

AUSTRALIAN

Wood

REVIEW

WINTER EDITION

Mega Tool
Prize Draw

TIMBER
FURNITURE
WOODWORKING
WOODTURNING

15

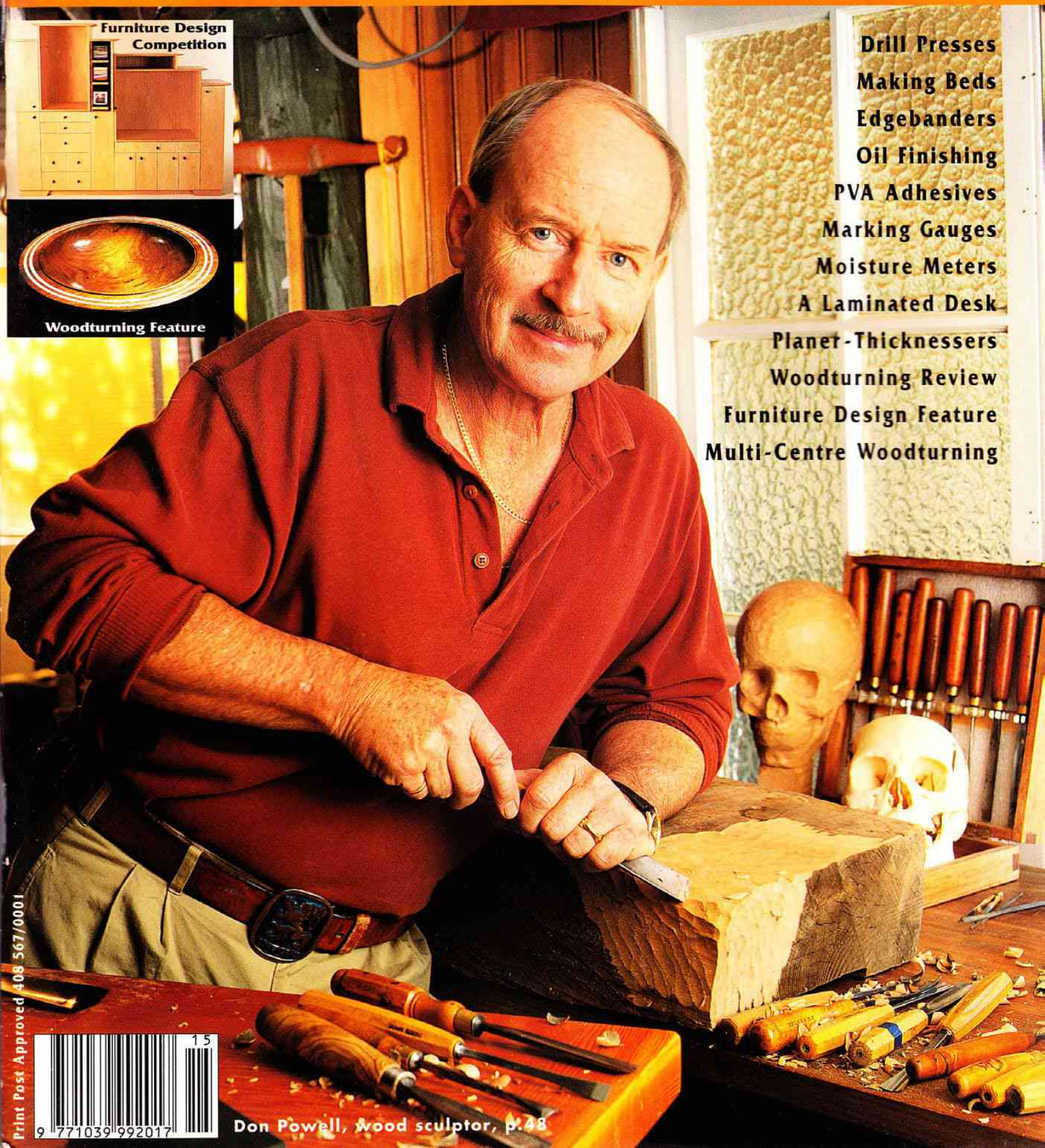
\$7.50

Furniture Design
Competition



Woodturning Feature

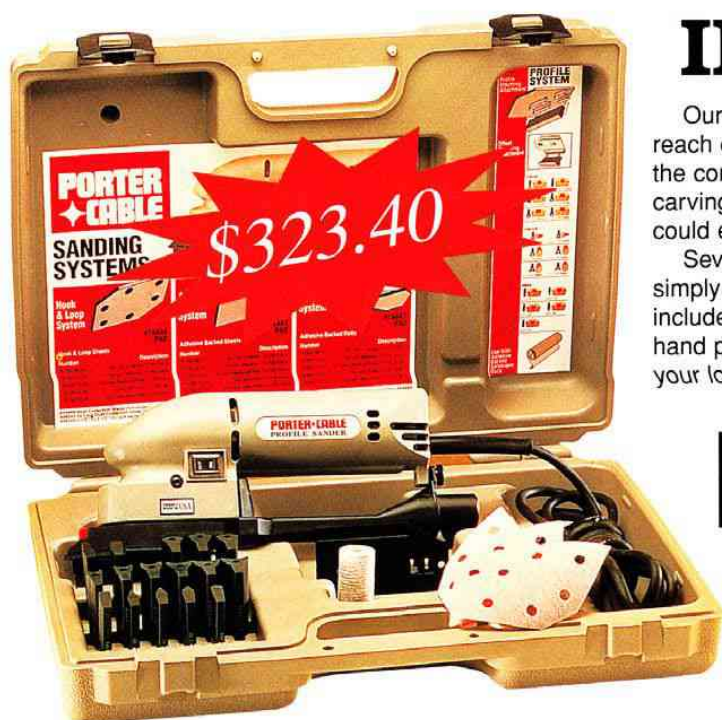
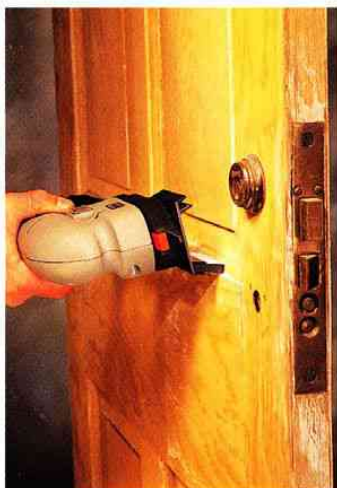
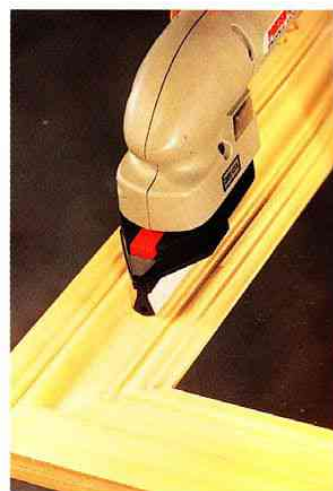
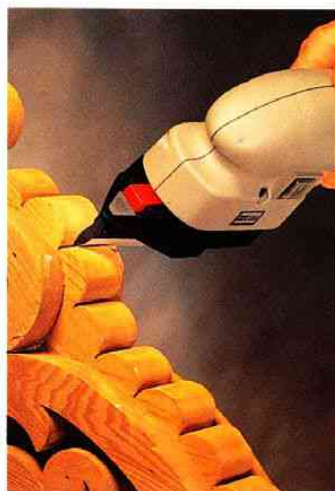
Drill Presses
Making Beds
Edgebanders
Oil Finishing
PVA Adhesives
Marking Gauges
Moisture Meters
A Laminated Desk
Planer-Thicknessers
Woodturning Review
Furniture Design Feature
Multi-Centre Woodturning



Don Powell, wood sculptor, p.48



9 771039 992017



IN LINE SANDER!

Our revolutionary Profile Sander gets you into all the tricky, hard-to-reach corners of your work. But unlike "detail" sanders, it gets you out of the corner. And over curves. Through the grooves. Around the intricate carvings in your workpiece. Plus it does it faster and easier than you could ever dream of doing by hand.

Seventeen profiles including concave, convex, vee and flat included or simply shape your own profiles with the replaceable rubber blanks. Also included is a flat v-shaped corner sanding pad as shown in the top left hand photo. If you'd like to eliminate hand sanding from your work, visit your local Porter-Cable dealer. Or call for a free brochure.

PORTER-CABLE

