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Australian Wood Review 97

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Editor's Letter

Connections

This magazine is in no way about investigative journalism but recently a few dots seemed to be connecting. At our AWR L!VE conference event last August (see p.86), it was interesting to hear about projects with Aboriginal communities in the Northern Territory that Sydney's Koskela retail outlet is involved with.

Around the same time I heard about Manapan Furniture, an exciting collaboration led by Mark White between Melbourne designers and Arnhem Land makers who are creating a range of high-end contemporary furniture, see p.76.

Meeting and talking with Melbourne designer maker Damien Wright a couple of months ago gave me insight into his work, and I also learnt how years ago he spent time in NT working with Aboriginal makers, and still maintains a strong connection with them.

At a time when Australians, first and more recent, are restating historical records and how those are being publicly acknowledged and celebrated, it's interesting to see how connections such as the ones touched on in this issue are strengthening the identity of our making culture.

Studio Furniture 2018

In 2008 and 2010 Australian Wood Review and Bungendore Wood Works Gallery partnered to produce what proved to be landmark exhibitions. We are now proud to announce that the third edition of this exhibition of new generation woodwork will open next year on October 20.

You are invited to take part by initially submitting a portfolio of six images via our website. There is an entry fee of $80. If you are shortlisted, your work must be delivered to Bungendore Wood Works Gallery in NSW by October 16, 2018 where $10,000 in cash awards will be presented. The piece you exhibit may or may not be the one/s you originally sent images of, however it must meet certain criterion.

SF18 will be a focal point in the year that AWR celebrates its 100th issue and BWWG its 35th year. You are encouraged to enter and can find more information on p.35 and on our website at www.woodreview.com.au

Wood Dust Australia

Adding to the excitement of SF18 is the fact that it will occur concurrently with a brand new festival for woodworkers and wood lovers that will launch on October 17, 2018.

For five days, Bungendore and Queanbeyan in NSW will be the nucleus of the wood world as local and international celebrities descend to take part in and enjoy a series of lectures and masterclasses, topped off with a tool marketplace you won't want to miss. Wood Dust Australia is a way off, but it's on the horizon gathering momentum – find out more at www.wooddustaustralia.com

Student Awards: Time to Vote

Students in years 11 and 12 still have until December 14 to enter Wood Review's Student Awards before all entries go live on our website. This competition is a great opportunity for all of us to enjoy the achievements of younger woodworkers. In addition, you'll be able to vote on our Facebook page for your favourites by 'liking' as many entries as you wish. The entry with the most likes will win Popular Choice award. Register for eNews on our website to receive updates.

Have a great festive season and a Happy New Year!

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linda@woodreview.com.au

Australian Wood Review

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COVER:
Damien Wright in his Northcote, Vic workshop.

COVER PHOTOGRAPHY:
Raf Nathan

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Tormek T8 Sharpening System

Reviewed by Troy McDonald

It's hard to imagine a topic more divisive amongst woodworkers than sharpening. For some, the quest for sharpening perfection seems to be a pursuit in its own right. So, in the interests of disclosure I'll confess at the start that I've always had a strong dislike for sharpening, and also that I've been a Tormek owner for some years and love the system. That said, how does the new Tormek T8 stack up?

The T8 is the new flagship model in a long line of sharpening products from the Swedish company dating back to the 1970s. Few could dispute Tormek's reputation for innovation and quality and the T8 is no exception. The unit comes with everything you need (**photo 1**) and the documentation supplied is the best in the business. So much so, I'd suggest any woodworker would benefit from reading the early chapters in the manual on sharpening fundamentals.

Assembly is simple and the improvements since the previous T7 quickly become evident. The major change on this model is the full cast zinc top (**photo 2**) to improve rigidity and accuracy. Several other upgrades improve ease of use such as the clever adjustment for raising and lowering the water trough. The stone and motor specifications seem unchanged, however, the unit appears somewhat quieter than the T7.

For sharpening chisels and plane irons the T8 comes with the new straightedge jig, the SE77. This is an improved model with an upgraded locking mechanism and functionality that allows cambering of plane irons. In use, nothing has changed. The water trough is filled with water, the tool is mounted in the jig, the sharpening angle is set with the anglemaster (**photo 3**), and sharpening begins. With the bevel re-established, the tool can then be finished on the strop (**photo 4**). The process is incredibly quick and easy, but the repeatability is outstanding.

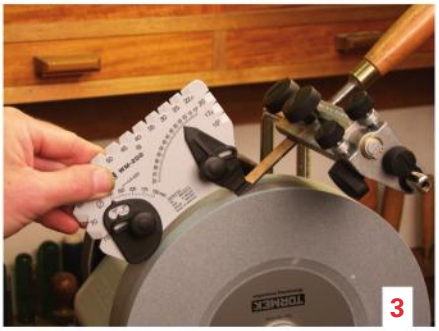
There is a lot to like about the T8. The flexibility offered by the system I consider a huge advantage for woodworkers. It can be deployed on everything from carving and turning tools to kitchen knives and although the range of accessories is vast I find only a small number of them really necessary.

Some will consider the Tormek expensive, however, this is a quality tool for a lifetime of use. For me, the flexibility it offers and the quality of the results make it worth every cent.

And the downside? In my opinion, there is only one and that would be the slowness of the grind. For normal sharpening, this isn't an issue because you're removing such a small amount of steel, however, for tasks that require significant steel removal, like reshaping a tool, it can be slow.

For those tasks do yourself a favour and invest in the Tormek BGM100 which allows the Tormek jigs to be used on any high speed grinder. With the T8 for sharpening and the BGM100 for significant grinding tasks, sharpening is quick, accurate and incredibly effective. And that's a huge compliment from a sharpening hater like me.

Review system supplied by www.promac.com.au



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Above: The Marcou chamfering plane, here made from blackwood, is single purpose and highly effective.

Left: Showing the 45° sections and adjustment mechanism.

Marcou Chamfer Plane

Reviewed by Vic Tesolin

There are two types of tools that I absolutely love in my hand tool chest. One is my wooden planes, and the other my joinery planes. In the case of my chamfering plane, I get the best of both worlds. This plane, made by New Zealand planemaker Philip Marcou, is esoteric as it only cuts chamfers and this suits my style of work well.

Based on the Japanese version of the chamfer plane (*mentori kanna*), the plane is simple to set up. The sole has two 45° sections (one fixed and one sliding) which allows the user to set the size of the chamfer. Once you get the size you are after, it's as simple as locking up the jam nuts to keep the setting. The two sole pieces allow the user to run the plane along an arris until the plane stops cutting. You don't even need to pay that much attention because the sole will guide you on to a perfect 45° chamfer.

One of the most intriguing features is the sliding blade carrier. The blade holder is able to slide laterally to ensure that you are not constantly running on the same section of the blade. If the blade starts to become dull, you simply slide the blade over to expose a sharp section. As you can imagine, this sliding action would have to be fitted precisely to ensure that it does not slip in use. I've owned this plane for a couple of years and this sliding piece is just as snug as the day I bought it.

Which leads me to the overall fit and finish of the plane. Philip has made sure the plane will stand the test of time by including a brass sole for years of chamfering joy. All of the moving components slide effortlessly into place, making adjustments and tweaks a simple task. The body is made from Aussie blackwood which isn't often seen in my Canadian shop, and it has remained calm with no discernible movement plaguing the body.

I guess what I like most about this little plane is it just works. There are other ways to cut chamfers, but this plane, with its great fit and finish and ease of use, makes it come to hand easily.

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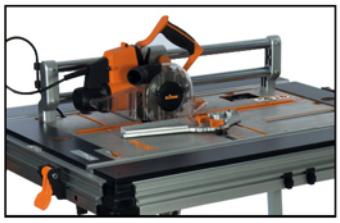

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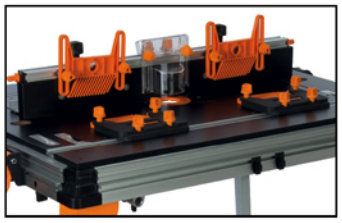

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Whittle Evolution Hardwax Oil

Reviewed by Raf Nathan

Hardwax oils have become very popular over the past few years as a great alternative polish to lacquers and polyurethanes. Personally I am slightly allergic to the latter and now solely use these hardwax oils. Whilst they are claimed on curing to be fully foodsafe and non-toxic I do find during application that the fumes are a little offensive. I therefore wear an organic vapour disposable mask and always polish in a well ventilated area, or weather permitting, outside.

Evolution is a newer version of the Whittle hardwax range that is formulated to dry faster than earlier products. It is very easy to apply with brush or rag and suits flooring, woodwork and furniture.

In my experience it is best to initially apply a reasonably wet coat with a brush and let the finish soak in till dry. After drying, sand with 320 or 400 grit abrasive, wipe or vacuum the surface, brush or rag the next coat on, wait one minute, and then gently buff off the excess surface oil with a clean rag. If you leave it too long before buffing it can go tacky. If this happens apply another coat of oil and buff immediately. The manufacturer recommends two coats to be sufficient however I find three or four coats best.

Drying time varied greatly depending on ambient humidity. Recent very heavy rainfall in my area seemed to delay drying for more than a day. In fact I waited till the third day before applying the second coat on a silky oak piece. However, when the weather changed to drier conditions I found a one day drying time was more than adequate.

There are three versions of Evolution available – Classic, Satin and Gloss. The gloss levels achieved in my workshop however did not match what you would expect from sprayable lacquers and polyurethanes.

The hardwaxes offer more of the hand-rubbed appearance rather than a glossy surface finish. To me the Satin and Gloss were much faster drying and with better build. Applied in the morning either of these oils was able to be sanded and re-polished after around eight hours drying time in low humidity.

Comparing the three versions on sample wood pieces the Gloss displayed the figure in the wood better and became my oil of choice.

It's important to note that the timber species you are using will affect the final finish and build. Open grained silky oak can easily take up to four coats, although grain filling prior to oiling can reduce this significantly. Hardwoods such as blackwood and jarrah are less hungry with their closed grain and therefore need fewer coats. For flooring or countertops brushing on 3–4 coats without buffing off will give a thicker, glossy build.

Hardwax oils are water resistant, hard wearing and the finish they achieve is easy to restore if need be. I find them suitable for dining tables and general woodwork and importantly they are fairly 'idiot proof' in their application.

Available from Whittle Waxes the Evolution range also includes coloured finishes and pure oils for refinishing existing work.

Samples supplied by Whittle Waxes, see www.whittlewaxes.com.au

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Hock Knife Kit

Reviewed by Linda Nathan

Making and fitting your own knife handle is a great use for those figured but too small for anything else pieces of wood some of us hoard. And if you're going to the trouble, you might as well use a superior blade, and that's where the kitchen knife kits made and supplied by Hock Tools come in **(photo 1)**.

The blades are made from O1 steel, which is what esteemed US toolmaker Ron Hock uses for his top quality plane blades, so you know already you're on to something good.

These are not dishwasher type blades however, and require hand washing and drying after use, not a big deal because you wouldn't want to abuse those special bits of wood either.

I was sent the 90mm paring knife kit for a test assemble. There's a blade with a naked tang and three steel pins which are fitted into holes that you drill into the 'scales' you make.

First step is to cover the blade all over with tape because it's sharp. Next, choose the wood you want to use and dimension it down. Obviously you need two pieces, in this case around 130 x 19 x 6mm.

Select and mark the outer sides, then scuff the inner faces with 120 grit – that's to help the metal to wood bond using the two-part epoxy you'll soon need.

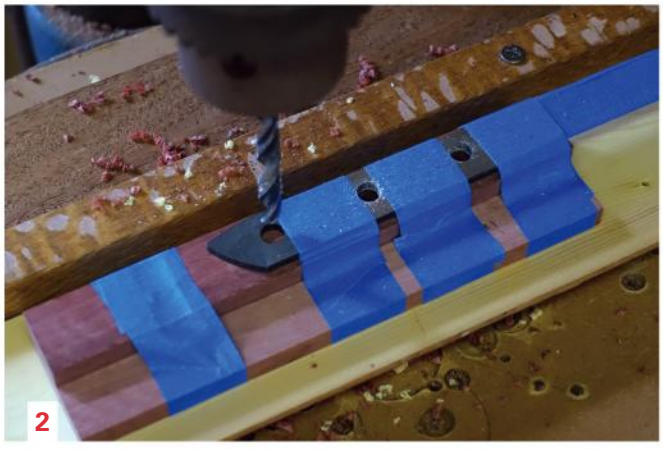
The instructions supplied are good however I deviated to use tape instead of clamps to attach the tang to the scale blanks with inner sides facing in. Holes for the pins were drilled with a 1/4" bit on the drill press with sacrificial wood underneath to prevent tear-out **(photo 2)**.

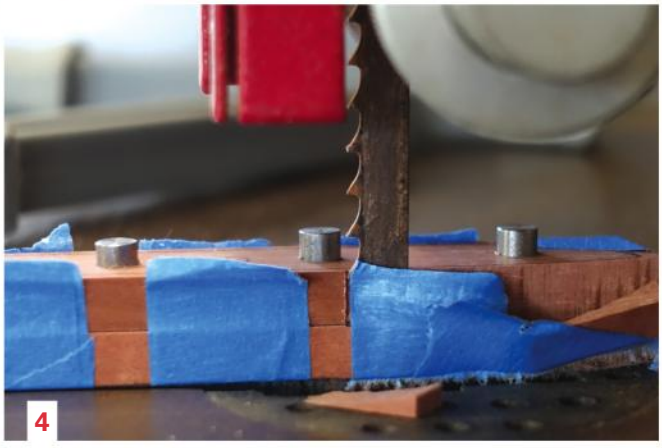
Next I removed the tape and the tang, placing the inner faces inwards, aligning them with the pins before marking the shape of the tang on the outside **(photo 3)**. The waste was bandsawn off, leaving the line of course **(photo 4)**. Another test fit showed things were still on track.

Before glue-up the tang was also scuffed with 120 grit, once again to help the epoxy bond. Then it was a matter of getting everything ready – paper towel to protect the bench, scraps of wood to mix the two-part epoxy on and use as a mixer-cum-spreader.

Then it was battle stations with eye protection and gloves on before each scale, hole and pin was covered in

Continued page 16





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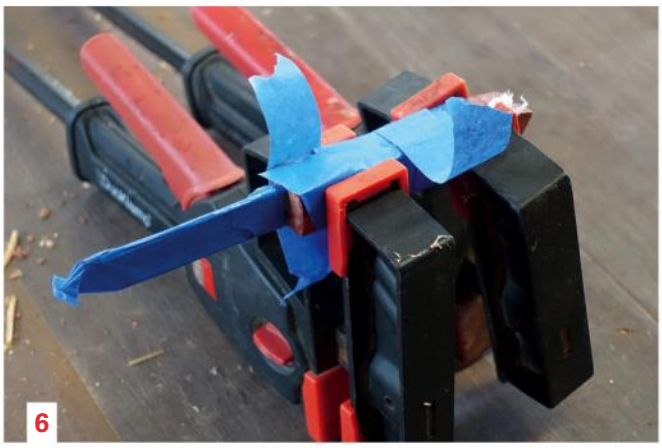
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epoxy and pins tapped home until the whole slithery mess was a unit **(photo 5)**.

Bound up with tape, the whole package was left in a clamp to cure overnight, well actually for a few nights. With the tape off the handle-to-be, shaping could commence. An inverted belt sander was the means of cleaning up the faces, end and sides. Slight curves on the sides required some care to shape. Sparks showed when the wood and metal were flush.

A bench chisel and then a Mora carving knife were used to create a curved facet that took the top of the handle down to the blade.

Hand sanding was next. Taking it to 400 grit wasn't really necessary but it felt good. The final shape was not precise, but has rounded curves and softened edges because this was a hand tool that I wanted to enjoy holding as well as using.

The finished handle was dipped in hardwax oil which was wiped off after a minute or so. Another coat would finish that job and highlight the figured jarrah used.

Kit supplied by Professional Woodworkers Supplies, phone 03 9776 1521 or see www.woodworksupplies.com.au

Heartwood MyBench

Reviewed by Darren Oates

This bench is the culmination of seven years of R&D by Stuart Faulkner and one you now make for yourself during a three-day course at Heartwood Creative Woodworking in Sydney. When it was sent to me to trial, it was available as a kit that you assembled yourself.

The bench I tested was 1800 x 600 x 1000mm high. It was made from CNC machined FSC certified white birch plywood with a very generous and heavy 75mm thick LVL top, ideal for use with dogs and hold-downs. The top has 19mm dog holes and a tool holder.

The bench arrived flatpacked, however the legs and rails were pre-assembled with large tenons that have threaded rod running through them, making for very strong joins.

Once assembled, I first checked the benchtop for flatness. Using a metre long straightedge the biggest gap I could find was 0.15mm in one or two places. I couldn't get a feeler gauge of any size under the straightedge, so this is a very flat top indeed.

I was worried about the condition the benchtop would be in when I returned it as I am quite hard on my benches – I have two and they really do show it. I built my benches to make furniture, not to be a piece of furniture, but I was told to just use it as per my norm and not worry about it, so I did.

I would have done at least thirty glue-ups on this bench with heavy G-clamps being dropped onto the top hundreds of times. After the two month trial period there was zero visible damage and the top was as flat as when supplied. This beech plywood top does seem to be very hard and durable.

The supplied deadman was very handy for working on board edges, with plenty of dog holes at varying heights built in.

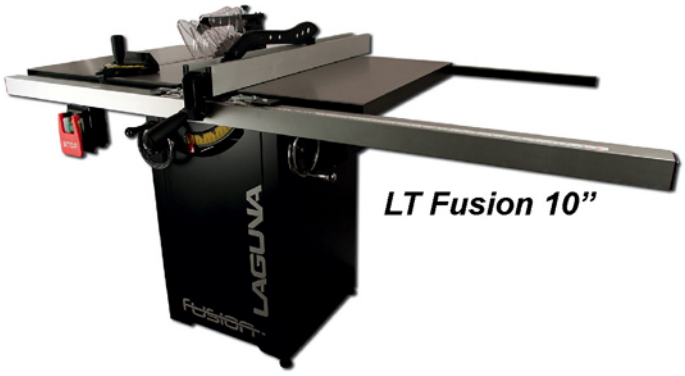
Overall I was impressed with the quality. I know a lot a research has gone into its design and construction and it shows. As mentioned, the bench is now available as one you make yourself with all materials and instruction supplied by its designer Stuart Faulkner.

I certainly recommend it for anyone who wants to set themselves up with a quality, heavily built and dead flat workbench, and at the same learn how to get the most use out of it.

Information from www.heartwoodcreative.com.au

LAGUNA

LT18bx



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Henry Eckert Honing Guide Mk II

Reviewed by Liam Thomas

This review could have easily become a treatise on honing guides; their role in hand tool use and sharpening. The topic is a well trodden road, often full of unyielding ideas so instead let's talk about my work, that is the day to day life in a furniture making and restoration workshop. I freehand sharpen my Japanese tools but for everything else I use a honing guide. Why? They offer consistency, day in day out and for a commercial workshop like mine that uses hand tools on a regular basis a honing guide is an invaluable tool.

This latest offering from Henry Eckert is an upgraded version of the previous model, both side-0clamping guides based upon the venerable but now long out of production Eclipse honing guide. I have two of the original Eclipse models in my workshop and have used the predecessor to this guide so it was an interesting experience putting the new offering from Henry Eckert Toolworks through its paces.

Made in Adelaide, the gunmetal bronze jaws are CNC milled in pairs to ensure accurate and efficient clamping. The polished cast bronze gives a real sense of quality to this tool and is a nice improvement on the Mk I guide's aluminium jaws. Tightening of the jaws is done by hand and the stainless steel threaded rod has a silky smooth feel to it, again a noticeable difference compared to the Mk I.

Again stainless steel is used for the 12mm bearing, coupled with a sintered bronze bush for increased corrosion resistance, a simple but important inclusion for any waterstone user.

I tested the guide on a number of blades, my widest plane iron, the thickest; an old, truly bevel edged, Sheffield cast steel paring chisel; down to my smallest 3mm chisel. The hand tightened gunmetal jaws held each tool securely without a hint of movement. Combined with the additional and revamped bevel setting jig ($19), a number of different angles can be quickly and repeatedly set.

