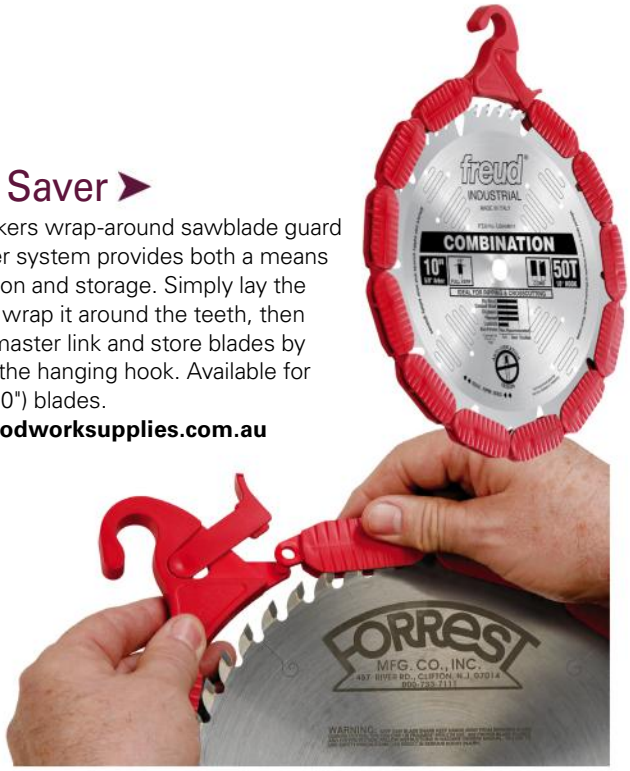


Flexible and More

I Wood Like's Pro 300B bandsaw gives the best of both worlds. It has a large cutting capacity, but can also perform detailed curved work. The fence mounts on a large diameter mounting for maximum rigidity to ensure accurate cutting. For angled cuts the table tilts to 45° using a rack and pinion system. Designed to machine timber as well as some plastics and acrylic, the machine blade speed is 820m/min. However with a quick belt changeover the speed reduces to 380m/min for clean, accurate cutting. Fitted floor stand unit is standard, however an optional wheel kit makes it easy to move around the workshop.
www.iwoodlike.com.au

Blade Saver

Woodpeckers wrap-around sawblade guard and hanger system provides both a means of protection and storage. Simply lay the blade flat, wrap it around the teeth, then latch the master link and store blades by means of the hanging hook. Available for 250mm (10") blades.
www.woodworksupplies.com.au



Fits Festool

Oneida's Dust Deputy Box Separator is designed to fit most portable dust extractors but of particular note is that it integrates perfectly with Festool extractors. In fact it locates on top of the Festool machines with no fuss at all. The kit includes a big 19L container with six feet of static dissipating hose and cuffs. Plastic bags allow for relatively clean dust disposal. Available for around $519.
www.carbatec.com.au

East Meets Waist

Weekday warriors will enjoy the convenience of a new range of Japanese type pullsaws for both wood and metal that clip to your belt to be always at hand. Waistern saws have a short straight handles that combine with shorter sawblades for more balanced strokes. Flexible blades are hard impulse treated to maximum HV800–950 for lasting sharpness. Waistern metal pullsaws have slender tapered blades with HSS teeth for cutting thin ferrous plates or iron inserted gutter, non-ferrous metal pipes and frames.Priced from $39–59.
www.carbatec.com.au

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Knife-Hinged Jewellery Cabinet

This simple project will take your cabinetmaking skills up a notch, writes Charles Mak.

1. Cut the side rebates for the French cleat and rear panel.
2. Group and cut all the mortises belonging to the same settings before resetting the domino joiner for the next cuts.
3. Clean up the stopped holes with a chisel and router plane.

My daughter, Tiffany, kept her favourite pieces of jewellery in her bedside table's drawer, cushioned in their original bags or boxes. I edge-joined some project left-over boards and built this small cabinet for her jewellery. With the dual mounting design, she can choose to leave it on the wall or place it on her dressing table as the need arises.

Design

As she prefers to keep the jewellery in their original holders, I included only three storage shelves. French cleats on the back and a recessed handle on the top give flexibility in how it can be placed. Finally, to add some elegance to the cabinet, I used the knife hinges to hang the door.

Knife hinges are often seen in cabinets built by James Krenov. There is little margin for error in their installation, but I will show you step by step how you can install them like a seasoned furniture maker.

Construction

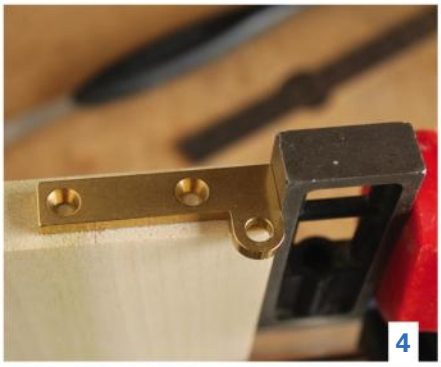
Overall the cabinet is 510mm high x 230mm wide x 150mm deep. Building a small cabinet can be as challenging as making a huge cabinet. This cabinet, made from poplar, plywood and padauk, will take your cabinetmaking skill up a notch. As in many of my projects, I took advantage of power tools for speed and efficiency, for example, using a domino joiner to join the carcase and drawer with loose tenon joinery. However I rebated the sides and mortised the hinges all by hand, which were precise and fun to make.

The carcase

The carcase consists of the top, a fixed shelf and the bottom, all joined using the domino joiner. After making the back rabbets on the sides with my skew rabbet plane (**photo 1**), I cut all the mortises for the dominos (**photo 2**).

It is easier to install the recessed handle on the top before the carcase is assembled. I first drilled two overlapping

4. Place the door hinge centred and flush with the door's edge and layout the hinge mortise with a knife and marking gauge.
5. A router plane or a trim router gives a flat mortise bottom.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6. Locate the centre for the screw and offset the location slightly toward the end to draw the leaf against the mortise.
7. Place the hinge against the gift card used as a shim to set the gap and mark the opposite end and elbow on the fixed shelf.


6


7

stopped holes with a Forstner bit and then chiselled out the bottom flat (**photo 3**). I dry-assembled the carcase and held it together with clamps – no glue. The rear panel was cut to size and put aside until the final assembly.

The door hinges (with holes)

The layout for the door hinges (the ones with pivot holes) is straightforward; I always mount them first. Starting with the door's top edge, hold the leaf centred and flush with the door's end. After scribing the layout of the hinge leaf with a marking knife (**photo 4**), clamp the door in the vice with two support pieces to avoid splitting the thin mortise walls when chiselling while also providing a wider base for the router plane (**photo 5**).

When chiselling hinge mortises by hand, I first rough out the waste with a series of cuts down the length of the mortise and then in the opposite direction. In this step, I use the chisel with its bevel down and stay clear of the layout lines. After removing the bulk of the waste, I then chop and pare to the lines.

If you remove the waste with a trim router, make multiple passes and complete the mortise walls with a sharp chisel. Pre-drill and install the leaf on the top edge, and repeat the same procedure for installing the hinge on the door's bottom edge (**photo 6**).

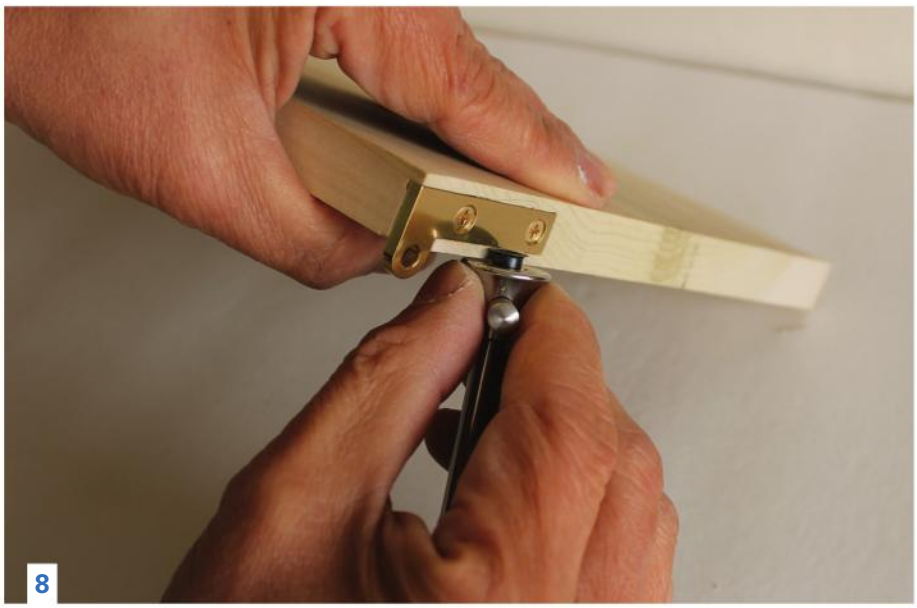
The carcase hinges (with pins)

The layout procedures for the carcase hinge leaves (the ones with the pins and washers) are not the same because of the gap between the carcase and the door. The door's gap is usually the same as the thickness of the washer on the pin leaf. (The washers of the hinges I used have the same thickness as a gift card.) To allow for wood movement, you may leave a wider gap on the unhinged side between the carcase and the door.

With the carcase still clamped in place and starting from the bottom side/fixed shelf, place the pin leaf and the gift card against the side where the door is to be hung. Scribe across the end of the hinge as well as the elbow (**photo 7**) and remove the shelf from the carcase.

Use two wheel marking gauges or a double-ended gauge for the next step to record two settings. Set the first gauge to equal to the distance of the front edge of the door to the installed door hinge's edge (**photo 8**) and then the second one equal to that distance plus the width of the pin hinge leaf. Using the two settings, scribe the mortise lines on the fixed shelf between the end and the elbow marks. Cut out the hinge mortise as before and install the pin hinge leaf.

Since the top is set back from the sides, for the top carcase hinge, add the set-back distance to the two previous settings. Use the new gauge settings but the same steps to layout and cut the mortises. Install the hinge leaf on the inner top surface.



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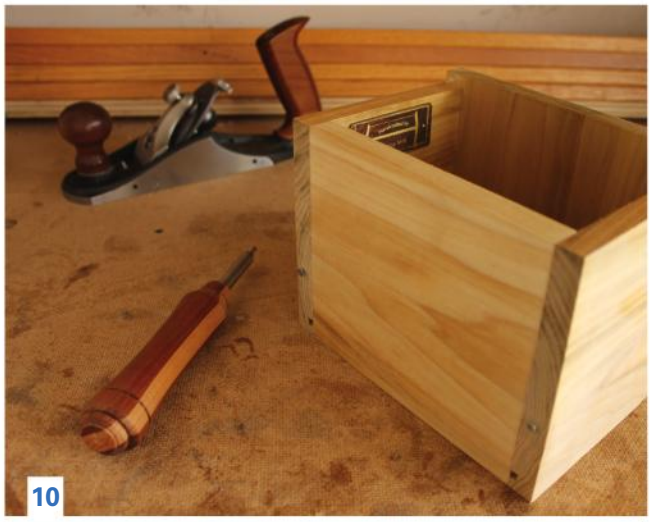
8. Use wheel gauges to transfer the door hinge's setting to the fixed shelf on the carcase.

9. Put a profile on the strip blank and cut out the strips on the tablesaw.

10. Adjust the screws until the drawer front is flush with the sides.



10

After one last round of dry fitting and making any necessary adjustments, assemble the carcase and hang the door.

The shelves

Drill the shelf supports holes on the sides. I used plywood as shelves and covered the edges with poplar edging strips. To make the strips, I put a profile on an oversized blank with my hollow moulding plane and then cut out the strips on the tablesaw (**photo 9**).

The drawer

The cabinet drawer is joined using dominos. I cut the drawer front from the same board as the door for a continuous flow of grain pattern. Here is a trick I used to set the drawer's front flush with the sides: Make the drawer a little shallower and attach two small screws to its back for fine adjustment (**photo 10**).

Finishing

I chose an oil finish – boiled linseed oil – for the cabinet and I applied several coats with light sanding between coats. Adhering to Tage Frid's advice, I avoided finishing the inside of the carcase or the outside of the drawer sides to prevent sticking. For a low sheen, I waxed and buffed the surfaces as soon as the top coat was cured.

Photos: Charles Mak

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

CUTTING LIST (MM)

PART	QTY	LENGTH	WIDTH	THICKNESS
Carcase				
Top	1	230	160	19
Side	2	480	150	19
Fixed shelf	1	188	135	19
Bottom	1	230	160	19
Door	1	317	185	10
Shelf	3	188	125	6
Back	1	480	220	6
Knob	1	18	15	
Drawer				
Front	1	183	147	19
Back	1	156	140	19
Side	2	120	140	19
Bottom	1	165	115	6
Knob	1	18	15	
Cleat				
Upper/Lower	2	220	30	8

A Handsaw Primer

Ian Wilkie writes about what to look for when choosing small saws for general woodwork.

Ian Wilkie in his workshop, showing how to keep a neutral wrist position when handsawing. Photo: Linda Nathan

Above right: Four tenon saws showing a range of sizes, but they may be both smaller and larger!

1

Anyone wanting to do some 'unplugged' woodworking will put a handsaw or two high on the list of required tools, and when most people think of small saws they will be imagining a saw with a short blade stiffened by a steel or brass spine. Thanks to the internet and woodworking magazines, we seem to be adopting the North American generic term 'backsaw' for these types of saws, which, for a general name, is as good as any. Tenon saw? Dovetail saw? What's the difference, and what do the names mean, anyway?

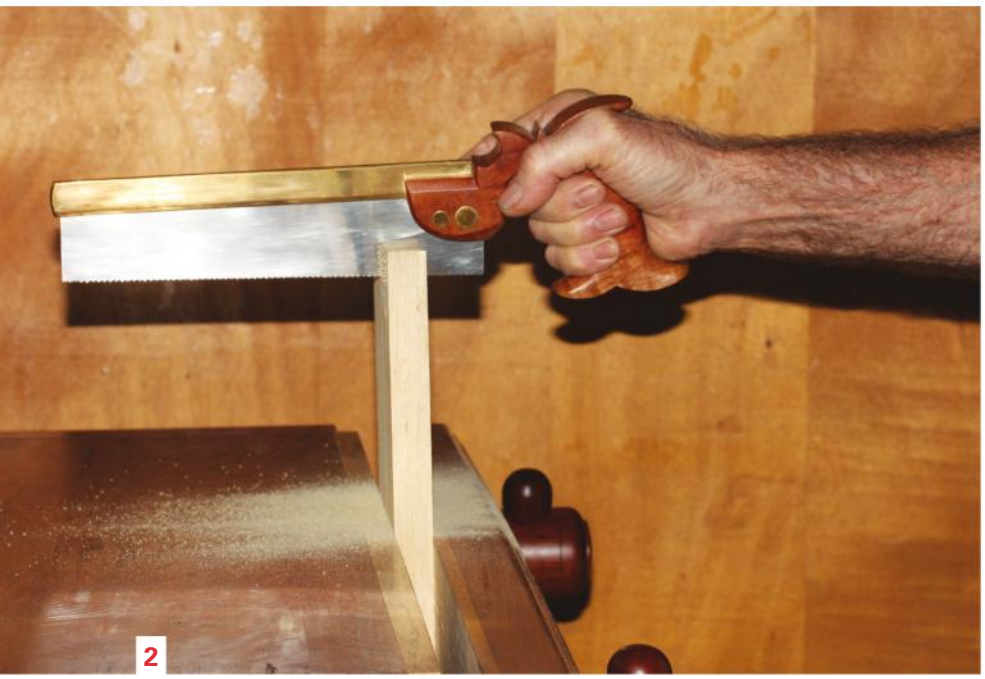
The short answer is not much, partly because there are no consistent definitions and partly because there is so much variation within categories!

Photo 1 shows the four tenon saws I regularly use. They are of quite different sizes and have different-sized teeth, but they do have some properties in common, which will be discussed below.

A common question from beginners is: 'which saw should I use? The answer always starts with 'It depends…' Mostly, it depends on what you want to cut with it. Once you decide that, the factors you need to consider in order to choose saws which best suit your purposes are overall size, number of teeth per inch (tpi) or 'pitch', whether the teeth are designed to cut with the grain (rip cuts) or across it (cross-cuts), and finally, the position and angle of the grip. Without worrying about names, let's concentrate on what makes a saw suited for a given task.

Size matters!

It's better to have a saw that fits the job, and I see no point in pushing around more metal than necessary. Complicating the choice of size is the inescapable fact that we woodies are an individualistic lot, and have a very wide range of opinions on what constitutes the perfect tool. Our body size, physical strength, plus personal preferences and prejudices, all play a part in deciding what we like. But it's worth choosing carefully because you are more likely to achieve good results with a tool that is easy to hold and feels intuitively 'right' in your hand. I think 'twas



2. Arm and wrist positions when sawing dovetails at a comfortable height: With a 'neutral' wrist position, the tooth line of the saw sits more or less parallel to the benchtop, making it easier to saw to the lines on both sides of the cut.
3. The higher grip angle of a carcase saw (front) compared with that of an equivalent size of dovetail saw (rear).
4. Sawing at benchtop level with a saw whose handle is set higher, so that the wrist remains comfortable and 'neutral' with the arm sloping down.
5. Two common sizes of tenon saw. The smaller saw has a 250mm blade and 65mm depth of cut, and 12tpi. The larger saw has a longer (350mm) and deeper (95mm) blade and is 10tpi.

ever thus, because back when handsaws were used for almost every sawing operation involved in building anything, they came in a mind-numbing variety of sizes and styles.