Distributed in Australia By:

CARBA-TEC
TOOLS FOR WOOD

NEW ZEALAND TOLL FREE:
0 800-444 329

MELBOURNE TOLL FREE:
1-800-653 777

BRISBANE TOLL FREE:
1-800-658 111

Toll Free Callers From New Zealand Will Be Automatically Connected to Carba-Tec's Brisbane Office At No Charge

DELTA

**MACHINERY NOW
AT CARBA-TEC!**

AUSTRALIAN WOOD REVIEW

CONTENTS

Published by: Interwood Holdings Pty Ltd
435 West Mt Cotton Rd, Mt Cotton Qld 4165
Editor: Linda Nathan
Technical Editor: James Brook
Machinery Technology Editor: Philip Ashley
Contributors: Anton Gerner, John McLennan, Terry Martin, Robert Howard, Richard Raffan, Richard Vaughan, Andrew Potocnik
Editorial and Advertising Enquiries
Tel (07) 3287 7088 Fax (07) 3287 7099
Administration & Advertising
Co-ordinator: Margaret Read
Magazine Layout: Linda Nathan
Staff Writer: Dinah Hall
Publisher: Rod Nathan
Film & Print: Fergies P/L, Qld, Australia
Australian National Distribution: NDD
New Zealand Distribution:
Gordon & Gotch NZ Ltd
Retail Australia: Interwood (07) 3287 7088
Recommended Retail Price: \$7.50
Subscriptions (form p.92)
Wood Review is published quarterly.
Australia: 4 issues \$26, 8 issues \$48
Overseas:
NZ: 4 issues \$39 seamail or \$46 airmail
USA: 4 issues \$42 seamail or \$62 airmail
UK: 4 issues \$42 seamail or \$66 airmail
Note: Seamail can take up to 12-14 weeks.