There are three clamping positions in the jaws which as far as I know is unique to this type of tool. The top will hold your everyday and not so everyday plane irons. The lower jaw, which when compared to the Mk I one version has much larger dovetailed sides that securely clamp all types of chisels, especially firmer one, not a strong point of the original model. The new middle jaw is designed to hold thin paring chisels 3–6mm wide.

While the design doesn't stray too far from the Eclipse model, the refinements in finish, hefty feel and improved ease of use over the original Mk I make this an enjoyable and accurate tool to use. However I feel that the most important aspect of this new Henry Eckert guide is that it's made right here in Australia. Australia can now add honing guides to the list of fine tools made locally, the new Henry Eckert honing guide is genuine competitor in a field previously dominated by the big two North Americans. I freely admit to owning a wide range of tools from the world over but when a good quality option is available locally, I'd pick that one any day.

Review tool supplied by www.henryeckerttoolworks.com.au

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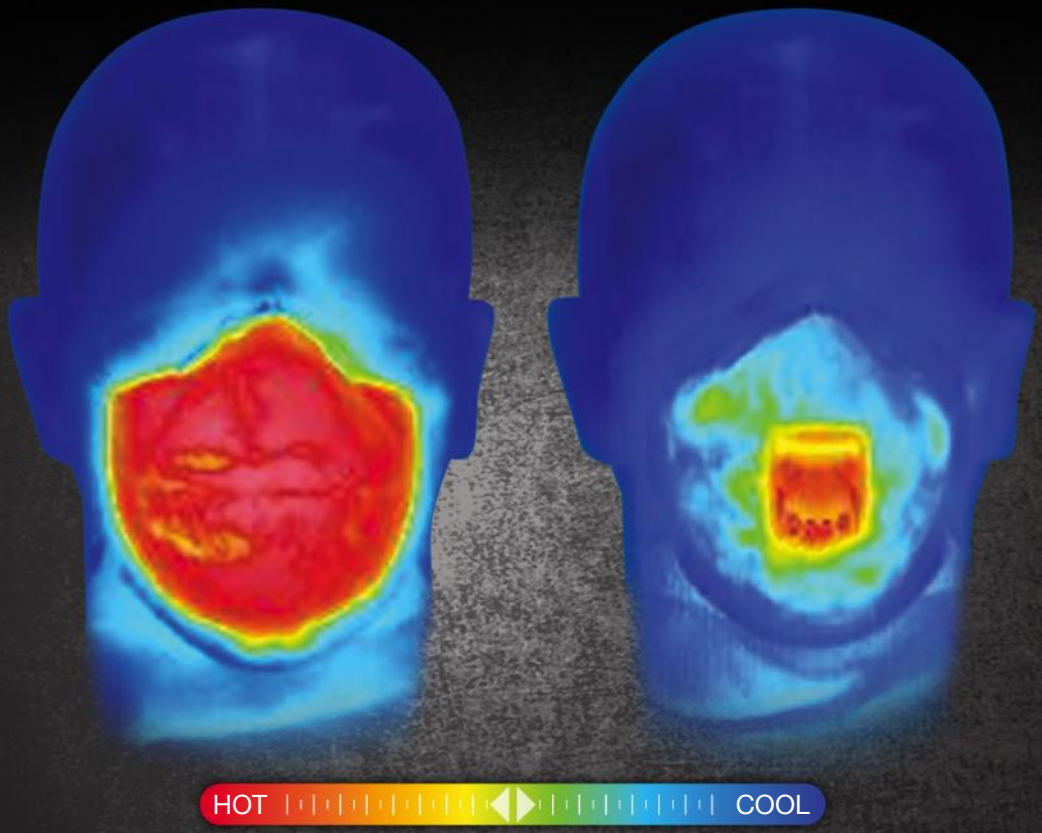

The colours in these thermal images show changes in respirator's surface temperature as the model exhales, filling the respirator with warm, moist air. In the image on the right, the Cool Flow™ Valve expels warm, exhaled breath more rapidly, helping keep the rest of the respirator cooler and more comfortable.

*3M respirator of identical construction, without valve. Testing protocol, data generation and conclusions were reviewed and approved by an expert from The University of Minnesota. The testing performed by 3M is not a part of the testing and certification conducted to AS/NZ standards.

**Compared to 3M 8210 inside respirator temperature based on 3M lab testing in 2010 and 2011.

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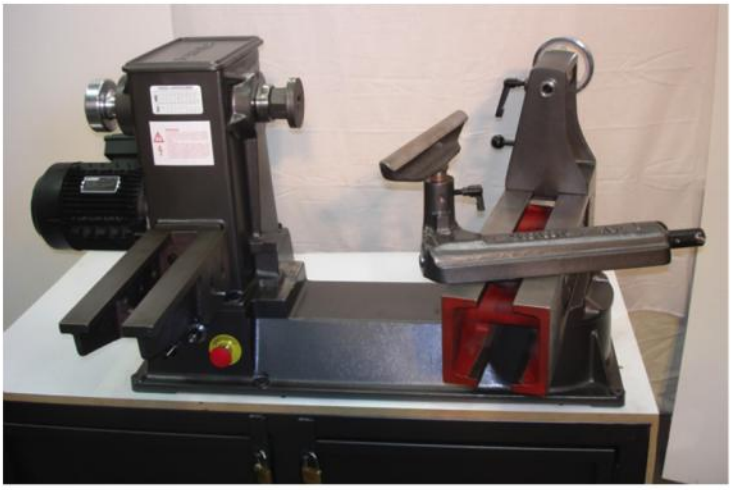
www.carbatec.com.au

Product news

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

The Big Gripper ▲

This is the hands-free you need in the shed, the one that grips hard and lets go when you want it to. Triton's new and improved SuperJaws are a stand-alone but portable vice-and-workstation-in-one solution. Foot-operated 1000kg clamping force, sliding jaws, 360° access, stable base, packs away, RRP $299 – what's not to like?
www.tritontools.com



◀ Aussie Made Lathes

Proudly made in Carrum Downs, Victoria by AMP Engineering, Omega Stubby wood lathes continue to sell all over the world as well locally. Stubby lathes have a lifetime guarantee with back-up from the manufacturers who also supply it. Machines are built to customer order, meaning you get what you want. Small, medium or large, Stubbies are robust and built to last. Phone 03 9770 8874 or see
www.omegastubbylathes.com

The Hole Jig

Just think of the time you could save on installation projects like bookshelves or kitchen cabinetry with a jig like this. Selling for around $200, Rockler's Pro Shelf Drilling Jig is all about fast and repeatable accuracy. There are other jigs in their range as well.
www.carbatec.com.au

Spiral Action

Hafco's Woodmaster T-13S portable bench-mounted thicknesser offers sizing and machining functionality with the benefits of a helical cutterhead. Spiral cutters give smoother cuts with less chipping, tear-out and noise. This unit has a 2.4hp motor and takes material up to 330 x 152mm. Cutter height is set via a top-mounted lever. No volt release and anti-kickback fingers are standard.
www.machineryhouse.com.au

Sola Spirit

Made in Austria, these sturdy reinforced aluminium box profile levels claim to be the most accurate in the world. Weighing 890gm Sola offers precision in standard and inverted positions. The acrylic block vials are break-resistant with a magnifying lens and have a 30 year guarantee against leakage. Stockists are offering 20% trade-in discount until December 31, 2017.
www.promac.com.au

Now Local

Solid handcrafted Lie Nielsen workbenches like the one shown here are now made locally in Queanbeyan, NSW by Dunstone Design. Made from rock maple, the benches are flat, stable, heavy and of solid construction. The front twin screw vice has around 450mm space between the screws, while the tail vice has 150–175mm of travel and a 'no L-block' jaw. The benches are designed to make working the faces, edges and ends of your workpieces easier.
www.lie-nielsen.com.au

Detail Chisels ➤

Bevel edge chisels are just the thing for detailed dovetail or other work in tight areas because the geometry of the grind sweeps back and out of the way when cutting in corners. These impact resistant 100 CR-V WoodRiver chisels also have hardwood tapered cone wedge-fit handles which make repair or replacement a snap. Available in a range of widths and lengths.
www.timberbits.com

◀ Handcrafted Shooting Boards

JD medium shooting boards are 400mm long and available with standard masonite or Veritas track. Use the fence to accurately shoot box edges or drawer sides, or take it off to plane endgrain. The stop is set with a precision square. A nice design feature is that the boards are sloped upwards so the blade doesn't lift the workpiece, and this also allows use more of the blade width.
www.jimdavey-planes-sharpening.com

Blocks That Lock ▼

How cool are these interlocking wooden block sets? Made in the Japan, Mokulock is made from solid Northern hemisphere species including cherry, zelkova, magnolia, birch, maple and hornbeam with no glue or finish applied. But just so you know, they don't connect with Lego.
www.japanesetools.com.au

Forged Down South ▲

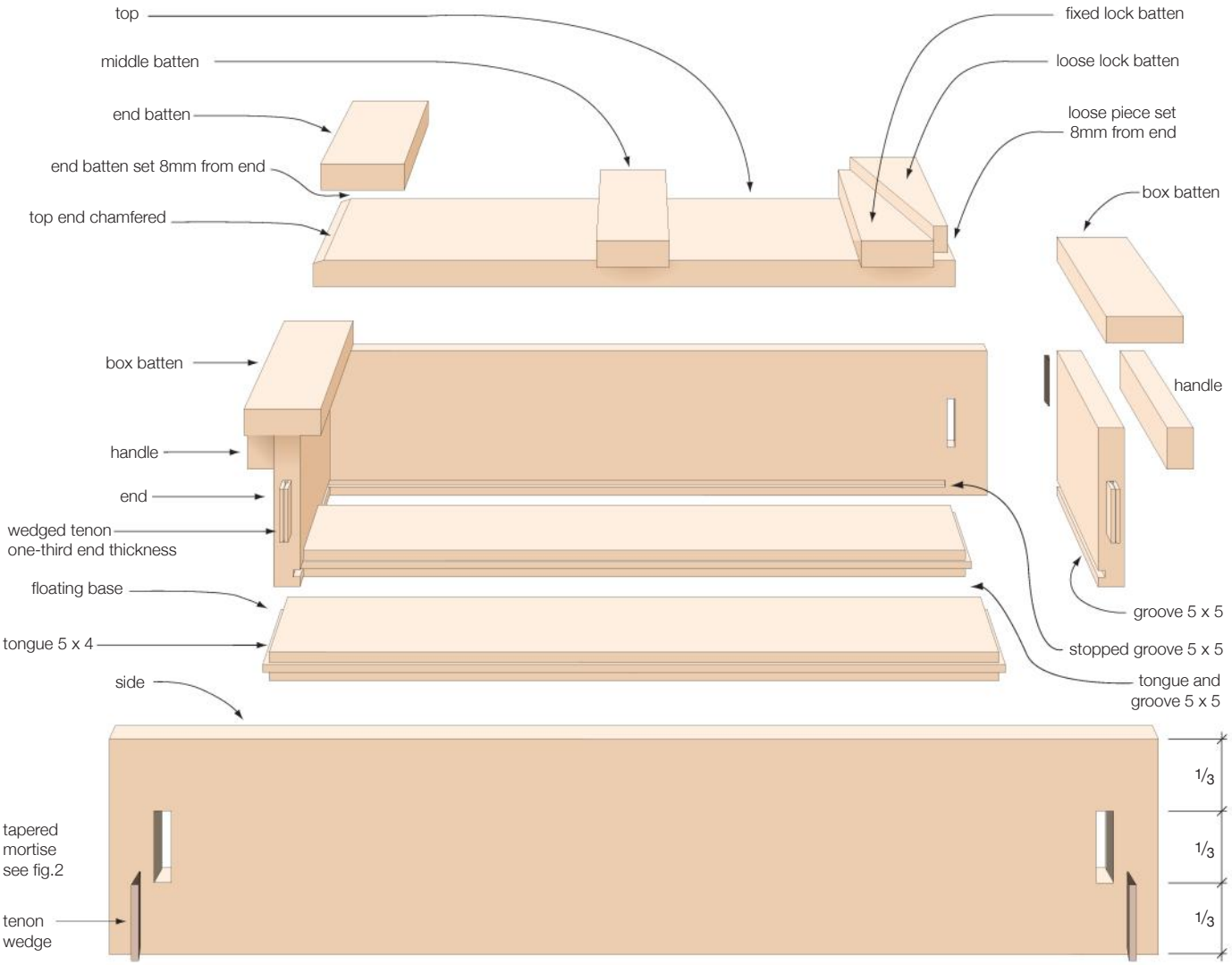
Henry Eckert Toolworks in Adelaide are now manufacturing their own traditional style holdfasts. Cast in ductile iron, these tools are strong but retain the required spring. A hammer tap is all it needs to secure and release them. The holdfasts fit 19mm dog holes, are 330mm tall with a 155mm reach, and are made with a low profile to keep out of the way of your work.
www.thetoolworks.com.au

Handworked Japanese Tool Box

Making this simple but sturdy storage box will challenge your handskills. Story by Charles Mak.

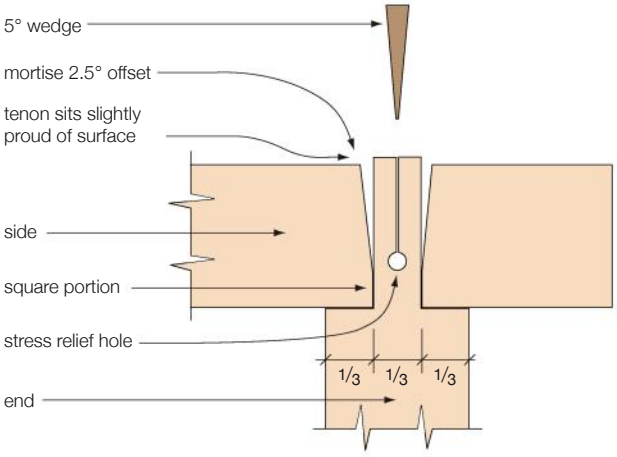
The author's Japanese inspired tool box is made from Douglas fir or oregon and can be sized to suit individual storage needs. The floating base allows for wood movement and also adds character.

Fig.1 Components (mm)



CUTTING LIST (mm)					
	PART	QTY	LENGTH	WIDTH	THICKNESS
Lid					
	Top	1	465	212	19
	End batten	1	250	60	19
	Middle batten	1	250	50	19
	Wedge (later halved)	1	250	62	19
Box					
	Sides	2	560	115	19
	Ends	2	216	115	19
	Battens	2	250	55	19
	Handles	2	216	30	19
Base					
		2	495	115	19

Fig.2 Wedged mortise and tenon



Illustrations: Graham Sands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Traditional Japanese tool boxes – known for their ingenious sliding tops – are usually nailed together. Modern copies seen in the West, on the other hand, often feature a combination of nails and joinery, such as a finger joint or through mortise and tenon joint. At a casual glance, my Japanese-style box looks just like one of those copies. However, if you look closer, you'll find several distinct design differences that separate it from its peers.

Firstly, the mortise and tenon joint is wedged, adding contrast to the exposed joint as well as a degree of complexity to its execution. Secondly, instead of relying on friction to keep the top shut, which will deteriorate over time due to wear, my box uses a wedged batten as the locking mechanism.

In addition, unlike many copies with tops that look heavy on one side, careful sizing of the lid battens gives the top of this box a pleasing and balanced look. Lastly, the tongue and groove bottom adds a touch of artistry to the box, while at the same time addressing the wood movement needs.

If advanced joinery, neat workmanship and handwork are your interests, this may be the right weekend challenge for you.

1. More is better here: Use several marking gauges to save time resetting.
2. I used a shim and the side board to set the tenon length without any measuring.
3. The engraved lines on a ruler are precise, repeatable stops for setting the marking gauge.
4. Set each end back from the edge of the side for the built-in handle.
5. Scribe another cut-line on each side of the mortise to lay out the taper lines.
6. To avoid blow-out, bore out the bulk waste by drilling from both faces of the side.
7. I used a square with a narrow rule to check the mortise walls for any high spots.
8. Set up a sliding bevel and sight against it to guide your slanted chopping.
9. Check the tenon's scribed lines against the mortise opening and adjust the cut-lines if necessary.

Choosing the timber

Many Japanese makers use Douglas fir to build their sliding-lid tool boxes. I chose the same wood over pine or cedar for its mild colour, being not too light or too dark.

The size of the box is determined by its function. As a tool box, you would make it at least as long as the longest tool that you want to put in it. Mine, a temporary shelter for magazines and books I haven't finished reading, measures 560 x 250 x 130mm high.

A note on timber orientation: Orient the sides with the heart side out whenever possible. Wood tends to cup away from the curve of the growth rings, so if you crown the sides with the heart side out, the box corners will remain tight all year round. This is also true for the lid. With the top's heart side as the face side, the lid battens should always rest flat on the edges of the sides.

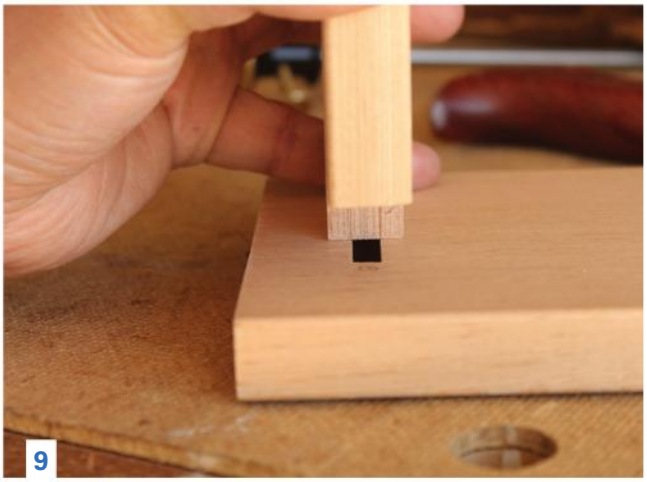
If the lid is a glue-up of two boards, try to orient the boards to run in the same grain direction, so you don't have to deal with a surface with opposing grains.

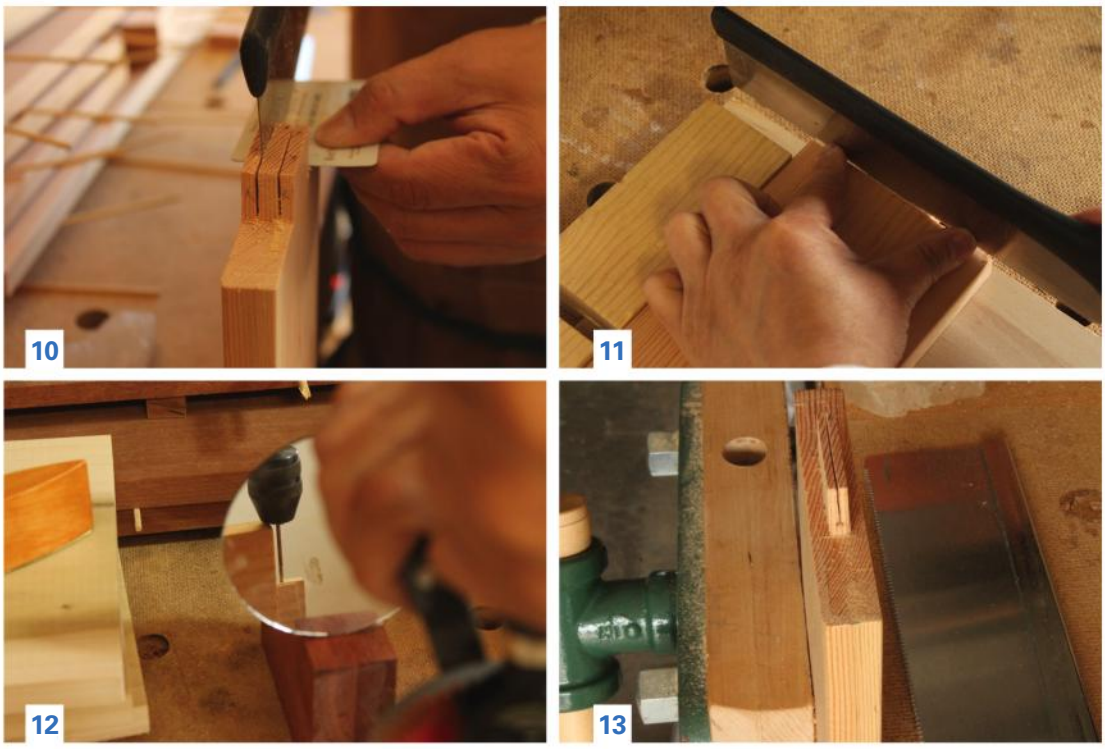
Getting started

After stock preparation (see *Cutting List* and **fig.1**), I began with the joinery. A wedged mortise and tenon joint (**fig.2**) is different from a through mortise and tenon joint in three ways. Firstly, the mortise is tapered on the face side; secondly, the tenon is slotted in the middle; and thirdly, the tenon is oriented across the grain of the mortise to prevent splitting. A wedged mortise and tenon, when executed well, can be a subtle statement of your skill.