The size and shape of the teeth are also fundamental properties that set the range of tasks for which a saw is suited. As an example, I could cut dovetails in 18mm thick wood with just about any saw, but it would be extremely awkward to do with a thumping great saw with a pitch of 6 or 8tpi meant for cross-cutting, and the results are likely to be pretty ragged. A finer-toothed saw that is small enough to allow me to see clearly what I'm doing, is far more likely to deliver acceptable results.

How many fangs?

A general rule of thumb for comfortable sawing is to have at least five or six teeth engaged in the cut. This keeps the pressure on individual teeth at a reasonable level and minimises 'grabbing'. That's not an inviolable law; beginners may struggle even with six or more teeth in a cut, while experienced sawyers might easily saw with only three or four teeth cutting at once, it's a matter of keeping the right pressure on the teeth.

It also depends on the wood type and how easily it saws, of course. Conversely, you can have too many teeth engaged in the cut (i.e. using a saw with very fine teeth to cut a wide board). Finer teeth generally leave a smoother cut surface, but their gullets (the space between teeth) cannot carry much sawdust, so if they cannot exit the cut quickly and clear themselves, you will find they cut slowly and erratically, and the cut surface may be degraded.

Fine teeth are also more difficult to sharpen accurately. Any saw can satisfactorily handle quite a wide range of widths either side of its 'optimum', just try to ensure that there are enough teeth contacting the wood, and that all working teeth exit the cut at some point of the stroke.

So you want to cut dovetails?

Many small backsaws are given the name 'dovetail saw', but what are its essential properties? Cutting dovetails demands accuracy, and a light, manoeuvrable saw makes that easier (like driving a sports car), which is one reason they tend to be smaller saws.

I'm of average size and arm length, and I find blades 225mm long with a depth of cut of around 45mm very satisfactory. Most of the dovetails you'll make will be less than 25mm deep, so a deep blade isn't necessary.

5

4

Dovetails involve cutting more or less with the grain, so it makes sense for them to have 'rip' type teeth. A saw suited to dovetailing also works as a small tenon saw, since tenon cheeks are also cut with the grain.

To saw dovetails or tenons, I usually hold the board to be sawn in a vice, with the sawing point as high as I can without introducing chatter (so I can see those fine lines!). In practice, this is around 150–200mm above my benchtop level for typical 16mm thick drawer sides.

The saw I select for this job is one with a handle that keeps my wrist in a comfortable 'neutral' position (**photo 2**). This is determined by the angle of the handle grip relative to the tooth line, plus the height at which it is set relative to the blade. These relationships vary amongst the various saws on offer, and to be absolutely sure of having a saw that suits you, you really need to use it.

The difference in grip angles is clearly demonstrated in this picture of a carcase saw (designed for cutting at bench height) and an equivalent sized dovetail saw (**photo 3**). The grip on the dovetail saw (rear) is angled at about 65° to the tooth line while on the saw in front, it is closer to 50° and also set higher on the blade so it will clear the workpiece when cutting across wide boards (something a dovetail saw doesn't need to do). The high-set handle does make power transfer a little less efficient, but this is not as serious a concern as it is on large handsaws.

You want smooth cut surfaces on dovetails, so fine teeth are desirable, but not so fine that they clog or cut slowly. I find 15tpi is a good compromise, which cuts efficiently but leaves surfaces good enough to

Talking About Saws

Teeth and pitch. Despite 40 years of metrification most of us still talk about teeth per inch for saws rather than using the European system of defining tooth width (e.g. 10tpi in the imperial system equals a pitch of 2.5mm in the European system). Teeth per inch seems easier to conceptualise to me, but it's really just a matter of what you are used to.

Rip or crosscut. Saw teeth are optimised for cutting either along (ripping), or across (cross-cutting), the grain of the wood. Rip teeth are filed straight across, so that each tooth has a flat face and trailing edge, creating a series of miniature chisels or more accurately, scrapers.

Rake angles. They also have 'negative rake', meaning the front edge of each tooth is sloped back a little, away from the cutting direction. Rake angles are very important on ripsaws, the more vertical the tooth face, the more aggressively it cuts, but this may cause a very rough, chattering action, especially sawing straight across the fibres in hard woods (as you do when bottoming a tenon cut for example.

However, the more the tooth is laid back, the slower it cuts. Most ripsaws start out with rake angles of the order of 5–7°, which is normally a good compromise between smoothness and speed of cut. Users can easily alter the rake angle to suit their needs and preferences during sharpening.

Crosscut teeth have more negative rake (up to 45° in extreme cases) and each tooth is filed with a bevel on the leading and trailing edges, so they come to a sharp point. This creates a series of knives, slicing the wood fibres at each stroke, and generally causing far less break-out on the exit side of the kerf. Altering rake angles on crosscut teeth has a much smaller effect than a similar change in rake on ripsaws.

be joined 'off saw'. At this pitch you should be able to comfortably saw stock from 6–20mm thick, which covers the majority of dovetails used in furniture, or even boxmaking. This pitch will also crosscut almost as well as 'proper' crosscut teeth of the same pitch (you may notice a teeny bit more breakout on the exit side), so this saw can handle a wide range of tasks.

What about across the grain?

For docking small boards and cutting tenon shoulders I use a carcase saw, so-named because they are much used in the preparation of pieces for furniture carcases. They are usually medium-sized to large saws which have a grip height and angle optimised for cutting at benchtop level (**photo 4**). Note how my wrist is still in the 'neutral' position, even though my forearm is sloping downwards. The teeth are, of course, optimised for cutting across the grain. If a dovetail saw is the sports model, these are the 'utes' of the workshop.

Many furniture components are between 35 and 90mm wide, a range that can be handled with a tooth pitch of about 12tpi. If you regularly make cuts on the wider end of that range, 10tpi would suit better.

'Tenon' saws

This is probably the most common, but least precise name for backsaws. Any ripsaw could be used to cut tenon cheeks, which come in a huge range of sizes, therefore, so do the saws used to cut them. The one thing they should all have in common is that the teeth are optimised for rip cuts.

Tenons on furniture components can be anywhere between 25mm and 150mm or so wide, and any single saw would struggle to cover this range. It's hardly surprising then, that tenon saws may have blades as short as 200mm, or longer than 350mm – these are the 'trucks' of the backsaw world!

Tooth pitches anywhere between 8tpi on the larger saws to 14tpi on the smaller, are typical. Because these saws are used in much the same way and position as dovetail saws, the hang angle of the grip should be similar.

The size of saw and tooth pitch that suits you is a personal choice, but to give you an idea, **photo 5** shows two of my saws that will handle most of the tenons I cut. The smaller saw is light and very easy to use – it gets a lot of use in my shed, cutting furniture-sized pieces. The second is a larger beast, with a thicker (0.76mm) blade that is 350 x 95mm and has a tooth pitch of 10tpi. This is quite a lot of saw, and it only comes out for heavy duty tasks, but it makes short work of large tenons for bench legs, for example.

Do you really need multiple saws?

The number of saws you need is obviously determined by the range of tasks you expect of them – I could live with just two backsaws if I was forced to, a medium-sized tenon saw and a medium-sized carcase saw, but I would certainly miss my other saws at times.

As well as general size, and the pitch and type of teeth, there are still some other important aspects which may influence your choice of saws. These include objective factors like the length of your arms (longer arms are more comfortable with longer blades), and some which are subjective, such as simply how the saw 'feels' in your hand. And it's hard to ignore aesthetics; a bit of polished brass doesn't affect function, but certainly feeds the eye!

Subjective qualities are often as not the deciding factor (one of the best-value-for-money saws available is downright ugly, to my eyes), but we should try to be as objective as possible with our assessments. Don't be dictated to by anyone, there is no absolute right or wrong decision when it comes to choosing your tools. If you like them, and they do what you want them to, I say mission accomplished. However, if you keep the points discussed above in mind, I think you are more likely to end up with saws that not only do their jobs well, but are a pleasure to use.

Photos: Ian Wilkie

Ian Wilkie was once a veterinary pathologist but all the while a keen woodworker and possibly even keener handtool maker. Shown here, his tool cabinet holds many treasures, most of them handmade, rehandled or in someway adapted. The handsaws you can see were all made by Ian. In AWR#78 he wrote about making handsaws. Email iwwilkie@bigpond.com

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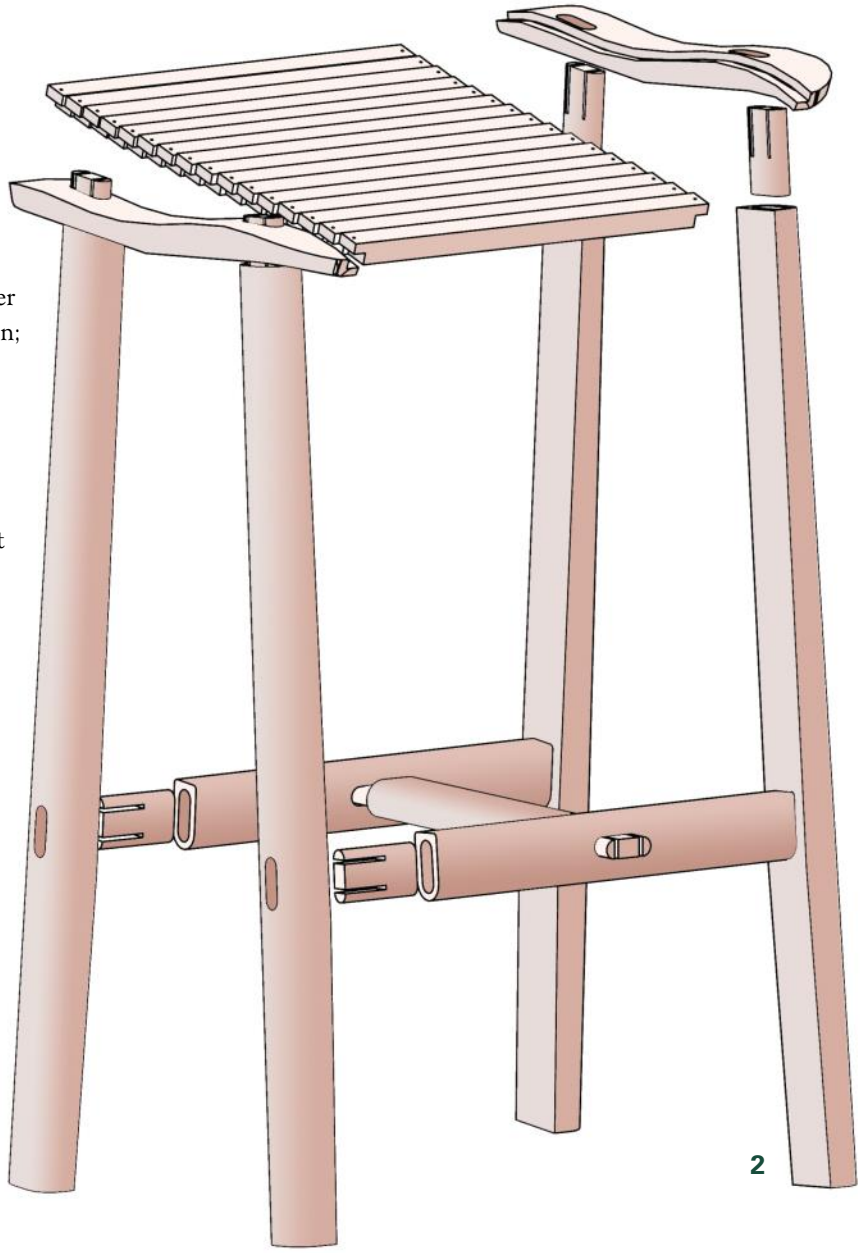
A Waterfall Reflection

Evan Dunstone looks back at the development of one of his most successful designs.

1

1. Waterfall stools by Dunstone Design in jarrah. Photo: Lisa McKelvie
2. Diagram showing stool construction by workshop manager Alex McFarlane.



I was going over some old invoice books the other day when I came to a rather sobering realisation; my *Waterfall* stool design turned 15 during February 2016.

The humble *Waterfall* has been very good to me over the years. In many ways, it was a breakthrough design that gave me a solid product that has been a consistent seller. It's been in small-batch production since 2001 and is still one of our best loved designs. I figure that there are close to 1000 'out there' in homes around Australia and overseas.

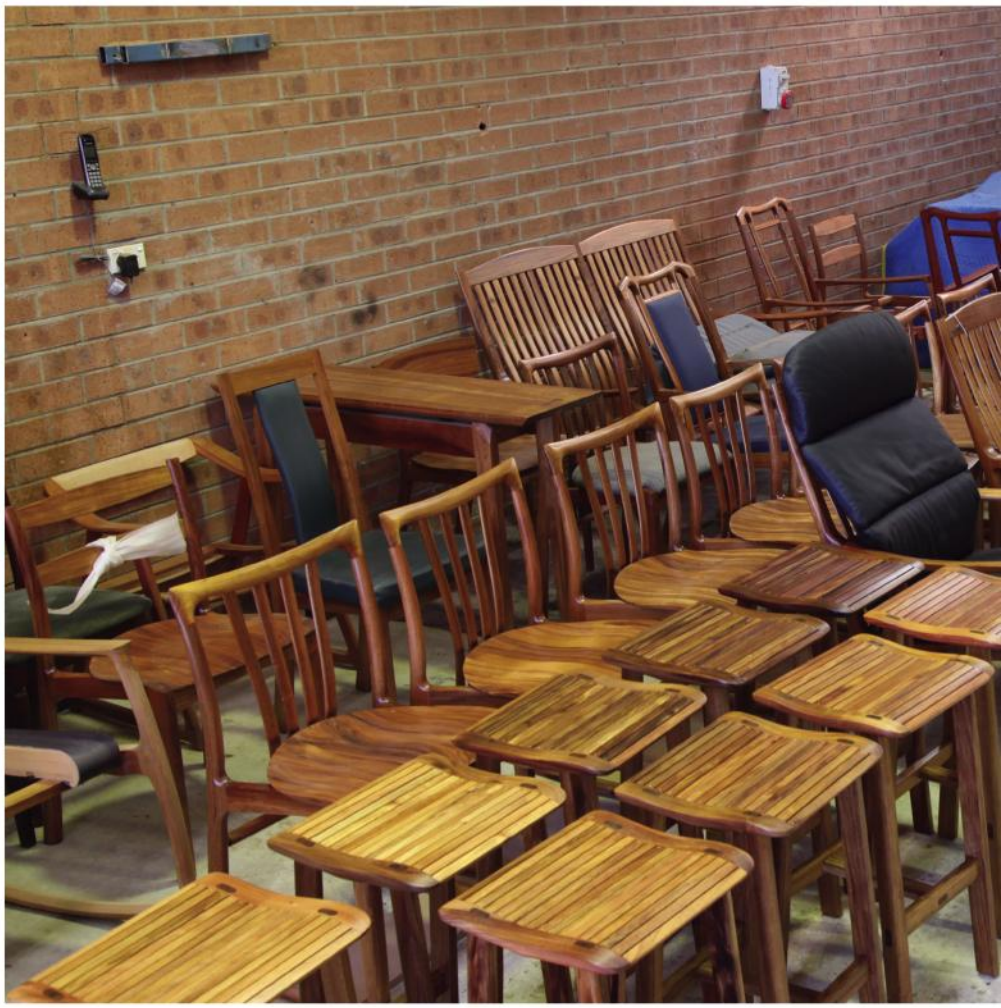
Back in 2000, I had just been awarded a Churchill Fellowship in Contemporary Chair Design and Manufacture. I was thinking a lot about all sorts of seating designs, and one of the things that kept nagging me was how to design a chair with a solid wood structural seat using cranky Australian timbers. Structural seats (think Windsor chair or Maloof rocker) need to be shaped in some way for rear end comfort.

The problem is that Windsor-style shaped seats made from some Australian timbers, especially our eucalypts, are generally problematic, not to mention heavy! Jarrah, for example, tends to warp and twist if a lot of stock is carved or shaped away from one face. I was also thinking and reading a lot about ergonomics and I was starting to refine my ideas on 'active sitting', and how to apply it to seating designs.

Put simply, humans were never designed to sit down in chairs for long periods. Chair culture is relatively 'new' and sitting for long periods in chairs can do some pretty negative things to our skeletal system. Galen Cranz's 1998 book *The Chair: rethinking Culture, Body and Design* was fundamental to my thinking and is the very first book any prospective chair designer should read, before worrying about any other aspect of making chairs.

It is often assumed that 'soft' seating is comfortable and 'hard' seating is uncomfortable. Soft seating feels good on your pressure points in the short term, but holds you in place and makes you sit passively, which is bad for your skeletal system over time. Hard seating tends to be tough on your pressure points but keeps you sitting actively (wriggling!) and is generally better for your skeletal system. I decided that the key was to design a seating solution that was not hard on pressure points, but that encouraged active sitting (without making you look like you are wriggling).

The muscle mass under your thigh (biceps femoris and his mates) is much happier to be 'sat on' than the muscle mass that covers the joints of your hips (the technical term is 'bum'). The trick is to design a stool where you essentially balance on the muscles under your thigh, and 'rest' on your behind. Very small movements (active sitting) constantly redistribute your weight over the various pressure points, meaning you do not develop sore points or skeletal fatigue.



3. Detail of jarrah Waterfall stool showing rock maple wedges and bamboo pegs. Photo: Lisa McKelvie

4. Dunstone Design makers mark. Photo: Bronwen Healy

5. In the showroom. Waterfall stools in jarrah, white oak and blackwood. Photo: Cam Mills

In addition to this, a bar stool requires your legs to be off the ground and on some sort of rest. This changes your centre of gravity and, with the right amount of shaping in the seat, rotates the pelvis, giving you natural back support. Voila, a comfortable stool! Sounds easy.