Laying out the wedged mortise and tenon

We start out the same way we would layout a through mortise and tenon joint. First, mark out the tenons on the ends with a marking gauge. The size of the tenon is roughly one-third the size of the end stock in thickness and width (**photo 1**).





10. Little things like protecting the shoulder edge when sawing tenons add up to neat workmanship.

11. When crosscutting, I anchored my fingers to keep the saw teeth from marring the shoulders.

12. Place a mirror on the side so you can guide the drill on two axes.

13. Japanese saws are used to cut the slots, make the wedges, and trim the wedged tenons.

The tenon is set to protrude a little from the surface of the side (**photo 2**). Gleaned from a tip by author Chris Schwarz, I set the marking gauge by placing its cutter into the engraved line on a ruler (**photo 3**).

Set the end back from the edge of the side by the thickness of the handle and transfer the width and thickness of the tenons to both faces of the sides (**photo 4**). Lastly, mark the tapered mortises on the face side by extending the mortise thickness by 1.5mm on each edge for the offset (**photo 5**).

Tapering the mortises

Tapered mortising is a two-step process. First, cut the joint as a regular mortise from both faces: After drilling out the bulk waste (**photo 6**), chop the mortises with bench chisels. Then check the mortise walls against any high spots (**photo 7**).

In the second step, angle the chisel and chop on the extended scribed lines, stopping about one-third of the stock thickness from the bottom (**fig.2**).

It is better to taper the mortises after all the tenons are cut, as it is easier to check the tenons for fit when the mortises are still square on both faces (**photo 8**).

Cutting the slotted tenons

Before you saw, always check the tenon layout against the actual mortises to determine how close to saw to the scribed lines (**photo 9**). After sawing down the side of a tenon, cross cut on the shoulder to remove the waste (**photos 10, 11**). Lastly, finish the tenon for a snug fit with a chisel, router plane or shoulder plane.

To prevent splitting when the wedge is driven home, drill a stress relief hole on the tenon, about one-third up from the shoulder, then saw a kerf down in the middle (**photos 12, 13**).

Tip: If you don't have an extra long bit, make one by cutting a section from a clothes hanger and grinding one end sharp (**photo 14**).

Cutting the grooves

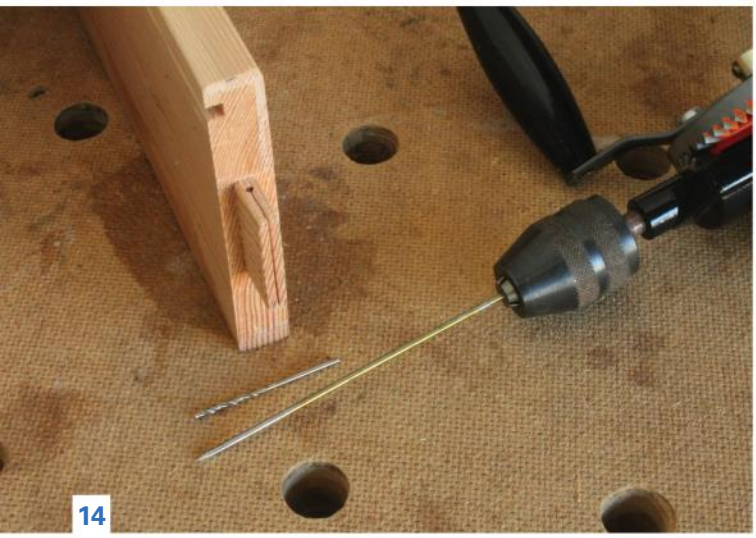
The bottom is a two-piece panel, housed in the box with tongue and groove joinery. Through grooves are cut on the ends with a plough plane. For the stopped grooves on the sides, plough the grooves as long as the tool allows and then finish the rest with a router plane or chisel (**photo 15**). A faster but less elegant way is to plough through the grooves and then plug the holes afterwards.

Cutting the tongues

We need to plan for the seasonal wood movements of the bottom and lid*. For Douglas fir, we should allow for a seasonal expansion of about 4mm.

The two bottom boards are held loosely together with a tongue and groove joint. Tongues are cut on all outside edges of one board and on three sides on the mating board – long tongues along the grain, and shorter ones across the grain. Use a plough plane with a tongue cutter to cut the long tongues (**photo 16**).

To cut the shorter tongues, scribe them as rebates on each face and plough with a groove cutter. Or, saw off the bulk waste, followed by a clean-up with a shoulder plane or router plane (**photo 17**). After all the tongues are cut,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14. Drill the hole as deep as you can with a regular bit, then finish the job with a long one.

15. For better control and results, make incremental light cuts with the router plane to complete the groove.

16. Set the plough for fine cuts and remove the shaving after each stroke to prevent clogging.

17. The shoulder plane is the ideal tool for fine-tuning a tongue-and-groove joinery.

18. To set the fence for grooving, align the groove cutter flush with the tongue and lock the fence against the workpiece.

19. Cut the wedge exactly as wide as the tenon, and long enough to reach into the relief hole when the wedge is driven home.

20. Fine-tune the tongues and grooves so that base floats freely in a dry-fit assembly.

21. I use a sewn old sock filled with uncooked rice (microwaved before use), or a coffee mug warmer to keep the hide glue warm.

22. Drive in the wedge, listening to the change of hammering sound as the wedge is seated.


20

change the cutter to a groove cutter and use the same fence setting to cut the groove on the mating piece (**photo 18**).

Cutting the wedges

I chose walnut for the wedges. It offers a nice colour contrast to fir and, being hard, can withstand the pounding. After laying out the cut-lines, saw out the wedges (**photo 19**).

Assembling the box

Dry-fit and clamp the box, checking that the bottom floats freely in the grooves (**photo 20**). I used liquid hide glue, the glue-up is done in three stages (**photo 21**). First, with the bottom in place, glue and clamp the ends to the sides, keeping any glue away from the mortise and tenon joints.

Next, glue the two box battens on top at each end, this time, with yellow glue or CA glue for its shorter clamping time. Finally, spread hide glue into the mortise and tenon joints one at a time and drive the wedges home (**photo 22**). After the glue is dried, saw off the excess and plane the joints flush (**photo 23**). It's a good idea to glue up the box before you work on the lid so you can size the top to fit the box opening, for the same reason we complete a carcase before the door.

Making the lid

The lid is composed of the top, and three lid battens with an overhang on each side. The lock batten is trimmed at an angle into two tapered battens to work as a wedge lock, with the fixed batten glued to the top.


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23. After trimming the waste with a saw, plane the wedge and tenon flush.

24. Attach the battens to the top with tape or hot-melt glue, so you can work out their placements.

25. Chamfer the top edge from both ends towards the middle to avoid breakout.

26. Signing or adding your maker's mark is a nice way to finish things off.

To allow for wood movement, use screws or apply glue only to the middle sections of the battens, away from all their edges.

For the slide-lock to function, you must position the end batten and the lock batten properly on the top. You can do a mock-up with a cardboard box, or as I did, attach the battens to the top with double-sided tape to work out their positions (**photo 24**).

To keep the end of the top (on the end batten side) from catching on the box batten when the lid is slid in, cut a chamfer along the top edge of this end of the top (**photo 25**).

I like the warm, natural look of fir and its pleasant smell as well. I decided not to put any finish on the box. A few coats of shellac would be my choice if I changed my mind one day. As is my usual custom, however, I added my maker's mark to the base (**photo 26**).

A Japanese-style box can be a simple box crudely nailed together, or one designed with hand-cut joinery – like this one – that challenges your workmanship and stretches your skills. The choice is yours.

** See the author's article on wood movement in AWR#92.*

Photos: Charles Mak

Charles Mak enjoys writing articles, authoring tricks of the trade, teaching workshops, and woodworking in his shop. Email: thecanadianwoodworker@gmail.com

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Damien Wright in his Northcote, Victoria workshop with his *Reading Chair* made from recovered black bean, ancient redgum and leather. *Photo: Raf Nathan*

Opposite: Tallarook setting with Cia chair and Mauricio carver in ancient redgum, black bean and leather. *Photo: Fred Kroh*

Reconciling Differences

Australian makers need to find authentic ways to express their connection to place, says designer/maker Damien Wright. Story by Linda Nathan.

When Damien Wright, 48, talks about his work he peels back layers of meaning. The huge slab that his offsider Noah is power sanding on the morning I visit his Melbourne studio is a case in point.

This 200kg piece of redgum, that for years lay on the ground sheltering a colony of fat skinks, would soon form a centrepiece for *Red Gum*, an exhibition mounted by Wangaratta Art Gallery which would draw together 'art, science and cultural landscapes'. This could almost be a metaphor for Damien's everyday work where everything he makes seems to relate to his social and material environment.

'What are you trying to say with your furniture?' I asked. 'It's very much about the question "why?"', Damien said. 'I'm not as interested in how. I do have an idea about the importance of objects and material culture, and making things is an important contribution to that culture. Fundamentally that comes down to an idea about placemaking, about what the hell we're doing here.'

'As makers and woodworkers you are in the primary interface of colonialism,' he continued. 'You are *it*. You get off the boat and you start cutting down trees and you have to reconcile the difference between that colonial skill-set, that canon and value system and the reality of this continent. And that's our tussle, to find material to suit that skill-set or develop the skill-set differently. And that leads on to ideas and enquiries about placemaking and settler society.'

We may be in the midst of a craft revival with a 'maker movement' and

the ongoing 'rise of bespoke' but here, in this country, our relationships to that culture are 'infantile', said Damien. 'Are we living here or not? Mostly it looks to me as though our material and made culture is dominated by transplanted culture… imported values, imported timbers, imported designers.'

So does he feel like an invader? 'I totally feel I am on country and part of this land', said Damien. 'Born here – and that is a great gift – but I'm fascinated by the consequences of that and I'm driven to express that in wood. Wood and woodwork, for me, is the way I've been able to do that.'

1. *Food Bowl*, 2800 x 1200 x 250mm, recovered redgum. 'Cooked, cured, crazed and curved by the sun and rain. Oh, and it rocks.'
Photo: Fred Kroh

2. *Bala Ga Lili* (*Two Ways Learning*) is a collaboration with Bonhula Yunupingu made from 15,000 year old ancient redgum and gadayka. The cabinet stands as a 'fortress of European hegemonic rectilinear narcissism. The spear throwing part of the sculpture is called *Wunhakali* (*Other Side*) It is a Yolngu dancer, a hunter. Loaded with power, action and agency'.
Photo: Fred Kroh

3. *There was movement at the station,* Snowy River walnut, ancient redgum.
Photo: Fred Kroh

4, 5. *Harry's Desk*, Wodonga walnut.
Photo Jeremy Dillon

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The current craft revival is also a consequence of people seeking intellectual enrichment through the process of making, says Damien. 'The hipster bespoke movement is about (younger people) wanting to feel something. Understanding the choreography of your body to be able to create something, rather than just go clickety-click. Craft describes that complex relationship between what goes on in someone's head and then hands. (Makers) are lucky because they have that skill-set. It's quite funny because people think craft is cool again. For years it was an absolutely stinking dirty word.'

If crafting and woodworking are about expressing the relationship of the maker to his or her social and physical environment through the development of a skill-set, for Damien it's not however about displaying technical virtuosity. Expertise is a given, there are fine dovetails and complex construction techniques but the interest is secondary.

For example, the blind mitre dovetails he often uses are all about achieving a visual flow of grain. 'With the fetishizing of joints I don't really get what people are trying to prove. For me it's a personal thing, I can do it – I have the technical skills – but I don't need to tell people about it. Aesthetics and the joinery decision matter to me, but they're not part of the same argument.'

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As for many, money has not been the driver in determining woodworking as a career choice. Damien laughed when asked if he made enough out of the business. 'I always say I'm in the business of going broke slowly…really slowly! But I've always got work and I've got great clients. I had a clear idea right from the start about having a commission based practice. I've avoided retail and galleries and I've been able to get by. I have flexibility and you're supporting a family, but you're not going into it for a million bucks.'

Damien's striving to resolve his connection to place as a maker has led him much further than most others. In 2010 he lived in Arnhem land in the Nhulunbuy region for around eight months and was invited by the Gumatj Corporation to set up a furniture making workshop which continues to operate to this day.

Initially the idea was to capitalise on a forest resource that was being sacrificed to land clearing activities for local bauxite mining. Gadayka or Darwin stringybark as a dominant species has proved well suited

Q&A

What makes you happiest when you make a piece?
The doing, when you're actually in that groove, the choreography of the making. By the end of it though you can't stand it because all you see is the struggle.

Favourite wood species?
Gidgee

Are you a hand tool nut?
I find it fascinating, that tool fetish. I don't do the tool porn thing. My tools are for working. I use them and love the feel of them but that's not what I do.

Yes, but what's your favourite hand tool?
My stumpy chisel.

Favourite machine?
1984 SCM L'invincible 24" thicknesser. It loves me and I love it.

What's the best thing about making things?
The best thing is there is always work to be done. Wood to be cut. And the doing helps me manage the constant doubt.

Worst thing?
The worst thing is the doubt. The self doubt and anxiety.

Favourite piece of woodwork?
A clock made by Will Matthysen. The idea of building a precise instrument. It's not something I want to do, but there's a level of skill and control, and it's about time and the time taken.

What's the most important thing makers need to take account of when starting out?
Have something to say – there's got to be a point. Even if I vehemently disagree, have something to say.

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6. *Brief Desk*, ancient redgum, gidgee. Made for the exhibition Melbourne Now (Nov 2013 – Mar 2014). *Photos: Jeremy Dillon*

7. *So There You Go*, recovered Qld walnut, ancient redgum. *Photo: Jeremy Dillon*

8. *Whispering,* made from sheoak. *Photo: Jeremy Dillon*

9. *Love Seat 38:52*, being the latitudes of Melbourne and London. Made from brigalow for the Immigration Museum in Melbourne. 'It is a memorial to the British child migrants. One tree broken, folded and reconstituted.' *Photo: Terence Bogue*

10. Made from ancient redgum, Japanese oak and celery top pine, *Pama* is a memory box – 'a meditation on accessing and protecting the past'. *Photos: Jeremy Dillon*

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to furniture making, and in recent times the workshop has also produced trusses for Galiwinku (Elcho Island).

When Damien arrived in Gunyangara he was left in no doubt as to what the dynamics of the relationship would be. 'When we got there the elders sat me down and said, "This is not going to work if you're just another white fella who comes up here and tells us how it is. You have to be the student here". The whole logic of it was: "There is nothing wrong with us – don't come here thinking there is anything wrong with us"'.

The relationship with the workshop and the community continues to this day. For example, Bonhula Yunupingu, a Yolngu man, travels to Melbourne to work in Damien's studio a couple of times a year. Recently the two collaborated on a piece which was shortlisted for an Australian Furniture Design Award. *Bala Ga Lili* (*Two Ways Learning*) is a jointly designed and made piece that combines differing cultural concepts.

Damien Wright's thirty year journey as a maker has taken him far afield and within to understand his own connection with the history, people and environment which he draws inspiration from and seeks to express.

Learn more about Damien Wright at: www.wrightstudios.com.au

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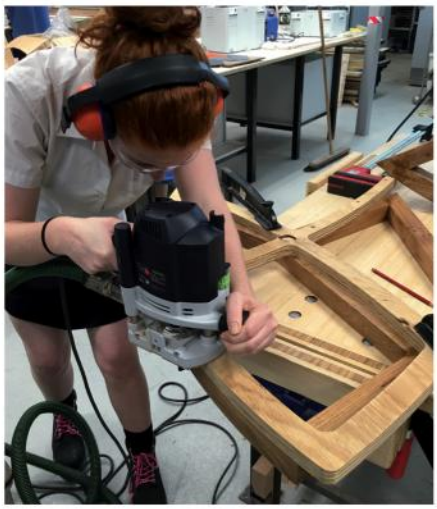

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Making Sliding Doors

Damion Fauser describes how to add space saving elegance to your cabinetry.

1. Recent sliding door console table project by the author. *Photo: Naman Briner*
2. The author's media cabinet showing overlapping centre stiles on the doors.
3. Joinery needs to be carefully designed to prevent exposing the ends of the grooves on the outside of the carcase.

Sliding doors can offer many advantages in your woodworking. For a start, not having to fit hinges saves time and expense, and you can also save space if there's no room for hung doors to swing open. Sliding doors can also add a point of difference and can be made without special equipment.

Doors that slide are common in Japanese design. A few years back I had the privilege of a private tour, including the residence, of the Nakashima Estate in New Hope, Pennsylvania. I was amazed at the simple yet ingenious ways that sliding doors provided storage solutions or concealed certain areas.

I often use sliding doors for some or all of these reasons. Here I'll show you some of the techniques I use to build them into smaller-scale work such as the console table shown above in **photo 1**. There are commercial hardware products available for larger work such as built-ins, but I won't discuss those here.

Anatomy and design

The doors

Sliding doors must be designed with minimal mass in mind to avoid excessive friction. Your choice of species, scale of rails and stiles must all be taken into consideration. For centre panels I've used Japanese shoji screens, or veneered panels with resin-honeycomb or 6mm ply as the substrate to keep my sliding doors light. You could also try other materials such as hessian or acrylic.

Your design should include additional width in the rails and length in the stiles to allow for the cutting of the long tenons that will run in the grooves.

It's good practice, for both aesthetics and for a better seal, to overlap the centre stiles of adjacent doors, as shown in **photo 2**. Factor this in when scaling your doors inside the case opening.

Because the doors should slide past each other with a minimum reveal it can be difficult to have protruding handles or pulls. Instead, building some form of recess into the stiles can give the fingers some purchase to move the doors along.

The carcase

Your case piece will need grooves for the doors on the inside horizontal surfaces. These can be cut into the panels or into a face frame that is attached afterwards. Both work well, although I do like using a face frame on larger pieces, as thicker stock can give more visual mass.


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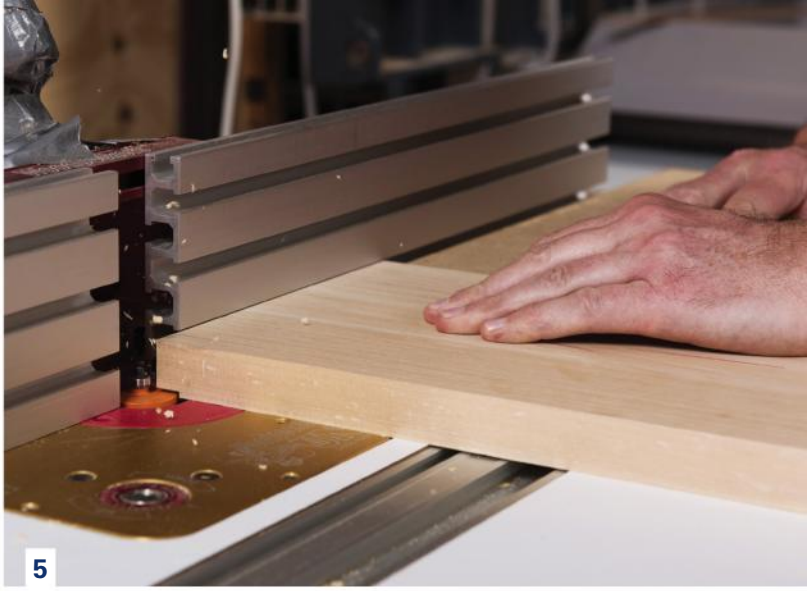
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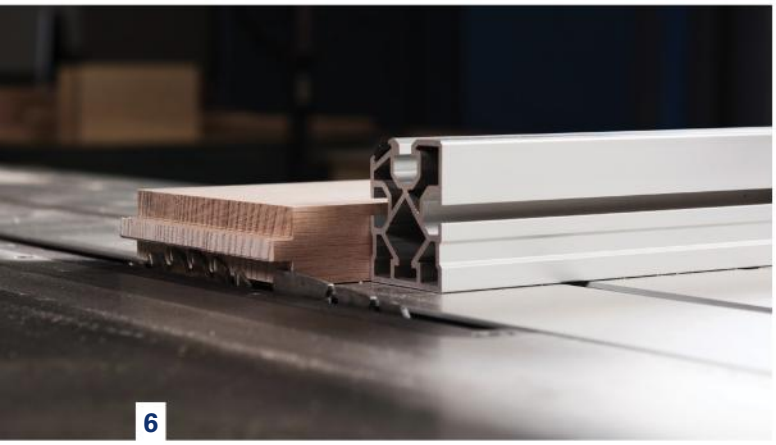
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Corner joinery should conceal the grooves within the carcase. Mitres are quick and easy but dovetails are possible too; careful layout will allow you to run your grooves through the socket spaces on your pin boards. **Photo 3** shows how mitre keys are used at the ends of some carcase dovetails – one groove runs through the mitre key and the second through the first pin socket.

Finally, interior partitions, drawers or shelves must terminate short of the front face of your carcase to allow the doors to slide freely without any encumbrance.

Grooves and tenons

This is where careful design and planning will pay off. You can choose between having single cheek or double cheek tenons on the doors. I usually reserve single cheek tenons for thinner doors on smaller pieces but this is not a firm rule.

Pay careful attention to reference when cutting single cheek tenons, as the front door will have the tenon cut on the rear plane. This is to ensure the front groove is not situated too close to the front edge of the case, and also so the two grooves themselves aren't located too close together. **Fig.1** shows details for tenons and grooves for some doors that are 12.7mm or 1/2" thick (**photo 4**).

When using thicker sections, for example 19mm as shown in **fig.1**, I like to cut cheeks on both sides of the tenon, but I'm careful to not centre them, instead having a slightly narrower cheek towards the rear of the front door and the front of the rear door. This allows the doors to be installed and removed more easily, but more on this later.

The grooves on the underside of the top of the case also need to be slightly deeper than those on the bottom. This again allows for the doors to be installed and removed.

Building and installing the doors after the carcase is made allows me to work to the reality of the window inside and also means not having to worry about gluing the carcase together with the doors already installed.

Allowing for extra depth in the top groove gives room to locate the top tenon in its groove and then pivot the bottom of the door into the window before dropping it into the bottom groove.

Careful planning will achieve a fine and consistent reveal between the top and bottom edges of the door and the case.

Cutting the tenons

I prefer to make the doors first and cut the tenons on the assembled and sized doors. There are a number of ways to do this however you always need to pay careful attention to referencing, particularly if you're positioning your tenons off-centre.

You could use a handheld router, with either a bearing-guided rebating bit, or a straight bit with a straightedge to guide the router. You'll get more control using a router table however, and this is one of my preferred


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methods (**photo 5**). A sacrificial scrap of sheetgood or timber will guard against damage at the exit point of the cut.

At the tablesaw you could use a crosscut sled for precision and control. If you have a sliding table a great way is to mark your tenons on the end of the stock and visually align the blade height off this mark prior to making a test cut (**photo 6**). Set a stop block to consistently define the shoulders and nibble away at the waste towards the end of the door assembly.

Whilst this operation consists of both ripping and crosscutting, I prefer to use a crosscut blade to minimise the risk of tearout at the exit of the cut. Of course a dado stack will also make short work of this task.

Hand tool purists could also use a rebating or moving fillister plane. In all cases, aim to make your tenons around 0.5–1mm thinner than the width of the grooves to allow for a smooth and unencumbered sliding action.

Cutting the grooves

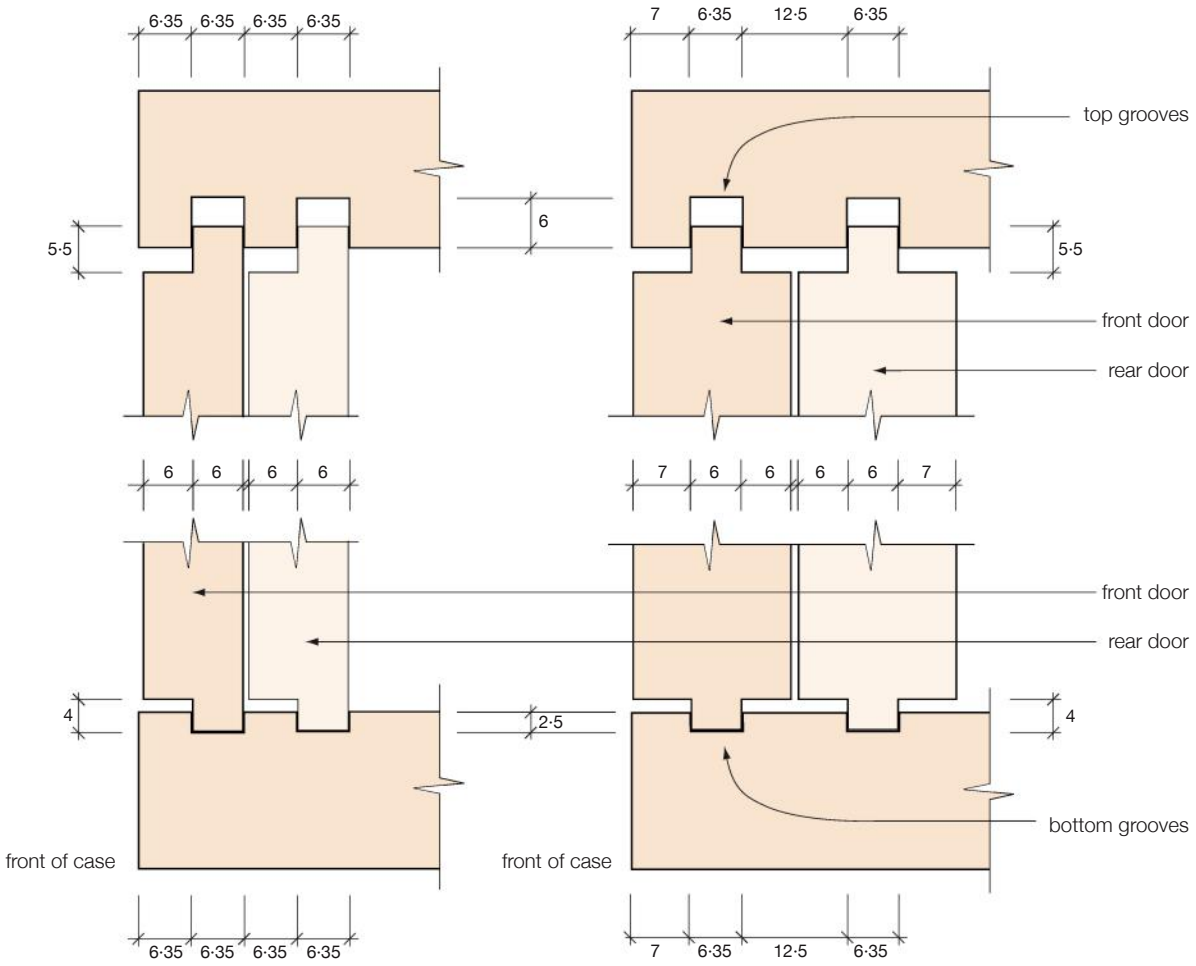
How you choose to complete this task will depend on the size of your piece or if you are running the grooves into a face frame for attaching to the carcase later. Consider also the width and depth of the grooves, which should be influenced by the thickness of your doors.

For a face frame the first option is at the router table, in which case I like to use a spiral bit, as I find straight bits struggle to remove sufficient waste to keep the cut clean (**photo 7**). Careful planning will allow you to simply flip the components end for end, ensuring your grooves are perfectly symmetrical edge-to-edge.

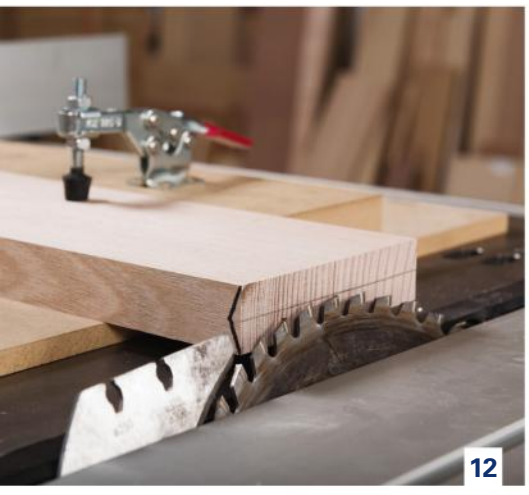
You could also use a sawblade with a raking tooth profile at the tablesaw which will leave nice clean square groove profiles. This is a fast, easy and clean option as the sawblade excels at removing the waste during the cut (**photo 8**).

4. Showing rear-set tenons on thinner doors.
5. Using a rebating bit at the router table to cut a tenon cheek.
6. Using the sliding table on the saw to cut the tenon cheeks.
7. Using a spiral bit at the router table to cut the grooves.
8. Running the grooves at the tablesaw.
9. Two carefully placed stop blocks on the fence of your router table will enable you to cut easy finger recesses.
10. Here you can see I've boldly marked the layout of the peaked rail for ripping at the tablesaw.
11. Handplaning the chamfers on the peaked rail with a low-angle smoother set for a heavy cut.

Fig.1 Sections through doors and tracks (mm), 1:1



12mm doors **19mm doors**



For running your grooves in smaller projects, the tablesaw and router table are good options. For larger pieces, you could use a handheld router with the edge guide attached, a rail-guided saw set for a shallow cut depth, or a plough plane.

Finger recesses for opening

For a small reveal between the front and back doors, there needs to be a way for fingers to grip and move each door. When making kumiko doors on smaller projects, I like how the patterns provide ample grip when moving the doors. Another option I use is a simple stopped chamfer or hollow on each door stile. This is clean, elegant and allows for either door to be positioned at either end of the carcase and still be opened.

I usually complete this task at the router table, using a pair of stops blocks as in **photo 9**. Anchor the first corner against the first stop block, rotate the door into position against the fence, run the pass until the door hits the second stop block and rotate out of the cut once again.

Another sliding option

In *AWR#85* I wrote about my hybrid Roubo-style benches. One key feature of this bench is the sliding deadman between the two front legs. In this case, having a groove in the rail isn't desirable, as it would quickly fill with dust and shavings, preventing the sliding action from working smoothly. Instead I cut a long bottom rail that is beveled on top edges to form a peak in the middle. The trick

12. Sled jig and setup for cutting the mating profile on the bottom of the slider.

13. Second of the two cuts in progress.

14. The end result, which will run seamlessly on your peaked rail.


14

is then to cut the mating valley in the bottom end of the slider. The angle doesn't need to be too steep, perhaps 5–7°.

The way to achieve this depends on your saw. I have a European saw, with a sliding table and a right-tilt blade. First dress a wider board to your desired thickness, then tilt the blade, set the blade height to the centre of the thickness of the board and run the board against the rip fence (**photo 10**). Then flip the board end-for-end and repeat. The resulting offcut will be your peaked rail.

If you have a left-tilt blade you could simply run the board against the fence and rip two shallow bevels off the edge of a wider board, then rip the rail away.

Alternatively, you could lay out your peak profile on both ends of the board and carefully handplane the two chamfers. In **photo 11** you can see I'm using a low-angle smoother to peel off heavy shavings to achieve the effect quickly.

To make the mating cut on the bottom end of the slider on my right-tilt saw, it is most definitely unsafe to run one end against the fence and push the board width-ways past the blade. So, I made a sled jig that supports the board as I run it past the blade.

Leave the blade set at the same angle and raise it to meet the centre of the thickness of your slider. In **photo 12** you can see the basic make-up of the jig and the blade set-up. Run the first pass, release the board from the toggle clamps, flip it and run the second pass.

You can see this in progress in **photo 13** and the end result in **photo 14**. The top of the sliding deadman is a tenon and groove arrangement as previously described.

Smooth action

To make the doors slide properly, I like to lubricate both the tenons and inside the grooves with a clear paste wax. This is simple to apply and gives a smooth sliding action that is easy to maintain in years to come.

Sliding doors are fun and easy to make. Some basic techniques coupled with careful planning will allow you to explore their use in your projects.

Photos: Donovan Knowles

Illustration: Graham Sands

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Email: damion@damionfauser.com.au

5 Handplanes You Need

If you're starting out, these are the planes that will offer you the most for your money. Story by Vic Tesolin.

If you are new to the world of handplanes, it can be difficult to figure out what you need or what you should start with. There are countless options spanning from new tools to vintage and everything in between. The five planes shown above are the most used in my shop. The first three are in my eyes essential regardless of whether you are a machine person or not. The last two are for people who can't/don't run machines or don't enjoy the dulcet tones of a power router.

The low-angle jack

In my workshop, there isn't a plane nearly as versatile as the low-angle jack. This plane is a real workhorse and its size is the secret to its versatility. It's long enough that I haven't missed having a power jointer for the last eight years. I've flattened boards up to 500mm without an issue and that's not where it ends, the plane also isn't so long that it can't be used as a smoother.

I'm inherently lazy, and I've been known to simply dial back my jack from a heavy flattening cut to a fine smoothing cut, thereby foregoing my smoothing plane. Also, the fact that the plane is a bevel-up allows me to hone the angle I want on the edge of the blade to get optimum planing results for the timber I'm working with.

Dimensioning stock is another task that the jack is good at, especially if you add a toothed blade. The toothed blade enables you to remove a lot of material quickly while all but eliminating any tear-out. Once you have the board where you want it, simply switch to a regular blade and smooth out the corduroy surface (**photo 1**).

The low-angle jack is also great for jointing edges. Glue lines can all but disappear by using this plane to joint the two mating surfaces. There is no doubt there is a bit of learning curve involved with jointing by hand, but I can assure you it's well worth the practice. You can invest in a detachable fence that acts as a set of training wheels to teach your body how to hold the plane perpendicular to the edge. Before you know it, you'll be doing edge work with the best of them (**photo 2**).

Add a shooting board to the mix and you have a great way to trim endgrain surfaces to be straight and true. The low-angle jack slides along a platform on its side while the fence of the shooting board holds the work. You can even make multiple fences to rest against the main fence to work


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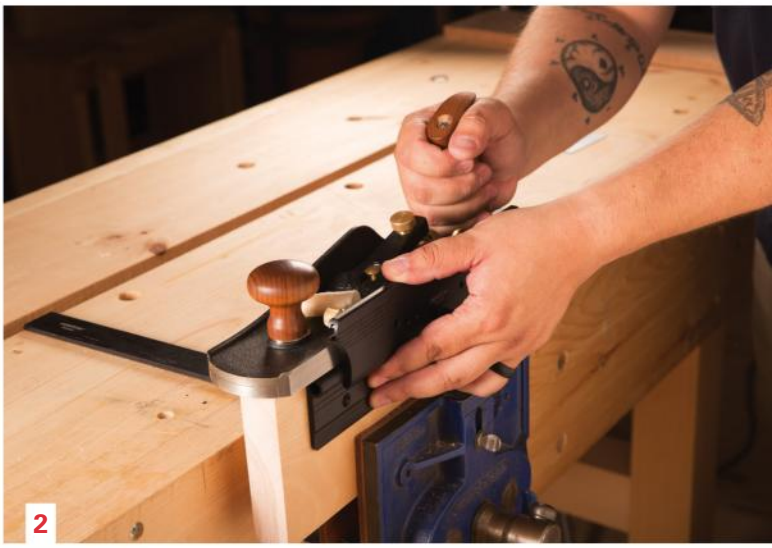
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with angles. A sharp blade and some practice is all you need to get great results (**photo 3**).

The low-angle jack plane is a bench plane, and bench plane blades almost always have some camber to the edge (**fig.1**). It's easy to apply this gentle camber when sharpening by gently rocking the blade back and forth as you make your strokes on the abrasives. This camber will prevent dastardly plane tracks from appearing on your boards. This is the secret to finishing off the plane, eliminating the need to fire up the sander.

Shoulder plane

This plane is useful for both hand and machine woodworkers. Regardless of the technique you use for cutting the shoulders of tenons, there is always a bit of tweaking required to get the reveal looking good (**photo 4**).

Shoulder planes, like the low-angle jack, are bevel-up planes with a blade angle of around 25°. This low-angle blade combined with the 12° bed angle gives you a low, 37° cutting angle, ideal for endgrain which is what the shoulder plane is working with (**photo 5**).

You may notice on shoulder planes that the blade is slightly wider than the body. No cause for alarm here. In fact, it's supposed to be like this. When setting up this plane, you simply have to place the body of the plane on a flat surface, loosen the lever cap slightly and push down on the body and the blade at the same time, then tighten up the lever cap again. This will ensure the blade is lined up with the side of the plane, allowing you to working right into the corner of the joint (**photo 6**). This also allows you to easily work on either side of the plane.

Block plane

The block plane is a handy little plane that gets used for all matters of woodwork in my shop. Its small size makes it a tempting plane to buy as a first 'good plane', however that same small size makes it suitable for only small tasks. The low-angle jack is by far a more versatile plane making it a better 'first' plane.

1. While the surface may look rough from the toothing, a quick smoothing will get this timber looking great.
2. You won't have the training wheels on for long – a little practice will have you going unaided in no time.
3. There aren't many machines that can remove 0.02mm in a single pass to sneak up on a dimension.
4. The shoulder plane lets you tweak the endgrain for a gap-free fit.

5. The cheek of the tenon acts as the guide for the shoulder plane to do its thing.

6. The over-wide blade makes it a cinch to adjust the plane for left or righthand use.

7. The low angle cutting angle makes easy work of difficult to cut endgrain.

8. Shaping your pencil to a chisel-point makes it easy to run against a surface for marking.

9. A simple tool for a simple task. The plough can cut a groove faster than you can set up a machine.

10. No need for an all around kung-fu grip. You only need to push the plane forward with your dominant hand.

11. After removing the bulk of the waste with a chisel, the router ensures the bottom of the joint is flat.

12. A handmade tool is as much a joy to behold as it is to use.

The block plane is a bevel-up, though they can be found with the usual 12° bed as well as a 20° bed. I find the 12° bed to be the most useful because it allows the user to get the low 37° preferred for endgrain work (**photo 7**).

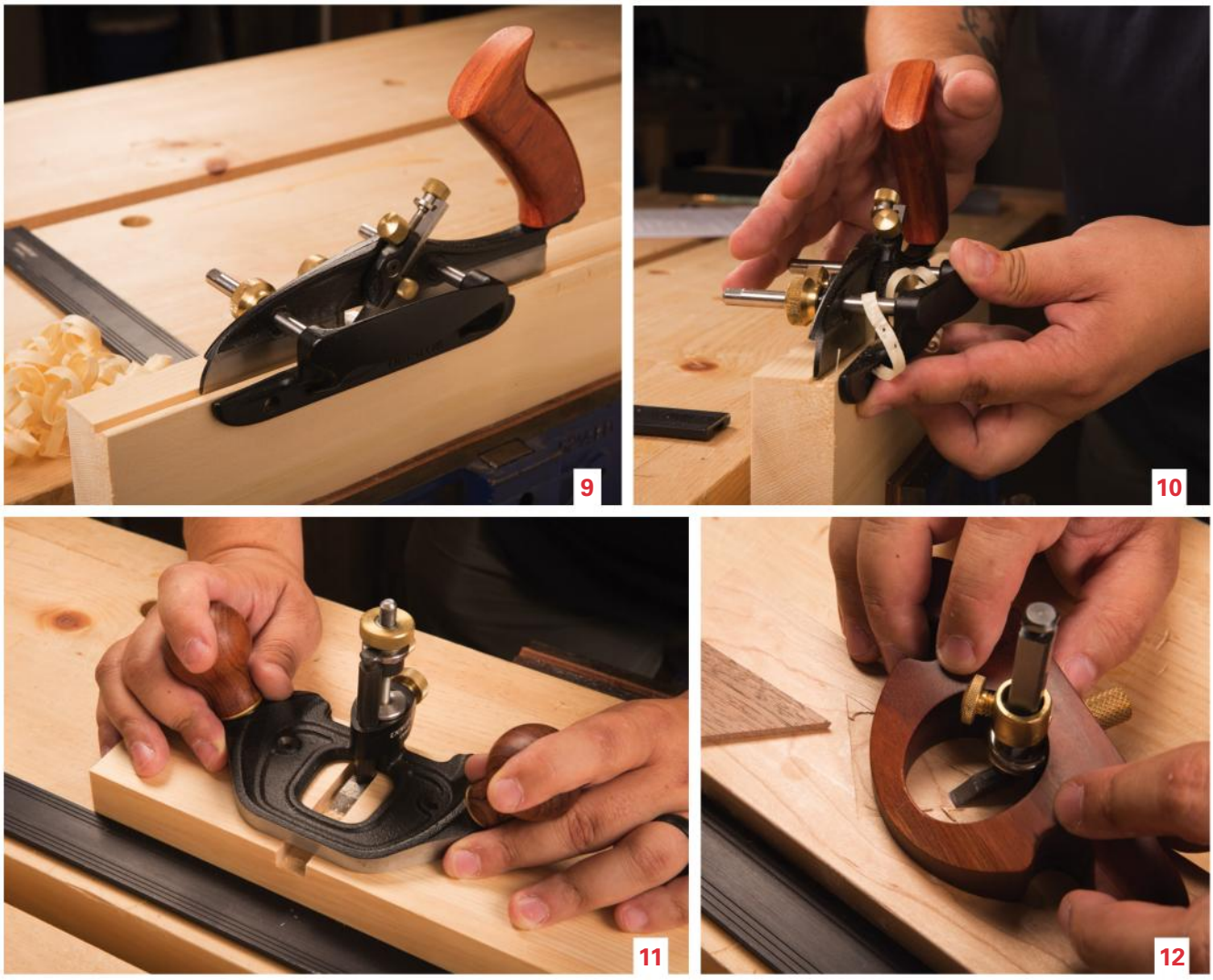
In my shop, this plane gets used for tasks like trimming endgrain, removing arrises from boards and even sharpening pencils. Pencil sharpeners are nice and all, but I like being able to put a custom shape onto a pencil to make it better suited for some referential marking tasks (**photo 8**). I also put a small camber on my block plane blade so that I can use it like an eraser; allowing me to work on a small trouble area mid-field.