My first stool was made on commission through a local retailer. The only fly in my ointment was that the actual clients didn't want to spend much money, so I had to keep it simple. That first design was largely just a proof of concept. The stools that I delivered sat reasonably well, and the clients were happy enough, but let's be honest, it was a pretty ugly design.

I knew that there was a much better stool in my head, and so I set out to turn it into a production piece. The key was to use slats connected to shaped side rails. This made an incredibly strong, comfortable and (I think) attractive lightweight seat. All the 'work' is in the seat, while the legs and the H-frame (that spreads the legs and holds them in place) are made as efficiently as possible. There are no 'left or right' legs, the H-frame has no 'front or back' and all the components come out of standard sized timber stock. Once I had a clear view of the stool in my head, I was able to put the design into production surprisingly fast.

Despite being a production piece, to my delight as both a craftsman and designer, every stool is an individual. We carefully select the grain for each and every stool, and no two are ever the same. This is the very essence of craft manufacturing.

The *Waterfall* is also a fantastic apprentice piece because there are so many elements that an apprentice can work on, almost from day one. When an apprentice can make an entire run of these stools from scratch, without assistance, they can call themselves a maker. It's a great teaching design.

In the last 15 years my equipment has improved and my staff have changed. I have employed 12 different makers over the years (including my current three employees) and every one of those makers has been involved in a stool run. Almost all of them have contributed something, however small, to the way that we make these stools. The


5

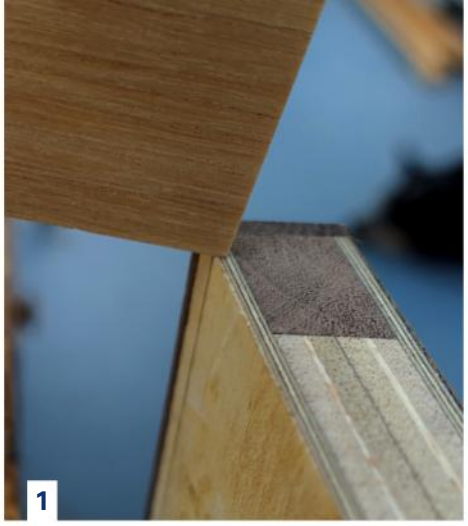
undisputed Grand Champion is Alex MacFarlane, my workshop manager, who has been with me for 10 years. Alex has found more ways to make the *Waterfall* better and faster than all my other staff combined. The first run of stools, back in 2001, seemed to take forever to finish because I was refining the design and making all the templates and jigs. These days, with good equipment and the benefit of experience, we make them in roughly half the time it first took.

For the interest of Wood Review readers, we have put together a video showing almost every stage involved in making a run of blackwood Waterfall stools. You will see the hands of Alex MacFarlane (workshop manager), Adrian Olasau (Sturt graduate in 2014 and now working for Dunstone Design), William Bayliss (apprentice and cameraman/film editor) and me. I hope you get some appreciation of all the equipment and steps involved after watching this video.

See the video Evan refers to on Wood Review TV (YouTube).

Evan Dunstone is a furniture designer/maker trading as Dunstone Design in Queanbeyan, NSW. He has written several stories for Australian Wood Review and appeared on the cover on issue 48. Contact him via www.dunstonedesign.com.au

Peter Young checks the flat created on a concave curved front for dovetailing the drawer side to at 90°.



Dovetailing on Curves

Peter Young shows how to create 90° joints when working with curves.

Whenever you introduce curves into a project the level of complexity rises sharply. I recently made a nine drawer serpentine front dresser. The three middle drawers had a convex curved front while the side drawers had a concave curved front. The drawer fronts were constructed by laminating layers of bendy ply and then covered with veneer. I built in solid wood edges so I had solid wood to dovetail into rather than plywood.

Choosing a strategy

There are three ways I know of to address the issue of dovetailing a curved drawer front as shown in the diagrams. The first option (**fig.1**) is to bandsaw the curve from solid and leave the back of the drawer front square with the drawer side. In that case no modification of technique is needed but the drawer front does end up being quite substantial in thickness.

Where the inner and outer surfaces of the drawer front are parallel curves, for example where a lamination technique is used, then the two other methods can be used. One of these methods (**fig.2**), is to angle the shoulder of the tail so that it matches the angle of the curved drawer front. While this is quite an elegant solution is does complicate the cutting out of the half lap joint.

The third method (**fig.3**) is to square up the inside edge of the drawer front to create a 90° landing for the drawer side to meet the drawer front. The only difficulty here is to accurately mark out and cut the

1. Showing the angle that the drawer side will meet the curved drawer front.
2. The drawer side needs to be square to the front, so a 90° 'landing' will be created in the inside edge of the drawer front.
3. Marking off the small squared off section to be removed.
4. The pen mark shows only a small square rebate will be removed.
5. Marking off where the shallow rebate on the curved drawer front will be made.

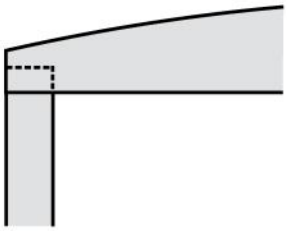


Fig. 1

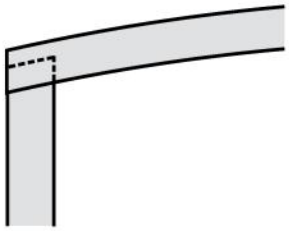


Fig. 2

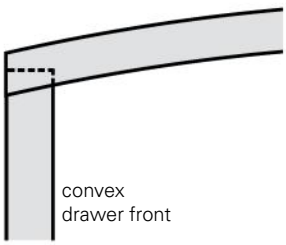
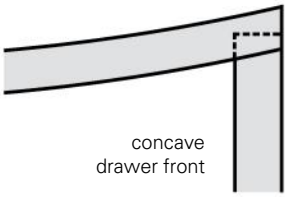
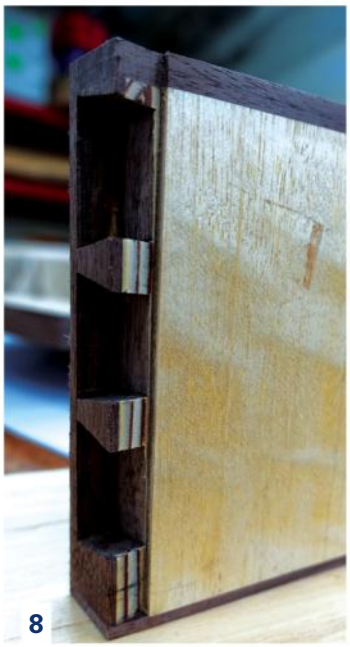


Fig. 3





6. Finishing the rebate with a shoulder plane.
7. Completed shallow rebate or landing.
8. Lapped pins cut showing the rebate that permits a 90° joint.

angled rebate that the drawer side will meet. The latter method is the one that I chose to use.

Marking square into a curve

The ends of the drawer front need to be parallel to the opening that the drawer front will fit into, that is, 90° to the drawer side – which is what you would like to do anyway. You can now use this surface to draw a line 90° to the inner corner of the drawer side end. Sounds complicated to read but it's much clearer in the diagram. Now it's necessary to remove that triangular piece from the inside of the drawer front.

I use a cutting gauge set to just under the thickness of the drawer side to scribe a line down the inside face of the drawer front. I then use either a block plane with a fence or a shoulder plane to cut the rebate. If you have a snipe bill plane you can use it to follow the knife line and establish the shoulder of the rebate and then follow up with either a block plane or a shoulder plane. Once the angled rebate is established then cutting the half lap dovetail proceeds in the normal way. Just remember that whereas the inner wall of the rebate is normally parallel to the drawer front, in this case it is not.

This is not a complicated process, but a few techniques like these can allow you to add more complexity into your designs.

See also a short video on Wood Review TV (YouTube) that shows this process.

Photos: Linda Nathan

Peter Young is a Brisbane based studio furniture designer and maker who also teaches at Sturt School for Wood, NSW. In July he will teach a weekend parquetry workshop in Brisbane. Email Peter at info@divergentdesigns.com.au.

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Waste Into Worth

Organisational skill, along with public appreciation for sustainably sourced materials, have seen this biennial exhibition evolve into a national showcase for fine woodwork.

Opposite: Angelo Toppi's *Writing Desk and Stool* are influenced by the Arts and Crafts style. Angelo also made the marquetry document box and incense and pen holders.

1. Tranh Dong, *Crates in the Round*. Tranh is a Melbourne-based and multi-talented artist.
2. Joanathan Cohen's *Cigar Box Guitar* drew on a tradition of using recycled materials for these instruments. The hardware was generated from common workshop items: frets were made from nails, the nut from a sawn-off bolt and the bridge from ex-rivet grommets.

As a showcase for both the value of recycling and the beauty of finely crafted woodwork, *Create From A Crate* (CFAC) is truly a phenomenon. When Ward Petherbridge instigated this combined competition and exhibition over 20 years ago, turning pallets into furniture, turnings and artworks was to many a new and even strange concept. 'Back then there were a few trendy inner city bars doing things with cable reels and pallets and shipping containers, but now it's mainstream', commented Ward when recently interviewed for this story.

Flash forward to 2016 and using recycled materials is now an accepted norm for makers who work with wood. In fact, Ward says, people now even refuse furniture that is not made from upcycled, salvaged or sustainably sourced timbers. Pallet furniture has now become an established genre its own right. Even the fact you can tell that it's pallet material has become desirable, anathema to at least some of the fine woodworking fraternity.

Since its inception in 2002, there have been six CFAC competitions and noticeable changes in public attitudes have occurred. For one, there's now less emphasis on hiding the marks of the material's former life. 'Instead of blending and camouflaging flaws, people are now highlighting them. People have really embraced the raw industrial look', Ward said.

In earlier competitions, it was evident wood was selected, machined and sectioned to get closer to a furniture grade look thus disguising the fact the material was recycled. In CFAC 2016, makers were seen to highlight evidence of the wood's past usage and visitors to the exhibition showed they appreciated the 'story' behind the material, its history and former purpose. In this way flaws can now be regarded as features.

3. Peter Harris, *Chess Set*. 'The bandsawn pieces and nail holes go well with environmental and chemical staining to enhance the contrast with the exactness of the board matrix.'
4. David Hall, *Stacks of Crates* cabinet. Arranged horizontally as a stack of four pallets, the recesses mimic the cut-outs for forklift tines. Awarded second prize of $2000.
5. With his *Music Stand* Earle Bartlett worked with varying colour and grain patterns to achieve visual contrasts throughout the structure.

6. Pamela Whitaker, *Chair*. 'Dismantling the pallets was a pain, but once machined revealed a renewed resource in stark contrast to the appearance of the dull, dirty greying pallets that went before.'

7. Ann-Maria Plevier, *Chess Set and Table*, oak, maple, other timbers. 'I tried to make make all the pieces look like they evolved in the same crazy world…and their checker board world is balanced on legs that could run away at any moment.'

8. Philippa Haydon, *Tools for Big Cookin'*. Pip made use of every off-cut to make spoons in a range of sizes.

9. Ross Peake, *Vise-In-A-Vise*. Inspired by the 17th century Moxon vice as shown in Joseph Moxon's 'Mechanick Exercises'.

10. Jeremy Brown won the main $3,000 award. The joinery of his minimalist frame was hand-cut. Laser-cut aluminium brackets connect the seat back to the frame. Nail holes are filled with resin.

11. Hamish Hill's *Loom* came second in Popular Choice Award voting. An assortment of dovetails and pinned joints allow the whole piece to be dismantled and adjusted.

A consequence of the acceptance and appeal of past exhibitions is that CFAC has now evolved to become a national and not just Victorian based competition. Of the 34 entries making up this year's exhibition, half came from interstate. Enquiries from makers in other states have driven this, not the competition organisers. Another most welcome and exciting development of CFAC is that it has become a top selling exhibition. 'This year 26 pieces sold,' said Ward. 'At previous exhibitions we were lucky to sell four or five pieces.'

This year the exhibition was again displayed at two venues, the Walker Street Gallery and Arts Centre in Dandenong, and Hatch Contemporary Arts Space in Ivanhoe. 'The public reception was incredible', said Ward. 'School groups, men's sheds – people were coming more than once and bringing their friends'.

CFAC has never been an annual exhibition but instead appears every two or three years. At the conclusion of each one, promoting, administrating, sending off pallets, receiving the finished work,

cataloguing, bumping in and out of not one but two venues and organising everything else Ward tends to swear that it's the last time. But thankfully it isn't.

The next CFAC will be in 2018 and plans are afoot to combine it with an exhibition of fine (non-pallet timber) woodwork that will run concurrently, once again under the auspices and with the assistance of the Victorian Woodworkers Association.

'Next year we'll open up the competition to using pallets from anywhere in Australia and focus sponsorship dollars on getting the pieces to Melbourne', explained Ward, forecasting a change that will see more timber species appear in the final mix of exhibited entries. With the growth of interest it's also likely that entries will be juried in future competitions, as numbers may have to be limited.

Response to the *Create From A Crate* concept now more than ever reflects public concerns with sustainability, however it's the passion and energy of its organisers and sponsors Waste Converters and the Victorian Woodworkers Association that have driven its success.

Photos: Viki Petherbridge

For more information see www.createfromacrate.com, www.wasteconverters.com.au and www.vwa.org.au

12. Mark Carron was voted third Popular Choice award with his *Chair*. All holes, cracks and knot-holes were retained to preserve the character of the crates.

13. Frank Duyker, *Egyptologist Confused By Recent Find*, a sculptural box, depicts the ancient Egyptian crocodile god in the form of a large toy robot. Frank said: 'The hieroglyphics are real and read: Royal Robot Makers, Toy Robot Specialists.'

14. With her carry-all titled *Decisions on the Run*, Clare Solomon received third prize of $1000 in the competition.

15. Alex Springall received $1000 as Popular Choice award winner with his dual compartment *Cabinet* with marquetry depicting Australian native birds.

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On Soap Finish

Does it work? Yes, absolutely, writes Christopher Schwarz, in this excerpt from his new Anarchist's Design Book.

Finishing a piece of furniture with soap is no stranger than covering wood with a bug excretion (shellac), tree sap (varnish), bee stuff (wax) or rendered flax seed (lacquer).

All finishes seem odd when you consider their sources. So when I first learned that soap was a traditional finish for floors and furniture on light-coloured woods in northern Europe, I was intrigued because of what soap is and is not.

Of all the things that will harm you in woodworking, finishes are at the top of the list. Take a look at the material data safety sheet (MSDS) for lacquer thinner. Now do you have the courage to spill the stuff on your skin or inhale it? I don't.

I'm not a safety nut. Woodworking is dangerous, and I embrace that. Cut yourself or don't – that is a concept we all get. But when it comes to chemicals that silently build up in my body without me noticing, I'm cautious. I know people who were professional finishers who walked out of a spray booth one day and dropped dead after years of inhaling volatile organic compounds. So soap – a treatment of a natural oil with an alkali solution (such as ashes) – is comforting.

Does it work as a furniture finish? Yes, absolutely. Is it as durable as a lacquer or urethane? Absolutely not. But that is the trade-off with safer finishes such as natural oils, waxes and soaps. They require maintenance, and I'm okay with that.

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Opposite: A soap shine. The waxy soap finish produces a medium sheen.

1. Soap flakes. Simple soap flakes have no detergents or fragrances added – that's what is best for a soap finish.
2. Soap and hot water. A solution of water and a little soap will make a soupy mix that doesn't look like much at first.

What is a soap finish?

You can't just rub a bar of Irish Spring on a chair and call it finished. (Wait, maybe you can. Try it for yourself.) A Danish soap finish uses natural soap flakes that are mixed with hot water. Soap flakes are a pure form of soap that doesn't include additional detergents, fragrances or other modern chemicals. It is simply an oil that has been mixed with an alkali solution to create a salt of a fatty acid. Our ancestors made soap by pouring tallow (animal fat) onto the ashes from a fire.

You can still buy this important and elemental soap from a variety of sources all over the world. Look for

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companies that specialise in 'natural soap flakes'. You'll find a bunch.

The flakes are white and soft to the touch. They don't have much of a smell until you mix them with water. Then they will smell just a wee bit. Your nose will register the smell as 'clean'.

If you mix these flakes with hot water you will produce a solution that is somewhere between whipping cream and a soft wax. Then you can rub this solution on your work to give it some protection and a little sheen. The trick is deciding how much water to add to how much soap.

Two solutions

When I first started to dig into the recipes for a soap finish, I found two types. One used a lot of water and a little soap – a couple spoonfuls of soap and a litre of water was a typical recipe. Then there were recipes that used equal parts soap and water. I tried both.

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When you mix equal parts soap and boiling water you end up with a waxy solution that gives furniture a semi-gloss sheen and mild protection. When you mix a little soap and a lot of water you make a mayonnaise-like solution that is easy to apply and gives furniture a matte finish with mild protection. Neither soap finish is bullet-, baby – or waterproof. But both are easily applied, repaired and renewed.

To mix up a watery solution – what I call 'soap soup' – boil four cups of water and pour that into one cup of soap flakes. Stir vigorously. The result looks like bathwater after a long soak. Don't throw it out in frustration (like I did the first time I made it).

Put the solution in a bottle to let it cool and set up. After a few hours, the liquid turns an opaque white and becomes a bit stiff like shaving cream or mayonnaise. After 24 hours, the stuff is ready to use on furniture.

To mix a hard solution, begin with a cup of boiling water and a cup of soap flakes. Pour about half of the boiling water on the flakes and mix. Add water bit by bit until you get a stiff whipped-cream-like solution. Let that cool and set up. After about an hour it will be waxy and ready to use.