The plough

This is by far my favorite plane to use and I think that stems from it being a simple plane to set up. The plough plane cuts grooves with the grain, a common task in woodworking, and it couldn't get any simpler with this tool. Some of these planes are not limited to grooves. Some models also have blades that can cut the tongue of a tongue-and-groove joint in one pass as well as cutting beads and rebates with the grain.

The blade registers against the body so there is no need for lateral adjustment. Once the blade is installed, the fence and depth stop need to be set in the desired location and you are a grooving machine (**photo 9**).

While it is a simple tool to use, there are some pointers that will help you along. It's essential that your straight blades are sharpened 90° across or you will get an angled bottom to your groove. Also, start the cut at the front of the board and work your way back



with subsequent passes until you get to the other end. This will create a tapered track that will help guide the blade but no worries, the groove will lose its taper once you've finished.

Most importantly, don't hang on to the handle with a death grip, doing this will result in the plane tipping and creating a mess at the top and bottom of the groove. Instead, guide the plane with your one hand on the fence while simply pushing the plane forward with an open grip to avoid tipping it (**photo 10**).

The router plane

Last but certainly not least is the most versatile joinery plane of them all – the router plane. Like the modern screamer, the router plane is suited for doing many jobs for the cabinetmaker. Everything from dados and grooves to rebates and hinge gains can be cut with this plane (**photo 11**). Although, if you're doing a lot of one particular task, like grooving, it makes sense to get the dedicated plane.

The router plane also excels at inlay work, carefully and quietly letting in a pocket for the inlay to fit. Some models sport a fence and depth stop which only add to their usefulness, and they can be artisanally made from wood or factory made from metal (**photo 12**).

This is certainly not the end of the list when it comes to planes, but I feel this is a good starter for a woodworker looking to go into the world of hand tools. I know that I would have difficulty doing what I do without them.

Photos: EK Bowell

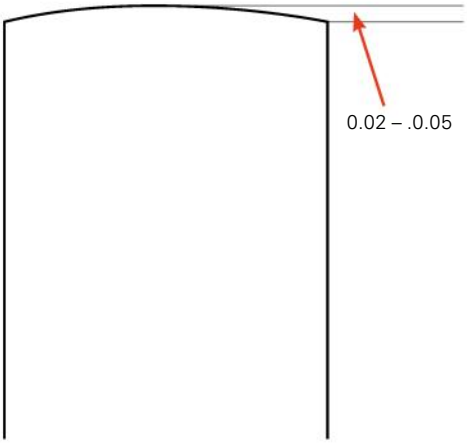


Fig. 1 Adding a slight camber can help to prevent plane tracks

Vic Tesolin is a furniture maker and former editor of Canadian Woodworking mgazine. He is also woodworking/technical advisor for Veritas/Lee Valley Tools. Vic's book 'The Minimalist Woodworker was published in 2016. See www.minimalistwoodworker.com

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Removing Rust

Rust is the enemy of fine woodwork, but there are ways of removing it. Story by Richard Vaughan.

Rust is an ever present concern for most woodworkers because so many of the tools we use are prone to it. It prevents true sharpness, clogs adjustment and marks wood. It's easy to prevent, and that's another story, but getting rid of it is far simpler than many realise, and there are quite a few ways of dealing with this old problem, including a range of dedicated products.

Simple, effective and cheap was definitely in mind when I needed to restore a lot of donated but neglected tools before shipping them for community projects in Rambutso, Papua New Guinea in January 2016 (see *AWR# 91*), and later again in January 2017 when over half a tonne of tools were restored and shipped.

It's unlikely you'll have to deal with such a quantity, but the methods available are worth sharing for whatever your needs may be, such as inherited tools or luck at a second hand market.

Scrub up

With just about any approach you'll need to first remove surface dirt and any grease or oil residue to get effective penetration of whatever rust remover you use, and the simplest way is a good scrub with soapy water. Along with kerosene and turps, there is a range of effective degreasing products available should heavy oil or grease be a problem.

On the surface

Some people have 'rusty' or 'acid hands' because their natural body chemistry will immediately leave prints on any steel they handle. The light rust spots that can form from sweat can be removed with scouring pad, sandpaper (at least 320 grit for minimal surface damage) or steel

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1. The author's 'test lab' setup for testing various products for their effectiveness in removing rust.
2. A vinegar bath derusting some of the many tools for the Rambutso project.

wool. Awareness and prevention are the best way to deal with this.

Acids

Citric acid I used this for my story on restoring a plane in *AWR#57*. Citric acid helps put the fizz in bubble bath bombs as well as being a staple in food preparation, so it is readily available from supermarkets and sources online. Fill a plastic storage bin with solution to make a bath to suit the tool. A couple of tablespoons per litre of warm water is a good start. Soak overnight or longer if needed

Oxalic acid is the strongest of the organic acids and derived from such familiar plants as rhubarb, spinach and tea leaves. It's a less-nasty-to-people kind of acid than the commercially used hydrochloric and sulphuric acids which will attack metal once they have destroyed the rust. The fumes as well as the acids themselves are unnecessarily risky and not suited to our purpose.

Oxalic acid is sold under a variety of names at hardware shops for rust and stain removal. It is also good for removing superficial iron stains from wood so I keep it handy. Be warned though: it is organic but you are

handling a concentrated form so you do need to protect yourself well from breathing any dust should you wire brush or sand it when dry.

Citric acid is preferable to oxalic acid because the iron salts formed are more soluble. Oxalic acid can leave a green deposit on steel. Citric acid forms iron citrate in solution which becomes colourless in direct sunlight.

Phosphoric acid is the basis of rust converter products as it reacts to leave a protective coat over the metal, but it does not necessarily prevent the rust beneath from continuing its damage, so although it suits some applications I'm not keen on it.

Molasses is another readily available substance used to make a bath for soaking rusty steel and iron. It is in fact the citric acid in it that does the job. Between 1:5 and 1:10 in water works fine. More dilute will be cheaper but slower. Molasses is priced okay in supermarkets but cheaper in volume from horse feed suppliers. Slower acting than most treatments, it does have the appeal of being mild to handle and not a concern when it's time to dispose of it.

Vinegar Generic white vinegar is cheap and very effective. Adding salt will increase the acidity. Several tablespoons up to a cup of salt for five litres of vinegar is a good mix. For serious rust you may need to leave the tools to soak for a couple of days, although 24 hours usually sorted all the ones I've had to deal with.

After the acid bath

After scrubbing with scouring pad and/or wire brush and then a good rinsing in fresh water you'll need to neutralise any acid remaining. Soak the tools in a solution of baking (also called bicarbonate of) soda. Use several tablespoons to five litres of water, for about 10 minutes. It's readily available from supermarkets.

Electrolysis

Those inclined may fancy a battery charger and a container full of water with washing soda (sodium carbonate) or baking soda (sodium bicarbonate) solution to enhance conduction. Be aware that washing soda is strongly caustic. A teaspoon to five litres of water of either is sufficient. Using sodium chloride instead gives off dangerous fumes so best not try it.

3. How slowly molasses works can be seen here after three days soaking. It's hard to distinguish between the treated and untreated.

4. After 24 hours in citric acid the cleaned metal is obvious.

5. Rust Remover liquid certainly lived up to its name with this result after four hours. Evapo Rust gave a similar result.

6. After five hours soaking in Rust Off the phosphoric acid had converted most of the rust but it couldn't get behind the material jammed in some teeth.

7. Good old vinegar with a spoon full of salt had destroyed the rust on this square blade in 24 hours. As with the citric acid I didn't check it along the way, just gave them this proven time, though they may well have done the job sooner.

8. There is a range of household and proprietary products that may be used for rust removal.

You attach the positive terminal to a sacrificial bit of steel with plenty of surface area such as an old steel (not aluminium) baking tray or old stainless steel pot lid, and the negative to the steel you want to de-rust. Remember: NO = Negative to Object. Please note that this is an overview of methods and you will need to do further research to attempt electrolysis safely and effectively.

Dedicated products

Rust Remover is an Australian formulation which comes as a liquid to be mixed 1:4 with water, and as a gel for when submersion in a bath is not feasible. Both are re-usable until obviously dirty. A one litre bottle for $65 mixes up to five litres bringing the cost down to $13 per re-usable litre.

The gel really does need to be 4–5mm thick as instructed. It is ineffectual when the coat is thin. But there certainly are cases such as on machinery, when dipping wouldn't be feasible and gel would work.

Evapo-Rust has an impressive list of what it doesn't harm, including skin, rubber, plastic, copper, PVC brass and vinyl. Thirty minutes to remove rust is announced on the bottle but several hours is more realistic. It gives anti-rusting protection for a week or two after de-rusting so post treatment flash rusting is not an issue. One litre for $37 from Supercheap Auto doesn't sound cheap, but the liquid can be repeatedly re-used.

Rust Off is a phosphoric acid solution so it converts the rust to a coating rather than lifts it. It's convenient and fine for uncomplicated surfaces like rust spots on the car, but will be a barrier against the subsequent rust prevention I recommend for woodworking tools.

Before you start

The cutting edges of chisels, gouges, spokeshaves and planes can be rendered ineffective by rust pitting,

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so before you attempt to restore a market bargain do consider whether you will be left with clean steel that can give an unpitted edge, or at least can be ground back to be pit free.

Please be aware that these methods are for steel and iron. Other materials such as copper and zinc and plastics may be harmed by some of these treatments. Evapo-Rust and Rust Remover claim to not harm such materials.

Another thing to be aware of is the possibility of metal embrittlement. It's a process I won't attempt to explain but I do know that you don't want springs to be affected by it, so don't put spring metal in acid treatment or electrolysis. Evapo-Rust and Rust Remover claim no harm to the metal under the rust and so seem to be safe and easier de-rusting options than sandpaper or scourers.

Not the end

After the modest testing for this article my conclusion is that soaking rusty tools in vinegar or citric acid is a cheap, convenient, safe and effective method of rust removal with the proviso that you need to neutralise the acid, and should not use it for spring steel.

Both Rust Remover and Evapo-Rust are effective with the advantage of not damaging associated materials or the steel beneath.

No matter which method is used, once the metal is rust free and the treatment neutralised, you will need to take preventative measures against the rust returning. It never sleeps.

Photos: Richard Vaughan

Rust Remover supplied for review from www.rustedsolutions.com.au Evapo-Rust is available from Super Cheap Autos. Rust-Off can be obtained from Bunnings.

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

Double Take in Wood

The Victorian Woodworkers Association's recent exhibition combined themes of fine woodworking and upcycling of waste. Story by Linda Nathan.

The Victorian Woodworkers Association has a history of producing high profile exhibitions and Double Take in Wood was another in a great lineage. Not since 2005 has the VWA run an exhibition with a fine woodworking theme, but this year it did, and combined it with another rendition of its much lauded recycled pallet timber series.

Privileged to be one of five judges, I spent three hours stalking around the Manningham Art Gallery space, looking over, inside and upwards at each numbered but not named piece, noting down nominations for each award in order of my preference. Tallied up with those of the others and then politely thrashed out in a group discussion, decisions were made. Most votes followed a general trend so the process was quite smooth.

I don't know how the others did their evaluations but my own were arrived at through gut appeal and an assessment of aesthetics combined with an appropriate selection of materials, finishes and detailing. Innovation is important to me but only when that agrees with all of the former.

We were not required to make judgements of commercial viability or whether some pieces were 'pushing the envelope' so to speak. That things had to be well made was a given of course. Perfect dovetails and joinery are not everything, but when done below a certain level of execution they do detract.

In the Fine Woodworking exhibition I feel that some superlatively made pieces were almost disadvantaged by being the expected norm for some makers. On the other hand some expert makers could have gone

1. Double Take in Wood on display at Manningham Art Gallery, Victoria. *Photo: Randal Kohn*
2. The crowd builds on opening night. *Photo: Randal Kohn*
3. Winner of Best of Show, Benjamin Reddan's *Tea Set* contained a series of beautifully made trays, boxes and compartments. *Photo: Vicki Petherbridge*

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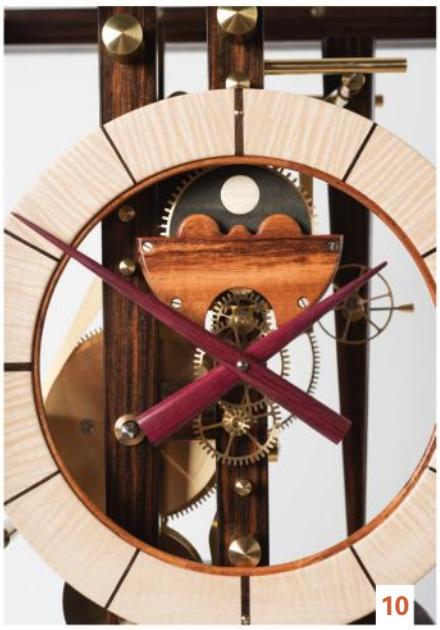
further in my opinion. There were one or two pieces that were beautifully designed and made, but so subtle as to not be attention grabbing. But how could that be a fault I wondered?

Fortunately the Create From A Crate pieces had orange sticky notes next to them during the judging session. Mostly they were easy to pick but some were made from such 'select' crate material that they could have gone into the Fine Woodworking group. In these cases I wondered if some of the spirit of the recycling theme was lost, even though it was commendable that pallet timbers could be exposed and reborn in a such fine way.

CFAC can elicit highly creative responses from makers as they improvise and find ways to visually retain traces of the material's history. Hamish Hill's award winning *Hall Stand* utilised some beautifully spalted crate timbers and played on the idea of a musical stave with hooks that could be moved and positioned as musical notes thereon. It's a piece you can hang, store and sit on.

Still on CFAC, Angelo Toppi's *Woven Pallet Wine & Spirit Cabinet* took out the award for most creative use of pallet materials, and could have won most extensive use as well. Many pallets would have been used to create this detailed exposition of



woven pallet ply which reminded of earlier make-do furniture and the now iconic Coolgardie safe.

Randal Kohn's 7 *Segment Table* prototype explored concepts of transformation and versatility combined with modern materials and manufacturing technologies. On top the segments and grain patterns were smooth and flowing, while beneath an organic honeycomb lattice had been created to reduce weight. It's a clever piece that invites visual and physical interaction. An award for design and innovation was here well justified.

Matt Potter's solid walnut *RIC Credenza* was another award winner and pleased many with its minimalistic and highly crafted and marketable appearance. Touch-to-open drawers and simple grooves for pulls and sliding doors that operated smoothly were there to be enjoyed, as was the pleasing grain arrangement.

The scale of Joshua Stevens's *Break Out* bowl helped to make his award-winning piece eye-catching. Desert ash that torn open as the rough-turned form dried had resulted in an earthy live edge look that was accentuated by subtle charring of the exterior.

Christopher Neal's *Side Table* won the VWA President's Awards as determined by Jerome Wielens. Finely made, this piece combined different woods and figurings in a harmonious way. Elegant and refined proportions and crossed stretchers were ideas that set the piece apart.

Which brings us to best of show, awarded to Benjamin Reddan for his *Tea Set*. This charismatic work of art

4. Hamish Hill's pallet timber *Hall Stand* won a CFAC Cabinetmaking Award and is part of his current series of entryway furniture. *Photo: Vicki Petherbridge*

5. *Gingko Leaves* by Grant Vaughan in white beech, ebonised and bleached. *Photo: David Young*

6. Angelo Toppi's *Woven Wine and Spirit Safe* received Most Creative Use of Timber Waste award. *Photo: Vicki Petherbridge*

7. *Lowbow Rocker* reflects Bern Chandley's interpretation of contemporary Windsor style. *Photo: Christopher Sanders*

8. *Break Out* by Joshua Stevens won the Turning/Sculpture Award. *Photo: Joshua Stevens*

9. *7 Segment Table* by Randal Kohn disassembles by means of a central knob and won the Design and Innovation Award. *Photo: Vicki Petherbridge*

10. Will Matthysen, *Clock 190*, mechanical table clock with lunar dial. *Photo: Ian Hall*

11. Matt Potter's, *RIC Credenza* in black walnut received a Cabinetmaking Award. *Photo: Vicki Petherbridge*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showcased the colours of wood and was laced with intricate small-scale techniques, notably Japanese *yosegi* with veneers sliced from parquetry glue-ups. The effect was subtle but in another's hands could easily have swung the other way. Defining borders and handles of dark ancient redgum added restraint and also referenced Japanese aesthetics.

The Tea Set opened to reveal the trays and a myriad of compartments divided by finely made slips and boxes with lids of figured wood that turned out to be construction ply!

In an age where we see the erosion of our skills base before our eyes as one manufacturing industry after another disappears, an exhibition like this is cause for celebration as it highlights the value of preserving skills, and the commentary that designer makers can express on our lifestyle and values.

Double Take in Wood was displayed at the Manningham Art Gallery from October 18 to November 11, 2017. For more information see www.vwaexhibitions.org.au


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9. Mingus Rose, *Wedgetail Chair* in tarzali silkwood. *Photo: Vicki Petherbridge*

10. Peter Stibilj, *Keep Safe* has decorative disks which rotate to open and close the door. Photo: Vicki Petherbridge

11. Chris Tomoya James, *Chair From Eight Breaks*. Resin was used to play with the idea of 'break and fix' joinery. *Photo: Vicki Petherbridge*

12. Gray Hawk's *Kanga Rocka* in figured blackwood blends sacred geometry with zoomorphic forms. *Photo: Vicki Petherbridge*

13. Adam Markowitz, *Assegai Sconce*, ebonised wood, brass and LEDs. The name refers to a Zulu spear and the piece evokes the sense of movement that implies. *Photo: Vicki Petherbridge*

14. Malcolm Morgan, *Fleta Style Spanish Guitar* made from native species. *Photo: Vicki Petherbridge*

15. Damion Fauser, untitled *occasional table* with radial match in figured jarrah veneer . *Photo: Naman Briner*

16. Peter Harris's *3 Drawer Jewellery Store* and was made from American oak and maple pallet timbers. *Photo: Vicki Petherbridge*

17. Chris Neal's elegant *Side Table* won the VWA President's Award. *Photo: Damien Ford*

18. *Second Slice* is Gregory Smyth's ingenious reworking of crate timbers into a butler's table. *Photo: Red Bolt Visual*

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Working With Curves, Part 2

Peter Young continues his exploration of construction techniques for curved elements in furniture.