Application

Applying the soap soup is easy. Rag it on so that the wood is wetted and a bit foamy. Let it stand for a couple

3. Wax on. With equal parts water and soap, you'll quickly create a stiff mixture that can be immediately applied to the work.

4. Soap soup (later). After 24 hours the 'soup' firms up into something like mayonnaise. This can be easily ragged onto wood.

5. Soap's on. The thin soap finish rags on like a soft hand cream.

6. The whole ball of soap. Spoon the soap into a rag and wrap it around the ball to create something similar to a 'rubber' when French polishing.

7. Really scrubbed. I used a soap finish on the top of this worktable. Four coats of soap resulted in a low-sheen finish.

minutes. Then take a clean rag and wipe off the excess. Let it dry for an hour then sand the surface – I use a #320-grit sanding sponge – and repeat.

After four coats you will start to see some sheen build up. Stop whenever you like the way it looks. Two coats is not unreasonable – nor is 10. To renew the finish in the coming months, apply more soap solution to clean it and create the original soft sheen.

The waxy solution is applied more like a wax. Get a clean cotton cloth and scoop a single dip-sized dollop into the middle. Wrap up the soap and twist the cloth around it to create a ball of rag and soap.

Squeeze the rag and the soap will begin to leach out of the rag. Rub the rag on your work and a small amount of the waxy soap will flow onto the wood. After you finish a leg or seat or door of your project, come back with a clean rag and buff out the soap solution. It will polish up to a semi-gloss sheen like any wax polish.

Repeat the process a couple times until you get the look you want. This soap polish can be renewed at any time. You can use either solution at any point – use the watery solution over the waxy solution if you want to experiment with a flat look. Or vice versa.

It's a great finish, but it requires upkeep. If you are happy with the ease of melamine or the durability of bartop, you probably won't like a soap finish.

Photos: Christopher Schwarz

Christopher Schwarz is Editor at Lost Art Press and author of an online blog and several books. The Anarchist's Design Book is his latest book and describes how to make a range of furniture using traditional methods. It is available locally from www.carbatec.com.au

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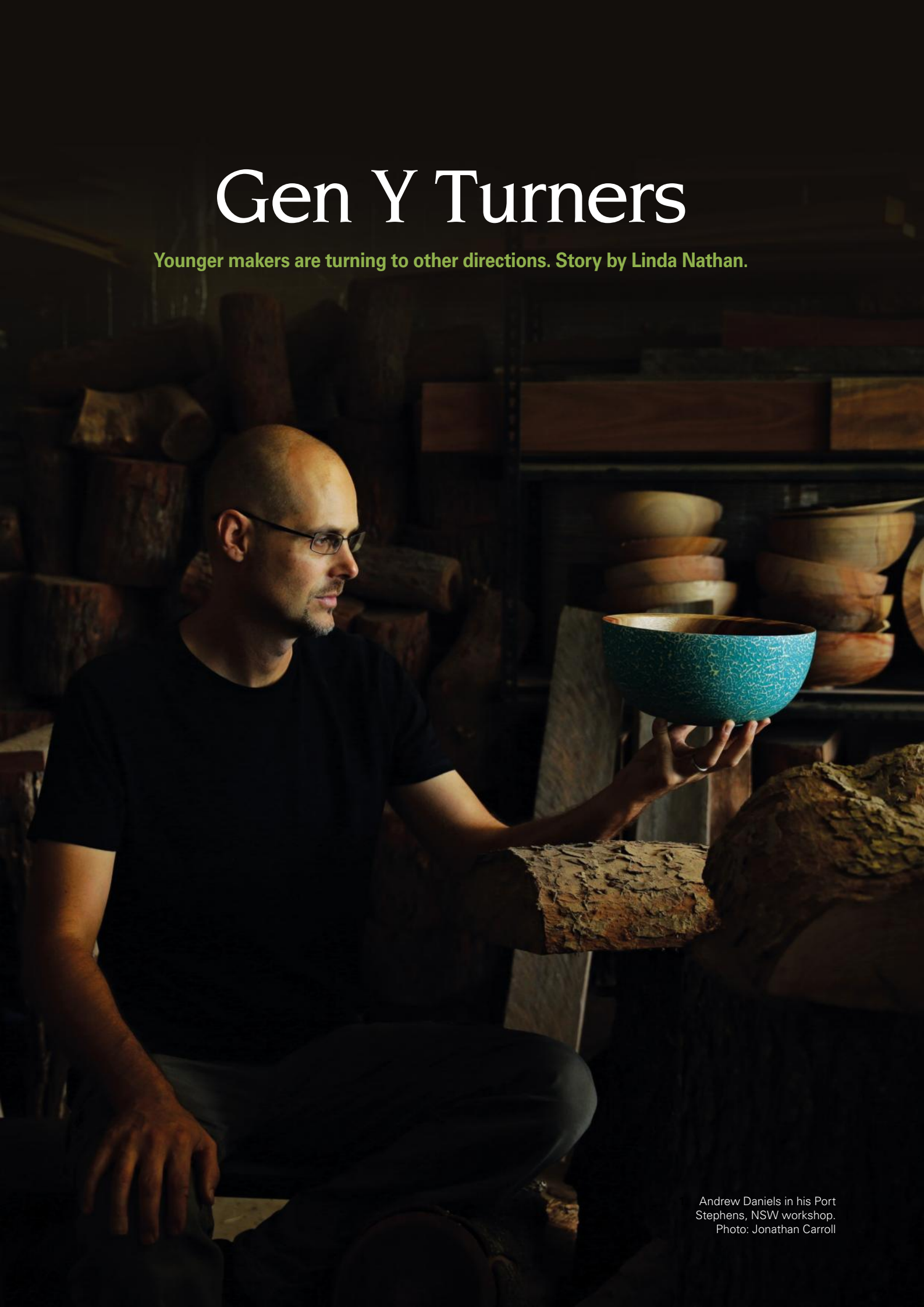
Gen Y Turners

Younger makers are turning to other directions. Story by Linda Nathan.



Andrew Daniels in his Port Stephens, NSW workshop. Photo: Jonathan Carroll

Line, Colour, Texture

Andrew Daniels, From A Seed

Andrew's work speaks volumes for itself in terms of passion and flamboyance, but talking about himself he is understated and modest. Where did he learn to do all this? 'Oh I just played around, checked out a couple of videos', he said, making it sound if it was the most natural thing in the world. How did he get started? 'I was given a tablesaw one day by a guy up the road and just started making bits and pieces. And then I bought a lathe to make some legs for a table and that was that.'

But there was more to his change of direction. Life before turning was that of a wedding photographer, 13 years of taking up to 3000 shots at a time with all the editing and post-production that meant. 'I'd been flat out with the photography work, and crazy hours and hundreds of weddings and I just wanted to get out.'

Moving to a hands-on profession seemed like an opportunity to get into something physical, tangible and non-digital. It was not planned and it was enjoyable: 'I love turning and have a huge list of ideas, it's a pity I have to go to sleep at night.'

Being self-taught and having no connection with the woodturners that have gone before him doesn't seem to have hampered Andrew in the slightest. In fact maybe it has helped, as his creativity with finishes is seemingly unfettered. Paint is flicked and swirled on, applied in dobs or boldly etched and blistered to reveal an undercoat of gesso. Finishes are created in layers, on and off the lathe. Texture is a big part of their appeal. His surfaces are visually exciting and refreshingly new

Where some see heresy in covering the natural figure and colour of wood Andrew has no fear or hang-ups. 'Selling at markets people tell me all the time I'm doing it wrong. "You're crazy!", they say. But mostly the response is positive, people love the colour, the form and the finishes. 'I get people saying "I don't normally like wood but that looks amazing".' Not all of his work has coloured or patterned finishes though, as some retains a wood look after a coat of Danish oil or a few coats of polyurethane (he steers clear of high gloss finishes).

'Getting the form right is the most important thing', he says meaning great lines and curves as opposed to intricate details, although lately his work has been involving more carving, a process he also enjoys. In a typical working week Andrew will make a large piece (his scale preference) in the morning and a medium sized piece in the afternoon, around 10 in all.

After four or five years, making a living from his turning is not far off, having more stock and perhaps doing some Sydney markets could be what gets him there. In the meantime you can find his work online or make a time to visit.
Photos this page: Andrew Daniels

From A Seed Woodwork Studio is in Port Stephens, NSW. Contact Andrew Daniels via www.fromaseed.com.au, email pulse7777@gmail.com or Instagram @fromaseed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1. Sun Garden, acrylic on wood.
2. Black and silver textured cedar plate.
3. Platter with gold textured rim.
4. Ironbark turning with 'spun' acrylic.


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5. Bowl with acrylic 'dotted' surface.
6. Aquatica coloured vessel.
7. Bowls with gesso/acrylic finish.


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Simply Modern

Anthony Kleine, AKWT

There's something different about the turnings that Melbourne maker Anthony Kleine makes. They look modern. They are functional and stylish. Wood is the star but not in charge of design. Man-made materials such as corian and acrylic are seamlessly blended with local native species. Colour is used to highlight and complement the wood.

Everything is pared back simplicity. His range of plates, platters, tumblers, bowls, serviette rings, candle holders and bangles are resolved and related designs that are made to be lived with and used, not put on a pedestal. This design ethos even extends to Anthony's website which is stylish and has an online store that's not complicated.

Anthony is not hung up on tradition. He's young. He's created his own style, it reeks of 'handmade' but doesn't demand special treatment because of that.

With a renowned stonemason for a father Anthony came into the world with the right genes and the right relatives to model himself after. After VCE he completed a cabinetmaking/joinery apprenticeship and then worked in a high end joinery before going out on his own in 2014. 'It was scary but I've achieved some pretty cool stuff in the time I've been doing this', he said.

Since taking that leap of faith Anthony really has achieved remarkable success. He was a finalist in the Victorian Craft Awards. His turned homewares are now sold in the gallery environments of Craft Victoria's art space and the Tarrawarra modernist art gallery and winery in Yarra Glen.

Anthony's work recently featured in *Timber Memory*, Craft Victoria's survey exhibition of selected work from the 1970–80s which also included a few works by contemporary makers.

Another notable achievement was the inclusion of his work in an annual acquisition event that focuses on functional lathe-turned work from all around the world. This was the result of some of his pieces been seen by US Smithsonian Foundation collectors Sue and Norman Kohn.

Anthony's work is imbued with the kind of 'simplicity' that generally only develops after the hard yards of repetition and form development have been carried out. His range is a concise statement of a design idea that is attractive and contemporary.

And it all started only a few years ago when Anthony got inspired during a trip to Tasmania, seeing examples of turned and carved woodware made from that State's specialty timbers. The week he got back he bought a lathe and started teaching himself.

At this stage Anthony is not planning to just 'pump out numbers to make a living', although working to commission or producing art pieces is another direction he could see himself heading in. For the meantime, alongside his turning he will continue to also work in stonemasonry in the family business and take on a few other joinery and furniture making jobs.

Anthony sells his range online and from Craft Victoria, www.craft.org.au and Alpha60 stores throughout Australia. Contact Anthony Kleine via www.akwt.com.au or Instagram @akxwt

Left: Anthony Kleine at the lathe in his Brunswick, Vic workshop. Photo: Linda Nathan

Right: Messmate and corian setting by Anthony Kleine.

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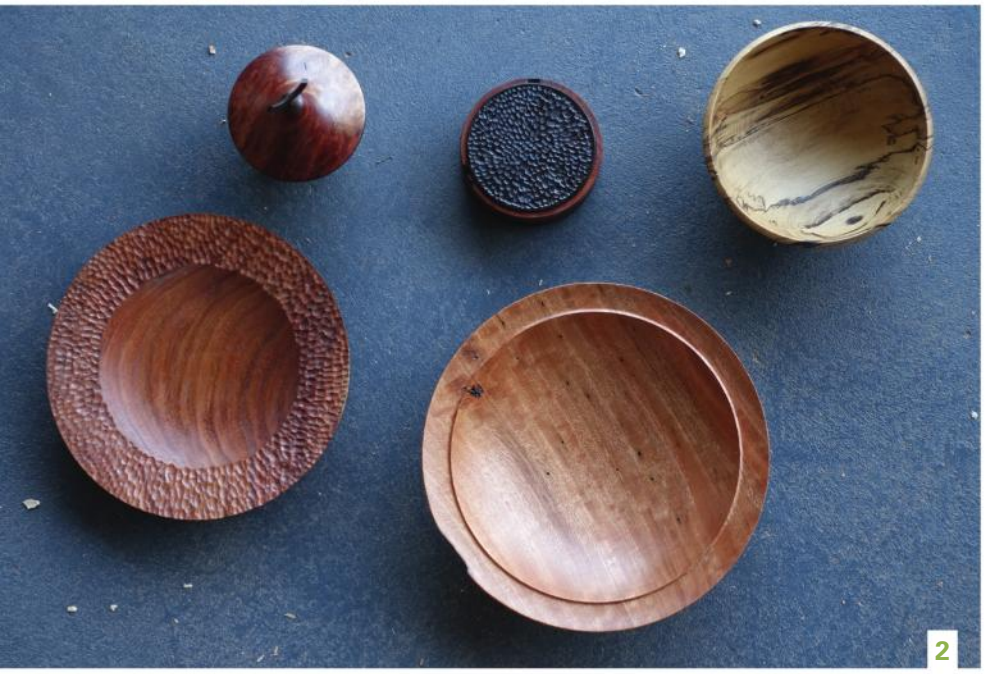

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All Things Considered

Mark Cedro, Turned Objeks

A regular in his father's workshop since the age of two, Mark Cedro could assemble cabinets by the age of eight and went on to work in the family business after school and on weekends right up to and during his apprenticeship. Mark is 28 now and still works in the cabinet and kitchen making business that he now runs with his father Phil, but his creative inclinations have literally turned in other directions.

He's not unhappy in the business and still enjoys working with Phil, but his after-work and weekend time now finds him in his home workshop where a lathe and a few hand tools hold more interest than the repetitive processes of his day job.

Hanging out with the Northern Turners club was a passport to meeting fellow enthusiasts who were happy to share skills. Ken Wraight became and still is a highly valued mentor who Mark now counts as a mate, and a

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1. Mark Cedro in his workshop.
2. Various turnings by Mark Cedro viewed from above.
3. Lidded container in red mallee burl and queen ebony, 90mm d x 150mm h.
4. Trinket box in southern mahogany with ebony finial, 100mm dia x 110mm h.
5. Turnings in blackheart sassafras, platter 300mm dia, bowl 150mm dia, hollowform vessel, 70mm x 105mm high.
6. Mark in action at the lathe.

provider of tasty chunks of woods such as ancient redgum and ancient kanuka.

Big is not necessarily where beauty lies for Mark. He would rather focus on smaller turnings, hollow vessels, boxes and platters that he may for example incorporate ebony or a contrasting inlaid band into, or create a hand chiselled pattern on. Practice will get him closer to creating the lines and balance that just look right, and may obey the general rules of proportioning, or push them somewhat.

Mark works in a considered way, in stages, and says he often goes part-way on a form, coming back to it when the design for a base, a stand or a finial has been resolved. Working this way is very much about enjoyment, creating pleasing forms and possibly taking advantage of the fact there are no deadlines to meet. On our visit there were only a few pieces of his work to view close-up as to date just about every piece he has made has sold.

Mark's turning may be for him a relatively new skill but he brings to it ten years of experience as a trained trade professional, plus years of prior experience in the family concern.

When the time is right Mark hopes to transition to becoming a full time studio furniture maker and turner. The things he will make will be concerned with form, line and decorative detailing. Their function will extend to being objects of beauty for their own sake. Turned Objeks is the maker's name that Mark is currently working and building a profile under.

Gratitude is what he feels towards Ken Wraight for mentoring him, and above all to his parents who have encouraged his interest in reaching a new level in his work.

Mark Cedro is based in North Coburg, Vic. Contact him via www.turnedobjeks.com/ or Instagram @turnedobjeks

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Dovetailed Bed

Raf Nathan uses celery top pine to make a bed base with hand-cut joinery.

After 30 years I finally made a real bed for my own home. The old one was three lengths of pine framing with slats sitting on top. Short legs were notched onto the rails. It was perfectly sufficient but totally devoid of any style.

The new bed is really just a large box construction that acts as a frame. Inside, the frame battens are screwed and glued on to support the slats. A rail in the middle gives extra support to the slats. Four short round legs raise the frame off the floor.

A bed frame is subject to quite strong forces. Not all woods are in my opinion suitable. Low cost store bought wood like radiata pine or similar can come from very fast growing tress. Looking at the endgrain and counting growth rings may show it's only three years old, resulting in a weak choice for this sort of work.

Although technically a softwood, Tasmanian celery top pine was here selected for its strength and pleasing pale colour. This is a slow growing tree that is unfortunately becoming unavailable. This wood is backsawn so there is plenty of grain pattern, although quartersawn would probably have been better.

Joint of choice here was dovetails for the corners of the 'box'. You can also make a finger joint or even just butt the wood together and use some very good metal 'bed connectors'.

Main: The finished bed frame made from celery top pine with large dovetail joinery.

1. Stack of celery pine dressed and ready to be sawn to length
2. Marking out the dovetail positions.
3. With the tails sawn and prepared the pins lines can be transferred.

The size of the mattress is of course critical. I once made a single bed to what I 'supposed' was the size needed. It had a Huon pine headboard with some nice detailing. The size was wrong, you could just force the mattress in but it kept springing out. Useless. Hence in this case I left a rather somewhat large 20mm on each side of the mattress.