Part one of this series discussed methods of joining curved elements on a cabinet carcase. Here we'll look how I made the curved drawer fronts and rails on the same cabinet. Basically I had three options: bandsawing from solid, steambending or, the option I chose, laminating thin sections.

Sawing laminates

These need to be 2–3 mm thick and usually a bandsaw with its thinner kerf blades and height capacity is the most efficient way. For a good result, use a 3/4–1" blade with 1-1/2–2 tpi.

Use an auxiliary fence if necessary and make sure both it and the blade are square to the table. To get a good smooth cut aim for a slow steady rate with no stops. It takes a bit of practice to keep the material moving as you change hands at various stages.

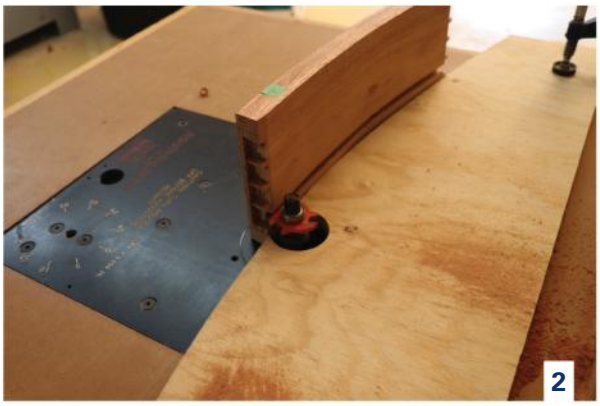
Usually I joint the face of the board to be used for resawing, then joint both edges square to this face and finally thickness the opposite face. Select the side of the board you are going to start cutting the laminates from and mark a V across one end of the board so you can reassemble them in order.

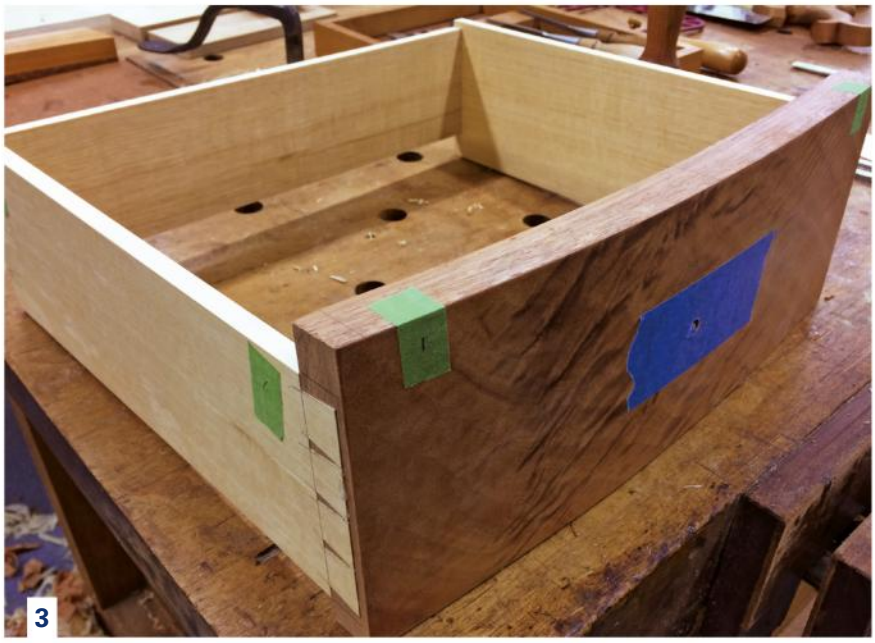
After each laminate is sawn off, re-joint the face of the board before cutting the next. Check the thickness of the first laminates are the same from one end of the board to the other, and from top to bottom. If there is a discrepancy you may need to adjust your technique or the bandsaw.

The laminates will have one jointed face and one bandsawn face. If

Opposite: Showing the curved drawer fronts and rails on the author's cabinet on stand made from silver ash with Qld maple veneer. *Photo: Andrew Porfyri*

1. Two-part bending form, applying veneer to the curved drawer front.
2. Showing the set-up for routing the groove in the drawer front.
3. Drawer glued up showing the drawer side proud of the front.





your re-sawing technique is very good you may not need to thickness the laminates but I usually do this step to be sure each is of an even thickness.

I try to bandsaw at about 0.5mm thicker than final and then thickness to size, usually about 2.5mm. Using a thickness sander here is less likely to cause shattering of the laminates. The laminates need to be longer and wider than final dimensions to allow for trimming after glue-up.

Gluing and clamping

PVA glues are theoretically not recommended for laminating because of creep (where one laminate can slide against another) but many use PVA with good success, especially in the case of a drawer front where the bend is held in place by the drawer sides and is not free to move.

I tend to use cross-linked PVA such as Titebond III or Aquadhere External. Titebond is not a good choice for light coloured woods because of its darker colour. Another good option is polyurethane glue which doesn't have a creep problem and can be used in light coloured woods. For both PVA and polyurethane, clamping time is about two hours minimum.

A third choice is epoxy glue, either in liquid or gel form. There are no problems with creep, but the glue line is more noticeable in lighter woods than polyurethane and the clamping time is more like six hours. With a long open time, epoxy is the glue of choice for complicated glue-ups.

There are at least three options for clamping the laminates after applying glue: a one-part form with cauls and clamps, a one-part form in a vacuum press, and a two-part form. For the drawer fronts I used a two-part form and for the curved rails I used a one-part form with cauls and clamps.

With a two-part form it's important to realise the radius of the curves of the two parts is different and that it varies by the final thickness of the laminates being pressed.

The usual method for making these forms is to start off with a rectangle of MDF or ply on which templates for the curves are attached and used as cutting guides for the bandsaw and router, much the same way as templates were used in my last article.

The cut-out separate pieces of MDF or ply are then used as templates for subsequent layers, and the clamping form is built up, layer on layer. In

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4. One-part form showing clamp lines.

5. One-part form with laminates and cauls.

6. Laminates after glue-up showing springback.

7. Mortising the leg using wedges to achieve the correct angle and to secure the leg in place.

8. Using a wedge to achieve the correct angle for the domino to cut mortises for front to back aprons.

9. Again, wedges help to get the correct angle for the mortises in the ends of the front rail.

my case, I was able to bandsaw the clamping forms directly out of some recycled 130mm square laminated pine post building material.

Before glue-up, I mark the centre line of the laminates and also a centre line on the two-part form. For bigger bends, you can also screw batons on the top of the bending forms, so the two parts come together in exactly the right orientation.

After applying glue to one side of each laminate (avoid getting glue on the exterior) I apply packing tape to the central part of the pack of laminates to stop them sliding around, and then place them in the clamping forms, lining up the centre line of the laminates with the centre line of the clamping forms.

Two or three clamps are all you need to pull the two halves of the two-part form together. After the drawer fronts were made, I trimmed them to size and then applied the highly figured veneer to the fronts, using the same two-part form, but with the addition of MDF cauls to apply even pressure to the thin veneer (**photo 1**).

Curved drawer joinery

A complication with a curved drawer front is how to cut the groove for the drawer bottom. For a symmetrical curve one solution is to cut a curved fence out of ply, make a space for the wing cutter, and clamp it to the router


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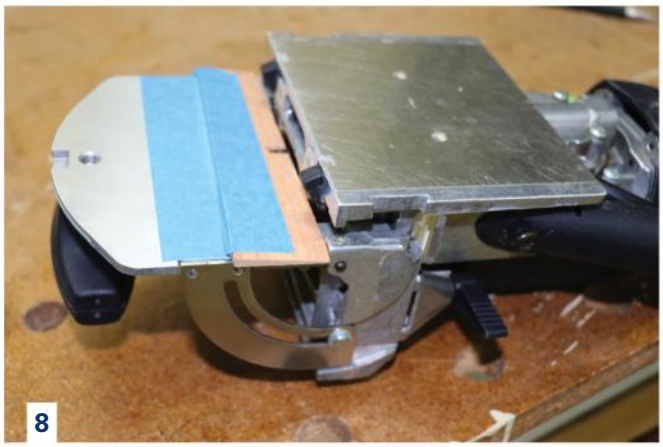
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table (**photo 2**). Another option is to use posts on either side of the cutter and let the work ride against these posts. This method also works for asymmetrical curves.

Cutting dovetailed joinery for curved drawer fronts was described in *AWR#91*, p.40. Another point to add here is to carefully fit the drawer front to the drawer opening before cutting the dovetails. I then set the depth of the pin sockets so the drawer tails are about a millimetre proud (**photo 3**). This makes it easy to clamp across the drawer front to seat the tails into the pin sockets and also allows the drawer front to become the landmark to which the sides are planed.

For a one-part form, the layers are built up as previously described but only for the convex curve. Lines are drawn across the form at right angles to the tangent of the curve and these show where clamps are placed. On the other side of the bending form bandsaw cuts are made at right angles to the lines to provide good purchase for the clamp heads (**photo 4**).

A wide clamping caul provides even clamping pressure on the laminates and reduces the occurrence of gaps between laminates. I often use layers of 3mm MDF as a clamping caul, making sure the part facing the laminates is well protected with packing tape.

Apply glue to one side of each laminate, wrap packing tape around the middle as before and then align with the centre line of the clamping form. Clamp from the middle and work to the ends, lightly at first and then tightening down after all clamps are in place (**photo 5**).

Some springback is common, evident when the clamps are released after the glue has cured, but further movement won't occur to any great extent (**photo 6**). You can make some allowance for springback when you make the curved clamping forms, but it's best to use the actual bent laminated form to draw a plan view of the project. Use this to accurately make jigs to cut curved forms to length or to assist joinery.

In the stand for this cabinet, the legs taper from front to back and they also taper from top to bottom, making the joint between the curved form aprons and the tapered legs quite complex. I used loose tenon joinery and cut the mortises in the legs using a hollow-chisel mortiser with an 8mm bit.

For the mortises receiving the curved front aprons, wedges were used to provide the correct angle for the mortise chisel (**photo 7**). For the mortises in the inside edge of the legs and at the end of the curved aprons, I also used a wedge to guide the domino angle (**photos 8, 9**). The angles for these wedges were derived from an accurate plan view of the stand.

Next issue we will look at the technique used for making the curved doors on this cabinet.

Photos: Peter Young

Peter Young is a studio furniture designer and maker who lives in Brisbane. Email Peter at pydesign@tpg.com.au

Carving an Elegant Spoon

Zina Burloiu describes the making of one of her signature pieces.

Detail views of the author's *Elegant Spoon*. *Photos: Tib Shaw*

1. The spoon profile drawn on the side of the blank.
2. Relief cuts on the bandsaw.
3. The profile is cut right to the pencil line.
4. Sanding the top and bottom on the spindle sander.

In Romania a spoon has been many things, from a utilitarian item to a traditional love token. There is a great variety of Romanian spoons and I have made most of them, but I never felt limited by tradition and I always wanted the spoons I make to be as much an expression of who I am as a reflection of tradition. For me, *Elegant Spoon* was the most significant of many milestones in my development.

Traditional spoon makers often selected wood that could be split along the grain, but I look for wood that can be cut so the grain pattern enhances the form. These spoons could be used, but I am interested in the form above all other considerations.

I cut a blank from plum wood with the growth rings centered so the curve of the rings compliments the shape of the spoon bowl. The blank is 50mm square and 260mm long, and it needs to be square on all sides so it cuts true in the bandsaw. First I draw the spoon on one side of the blank (**photo 1**).

I can make a spoon from start to finish with hand tools, but using machinery and power tools for basic shaping is common sense. To prepare for cutting the outline I make relief cuts with the bandsaw so the blade does not bind in the curves. It is better to make too many than too few and I stop the cuts just short of the pencil line (**photo 2**).


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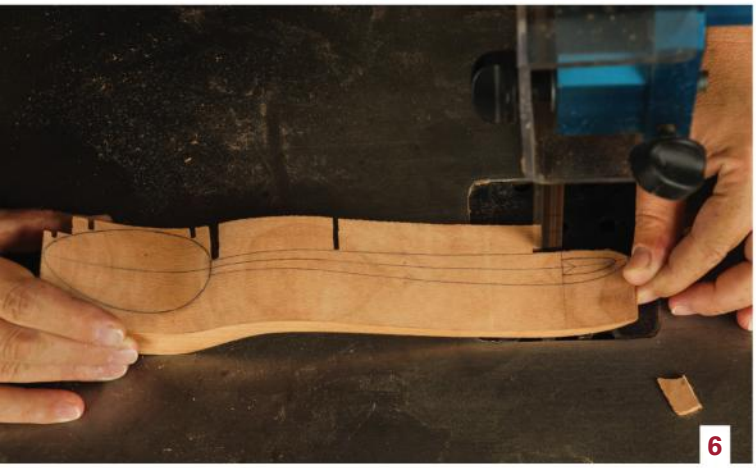
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I cut with one hand behind the blade and the other as far from the blade as possible while still maintaining control. If my fingers get too close to the blade I pause and relocate them. Where the cut is not curved I need fewer relief cuts. I try to cut as close to the pencil line as I can (**photo 3**).

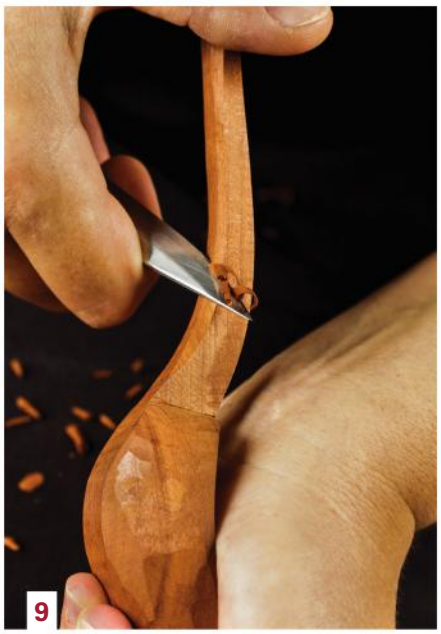
Once I have cut the profile I take fine passes down to the pencil line on the oscillating spindle sander. This leaves a smooth surface for drawing on and reveals the grain patterns (**photo 4**). Alternatively, I can use the curved end of a belt sander, but that is less easy to control.

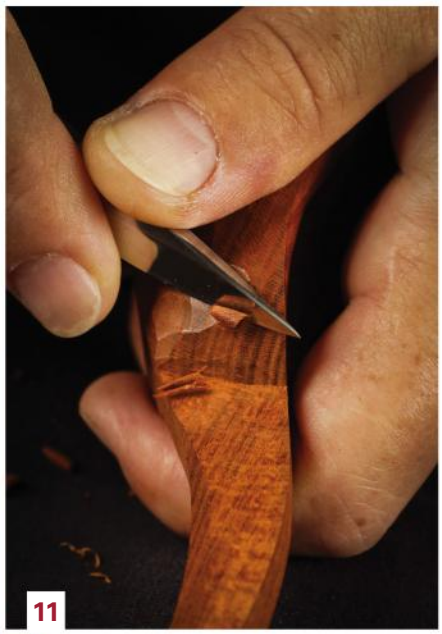
Next I draw the top view of the spoon on the blank and I can move the drawing left or right to align it with the grain pattern (**photo 5**).

I always cut up to, but not over the pencil line so it remains as a guide for later hand carving (**photo 6**). Because the end of the spoon is curved, for safety I lift the spoon so the handle remains in contact with the bandsaw table. Finally I use a belt sander to remove corners and begin shaping the underside of the bowl (**photo 7**).

From here it is all handcarving. I prefer to sit on a low stool or, in this case, a block of wood, so my knees are elevated to support my work (**photo 8**). I use magnifiers that I clip on my glasses because after years of close-up work my vision has deteriorated.

I shape the handle with a knife by using slicing cuts that produce spiral shavings. This cut is more efficient and leaves a cleaner surface (**photo 9**). It looks dangerous cutting towards my thumb, but the thumb anchors my hand and I only make short cuts. In fact it is safer to cut





5. The top profile is drawn on the curved upper surface.

6. Final bandsaw cuts.

7. The underside of the bowl is rounded on the belt sander. A different (and darker) blank was used here, but the process is identical.

8. Zina's preferred working position. Note the magnifiers on her glasses.

9. A slicing cut on the handle.

10. A 'downhill' pull-cut.

11. The alternative push-cut.

12. Scooping cuts with the bent gouge.

13. Cutting across the grain.

with a very sharp knife because you don't have to exert so much pressure and are less likely to slip.

I cut 'downhill' on the bowl and I can use either pull-cuts (**photo 10**) or push-cuts (**photo 11**), as long as I am always cutting supported grain. Which cut I use depends on the best direction to access the piece, how I am holding the piece, and which cut feels more in control.

Once the exterior is completed I start hollowing the bowl with a Pfeil Swiss made 7L/14 bent gouge. I couch the bowl of the spoon in my left hand and grasp the gouge quite close to the cutting edge to give me fine control. I take short, scooping cuts that prevent me going too deep (**photo 12**).

I have to take some cuts across the grain and for these cuts the sharpness of the tool is particularly important (**photo 13**). You can hear if the tool is not cutting cleanly – there is either the crisp sound of fibres cleanly parting, or a dull sound. I keep a small wooden block impregnated with honing paste beside me and a few occasional strokes away from the edge usually means I can finish a spoon without re-sharpening.

Three Rules For Safe Cutting

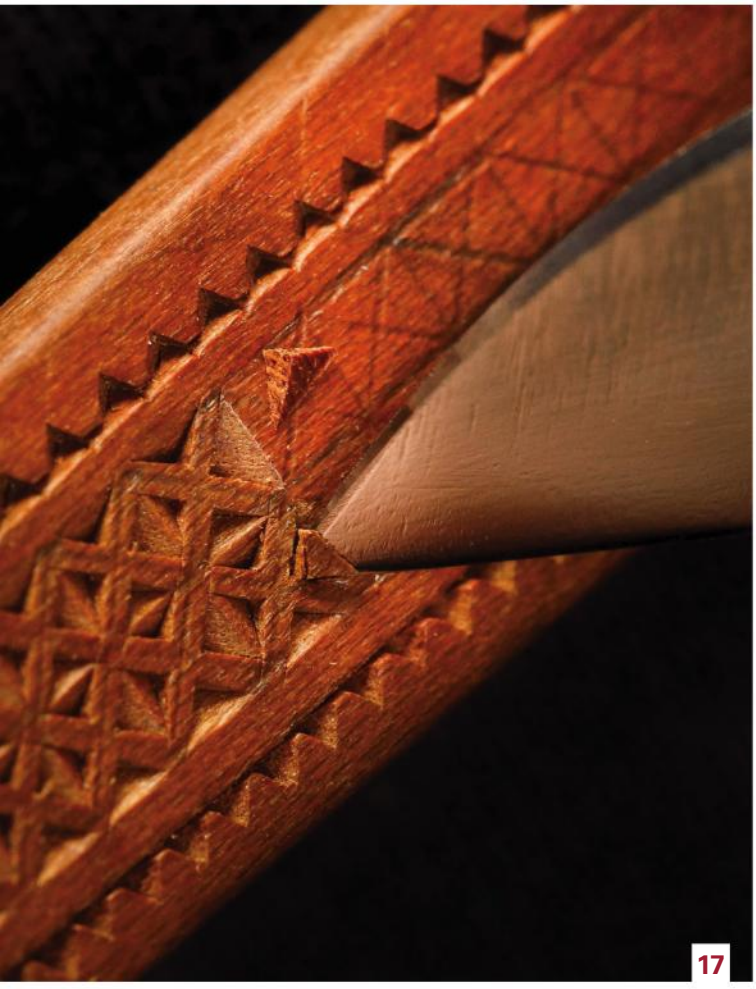
1. Always stop to sharpen or hone when the tool is not cutting well.

2. Take slicing cuts. They are more efficient and more easily controlled.

3. Be relaxed. If you are tense, you will not get 'feedback' from the cut.


14


16


17

14. Refining the curves with sandpaper.

15. Finalising the outside of the bowl.

16. Completing the inside of the bowl.

17. Chipcarving the handle.


15

I don't draw the wall thickness because I take increasingly finer cuts as I approach the edge and I stop when it feels right, but some might prefer to draw an inner rim-line to cut to. I work down to a 'reflection' of the shape I feel in my left hand, stopping occasionally to use my fingers as calipers to gauge the thickness.

Once the shape is as close as I can get with tools, I switch to sandpaper and refine the curves (**photo 14**). I usually start at around 220 grit and go to 1000 grit or more, depending on the wood. Once I have removed all the tool marks I switch to sandpaper with padded backing because it conforms better to the curves (**photo 15**).

The final sanding is inside the bowl. With a small strip of cloth-backed sandpaper over my fingertip I stroke gently from the middle of the bowl to the rim, being careful not to over-sand the edge and make it too thin (**photo 16**).

I cut the small opening at the top of the handle with a fretsaw and then the final stage is to decorate the handle with chip carving. In *AWR#94* I showed how I decorated a bowl, and this pattern is exactly the same. The basic triangle is the foundation of all my chip carving (**photo 17**).

I believe these *Elegant Spoons* are my highest achievement as a spoon maker. I have since developed my spoons into sculptural forms that have been influenced by both traditional spoons and by the work of Constantin Brancusi, the famous Romanian sculptor who also based much of his work on Romanian folk traditions.

Process photos: Terry Martin

Zina Burloiu is known for her mastery of traditional Romanian folk craft but equally well for her contemporary sculpted works. In AWR#94 she showed how to add an intricate chip carved pattern to a bowl made by wood artist Terry Martin.

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Manapan Means Together

Arnhem Land makers and Melbourne based designers are collaborating to produce a range of high-end furniture. Story by Linda Nathan.

With 50,000 years behind them, the Yolngu people of Arnhem Land in Top End Australia well and truly have their own traditions of making things. Wood, stone, plant fibre and the earth itself have continuously felt their touch and been transmuted.

Thirty years in business might be a pinpoint in time by comparison, but it is a significant portion of one man's life. That's how long it took Mark White to transform a garage-based enterprise into an award-winning construction, fitout and manufacturing company[1] that now employs a hundred people and turns over $50 million annually. But a few years ago he decided he wanted to give back.

Initially Mark looked at supporting overseas projects, but then thought: why not start at home? He connected with ALPA, a not for profit Aboriginal corporation that runs community stores, offers employment and training schemes and together, in 2015, they built a factory in Milingimbi, an island off the coast of East Arnhem Land with a population of 1200. To get there, you fly to Darwin, then take a charter flight some 500 kilometres east.

At the outset, master craftsman Rob Crisfield came on board with the plan to create a furniture making set-up, and continues to manage the factory and train the team of six who currently work there. Rob works six weeks on and flies out for two weeks off.

Main: Manapan furniture makers, left to right: Terence Baker, Josiah Baker, Sean Mandaway.

Right: Mark White views some of the gadayka or Darwin stringybark supplied by the Gumatj mill in Nhulunbuy.

1. *Fire Sideboard*, designed by Alexsandra Pontonio and made by Manapan Furniture. Memory of imagery retained from considerable time spent by the designer in Arnhem Land inspired the ebonised tambour and 'branch' shaped componentry.
2. Hollowed out by fire and then carved, *Crocodile Lamps* were designed by Suzie Stanford to recall the glow of Milingimbi campfires or 'bush TVs' as they commonly referred to.
3. The *Art Bench* designed by Jon Mikulic draws directly on Milingimbi design traditions by incorporating five handmade spears as support structure for the solid benchtop which also has dovetail key details.

1

For an island based industry transport costs will always be significant. Materials are brought to Milingimbi by barge and finished product will leave the same way before arriving in Darwin, where it can go by road to Melbourne, Sydney or wherever. Fortunately backloading rates make this more affordable however overall costs are high. 'Even to get machine blades sharpened, they have to be put on the barge to Darwin and then brought back', said Mark. 'Everything we do is hard, right down to getting packing materials. There's all kinds of logistics, but we have got a lot of it sorted now.'

The furniture and products that Manapan produce tell a multi-layered story about the network of people who design and make it, and the materials they use. But telling that story relies on making it all add up in economic terms and that has supported the drive to create high end, high value products.

To this end Mark has assembled a group of Melbourne-based architects and designers who have created designs that are now manufactured by Manapan. To date these include Chloe Walbran, Susie Stanford, Ashleigh Parker, Alexsandra Pontonio, Liz Doube and Jon Mikulic.

The criterion Mark set was that each design had to be cutting edge and link back to Arnhem Land and its people. Darwin stringybark, richly coloured and featured, sourced from the Gumatj mill some 300 kilometres away in Nhulunbuy, is the primary timber used. Aboriginal designed and made fabrics, fibre art and carvings have been incorporated to create a body of work that captures a sense of place and collaborative achievement. To date there are lamps, side tables and cabinets which may be viewed online and in a recently established Manapan showroom in Melbourne[2].

'In 12 months time I'd like to think we've got a modest amount of orders coming through, as well as a few bread and butter jobs such as the church pews and coffins we're currently building. We want to put together some retail partnerships in capital cities. But one day I would like to think the business is wholly and solely run from Milingimbi', said Mark who plans to ultimately write himself out of the picture.

2

3

4. Manapan *Fossil Coffee Table*, designer Liz Doube. Stone intersected by Darwin stringybark references both the Aboriginal flag and the curves of boomerangs.
5. Chloe Walbran's *Woven Cabinet* design showcases the textiles of Milingimbi artists who use pigment dyed fibre from the screw palm (*Pandanus spirifis*) to create intricate works of art.
6. Rob Crisfield currently trains the makers and manages the factory.

'The essence of what we're trying to do is to create jobs and an ongoing industry. The idea was to create a self sufficient business, one that didn't rely on government handouts', said Mark. 'We want to be able to make products that sell and allow the business to expand.'

Mark has been approached with offers of government financial support, but that's not what he's after. Instead of money, Mark would prefer to receive orders: 'Let us put one of our pieces in every single (Australian) embassy throughout the world and then we'll create all this employment. This is about building a business that's going to be around in ten years time'.

The building and operation of the furniture factory in Milingimbi has locally caused somewhat of a cultural shift according to Mark, but the community response has been positive. It's remarkable what has been achieved in only two years.

Often when you give, you get. The project speaks of creativity and intensity of purpose. For two to three days a week, Mark puts his energy into managing the running, marketing and sales of Manapan Furniture. 'I'm getting so much out of it', he said. 'It's like, when you get an order, you punch the air! I just really want to make this work.'

For more information about Manapan, see www.manapan.com.au

1. Mark White is founder of Ramvek, see www.ramvek.com.au

Boomerang shaped, stone, leather

2. The Manapan showroom is located in South Yarra.

Photos: Christopher Tuvo

7. Josiah Baker does a final quality control check.
8. Manapan *Linear Sideboard*, Darwin stringybark, and 'local ash'. Ashleigh Parker's design uses grain and structural componentry to pay homage to the solid timber furniture created by Kaare Klint in the 1930s.

A Garden Bench Seat

Raf Nathan makes a simple outdoor seat as a gift for the person who gave him the wood.

Many woodworkers have a story about the random phone call leading to a pile of free wood. Usually it's from people who had to have a tree cut down from a home garden. They are emotionally attached to the wood, and while they are happy to see the wood used creatively, they always want a little something made from the wood as a memento.

This project started that way. The wood was neatly racked out in a garden shed and was silky oak of the *Grevillea robusta* kind.

1

Loaded in my ute then was half of the shed contents. The person of course wanted a memento, a garden seat in this case. A side trip to the local men's shed to see if they wanted the remaining wood was next stop. Entering the on-ramp for the motorway I noticed the tarp had come loose so I stopped to tie it down and climbed back into the ute.

The motorway traffic moves at 100km/hr so I quickly floored it to merge with the traffic flow. In the rear view mirror though I noticed a truck swerve to miss four pieces of wood in the middle of the motorway. Hang on, that's my wood!

And for the next few kilometres people were flashing me and pulling alongside calling out I had lost part of my load. I pretended that I was going back to rescue the lost wood but really it was too late for this.

Back at the shed, the wood was unloaded and stacked, and as I finally rested an idea formed. Although not radically original, this design is a slightly different take on a bench seat.

I decided one morning to make the memento and pulled two boards from the stack, one wide and one thick. The wide board sawn in half gave almost enough seat width, but adding in a piece of the thicker board gave more comfortable seating area.

The centre board is on edge and so stiffens the seat. The legs will have the grain running almost the same way as the top hence there are no major wood movement issues

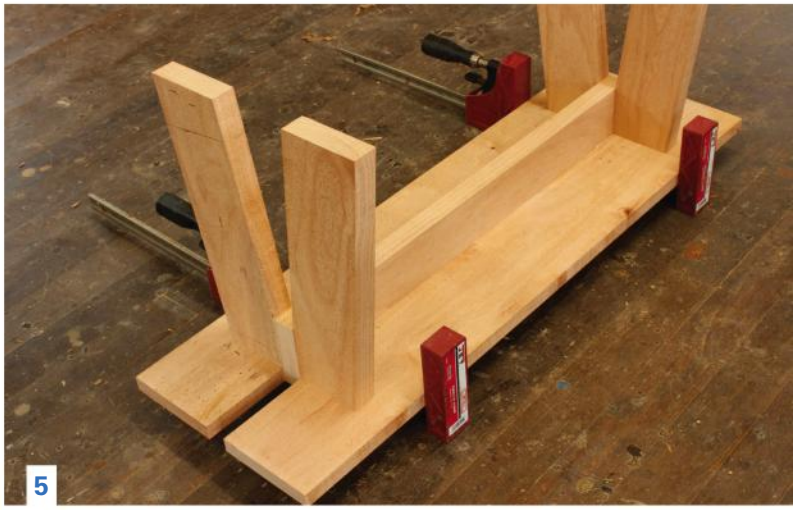
Cutting list (mm)

	QTY	LENGTH	WIDTH	THICKNESS
Seat	2	145	22	1015
Rail	1	105	32	750
Legs	4	105	32	~ 400
Glue blocks	4			


2


3


4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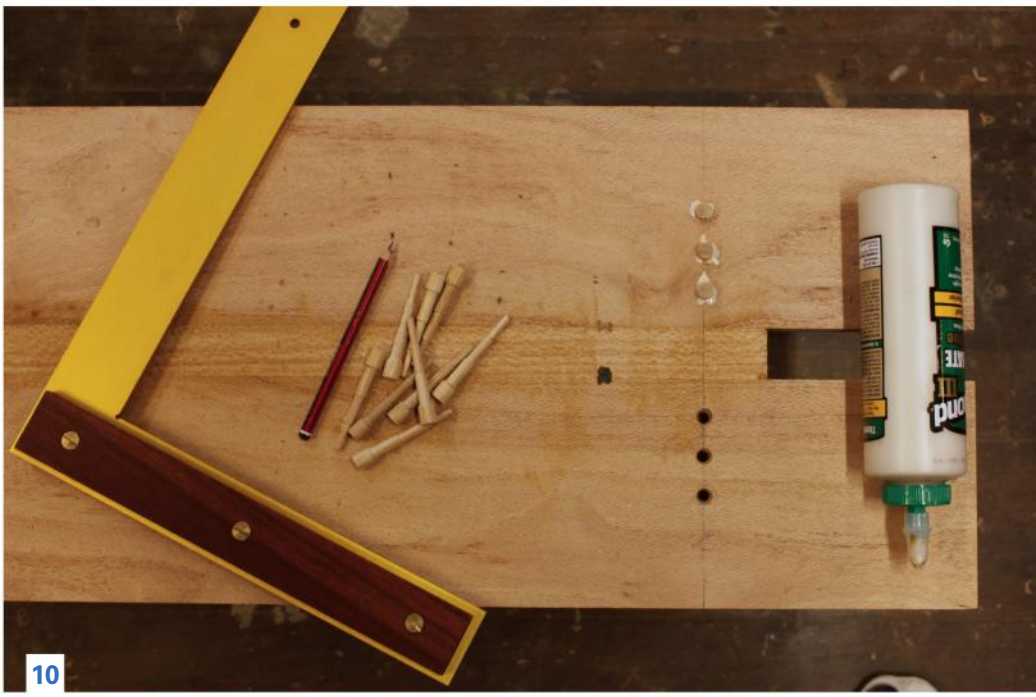
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to deal with. The trick was to join the legs to the rail and top satisfactorily.

Photo 1 After a test fit, glue the rail and two top boards together. The gap at the end is a design detail – without some detailing we would just have a potentially boring plank of wood. Ensure the rail is glued at 90° to the top boards and the ends of the boards are aligned perfectly.

Photo 2 This form of clamp is great for gluing work like this. The plastic pads don't mar the wood and their design naturally clamps things flat. Remove any excess glue with a rag and the back edge of a blade. After the glue is dry the seat assembly can be sanded flat.

Photo 3 With an offcut as a test piece the angle of the leg was established. The angle is determined as where the base of the foot is level with the outer edge of the top. If this point is in too far the seat can tip when someone sits on it. In this case the angle is 7°.

Photo 4 A drop saw is perfect for sawing these sections and scale of work. The ends are both sawn at 7°. A third cut is made so the leg can meet the rail.

Photo 5 Testing the leg positioning. Note the third cut that was made to where the leg meets the rail. You will have to trial and error this.

Photo 6 I am going to glue and dowel the legs to the rail and top. Because the grain of the legs and top run in the same direction you can glue them together without problems. Securing the legs in place whilst the glue dries is an issue, so the screw is there to act as a clamp during this process. The screw is on two legs.


11


12

Photo 7 It will be hard to reach this area after the leg is fitted so any bevelling of edges must be done before assembly.

Photo 8 One leg is glued and positioned, and then a screw attached through the rail to keep it in place. A large square helps to check everything is accurately glued at 90°.

13


14

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Photo 9 The second leg is glued and clamped in place, also at 90°. Make sure everything is aligned correctly. There is no screw here.

Photo 10 Three dowels were added into the end of each leg through the top. This locks the legs in place quite well.

Photo 11 Two dowels were added to the legs that had no rail screws. These needed to be drilled at an angle and are glued in place.

Photo 12 Corner brackets are critical. These are glued and pinned in placed and add extra strength to the leg joint.

Photo 13 Now is the time to fill any holes or defects, I mixed two colours of a water-based putty to a matching shade. This was applied, allowed to dry and then sanded.

Photo 14 A final sand smooths any putty. Sharp edges will need to be broken. A plane and chisel are ideal to make a small bevel on these edges.

Photo 15 A suitable water-resistant exterior finish will need to be applied. In this case a hardwax oil was used.

The irony is I am now making a blanket chest for the giver of the wood, and the seat now resides on my verandah.

Photos: Raf Nathan

Raf Nathan is a furniture designer and maker who lives in Brisbane. Email: raf@interwoodshop.com.au

Wood Review Goes Live

AWR Editor Linda Nathan sums up the atmosphere and key learnings of the magazine's first conference event.

On August 21, 2017, after months of anticipation, around 130 people mingled in the foyer of Sydney's SMC conference centre prior to the start of a packed program of talks and panel discussions.

New in the wood world was an event for makers, specifically woodworkers, that focused on inspiration, stories and ideas sharing. Sponsored by the industry for the industry*, **AWR L!VE** was Wood Review magazine's first conference type event and, judging by the feedback on the day and since, was universally hailed a success.

As Wood Review editor I was privileged to create a program of speakers and act as MC on the day. Relating to the theme Passion to Profit, a panel of eight speakers examined ideas relating to creating a career in woodworking. Speakers ranged from emerging to established makers, to those with marketing and retailing experience.

Evan Dunstone leads a team of four makers from workshop in Queanbeyan, NSW that also houses a small showroom. In his opinion, a true professional derived one's income solely from making without having to supplement that income by other means such as teaching, writing, living off grants or working in a subsidised workshop.

1. Panel discussion in progress at AWR L!VE, left to right: Linda Nathan, Melissa Allen, Evan Dunstone, John Madden, Kerryn Carter, Phoebe Everill.
2. Networking in the foyer at half-time.
3. Jacqui House, 3M Australia, presents the earlybird door prize to the lucky winner, David Peacock.
4. Melissa Allen talked about issues that emerging makers can encounter.

Evan emphasised the need to organise workspaces and workflows, and invest in equipment to speed up initial processing so more time could be spent on the hand detailing that would add the most value.

Recounting some of the milestones and highlights of his 20 year journey, he told in particular how his business model had had to adapt to changes such as the rise of online sales platforms. Evan's concluding advice was to 'write down what you want your business to look like and what success looks like for you, and then plan accordingly for the 20 years it will probably take to build a business'.

Russel Koskela introduced himself as a designer whose experience led him to believe that the best way to market and sell his own work would be to establish his own retail outlet. 'Follow your heart, trust your judgement and do it with joy' are the principles that underpin the Koskela store in Sydney.

Koskela sells only Australian designed and made work and also supports projects with indigenous communities in the Northern Territory. In addition, Koskela takes on interior design and fitout projects for prominent local and overseas firms. Russel noted that overseas people were loving Australian design and makers, and that he champions the use of local makers wherever possible.

It was an inspiring presentation that underlined the importance of listening to one's inner voice. His final advice to all was: 'Keep chipping away and don't take no for an answer as there will always be doubters. Look around, talk to people, ask questions, collaborate with others and most of all, enjoy what you do'.

Arriving in Australia from New York some 40 years ago, **David Mac Laren** went on to become one of the most significant figures in Australia's fine woodworking scene. Bungendore Wood Works Gallery has a reputation as one of, if not the finest gallery of its type in the world. Throughout, David has maintained his own practice as a designer/maker.

In a world of increasingly online and digitally driven platforms David explained how a gallery can offer the immediacy of a tactile

experience that clients can respond to. Co-ordinated displays, lighting, marketing, promotions and trained sales staff are the benefits that sales commissions cover.

With a background in online systems and information technology management, **Fred Kimel** took a leap of faith with the establishment of Handkrafted.com. In just three years, his online platform has earned the confidence of bespoke makers as an effective pathway to a clientele who increasingly seek the authenticity of hand and custom-made work.

Prior to the event Fred conducted a survey of the 350 makers he represents and used their comments to inform his own. Despite having rewarding and fulfilling careers, it was evident that for many there were challenges that were lessening the passion they originally started out with. Fred noted that seeking out training and support with business and financial management, sales and marketing could be beneficial here.

It is an exciting time for makers, Fred pointed out, with technology and social media that offers reach and the ability to tap into a vibrant community. His concluding advice was: 'define what success looks like for you, and be true to your style'.

In a panel discussion David Mac Laren, Russel Koskela and Fred Kimel represented three sales models with different but also overlapping clienteles. Using multiple channels for income made sense, they said, however makers needed to consider giving exclusivity of some lines to partner retailers.

All placed value on collaboration with other makers. Russel also noted that energy and money could be wasted to some degree on guarding copyright. Good ideas will be copied regardless, he said, and effort may be better spent publicising and branding these, and then focussing on new ideas.

Since starting her woodworking classes for kids **Kerryn Carter** has achieved a large social media following on Instagram. She produced figures to show that a growth in followers correlated with an increase in class enquiries and bookings received. Other career opportunities that had arisen due to social media exposure were magazine features, television spots and mostly recently a brand ambassadorship with Ryobi tools.

Kerryn pointed out that social media success requires significant time input however with a reported 700 million active Instagram users, Kerryn asked whether makers could afford not to engage. Apart from creating good images and content, the real secret to success, she said, was genuine interaction with others.

As a maker and marketer, **John Madden**'s insights had a unique perspective. Makers needed to differentiate themselves from others in terms of skill-set and style, in other words, brand themselves, he said. Graphics, copy, images and video were the tools that designer makers could use.

5. The first panel discussion looked at different ways of selling your work. Left to right: David Mac Laren, Fred Kimel and Russel Koskela with moderator Linda Nathan.

6. Question time during the first panel discussion.

7, 8, 9 During and at the end of a packed program of talks: John Madden, Melissa Allen, Kerryn Carter, Phoebe Everill, Linda Nathan, Evan Dunstone.

7


8


9

John noted that makers need to be authentic, to understand and be true their own style. He also encouraged attendees to collaborate with other makers and artists as a fulfilling and fun means to creating original works.

Phoebe Everill told the story of her path to becoming a designer maker, following on from her intial career as a carpenter/builder. She noted how she found it strange that being female was often highlighted as a point of difference. For her that fact was irrelevant, and her aim had always been to work hard to develop a business while working with a range of people.

For emerging makers the first step can be getting their best work well photographed and launching a website. As current chair of Studio Woodworkers Australia, Phoebe also presented a slide show of work by accredited members and spoke of the benefits of the association and being part of a network.