Construction

The four rails are machined to 150 x 40mm and then, after doing all the maths, sawn to final length. Two at 2160mm and two at 1650mm (**photo 1**). The inside faces of the rails are sanded now because I don't want to remove any wood later after the joints are cut as this would change the fit.

Tails and pins

The dovetails can now be marked on the boards. The size of the tail of the dovetail always looks better when wide, however the wider the tail the less wood is left as a pin, and in this case that means less strength. So don't make the tails too large with small corresponding pins.

I used a dovetail angle of 1:7 and marked this on the front and back rails. My design is that the dovetail ends sit proud about 2mm from the faces. In effect, the length of the tails is the thickness of the wood plus 2mm. A bevel cut in later will then ease the protruding ends (**photo 2**).

I sawed the joints using a traditional Western rip tenon saw. To make it easier I used magnetic saw guides – in this case the Barron 1:7 guide for the angles and a 90° guide for the shoulders. After all the sawing the shoulders were checked with a small square and things straightened and squared up as necessary with chisels.

With the tail joints finished the four rails were laid out in position. I had sawhorses and stands arranged to support everything. The location of the pins was then marked (**photo 3**).

4. Chopping out the waste is not finished but I couldn't resist checking the fit.
5. Using a guide block to help with paring down perpendicular.
6. Good fit, note how the endgrain projects around 2mm.
7. Screwing and gluing on the slat support cleats.
8. Bevelling edges with the laminate trimmer and 45° cutter.
9. Bevelling edges with a chisel.
10. Centre strut support bracket is screwed and glued to the rail.
11. Bandsawing in the cut-out for the rail onto the leg. A square guide is then scewed onto the leg. The wood on the right is the depth stop.


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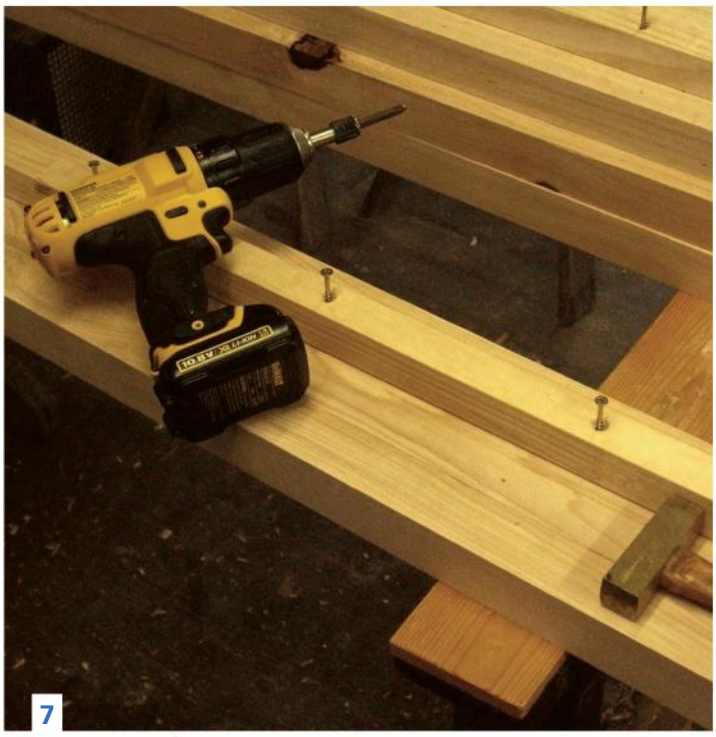
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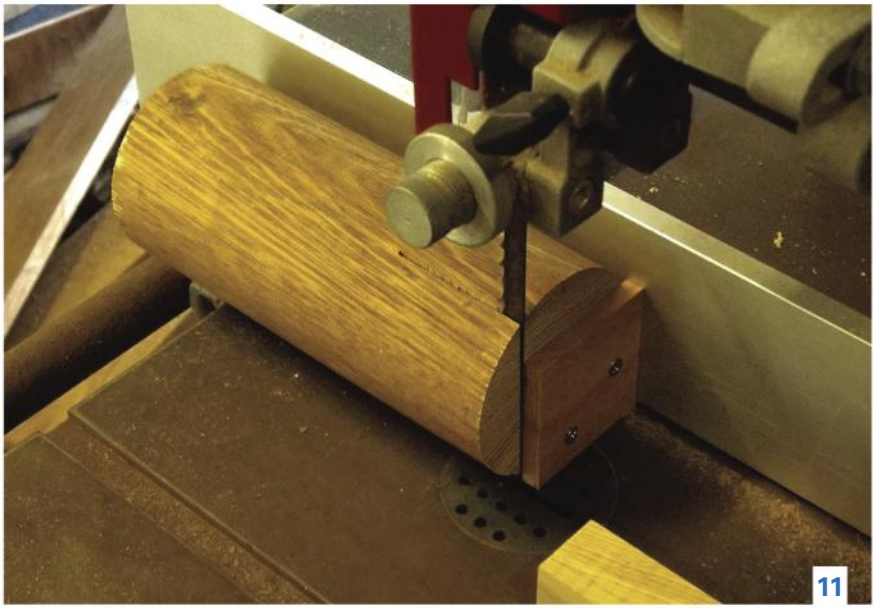
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The pins were then sawn and the waste in between removed. Most of the waste can be sawn out with a coping saw or, as I do, drilled out with a large drill bit. It is awkward to move the long rails about but all joints need to be test fitted, aiming to get as close to perfect a fit for the dovetails. After removing most waste I did a test fit (**photo 4**).

Happy with this I then proceeded to pare back the rest of the waste to the shoulder line. A block of wood clamped in place acted as a guide for the final chisel cuts (**photo 5**).

The joints need to slide in place with gentle taps, too tight risks splitting and too sloppy is well, sloppy. In fact a little on the loose side is needed because a bed needs to be knock-down for transport. Note how the pin and tail project out (**photo 6**). When happy with the fit of all the joints the outside faces and endgrain were fine sanded.

The slats are supported along the side rails with pine battens. These were screwed and glued in place. The ends of these are sawn at 45° to allow access to the small corner blocks. The corner blocks are to locate the dovetails in place. I used a coach and wood screw for this (**photo 7**).

CUTTING LIST (MM)

PART	QTY	LENGTH	WIDTH	THICKNESS
Rails	2	2160	150	40
Rails	2	1650	150	40
Centre support	1	2080	90	30
Centre leg	1	180	90	30
Legs	4	200–250	90	90
Cleats	4	110	30	30
Slat supports	2	2160	20	20
Corner blocks 4	?	?	?	

Bevelled edges

One of the details of the design is the large bevel on all edges made mostly with a 45° cutter in a laminate trimmer (**photo 8**). The trimmer can't do all the bevelling. The shorter edges as on the corners were bevelled with a chisel (**photo 9**).

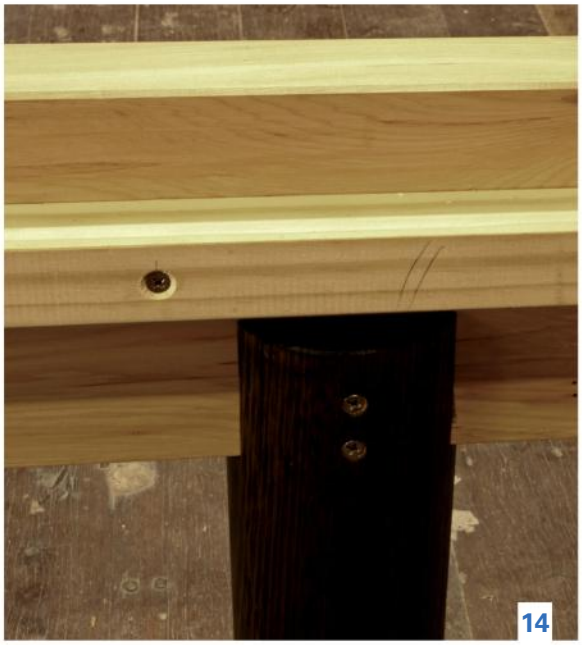
Frame and finish

The span of the slats is too large across the width to be unsupported so a centre rail was added in. The size of this can be 90mm wide and 22–30mm thick. This is cradled in a bracket. I marked the position as a guide and fixed the brackets with the rail in place. It can't be too tight as it will need to be removed if transporting the bed (**photo 10**).

Everything was fine sanded and any detailing completed. Whittle hardwax oil was used as the polish. Three coats were applied over a period of a week.

Four short round legs keep everything off the floor. The legs are 90mm diameter turnings that are made in Victorian ash, although the wood selection is not critical as they are to be stained black. They are notched to fit the rails.

I fixed a square of wood on the ends of the legs to act as a guide for sawing in the cheek of the notch on the bandsaw (**photo 11**).



12. Sawing the shoulder onto the leg cutout.

13. Part of the leg is exposed so it was pared smooth with a chisel. A bevel was also added.

14. The leg is attached with glue and two screws. The slat support is also screwed and glued.

15. Corner cleat houses a screw and coach scew.

16. After polishing, the detail of the corner joint is highlighted.

The square of wood also helped on the mitre saw to saw the shoulder (**photo 12**).

Part of the shoulder on the leg will be visible so I cleaned this up with a chisel to show a smooth surface. A bevel was also applied to this exposed edge. The legs were then stained black (**photo 13**).

Two screws were used to fix the leg on the inside of the side rail. I also glued this as well (**photo 14**). Everything was then assembled and in the photo you can see how the small corner blocks help secure the corner. The coach screw and wood screw pull the joint together but allow for wood movement (**photo 15**). The weather during the making of the bed was particularly dry.

Assembled the black legs make a subtle contrast with the light celery pine whilst I hope the bevelled edges add in some detailing to a simple design (**photo 16**).

Photos: Raf Nathan

Raf Nathan is a furniture designer/maker in Brisbane. Email raf@interwoodshop.com.au

Wood Diary

For more events and news sign up to AWR fortnightly newsletters at:
www.woodreview.com.au

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

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

3–16 JUNE
Veritas Downunder Tour
Canadian technical experts present
12 events around Australia
www.maxis.com.au

4 JUNE
Wood Review Writers Festival
Carbatec Brisbane, 128 Ingleston Rd, Wakerley
www.woodreview.com.au

11 JUNE
Gippsland Woodcraft Group
Open Day demos, raffles, door prizes
843 Maffra-Rosedale Rd, Nambrok, Vic
Graeme Turner: bluey@internode.net.au

12 JUNE
Hand Tools: buying and using
The Traditional Tools Group
Brush Farm House
19 Lawson Street, Eastwood, NSW
www.tttg.org.au
Enrol: www.macquarie.nsw.edu.au

11–12 JUNE
2-Day Sales and Demonstrations Event
Woodturners Society Qld
19 Pine Street, Greenslopes, Brisbane
Rob McKee: 07 3397 8156
www.woodturnerssocietyofqld.com

11–12 JUNE
Narooma Woodies
21st South Coast Regional Exhibition
Central tilba Halls, Bate St, Central Tilba, NSW
Email: phishar@gmail.com
Phone: 02 4473 5073

17–19 JUNE
Q-Turn 2016 (residential event)
Organised by Ipswich Woodcrafts Club at
Camp Moogerah 880, Lake Moogerah Rd,
Moogerah, Qld
Jim Tutin: 07 3282 1378

17–19 JUNE
The Australian Woodturning Exhibition
The Waratah Rooms,
Whitehorse Centre,
397 Whitehorse Rd,
Nunawading, Vic
www.awtex.com.au

18 JUNE
Introduction to Handcut Joinery
with Damion Fauser
4/38 Limestone St, Darra, Qld
www.damionfauser.com

24–26 JUNE
Sydney Timber & Working
With Wood Show
Sydney Olympic Park
impressiveexhibitions.com.au

6–9 JULY
AWISA
Melbourne Convention
& Exhibtion Centre
South Wharf Melbourne
www.awisa.com

8–10 JULY
FURNITEX & design AFA
Australian Furniture Association
Brisbane convention & Exhibition Centre
www.furnitex.com.au

10 JULY
Melbourne Tool Sale
Hand Tool Preservation Assoc
of Australia
Glenferrie Primary School, Hawthorn, Vic
www.htpaa.org.au

16–17 JULY
Parquetry Masterclass with
Peter Young and Damion Fauser
4/38 Limestone St, Darra, Qld
www.damionfauser.com

21–24 JULY
Australian International Furniture Fair (AIFF)
inc Decor + Design Mel/16
Melbourne Exhibition Centre
info@informa.com.au
www.aiff.net.au

24 JULY
Hand Tools: care and repair
The Traditional Tools Group
Brush Farm House
19 Lawson Street, Eastwood, NSW
www.tttg.org.au
Enrol: www.macquarie.nsw.edu.au

5–7 AUGUST
WA Wood Show
Claremont Showgrounds
Exhibition Centre
www.wawoodshow.com.au

5–7 AUGUST
Out of the Woods exhibition
Fine Wood Work
Association WA
at the WA Wood Show
Claremont Showgrounds
Exhibition Centre
www.fwwa.org.au

20 AUGUST
Wood Finishing and Polishing
The Traditional Tools Group
19 Lawson Street, Eastwood, NSW
www.tttg.org.au
Enrol: www.macquarie.nsw.edu.au

12–21 AUGUST
Treecycle
Botanic Gardens, Sydney
www.rbgsyd.nsw.gov.au

28 AUGUST
Hands On Heritage Trade Skills
The Traditional Tools Group Open Day
www.tttg.org.au

Lost Trades Fair founders and organisers Glen and Lisa Rundell have a Windsor chairmaking business in Kyneton, Victoria and also offer courses in furniture and Shaker box making. Photo: Fred Kroh

Lost Now Found

Glen and Lisa Rundell are showcasing traditional trades and the values they epitomise.

The first time the Lost Trades Fair took place the response took everyone by surprise, not least its founders, Glen and Lisa Rundell. Even three years later they still marvel at the ever-expanding interest in a weekend event that takes place in the small Victorian country town of Kyneton. Some ideas simply take flight.

In its first year 500 visitors were hoped for but 7500 turned up, doubling the town's population in the space of a weekend. Traffic froze and cafes ran out of food. Staged in a small building behind the museum, the fair outgrew itself almost from birth. The following year 16,000 people flocked to the much larger venue of Kyneton Racecourse and leading up to the 2016 event there was every indication that attendances would grow again.

The Lost Trades Fair is not a wood show or even a craft show, although there is wood and there are things being made. This is an event about craftsmanship that is not limited to one medium. In this year's event a virtual A–Z of trades, over 100 in fact, were represented. Basket weavers, blacksmiths, fletchers, chair caners, fishing rod makers, handtool makers, milliners, rocking horse and rope makers, saddlers and spoonsmiths, stonemasons, a cooper, Australia's last tinsmith and a whole more made up a panoply of the sights and sounds of traditional crafts and manufacturing practices.

However what you see are not historical re-enactments but scenes from real life. 'Most people don't know where things come from any more', said Glen. 'A lot of kids, and even people my age, have never seen anything made. Everything comes out of a shop and a plastic bag. Here they see people that make things, people with trades.' Other trade and design shows tend to display things that are 'pretty much off the shelf', said Lisa. 'There's plenty of craft and traditional trades fairs but it's the merging of the all the different trades and it goes back

1. Jeff Donne, aka The Spoonsmith, also teaches the craft he lives by.
2. Olivia O'Connor, rocking horse maker.

to that line in the sand about being quite strict about who you have there.'

The concept of the fair applies also to other suppliers. Glen explained: 'There's tea and coffee, fresh orange juice, good food, good entertainment, local folk singers playing locally made instruments. The ethos is about it being real, authentic.'

Sticking with their original vision of an exhibition of traditional trades has meant refusing some exhibitors. 'We're not luddites, we're not anti-machine (I use machines a lot of the time) – but the products that are here are created by individuals. If you're not making something with your hands, well unfortunately you're just going to have to come and visit instead', Glen said.

3

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Many makers have applied to participate but 'you don't just book a site', said Lisa. Potential participants are questioned about their craft, their training and their back story, and the Rundells may even pay a visit to their workshop.

The name and the concept are multi-layered however. 'Lost' is about trades that are disappearing but also about those that have lost their way in the sense of being practised in isolation. 'A lot of these trades are seen as quirky but when you put them all together it's an astounding event', said Lisa. 'Working with and meeting artists who are similar to Glen (a Windsor chairmaker) there was no platform to showcase makers that I thought displayed them in a worthy environment amongst like-minded people who were very passionate and skilled, and demonstrated true craftsmanship.'

'Tradespeople like these often don't know how to market themselves', said Lisa, who once worked as a corporate marketing and public relations professional, explaining how the concept of the fair is also about how trades have lost their way commercially. The fair is about giving artisans a voice and it's also a place, she said, 'where people can find out a little about themselves, and skills and trades that might have been present in (past) family generations'.

Many of the makers who have been part of the Lost Trades Fair are now getting the acknowledgment they deserve. Visitors to the fair are 'not there just to see performing makers', said Lisa. 'They're there with commissions in mind or cash to spend and (the artisans) make a lot of good contacts there.' Where individual guilds for most of the trades don't

3. Paul Ryle demonstrated pole lathe turning.

4. Peter Trott, woodworker and spoonmaker demonstrated his craft at the Lost Trades Fair.

5. View of the fair through a selection of Windsor chairs made by Glen Rundell.

5

exist, a kind of fellowship amongst participants has now also developed. 'In their communities', said Lisa, 'they're always the odd one out that's a bit artistic, but at the fair (they) can all be together, all "normal"'.

Will the exposure given to traditional trades encourage a new generation of makers? 'I hope so', said Lisa. 'I've had emails from people who thought it was going to be a lot of old blokes doing stuff, but were impressed by the number of young people doing trades. If we can inspire one person to take an interest in or take up a seldom practised trade then we've achieved something.'

To hear Lisa digress into talking about some of the makers she has come to know well is to hear her total passion and admiration for their stories and what they do. 'For me (it's about) sharing those stories with everyone because I think these people are amazing.'

The fair could easily have become a sponsored event as several offers were received but that didn't sit right with Glen and Lisa either. 'You could sell out to an events company but then they're going to have very commercial food there and you're not going to be able to vet the makers that come in,' said Glen. 'I never want to lose sight of the fact this is a county fair. There's no showbags, there's no screaming rides; this is country event and it'll never be big business. We exclude multi-national food brands and similar mass produced products – those big corporations, we're not interested in.'

The success of the event lies in Glen and Lisa's idea that captured the attention and imagination of literally thousands of people who also want to preserve traditions of making that epitomise long held values and aesthetics.

Integral to the equation are the Rundells themselves, their passion, dedication and work ethic. 'We've always been those people who'll just go and do it versus talking about it', said Lisa. 'I'm one of those people that doesn't have an off-switch…I'm always doing a million things at once. My expectation of myself is very high because if you aim mediocre you're always going to be there. Aim high and hope to get it. And with the whole idea, who would have thought five years ago that I'd be doing this and that 16,000 people would come and see (these people) including my husband and son. I would have given up any job I had at the time to do that. I've sort of created this perfect job really.'

The ultimate proof of the event's success would be its demise, Glen has also said, meaning that bringing trades to the fore would render them no longer rare. Talking to these two human dynamos it seems far more likely that the fair will evolve and lead to new things.

Words and photos: Linda Nathan.

Lost Trades Fair 2017

Plans are well underway for next year with a spotlight on women in trades and a journal featuring the makers also in the pipeline. The next Lost Trades Fair will take place on March 11 and 12, 2017. See www.rundellandrundell.com.au for more information.

See more photos and a round-up of the 2016 fair at www.woodreview.com.au

Decorating Turned Surfaces

Robert Jones shows how to achieve different decorative effects on basic bowl forms.

Opposite: Different effects achieved by the author on bowl forms turned from woody pear (*Xylomelum occidentale*), jarrah (*Eucalyptus marginata*), curly blackbutt (*Eucalyptus patens*) and sheoak (*Allocasuarina fraseriana*).

Simple forms can be a great canvas for decorating. The bowls shown here are varied by using and combining a few techniques that I'll show you here.

Turning the bowl blanks

I set about producing a number of bowl blanks that would clean up at 150mm dia x 50mm (**photo 1**). These would be fixed to the chuck with a wood screw. As a lot of the timber I use is green, and the fact that even dry timber will distort after machining, I prefer to rough turn the blanks, and allow them to dry to about 12% moisture content.

I first shape the outside of the bowl using a 12mm bowl gouge, then turn a spigot measuring about 55 x 5mm for remounting in a four jaw chuck. Lastly and importantly using the point of the skew, I turn a location point for the tailstock centre, for remounting the bowl when it is dry (**photo 2**).

The bowl is reversed in the chuck and held by the spigot. The top of the bowl is next shaped to drop away about 5mm in a slow curve towards the outer edge, again using a 12mm bowl gouge.

Making a step for inserts

Many woodturners would have at some time made pot-pourri-bowls, using manufactured pewter lids. The bowls shown feature instead 75mm laser cut insert designed and produced by Stephen Hughes*.

I now form a 65mm dia x 35mm deep bowl with a small step onto which the 75mm insert will be located. For this process I use a 6mm or 8mm bowl gouge (**photo 3**). The rough-turned bowl can now be put away until dry enough to finish.

A plug or jam chuck was turned from jacaranda for remounting the bowls (**photo 4**). The bowl can then be held in place with the tailstock centre as the friction between the plug and the bowl is more than enough for the light cuts that are now required (**photo 5**).

Recut the outside of the work, using a bowl gouge and a flat scraper if necessary, remembering the shape of the bowl is the most important thing of all. Rub your hand across the surface; if you feel any bumps or hollows, these must be eliminated before you start sanding.


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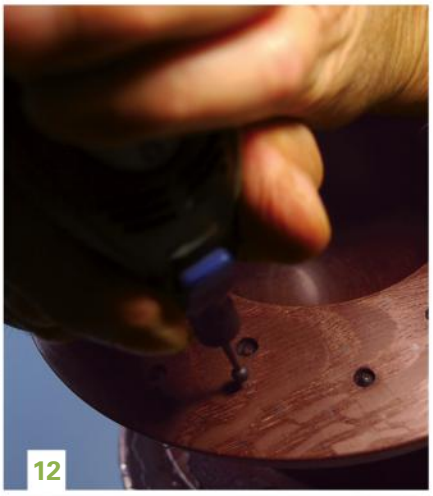
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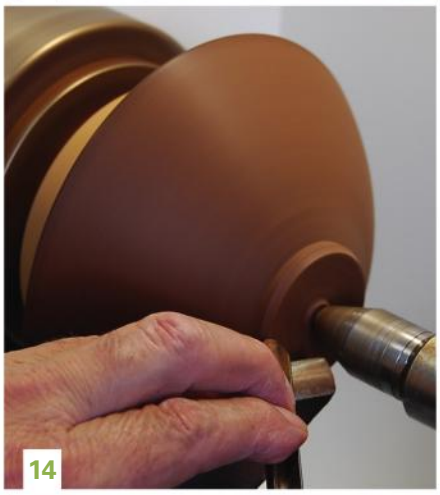
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15

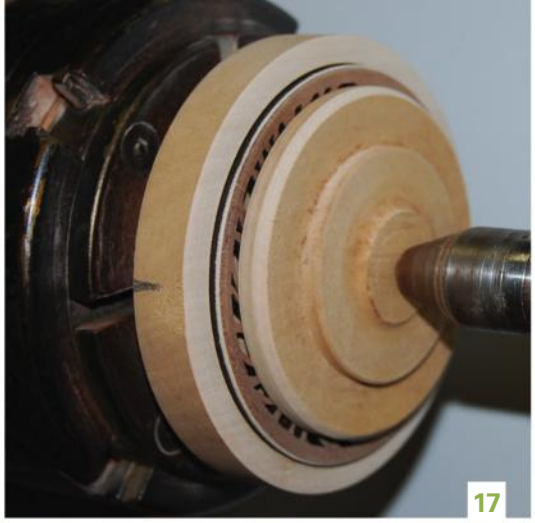
Mount the bowl in the chuck, and recut the rim of the bowl (**photo 6**). Shape the inside of the bowl with a small bowl gouge (**photo 7**) and then a round nose scraper to refine the shape (**photo 8**). The opening should be 6mm smaller than the insert to be used.

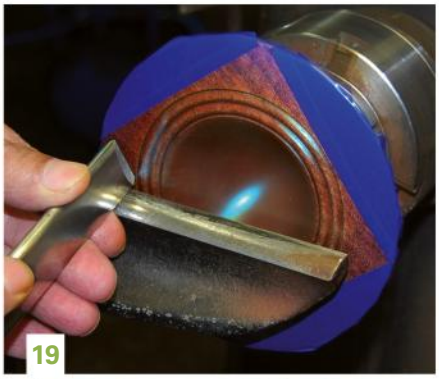
Carefully cut the recess into which the insert will fit, there needs to be a small amount of clearance around the diameter of the insert to enable it to be removed 0.25mm is about right (**photo 9**). The insert also needs to stand proud of the bowl rim by about 0.75mm (**photo 10**).The top and inside of the bowl can then be sanded.

Decorating the bowls

To decorate the rim of the bowl I use dome cutters (**photo 11**). These can be purchased from quality jewellery making suppliers. The outer edge of the cutters have been sharpened to stop them skidding across the surface of the bowl and damaging the finish.

Mark the position of each dome using a soft pencil. Here this was dictated by the intricate pattern created by the medullary rays in the native pear. The dome cutters are mounted in a Dremel as shown in **photo 12**. The domes sit slightly below the surface of the rim. I prefer to leave the bowl still mounted in the chuck for this and the following stage.





The domes are painted with Jo Sonja's iridescent paints (**photo 13**). Allow the paint to dry and apply the finish of your choice to the surface of the bowl.

The bowl can then be remounted as in **photos 4** and **5** in readiness to clean up the spigot and and shape it as the foot of the bowl (**photo 14**). Make sure to leave enough timber to eliminate the location mark in the base. Once you are happy with the shape, the outside of the bowl can be sanded, and the finish of your choice applied. **Photo 15** shows a cross section of the form.

The inserts are first sanded on 240 and 320 abrasive attached to MDF to create a flat sanding surface. Gently sand both sides to a smooth finish (**photo 16**). The rubber face gloves help me grip the insert more efficiently and also prevent me from sanding through the tips of my fingers!

I then mount the insert in a jig to sand a radius on the top edge of the inset (**photo 17**). All that remains is to put the bowl and the insert together, job done.

Beads and textures

Other variations shown here are to cut a series beads (**photo 18**). Sand the bowl to your required finish then apply a clear self adhesive masking product called Maskit (Friskit does the same job) and then mask the remaining surface of the bowl with tape.

Turn on the lathe, and using a sharp skew, cut through the Maskit at the inner, and out edges of the beads (**photo 19**). The Maskit can then be peeled away, leaving the beads exposed, and the rest of the bowl protected. I use an airbrush to paint the beads black with Jo Sonja's liquid acrylic paint (**photo 20**).

When this is dry I spray over the top of the black with an iridescent paint. Both the black and iridescent paints will need to be thinned to the consistency of milk (use Jo Sonja's Flow Medium) to be used with an airbrush. The masking can then be removed, and the finish of your choice can be applied.

For texturing a design is drawn on and here position for domes are also marked (**photo 21**). Maskit is applied to the chosen area and the rest of the bowl is masked with tape (**photo 22**). Working within the pencilled design, and using a 2mm ball cutter, the surface is textured, cutting through the Maskit and avoiding where the domes are to be cut. Remove any loose wood fibres with a soft brass brush. The textured surface can then be airbrushed in the same way the beads. The domes here were highlighted using iridescent paint. Once dry remove the masking and finish.

Photos: Robert Jones

For information on laser cut lid inserts email stephenfhughes@hotmail.com

Robert Jones is a Perth wood artist. In AWR#86 he wrote about Collaboration WA, an annual skills exchange. Email robwood@iinet.net.au

Peter Talbot, *Point of Origin*, recycled pallet timbers, 1100mm from flat to flat. Photo: Viki Petherbridge

Pallet Deconstructed

Peter Talbot writes about transforming a packing crate into a feature wallpiece.

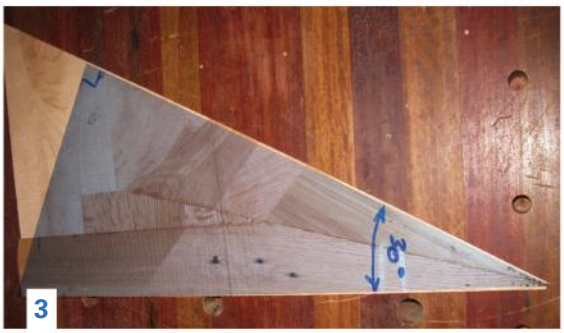
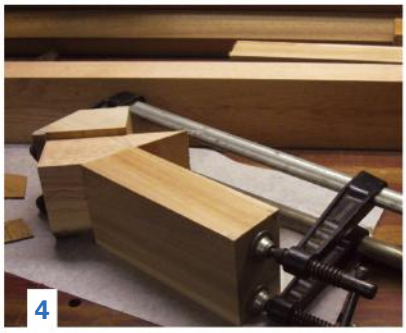
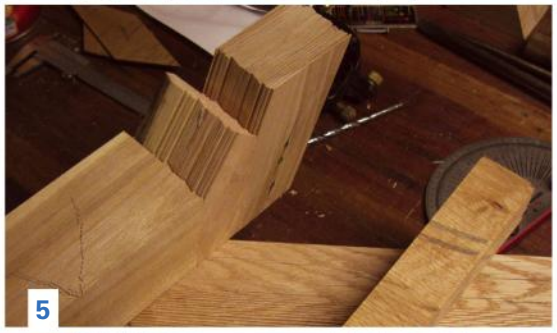
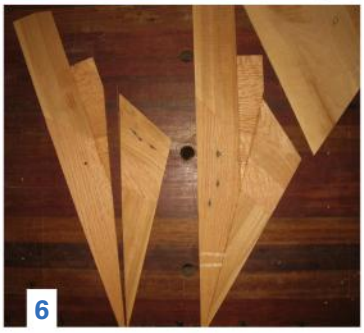
As for others who have entered *Create From a Crate 2016*, two pallets was the start point for this piece. With recycled material preparation work is always required before any woodworking can commence, namely disassembly, cleaning and de-nailing. At this point I had no idea what I would make so I tried to conserve as much timber as possible.

Removing boards without busting them into splinters became a bit tedious so I decided to just use the main bearers. Vice grips and a crow bar worked well to remove stubborn nails. A powerwash later left me with six clean and partly de-nailed bearers (**photo 1**). A metal detector located nails that had broken off and drilling down next to them enabled me to retrieve them. Be prepared to break a few drill bits!

The bearers were machined to give me a better look at the wood. There was American white oak and another species I didn't recognise. I liked the look of the nail holes and decided these would be a feature within the piece.

I live in Rockhampton, Queensland so in the back of my mind was that whatever I made had to transport easily and safely to Melbourne. Something



without legs? Something flat? A wallpiece was a strong possibility. With a deadline looming I decided on the latter and a pattern inspired by the surface skin that develops during a de-rusting process (**photo 2**). Time spent at the drawing board arrived at a pattern made up of segments with a combined angle of 30°. Templates of the three main sections of the pattern were drawn (**photo 3**).

Oversize blocks were first cut from the bearers with the grain pattern and nail holes where I wanted them to sit in the overall pattern. The blocks were glued together with exterior grade PVA (**photo 4**) and then bandsawn into slices (**photo 5**). The downside of this is having less idea of where the grain will flow within the thickness of the block, the upside is saving some processing time.

The tablesaw was set up with zero clearance to trim all internal edges to size. The edges of the pieces were handplaned before gluing up enough 30° segments (**photo 6**) to start playing with an arrangement. I still had only had a vague idea of what the final shape would be, but after some time decided on a hexagon. This would be made up of four sections each with two square sides. Flat packing for posting would be easy this way as well.

Once joined the four layons were glued to 20mm thick torsion boxes. These would be stable, lightweight and strong. I used a quality 6mm thick 5 ply for the outer skins over a light inner timber framework made up from 24 x 7mm hoop pine slats glued in with exterior PVA (**photo 7**).

Before gluing onto the torsion boxes, the veneer layons were given a final thickness sand to 180 grit. The layons were glued on with epoxy glue using top and bottom platens, cauls and clamps. After the glue was dry I carefully marked where to trim excess material from the outside edges of the four sections.

To complete the pattern of each of the quarters, more slices of wood were bandsawn from a pallet bearer. These were hole filled, thickness sanded, trimmed to rough width and cut to rough length. Gluing the parallel edges was straightforward however the angled edges gave some grief with wanting to slip sideways. This was countered with a set of opposing clamps and cauls (**photo 8**). Here I am gluing two edges at once with one section upside down.

Final trimming was accomplished with the careful use of a chisel and a finely set handplane. Some final sanding and then it was magic time, that moment when the finish is first applied, in this case some Feast Watson fine buffing oil.

Using recycled wood means spending a lot more time on preparation but sometimes the thought you put into designing around its defects can take you to new places.

Photos: Peter Talbot

Peter Talbot is a former metalworker and now self-taught woodworker who lives in Rockhampton, Qld.
Email: etamal@iprimus.com.au

Wood Beast

Plywood furniture makers Tom Rooney and Joel Rodgers are anything but beastly. Story by Linda Nathan.

Tom Rooney (left) and Joel Rodgers in their new combined manufacturing and showroom space in Brunswick, Melbourne.

Walk into a wood-based manufacturing space and once you would have expected to see a familiar layout: panel saw, thicknesser, jointer, sanders, spindle moulder, power tools, racks of clamps and hand finishing areas. Overhead and interspersed there would networked systems for dust extraction, air and electrical power.

Enter the new age of plywood manufacturing and instead there is light, room to move and just one lunch/office/showroom space that houses a combined boardroom and sample table with a keyboard and computer. And one machine.

Our world is increasingly inhabiting an online space with global connectivity between smart phone and tablet users stationed all about in cafes, bedrooms and even on foot.

Joel Rodgers and Tom Rooney, both 26 and buddies literally 'since babies' are working in the digital space. Computer aided design and manufacture is not new but what is newer is how it's working its way down the line to small business and even sole operators.

Anything but beastly, these two former cabinetmakers of the white case goods and also reclaimed furniture kind are relaxed, happy and optimistic about where they're heading. 'This has been a long time coming', says Joel, referring to the genesis of their very recently founded business.

'I was in Spain, touring on a bicycle (one of his father's mod-looking Brenvelo plywood frame models)', said Joel, 'when I got a call that the CNC machine we were after was available at a good price, and also the lease on this factory space came up'. The whole thing happened on a smart phone. Deals were done and signed, and set up followed on his return.

Their working lives to date have honed skills learnt during apprenticeships and also taught them about directions they did not want to go in. Some things can seem not to make sense any more. Why write with a pencil and an eraser when you can use a word processor with copy, cut, paste and spellcheck? Why do manual set outs and produce linear 2D sketches on a sheet of A4 when you can show a client 3D renderings with choice of colour and material options? At least that's what Joel thought when working for his last employer. His suggestion to adopt Sketchup in that workplace was taken up, and the benefits were appreciated.