A closing panel discussion entitled Bespoke But Not Broke brought together emerging and established makers. **Melissa Allen**'s career was launched when she was invited to exhibit in Treecycle 2016. With an existing and related day job in interior design, knowing when to transition was more about believing in her own skills and finding a balance between continuing to earn an income while practising and developing as a maker.

The panel discussed the value of gaining prior work experience but how eventually makers needed to take a leap of faith. It was important to also apprise themselves of business skills and processes, and the benefits of collaboration were once again emphasised.

While it's possible to mention some of the key concepts expressed on the day it's not possible to replace the opportunity to interact and connect with others in an event like this. Taking time out to evaluate one's career direction in the company of like-minded others is an invaluable aid to achieving satisfaction in a career.

We'll be announcing details of next year's Wood Review L!VE event in the new year and hope you'll consider being part of it.

** AWR L!VE was proudly sponsored by 3M Australia, Promac, Tormek, Australian Forestry Standard, Felder Group Australia and Studio Woodworkers Australia.*

Wood Diary

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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.

18 NOVEMBER–3 DECEMBER
Idyll: Graduating Exhibition 2107
Sturt School for Wood
Mittagong, NSW
www.sturt.new.edu.au

25–26 NOVEMBER
27th Annual Woodcraft Exhibition
Barwon Valley Woodwrights
The Masonic Hall
25 Regent St, Belmont, Vic
www.barwonvalleywoodwrights.com

25–26 NOVEMBER
Woodturners Society of Qld Exhibition
Mt Coot-tha Botanic Gardens, Toowong, Qld
Rob McKee 07 3397 8156

2–3 DECEMBER
Santa Shop
Blackall Range Woodcrafters Guild
The Village Hall, Montville, Qld
www.blackallrangewoodies.org.au

8 DECEMBER–13 JANUARY 18
Centre For Fine Woodworking
Graduating Exhibition
Refinery Artspace, Nelson, New Zealand
www.cfw.co.nz

14 DECEMBER
Deadline for entry
AWR Student Awards
Enter online at:
www.woodreview.com.au/student-awards

2018

18–23 JANUARY
WOODTURNING IN THE PARK 2018
Peninsula Woodturners Guild
McClelland Sculpture Park,
McClelland Drive, Langwarrin, Vic
www.pwguild.org.au

5 FEBRUARY
25 Year Celebration Open Day
South Burnett Woodcrafters, Qld
Email: sbwoodcraft@gmail.com

9 FEBRUARY
Wootha Prize 2018
Deadline for entry
www.malenywoodexpo.com

18 FEBRUARY – 8 APRIL
Chatoyance
Studio Woodworkers Australia Exhibition
Sturt School For Wood
Mittagong, NSW
www.sturt.new.edu.au

17–18 FEBRUARY
Tools & Techniques Weekend
Sturt School for Wood
Mittagong, NSW
www.sturt.nsw.edu.au

25 FEBRUARY
TTTG Sydney Tool Sale
The Brick Pit Stadium, Thornleigh
www.tttg.org.au

9 MARCH–8 APRIL
#urbansalvage #zerowaste
Work by Andrew Potocnik
Bolin Bolin Gallery, Bulleen, Vic
www.gallery.baag.com.au

10–11 MARCH
Lost Trades Fair
Kyneton Racecourse, Victoria
www.rundellandrundell.com.au

10–11 MARCH
Woodcraft Expo, Demos & Sales
Kiama Woodcraft Group, NSW
Masonic Hall, Collins St, Kiama
David Bywater 0425 249 148

5–29 APRIL
Where Have All The Hallways Gone
Furniture for entryways by Hamish Hill
The Barn, Montsalvat Arts Centre, Vic
www.hamishhill.com.au

14 APRIL
Tools, Timbers & Techniques
Perth Wood School
www.perthwoodschool.com.au

15 APRIL
The Philadelphia Furniture Show
Showcasing artisan quality furniture
www.philadelphiafurnitureshow.com

5–7 MAY
Maleny Wood Expo
includes Wootha Prize Exhibition
Barung Landcare
Maleny Showgrounds, Qld
www.malenywoodexpo.com

8–12 MAY
XYLEXPO
Biennial international exhibition of woodworking technology and furniture industry supplies
Fieramilano-Rho fairgrounds, Italy
www.xylexpo.com

8 JUNE
STUDIO FURNITURE 2018
Deadline for entry
www.woodreview.com.au/studio-furniture

16–17 JUNE
Hand Tool Event
Melbourne Guild of Fine Woodworking
14 Cottage St, Blackburn, Vic
www.mgfw.com.au

4–7 JULY 2018,
AWISA 2018
ICC Sydney, Darling Harbour, Sydney
www.awisa.com

19–22 JULY
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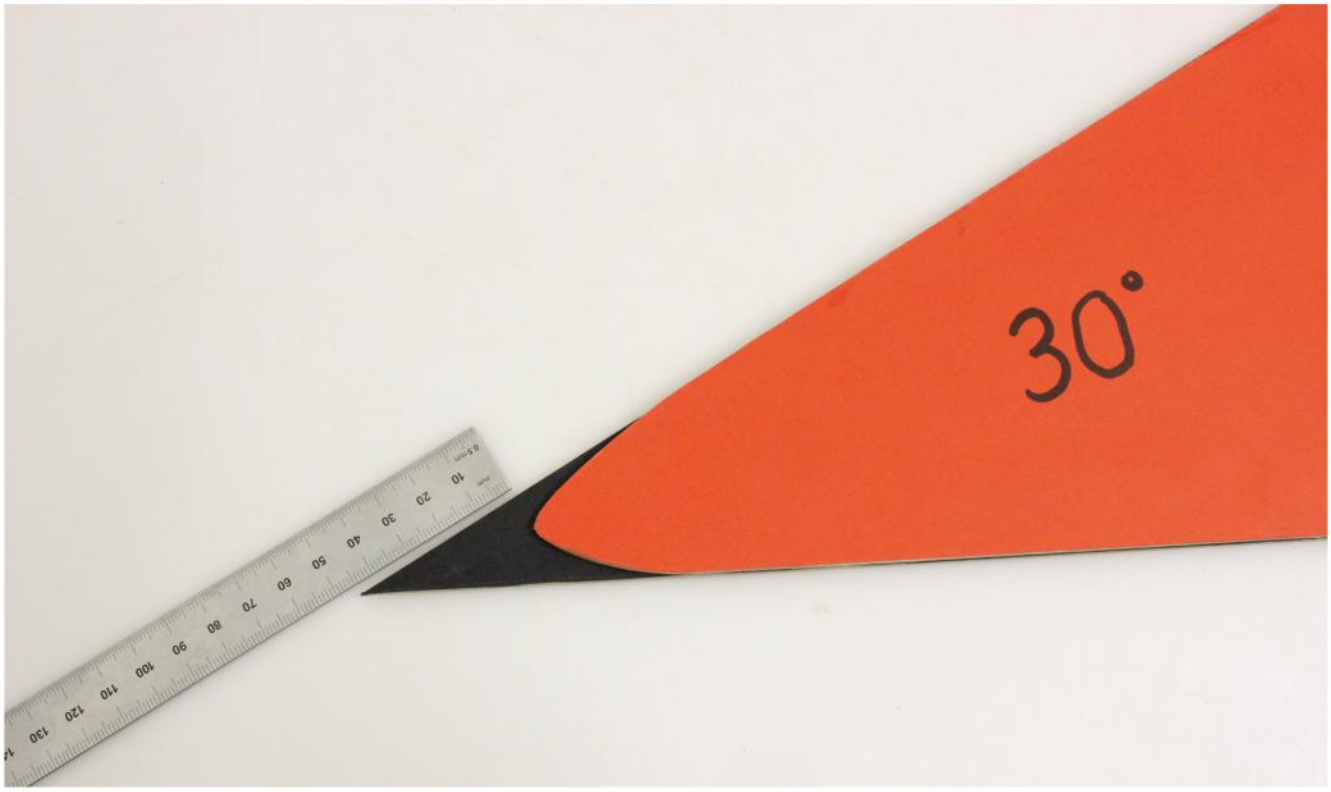


Plane Blade Geometry, Part 1

Terry Gordon explains why your blades will perform better if you control the bevel angle.

The bevel angle you put on your plane blades makes a big difference to the effort required to plane wood and how long that blade will remain sharp enough to give you a nice smooth surface. This is the one angle in a plane that woodworkers control, and how you do it profoundly affects the performance of your plane.

What is bevel angle? As far as the function of your blade goes, it is the final bevel you put on the blade. So if you put a 45° micro bevel on a 30° primary bevel, your bevel angle is 45°, irrespective of how small the micro bevel is.

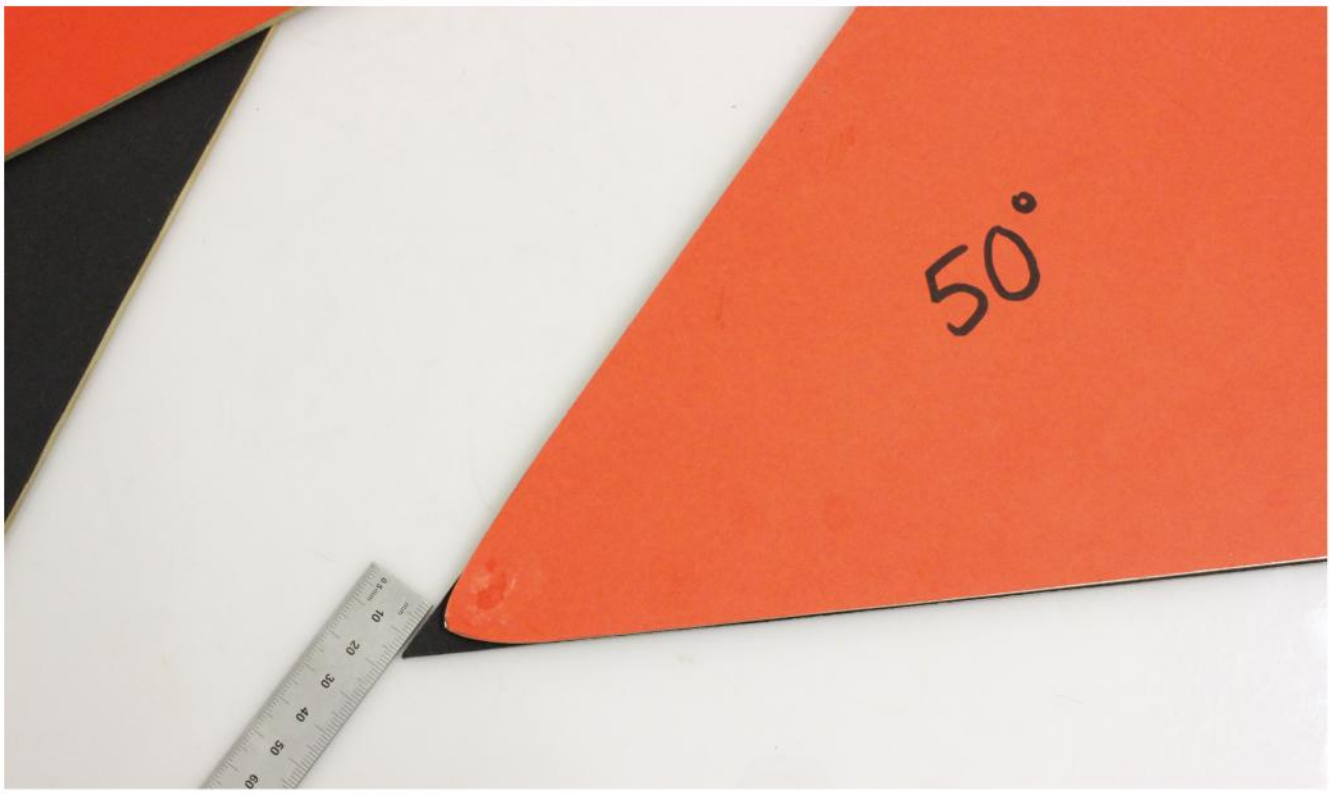
What is the optimum bevel angle for a plane blade? The correct answer is, as acute as possible without the blade edge chipping in use. I will give a more practical answer later after we look at some simple geometry, a sharpness test and some comprehensive blade testing results by two woodworkers. Steve Elliot[1] and Brent Beach[2] should be congratulated on their independent and significant bodies of work.

The photo above shows a blade bevel sharpened at 30° (in black) overlaid with a blade bevel that would be considered blunt (in red), and opposite is a blade sharpened at 50° with the blunt blade overlaid.

The shape of the rounded over blunt edges represented by the red cardboard cut-outs was extracted from Steve Elliot's website where he took side-on magnified photos of a blade bevel after planing 800 lineal feet (245 lineal metres) of cherry wood. Both red cardboard cut-outs showing the blunt edge have been made to exactly the same size and shape at the edge so you can compare the amount of usable sharp edge on both 30° and 50° bevels.

From these magnified representations you can clearly see that a 30° bevel has three times the usable sharp edge when compared to the 50° bevel. The edge retention benefits of the 30° bevel are obvious and should be very good motivation for woodworkers to keep their blade bevels as acute as possible if they want to minimise the amount of sharpening they do and improve the performance of their plane.

Deciding when a blade is blunt is a subjective call, but Steve Elliot took this to another level and quantified it by using a sharpness testing device modelled on the diagram shown in **fig.1**. This device can accurately measure the force required for a blade edge to cut a piece of string. This



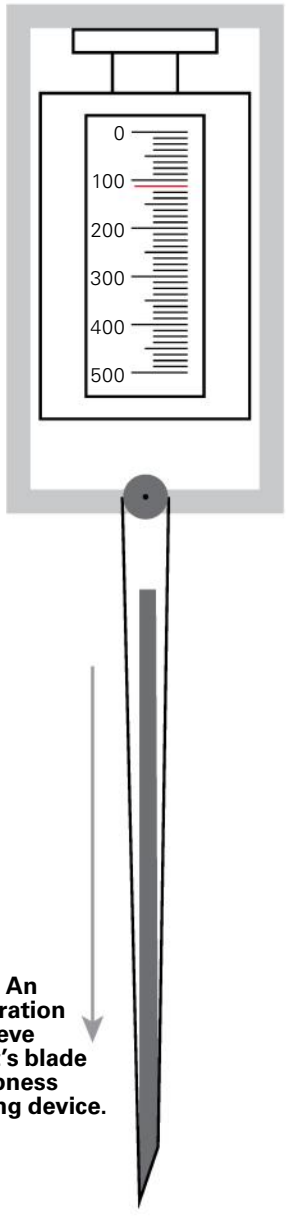


Fig.1 An illustration of Steve Elliot's blade sharpness testing device.

gave him the means to make objective assessments of the optimum bevel angle that should be used in a plane, and accurate assessments of when a blade edge is blunt.

In essence, the more acute the blade bevel is the less force required to cut the string, and the blunter the blade edge gets, the force required to cut the string increases. His results can be read in full on his website, but for planing American cherry he concluded that a 31° bevel (including any micro bevel) gives the best results. When planing cherry he observed that less than 31° would produce chipping at the blade edge and to go beyond 31° would reduce the amount of wood in lineal feet (metres) that can be planed before the blade is blunt.

For harder or softer woods the optimum bevel angle may change slightly but if you develop a rule whereby you make plane bevels 'as acute as possible without the blade edge chipping in use', you will always be sharpening your bevel at the correct angle to get the best performance out of a sharp blade.

The type and quality of the steel in blades is also very important to edge holding and Steve Elliot and Brent Beach give lots of information about the types of steels they used in their testing and how they sharpened them. From their research you can judge for yourself which steels are the best from an edge retention and sharpening perspective.

In conclusion, no matter what blade steel your plane has, if you use the correct bevel angle geometry sharpened properly, this will have a far more profound effect on the performance of your plane simply because you have maximised the usable sharp edge on your blade.

Next issue we'll look at another aspect of plane blade geometry that has a profound effect on planing performance.

1. See www.bladetest.infillplane.com

2. See www3.telus.net/BrentBeach/Sharpen

Terry Gordon is a toolmaker in Alstonville, NSW. For more information on correct bevel angles see www.hntgordon.com.au

The Ultimate Coffee Tragic Gift

How to save on at least one accessory while in search of the perfect home brew. Story Kerryn Carter.

Deep down inside, all of us we know where we sit on the scale of coffee making abilities. In my opinion the scale goes a little something like this. You have the excellent ability to order a daily takeaway from your local barista. Doesn't take long to feel the pain of the $3.50–$4 which we all know is like the drink equivalent of the controversial smashed avocado and before you know it you own a Nespresso pod machine (60 cents/cup yay!).

Once you figure out you are only consuming 5gm of coffee it's a short and slightly expensive leap to a real coffee machine with a group handle. And all of a sudden you are burning beans and cursing the day you bought it. That is until you start to figure it out one painfully tiny step at a time.

Soon you upgrade your Sunbeam machine to an unpronounceable Italian machine and this is when you have truly made it. Until you discover that you now need the Italian coffee grinder and so on. There is only one more step that anyone of us can take at this ridiculously advanced point and that is to actually roast your own beans. Currently this level is beyond the limit of social acceptability and would indicate that counselling might be more appropriate.

Where is my household in the above scale? We are hovering at the sub-roasting level. Anyway, bearing that in mind I was recently perusing the whole online world of barista tools looking for that perfect gift for a spouse who has every niche coffee-making accessory already.

Queue the knock box, the skateboard made tamper (from Justin La Rose in California), the CO2 removing canister that will keep your beans safe from the nasty stuff we call air. But there was something else available to purchase that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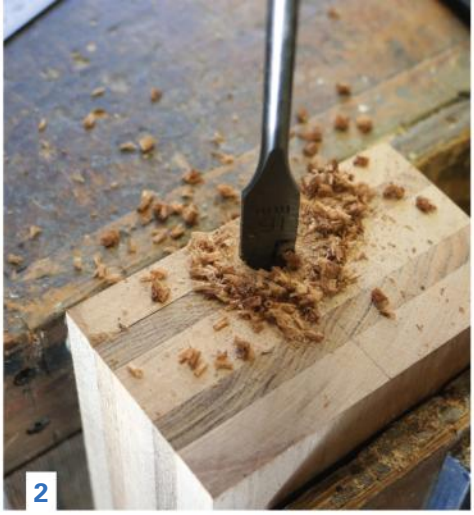
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caught my attention…a wooden tamper station. What is a tamper station? It holds the group handle securely while tamping the grinds.

We have no tamper station. A tamper station is clearly a necessary addition to the arsenal in preventing any possible coffee apocalypse. How much for such tamper station? $200 AUD plus shipping.

So in the name of adding to the canon of knowledge on how to get something coffee related at a 100% discount to retail, I present to you my scrap tamper station.

I made my tamper station from a laminated block of scrap Tasmanian blackwood and Queensland maple. I used a bandsaw and two holesaw bits to make it in a little over an hour. The process is similar to making a bandsaw box but without the drawer. Your holesaw bits need to be the same size as your tamper and group handle diameters.

Start with a squared up laminated block and then bandsaw off a thin layer from the top of the block (**photo 1**).

Cut a hole in the side using a spade bit (**photo 2**) to take the handle. Note: If you don't own a forstner or regular drill bit the same girth as the handle of your group handle you will need to use your spade bit now while there is still wood for the tip to rest on.


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To use the spade bit, replace the top layer to reform the block and place into a vice (the top and the bottom are just sitting together with nothing but the pressure from the vice). I used a 16 mm spade bit (**photo 3**).

Mark out for two holes in the thin top layer (**photo 4**) and cut the holes (**photo 5**). These holes need to be the same size as you tamper diameter (tamper hole) and your group handle (group handle hole). I used a 60mm and a 73mm hole saw bit.

Cut one hole in your bottom layer (**photo 6**). This group handle hole needs to be drilled through the bottom layer. Note this hole could be drilled in one go (through both layers) if you have a hole saw deep enough (**photo 7**).

Glue the two layers back together (**photo 8**).

Remove the remainder of the handle side opening with a chisel (**photo 9**).

Round all the corners (**photo 10**) and apply finish.

While it might not be the finest of woodworking, the tamper station was easy to make, looks great and would make an awesome gift for your coffee tragic friends. But even more importantly though, it delayed the search for a bean roasting machine for at least a few more months.

Photos: Kerryn Carter

Kerryn Carter teaches woodwork classes for kids in Sydney. Last issue she wrote about making a bandsaw box. Email: kerryn@toolschool.com.au

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