CNC production is not as 'automatic' as you might think though. 'You do have to be pedantic', says Joel.

1

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1. A recently completed, 100% plywood kitchen designed and made by Wood Beast.
2. This small side table is one of the duo's first designs to go into production.

3

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3. Company car signage was CNC made in-house of course.

4. This plywood entertainment unit is one of Wood Beast's regular lines.

'There's no point starting on a piece until all the details are right'. Plywood may be a material that offers structural stability and consistency, not to mention colour and surface options and basically sheets are 18 or 19mm thick…but they can vary up to 0.04mm, Joel explained. And that's enough variance to cause slop in joints and mar an otherwise nifty looking piece of design work. For this reason sheets are always run under the calipers before going on the Multicam.

Life before Wood Beast was basically about performing repetitive operations, Tom explained. You drilled holes for hinges, routed grooves for shelves, cut, assembled and finished, which is not to say one didn't take pride in one's work or get due satisfaction. CNC work on the other hand, can be a liberation from those tasks, allowing the focus to shift to design work. And once a design has been resolved it can be easily reproduced again or varied in other ways.

'I reckon even reclaimed furniture is being overdone', said Tom who explained that working with solid (which he still enjoys doing by the way) is much more labour intensive with all the variabilities and vagaries that working with wood involves. 'Plywood has come a long way and nowadays with consumer acceptance and new-look products you don't need to mask it with edgings that invariably chip or look cheap and you don't even need to surface it although all those possibilities are there.'

Online marketing and sales platforms such as Etsy offer makers the means to trade directly and therefore more profitably. Ironically it's also a way to preserve a small business ethic in a mass market. Websites, Instagram and Facebook are portals to local and global markets. 'You can't feel things over the internet though', said Joel which is why Wood Beast will also create an inviting space in their factory where clients can browse and discuss stock lines or custom made opportunities.

Photos: Linda Nathan

Get in touch with Joel Rodgers and Tom Rooney via www.woodbeast.com.au

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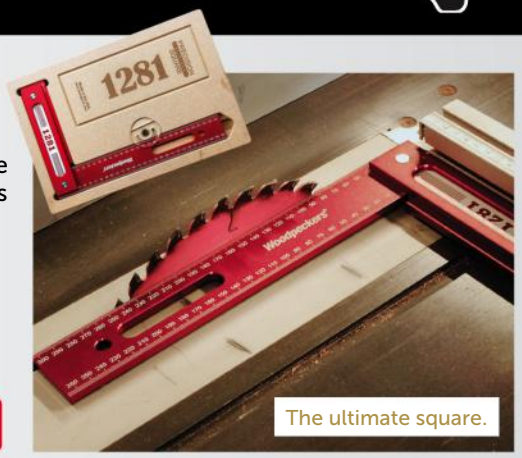

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Redesigning Maloof

Robert Howard writes about his modified version of Sam Maloof's classic chair joint.

1. These two pieces of wood represent the seat block (right), and the leg after bandsawing to shape and size. The housing in the seat has been cut to fit the leg at the required angles and depth (about two-thirds of the leg is housed). Do not undercut the sides of the housing as this might show after final sculpting.
2. The model shows a 'leg' fitted in a 'housing'.
3. Waste is bandsawn off leg to allow space for sculpted radii. A hole is bored and drilled to take 12g screw. There needs to be room for a gap between screw head and plug after final gluing, otherwise wood movement will pop the plug.
4. Leg marked out for shaping, and for sculpting the joint.
5. Leg after shaping with drawknife and spokeshave.

I had the great good fortune to visit Sam Maloof's workshop twice in 1980 and 1981, while I was living and working in Los Angeles. That was my introduction to his chairs, and, in particular, to his well known leg joints. It was not until about 1984, while I was living in Germany, that I was able to use that experience while designing my own chair. It was my intention to use Sam's joints when the time came to build my first prototype. Although I did not know it at the time, it would be 1990–91 before that happened, because, at that time I had not made a single piece of proper furniture in my life. I had to learn to be a woodworker first.

The Maloof joint for the front leg of his chairs was quite straightforward (**fig.1**), and did not require any special tooling. The leg was at 90° to the seat, and easily cut using a tablesaw and a router. The back leg, however, was only square to the seat in side elevation. In the front elevation it had a few degrees of cant, and to cut this, Sam used two custom made router bits, one at 90° plus the cant angle, and the other 90° minus the cant angle.

When I was designing my own chair, one of my explicit desires was to not make any design compromises in order to make the chair easier to build. There were many consequences of this decision. In particular, none of the legs were square to the seat in either front or side elevation, and although that changed as my design evolved, in the beginning it determined the design of my leg joints.

If I was to use the Maloof joint, it would mean two, three or even four sets of customised router bits to create all

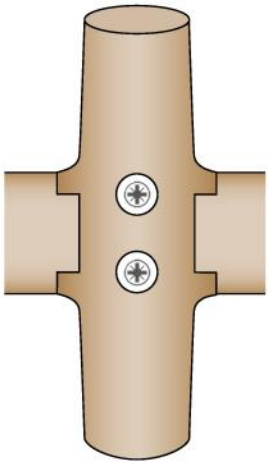


Fig. 1: Maloof

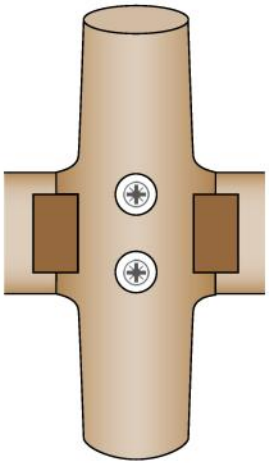


Fig. 2: First approx.

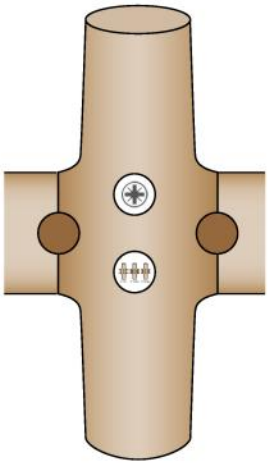


Fig 3: Second approx.

6. A No.9 gouge (about 10mm or 3/8 inch) used to sculpt radii on leg.

7. Sculpting was finished with rasp.

8. Final fit. On a real chair this would now be glued.

9. Set-up in drill press to drill for dowels, along the glue line.

10. Turning dowels with flared ends for tight, final fit in holes. This was cut to length for two dowels.

11. Showing the dowels in place.

12. Dowels after cleaning up.

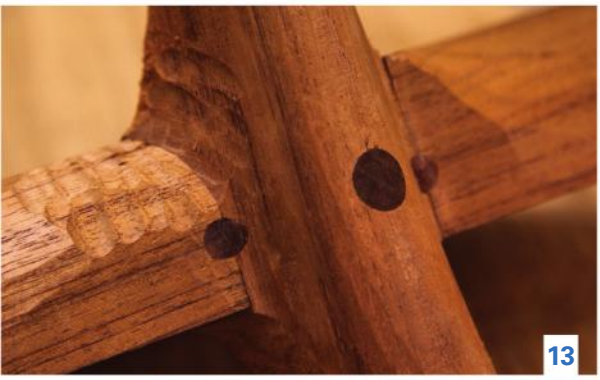
the rebates in the joints, and a complex dance of bit changing when making a complete chair. Worse, the expense of the bits would make me reluctant to change any joint angle in the future, so I would be hobbling the evolution of the design right from the beginning.

I pushed on regardless, and decided that I would simply do without the rebates around the housings in the seat block, and instead house the seat block in two dados cut into the sides of the legs. This I finally did on the first chair I made – a rocking chair made from coachwood.

Designing and building a chair like this presents a seemingly endless procession of problems to be dealt with, and overall I was satisfied with the result at the time. I was also aware that my joint design was not the solution I hoped it would be.

One of the many beautiful features of the Maloof chairs was the way the components flowed seamlessly into each other. In the leg joints this flow was facilitated by a sculpted radius where the different components met each other. I had no radius in my joint and did not know then how to get one without the Maloof rebate, and the joint was not strong enough, or pretty enough either.

It did not take long to find a possible solution. As you can see from **fig.2**, the Maloof joint could be approximated using a simple housed joint with two keys fitted into keyways cut into the seat blank on one side, and the chair leg on the other. These keys would lock the legs in place. With great excitement, I began work on another chair, this



one a carver chair made from New Zealand beech.

Once more my hopes were dashed. The idea worked well enough. However, the cutting of the keyways in the seat block proved diabolically difficult in practice, as one keyway in each joint had to be cut against the grain in just about the worst orientation possible. Once more I was stumped.

The solution to my problem was such a profound epiphany that I still remember with vivid clarity exactly where I was and what I was doing when the idea hit me. I was sitting quietly, waiting for my young son to go to sleep, when I realised that the keys in the leg joints did not have to be square or rectilinear. They could be round, and the keyways could be drilled, after the legs were glued and screwed in place. Problem solved.

Making this joint is illustrated step by step in **photos 1–16**. The joint shown is only angled to the seat in one direction, and is square in the other, but it could just as easily been angled in both.

It still amazes me that the solution was so simple, but so difficult to arrive at. I do believe that this joint is more versatile, and stronger, than the Maloof joint, and about as simple to make. And it does not require any custom made router bits, or a router at all, and that is always a big plus in my book.

Photos: Robert Howard

Diagrams redrawn by Graham Sands

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13. Sculpting the seat.

14. Finished joint.

15. Showing how the finished joint fits together.

16. This is how the leg joints look after sculpting, sanding and polishing.

Edging Veneered Panels

Simple techniques to disguise and decorate the exposed edges of your manufactured boards. Story by Damion Fauser.

The author using an edge-lipping planer – a great solution for trimming solid edgings if you do a lot of work with veneered board.

Using veneered panels in your woodworking projects has many advantages. Firstly, because the core material is a manufactured product, you can to a large degree ignore the traditional constraints of solid wood movement. This alone can open up construction and joinery options that would otherwise not be possible.

Secondly, it allows the use of stunning layout patterns from the veneer, from simple slip and bookmatches to more complex geometric patterns such as radial matches and even floral marquetry. Finally, there are resource and sustainability benefits, as a simple figured board can cover a vast area when sliced into veneer, as well as the fact that there is a 100% yield from a veneered log.

Covering the exposed edges of veneered panel products is not just an aesthetic requirement, but often a structural one as well. Thin veneer is very fragile at the edges and applying solid edging can protect it from the knocks and bumps of everyday life. The possibility also exists to shape and profile solid edges. In this article I will cover a few techniques for applying solid edgings.

Consider first

When designing your piece, consider first and foremost whether edging is actually required. If your panel work is going to be captured inside another element of the piece, such as in the grooves of door rails and stiles, there is no real need.

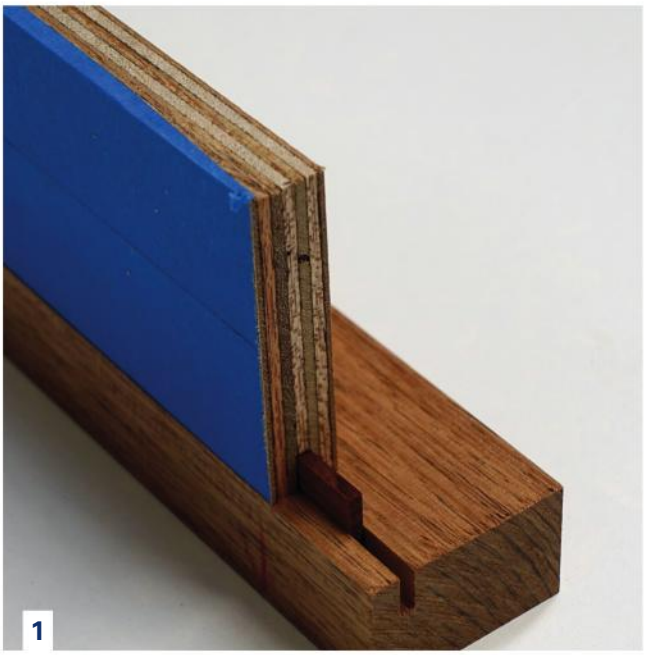
In terms of sourcing veneered panels, you can make your own using basic veneering techniques, or have them made for you by a reputable manufacturer. This will give you access to a wide range of species, core material and thicknesses. It also means you don't need to invest your funds in veneer pressing equipment. Let's look at some other factors to consider.

Choosing edging material

Solid wood edgings can be as little as a layer of commercial veneer, or you can glue on substantial sections of stock. Choosing contrasting species for edgings can also give an immediate and striking visual effect to tabletops and cabinetry.

The location of panel edges on a piece will inform how much protection is needed. For example, the edge of a tabletop will require a more robust edge than an applied drawer front on a small jewellery chest.

If you plan to shape or profile your edges then you'll need more material to work with. You can also make a thinner panel look more substantial by adding thicker edging. This can reduce the cost and mass of the piece whilst retaining visual weight.

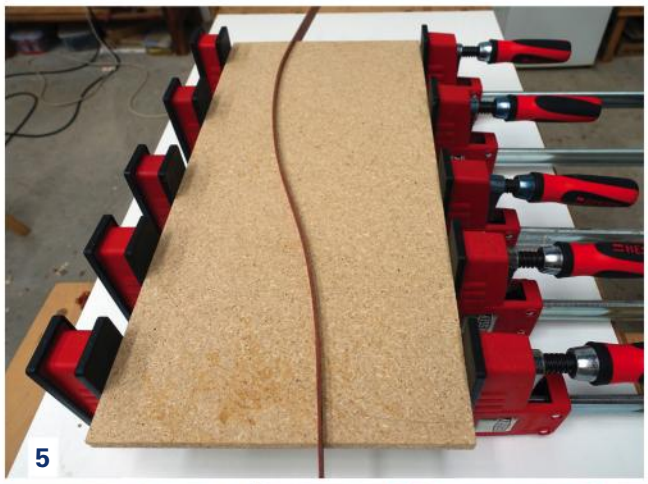


1. Gluing a hardwood spline into grooves cut into edging and board gives a strong join. Use a blue tape shim to create the offset.
2. Splined joinery glued and trimmed.

There are limitations to bear in mind however. If for example you are applying a mitred border to a tabletop, remember the border is solid wood and will move with seasonal change. Too much width in the edging and you will soon have exposed cracks at the mitres.

When machining stock I always add additional length to allow me to trim the panel to final size and have perfectly clean seams at the edges. Remember also to make your edging material a little thicker than your panels. This will ensure you completely cover the exposed panel edge and give you some material to flush down.

3. Clamping strategies left to right: G-clamps, blue tape, edge-banding clamps.
4. To clamp curved edges with even pressure make a mating clamping caul.
5. Keep the back edge of the curved caul straight to give you a square surface to clamp from.
6. Using the mitred offcut to create a square clamping surface on this long mitred desk component.
7. Clamping edges to both long sides of a desk panel. The green tape captures glue squeeze-out.



Glue. This is the quickest and simplest way to join solid edging to panels. For thicker panels, there is enough glue surface area for the joinery to be sound.

Machined joints. There are router bit sets available that cut mating profiles on the edging and the panel. Unless you do a lot of veneered panels, this may not be a justifiable expense. Take the time to accurately set up each bit and you'll be able to run off many metres of edging joinery very quickly. An example of such a set is CMT model number 855-510-11. Tongue and groove or slot cutter sets can achieve a similar effect.

Biscuits or dominos. For these I use the same settings on the tool, but apply a layer of blue tape to the panel. This acts as a shim to slightly raise the cut, ensuring that when the edging is glued on there is a little material overhanging to be flushed down.

Splines. Make a longitudinal spline from solid hardwood, run a slot in both the panel and the edging to house the spline, and you now have a fast, simple and strong joinery method.

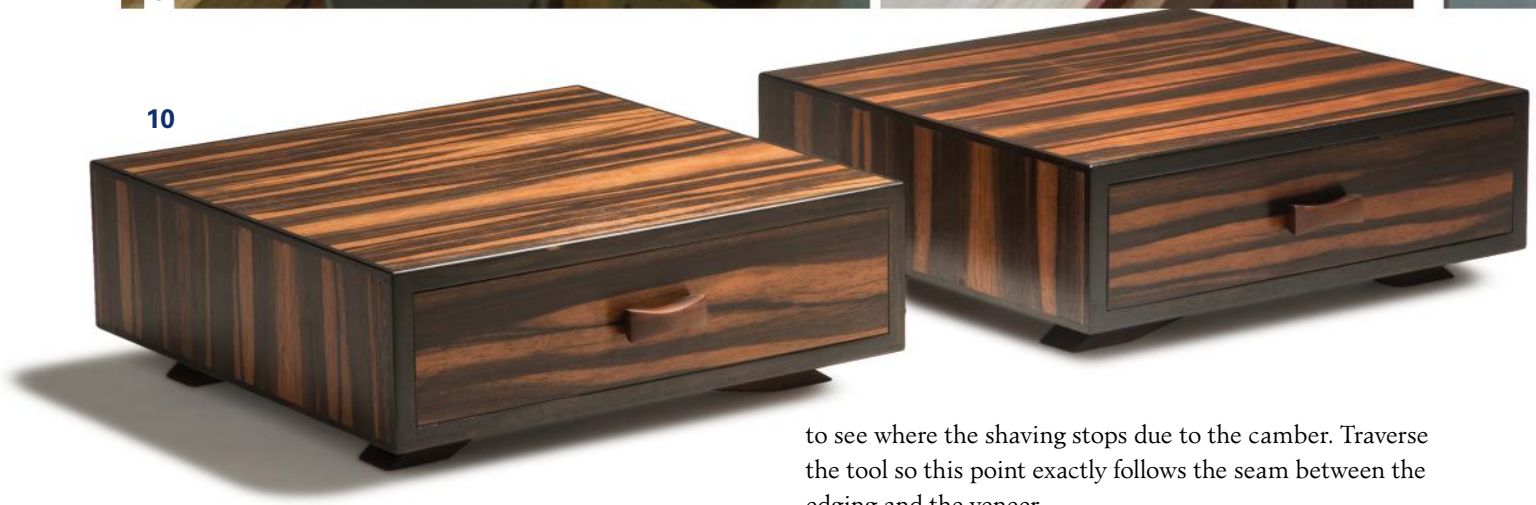
Use the blue tape shim trick as described above for the same effect to ensure success (**photos 1, 2**). Depending on the size of the workpiece I cut the slots either on the tablesaw or with a router. It's easier to run the slots in a large panel using a slot cutter in a handheld router than at the tablesaw for example.

Gluing and clamping

Depending on the size of the pieces being edged, you may want to consider the open time of your glue. I generally use common off-the-shelf PVA glues.

Clamping strategy is crucial for achieving a seamless transition between the veneer and the edging. Careless clamping can easily pull the edging away from the edge of the panel and leave an unsightly glue-line.

I have used blue tape successfully, particularly with thin edging. Apply the tape over the edging and put some tension on each end prior to fixing it down to the panel. For square and straight panels and edges I routinely use my parallel jaw clamps. Specialty clamps are available that have two soft-jaw cam-shaped heads. Slide the clamp heads over the edging onto the panel and tighten the handle. As you put tension on the clamp thread, the cam heads grip onto the panel surface and the edging is held in place (**photo 3**).



8. Using a block plane to remove the bulk of the excess.

9. Simple router jig for flushing the excess.

10. The author's Macassar ebony jewellery boxes edged in Gabon ebony. Photo: Frank Pronesti

If you are edging a piece that is curved or doesn't have a square surface to clamp onto you can use a mating piece to square it off. Pull the clamps tight and the matching profile will allow even pressure to be applied (**photos 4, 5, 6**).

To make clean-up easier, I also apply a line of green or blue tape along the edge to capture any glue squeeze-out (**photo 7**).

Flushing the excess

I generally make my edging stock 1–2mm thicker than the panel and use one of the methods described below to flush the excess down.

Handplane. With a block plane set for a heavy cut you can quickly bring edgings down to very close to the surface (**photo 8**). The remainder can be brought down with either a card scraper or, with a good dose of skill and confidence and a cambered iron in a finely set block plane, you can go all the way with a hand plane.

Keep the heel of the tool over the panel to avoid sloping off the edge and digging in, then watch the mouth of the tool to see where the shaving stops due to the camber. Traverse the tool so this point exactly follows the seam between the edging and the veneer.

Trim router jig. This consists of a two-layered supplementary base that allows the router to traverse the surface with a straight bit set to cut exactly, or just above the surface (**photo 9**).

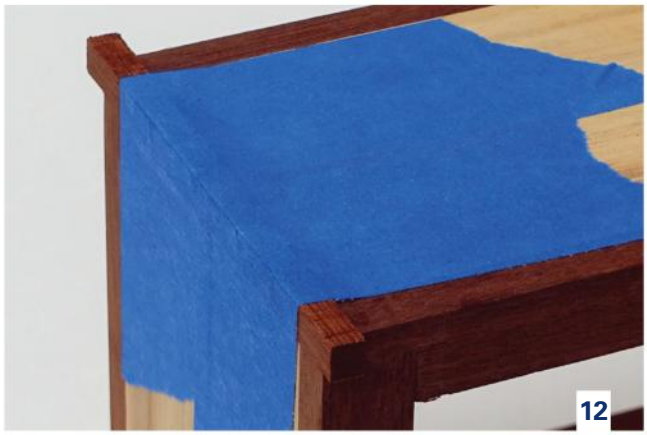
Edge-lipping planer. The very handy power tool I'm using on p.84 has been developed by Virutex for just this purpose. If you work with a lot of veneered panels, it's a worthwhile investment (*see review p.16*).

Sanding. This is also an option, just be careful that you don't sand through the veneer as you bring the solid edging excess down.

Casework edging

When making case pieces, you can also use these techniques to disguise corner joinery such as rebates. I've done this on decorative jewellery boxes like the ones shown in **photo 10**, through to full size cabinets to great effect.

First, make your case pieces by applying some edging and go through the process of flushing the faces and cutting the panels to size. Then, cut the rebates in the corners using a dado stack or a router bit. Set the size of the rebate so that when the two panels go together, the resulting exposed rebate is the same in width and depth so you have a consistent space to fill (**photo 11**).



11. Small square rebate at the corner of a case piece.

12. Clamp edging in with blue tape.

13. Clean and striking finished result.

14. Use a mitred offcut to register your frame components.

15. Glue and clamp two opposite edges, the others in a second glue-up.

Assemble your carcase and while the glue is cooking off, machine some square edging stock. Glue it in place and 'clamp' with blue tape, trim the ends off with a flush-cut saw and flush down the edges as previously described (**photos 12, 13**).

Applying a mitred frame

Using a veneered panel as a tabletop allows you to take advantage of a lack of seasonal movement, decorative effects and easy access to a large flat surface in your construction. A simple way to cover the edges of a rectilinear table is to apply a mitred frame to the edges. Mill your stock to the desired thickness. In terms of width, I generally don't go any wider than 75mm, to prevent the gaps opening up due to seasonal movement.

The critical issue here is to cut the pieces to a precise length. Cut one end at 45°, then register it in place on the edge of your panel, using a 45° offcut as a guide to ensure you register it right at the corner (**photo 14**). Use a knife or pencil to scribe the corner at the other end and cut. Glue two opposite edges on first, then the two other edges in a second glue-up (**photo 15**).

Curved tabletops

For circular or elliptical tabletops, you can clamp on thin flexible edging (I usually use stock milled to approximately 3mm thick) with either blue tape or a ratchet strap. In this case, have a ready source of timber wedges. Applying two opposing wedges in spaces where the strap meets the ratchet can provide enough assistance to ensure you get consistent clamping pressure around the whole circumference.

Simple skills and basic tooling which most of you may already have access to, along with some of the tips I've described here, can open up a whole new side to your woodworking.

Photos: Linda Nathan

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

Collecting Titan Chisels

Robert Howard reviews Dick Lynch's recently self-published book.

The first question many readers will ask is why on earth would anyone want to collect Titan chisels, much less write, and self-publish, a book about it? Furthermore, how could you possibly have enough to say to fill 320 pages?

Dick Lynch's reasons are partly historical (the first chisels he owned as a young apprentice were Titans), partly psychological (as anyone who has the collecting gene will recognise), and partly unknown, even to him, as he happily admits. But there is also a more general requirement that needs to be met for any object to become collectible, particularly if, like most of us, you do not have very deep pockets, and that is availability. The object you decide to collect needs to have been once produced in great numbers, at modest cost, and with some variety, so there will be sufficient examples readily available to keep you interested. Titan chisels fit these requirements.

As for the psychological reasons, I must quote Dick as he writes about his collecting in terms that many readers will recognise: 'A lot of the collectors are ex-tradesmen and their skills and the love of tools never leaves them. Related to this, is the hunting/gathering involved. This is an almost spiritual, and always a pleasurable pursuit, usually conducted in amenable surroundings (tools and blokes) in very agreeable places such as swap meets, trash

and treasure markets and tool sales with the added bonus of the prospect of combining a special find with some captivating chat. Usually following the pick is the pleasure of a few hours in the workshop (or the more modern 'man-cave') restoring an old tool to near its previous glory'. That sounds pretty healthy to me although he cheerfully acknowledges that it does require 'a touch of quixotic insanity that keeps the quest focussed on the unreachable horizon of "collecting all of them"'.

Titan chisels were made in Tasmania from 1945 to 1963, and, as Stanley-Titan, from 1964 to 1976, because of a shortage of imported tools immediately following the Second World War. The building boom of the 50s and 60s, fuelled by rapid population growth, required a large workforce of carpenters and allied trades, and these workers needed tools.

Millions of Titan chisels were produced, with the aid of tax breaks, and sold behind tariff barriers, until the 1970s, when our high wage structure and rising costs of inputs made local manufacturing uneconomic. Though not made for 40 years, almost any market or swap meet today would produce numerous examples of the many different Titans produced, though collectible examples are becoming increasingly rare.

If, like Dick, you were to decide to collect Titans, you would quickly find yourself with a number of challenges focusing on dating, appearance and changes that have occurred. In other words, you would need to know what you are looking for or at, and if that information was not readily available, you would have to discover it for yourself.

Thanks to Dick Lynch, for Titan chisels, that work has been largely done, though it will never be finished. In his words 'Over a protracted period I have hunted, gathered, sifted, recorded and filed every last piece of Titan chisel information I can get my hands on…These are all filed under various headings and I record all pertinent details such as handle type/shape, tang and collar design, dome and ferrule placement and associated blade markings and decals etc'.

This information is important when you want to assess the authenticity of any find, and to date it. As with any old tool, mismatched blades and handles are common, and outright fakes not unheard of. Detailed knowledge of the Titan range, and the way handles, decals, and blade marks have changed over time allow you to sort the good from the bad, to spot the special finds, to know when a tool is worth buying for its handle, or its blade, and what a fair price might be.

All this information, and much more, is now available to us in this valuable book. It is a fascinating read even if you never intend to become a collector, although you will never look at a Titan chisel in the same way after reading it, and that might be enough to begin a serious obsession. I didn't know,

for example, that the 'wooden' handles (the ones without the top steel hoop) were made from Tasmanian myrtle, or myrtle beech (*Nothofagus cunninghamii*), whereas the rest were Tasmanian blue gum (*Eucalyptus globulus*), or that the early chisel handles were a copy of the Swedish Berg design.

Numerous photos show how details have changed over time. There are also many tables collating all the details for easier understanding and memorising. Of course, any book like this is necessarily incomplete, as the search for historical details goes on, and I am sure Dick would also readily acknowledge there is ample room for corrections to be made as more details are discovered and pooled. But what a beginning this book represents. If you are, like me, an avid collector of woodworking information, I am sure this book deserves a place in your bookcase. If you wish to take the extra step and begin a collection, the book is indispensable.

For more information about the book contact Dick Lynch via email at info@lynch.com.au

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

1

The Friends of Rambutso

Old style techniques can lead to new directions. Story by Richard Vaughan.

Catching up with longtime friend Lynne* in August 2015 somehow became a commitment to teach a pilot course in furniture making on a small island with only very few basic woodworking tools.

How it started

I put out the word to a few mates and only two months later the result was a huge stock of tools which were restored then packed and shipped. The good heartedness of the woodie community is a constant delight to me and such a contrast to the virulent greed of so many of those in power, be it in Australia, PNG or globally.

Rebuilding a sense of community is an urgent need in much of PNG since the intrusion of white institutions disrupted traditional culture and often left little in its place. Despite the significant aid that goes there, it doesn't seem to help where most needed in a place where corruption is the norm.

Friends of Rambutso is an NGO set up to address the needs of 12 villages that make up the community of one small island group. There is no power, no running water and negligible phone or internet connection on Bundrou. No Googling or Youtube instruction here.

Working without power tools, hardware, adhesives and materials was an interesting rethink, even for one who regards hand tools as the essential foundation of fine woodwork. But furniture was being made millennia before the industrial revolution so I had precedents to draw on. The shavehorse was an essential tool and a model for mortise and tenon furniture construction.

First get the wood

Bundrou is about half a metre above water level and a huge tidal inundation in 2007 wiped out forests in the northern end so timber is now sourced from neighbouring islands. On the first morning after I arrived I went with two boat loads of men to get wood for our project from an uninhabited but densely forested island about 20 minutes away.

Their skill with chainsaws was seriously impressive. Bare feet or thongs may be an issue for OHS regulators but consider the balance and grip that minimal footwear gives, as well as an awareness that keeps you focused on the job. And boots were beyond their means in any case. In two days the timber we needed was felled, sawn and stacked in boards ready for use.

Being able to work with the softer green wood, and not having to worry about cracking in the constant humidity was a delight I relished as I set about making a workbench on my second day there – and for this I was glad I had brought nails.

The training commences

On the Monday morning the village and all participants were summoned to the meeting house and the elders explained that they had been chosen for this pilot project and how they engaged with the training would affect the possibility of such opportunities in the future.

My sporadic attempts to learn Tok Pisin amounted to nothing when hearing it spoken but I discovered that English was understood even though many were shy about speaking it. There was already a sense of anticipation as the opening of the boxes and laying out of the tools a couple of days before had been keenly observed and much discussed in a village where all the existent tools available would have fitted in a suitcase.

Ten elders with carpentry skills and the sort of personality that would be generous with their knowledge were selected from five villages. Once the formalities were over they listened with earnest attention as I explained what we'd be doing. A scale model proved invaluable as the shavehorse was a completely new concept for them, but one they appreciated immediately.

First the shavehorses

Once the goal was set and the chainsaws started the focus and enthusiasm was wonderful to see. Playful personalities emerged, and joking and laughter were constant amid the noise of shaping the wood. In fact one of my indelible memories of Bundrou is of laughter being the soundtrack of each day from sunrise till sleep put it to rest.

The drawknife was another new tool that was immediately adopted and skilfully used. Every male has a bushknife and generally has it with them. A colleague (Henry Black) and I had both recycled old jointer knives into drawknives to add to the donated ones but as a backup plan I bought a bush knife on Manus and ground a single bevel onto it which I then honed as a good substitute. Several students simply used their bush knives in the familiar chopping action for shaping but in either case it meant that future sourcing of drawknives became less of an issue.


2

By the end of the next day there were many smiling faces and almost five shavehorses ready for use.

And then stools

The shavehorses were then put to use making three-legged stools that were then decorated. I just put that out there because I had seen no signs of carving or carved decoration in the five villages I visited, yet once the men in the class had the tools they immediately set to work on ten very differently decorated stools.

The potential of turning these stools into saleable items was quickly recognised and that was exciting because a way of generating income was a hoped for outcome of the project.

Lynne had told me that home storage is mainly on the floor and I wanted to offer an alternative. Lorengau is the capital of Manus Province, as well as being the location of the notorious refugee camps, so ships are regularly delivering supplies on pallets that are simply burnt or dumped. Thanks to Lynne's network we arranged for some to be de-nailed and brought out to Bundrou. Transforming them into shelves may seem obvious but it was an idea that hadn't happened there.


3

1. The group building shavehorses with handtools from the chainsaw milled timber.
2. Felling a tree and milling wood on a nearby island was one of the first tasks.
3. In a place where few tools were to be had, the tools from Australia once unpacked were a talked about event.

4. Stools made by the trainee group were also individually carved.
5. Trainee team with Richard Vaughan at the conclusion of the program.

More furniture

A ongoing project for Friends of Rambutso is the construction of a study house in the village of Popeu at the northern end of Bundrou Island. Once the concrete floor is laid it will be ready to house desks and seating.

So the next project was for a table with shelf underneath that could serve as a school desk, and an addition to the very basic kitchens the women are accustomed to.

I had intended the project to build on local knowledge and skills and at this stage there was a fair bit of discussion about suitable materials for the shelf, with participants from each village sharing ideas. I was very glad I had gone with this in mind because a concern tactfully expressed by several elders shortly after I arrived was that I would be learning as well as teaching. Clearly these gentle people have plenty of experience of being patronised, of being told by people who have no idea of or interest in centuries of local knowledge.

When I suggested lightening the top of the desk I got a surprise as I'd expected them to use one of the donated adzes but it was straight to the chainsaw for another example of effortless expertise.

By this time it was Thursday evening. They wouldn't stop each day till the fading light forced them to, and I knew we had to finish early the next day for the conclusion formalities. By now I reckoned they could be pushed a little so in the morning they had one hour to refine the desk/tables then until 2pm to make a table I'd explained that would be suitable for laying out the food for weddings and like celebrations. Transportable and easy to store, it turned out to be ideal for a market table and was in use as such on Manus Island the following Sunday.

Last day already

The work of little more than four days was laid out and photographed. After all the energy of the week the closing ceremony on Friday afternoon had the happy but quieter feeling that seems usual at the end of a bunch of people learning and doing new stuff.

Along with the 10 trainees selected another eleven had been chosen as observers and helpers. At 'graduation' each of the 21 were presented with a chisel and each pair of trainees were given charge of a set of tools and a log book in order to continue the training in their village. The day was wrapped up with a feast of new and traditional dishes from the glorious women.

And now?

The plan is for those trained to now train others on the main island of Manus, and be paid to do so however this depends on funding becoming available. Thanks to Lynne's years of unceasing networking the project got extensive radio and newspaper coverage throughout Manus province, and several 'big men' in government came to see the class in action and were impressed with what they saw.

I expect to be returning to Bundrou, perhaps as early as the end of this year and look forward to reconnecting with the delightful people there. So once again I am appealing for hand tools in usable condition to send so the training started on this trip can be extended to the many more who would benefit by such practical help. Get in touch with me if you have queries about how you can help.

Photos: Richard Vaughan

**See Lynne's story at friendsoframbutso.org/lynne*
***For more on the background leading up to the project see also http://www.woodreview.com.au/news/our-man-for-manus*

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

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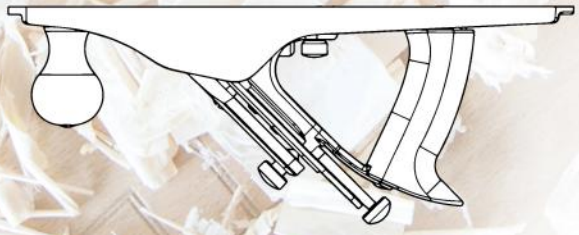

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