Cover: Don Powell

Cover photography: Clive Buxton

Issue 15, June 97

ISSN: 1039-9925

Australian Wood Review is copyright, no part of it can be reproduced in any form by any means without prior written permission of the publisher. All material is printed in good faith, however the publisher will not be held liable for any form of damage whatsoever or liability, claim, or proceeding arising from printing of same. The opinions of writers and advertisers presented in this magazine are not necessarily those of the publishers.

Submissions for articles are welcome. All details including photographic materials should be sent to the publishers. Text should be double-spaced type or Macintosh format. Pictures should be transparencies, slides or quality prints. Material which is to be returned should be accompanied by a return paid envelope. Whilst every care is taken of submitted material we are not able to accept responsibility for any loss or damage to same.

Safety: Woodworking can be dangerous. Do not undertake any work, process or action without adequate skill, training, safety equipment and/or awareness.



Turned and carved bowl by Peter Bradford, new works off the lathe, p.64

Timber

- 32** Working With Natural Feature Grade Timbers. Alan Morris.
- 55** Rosewood—By Many Other Names. By Dinah Hall.
- 72** The Veneer of Native Hardwoods by Dr Barbara Ozarska.

Furniture and Design

- 32** Making Beds. John McLennan.
- 40** Crown Cut Furniture Design Competition.

Projects & Techniques

- 12** Laminated Curves For Your Furniture. Richard Vaughan.
- 23** The Good Oil On Wood. Anton Gerner and Vincent Harraghy.

Woodturning

- 64** New Talent Off The Lathe.
- 72** Multi-Axis Turning or Creating Off Centre Forms.
By Andrew Potocnik.
- 77** Turning Waste into Profit.
John Stewart.

Woodworking

- 17** Planer-Thicknessers—Buying and Using Them. Philip Ashley.
- 36** Safety Part II—The Eyes.
- 80** PVA Glues—How They Work.
By Rodney Hayward.

Tools & Equipment

- 29** Drill Presses—Review
- 58** Is It Dry?—Moisture Meters compared by Anton Gerner.
- 62** Marking Gauges—James Brook.
- 70** Edgebanders. Philip Ashley.

Features

- 48** Don Powell—The Image Maker.
- 84** Speciality Of The Island—Tasmanian Timbers

Regulars

- 7** Exhibitions
- 86** Wood News
- 94** Bookshelf
- 96** Wood Diary
- 96** Advertiser Listing

EDITORIAL

Last December we launched the *Crown Cut* Furniture Design Competition and this issue, six months later, we present the work of each of the 28 final entrants. The results are a testament to the ingenuity and commitment of the designers and manufacturers who took part. We hope you will be inspired by the results and the diversity of the items made. Of immediate note were the winning entertainment unit by David Collins of Victoria (first prize) and the elegant wine storage and display cabinet by Benjamin Hunt (second prize), also of Victoria. Australian Wood Review along with Gunns Veneers Pty Ltd, and Forests and Forest Industry Council of Tasmania would like to thank and congratulate all who participated in this competition.

We wouldn't be true to our name if we weren't dedicated to timber and trees, as well as to the people who use wood and the means by which this material is fashioned. The creation of the new *Natural Feature Grade* Australian Standard for timber is to be commended for expanding our appreciation for this medium, as well as opening up even more potential for true value-adding. Alan Morris writes about working with this new grade of timber, which you should give consideration to using.

Side by side with the development of *Natural Feature Grade* timber has gone a growing appreciation of native species. Collective descriptions such as 'hardwoods', 'Tasmanian oak', 'Victorian ash' and 'mixed species' are starting to sound, in my opinion, outdated. Now at last, we are learning to appreciate the separate and highly individual species which have been lumped together for so long. This issue Dr Barbara Ozarska summarises the results of a study which she led into the processing of seven East Gippsland hardwoods. These timbers, familiar more by nature rather than their own names are now being granted their own identity. Although these particular processed products are not yet commercially available they are surely the way of the future in this country.

For a healthy serve of facts, figures and operational advice we offer reviews of drill presses, planer-thicknessers, edgebanders and moisture meters, not to mention marking gauges and eye safety gear (part II of our safety series). If you are a real technophile you'll certainly enjoy Rodney Hayward's definitive explanation of the workings of PVA glues.

This issue's cover story should inspire any of you contemplating a career change, or those who may just feel a bit weary in the face of a seemingly long road ahead. Don Powell, wood sculptor, has in only eight years worked his way up to an enviable level of skill and artistry. Hopefully his example and those of the many designers, makers and woodturners who appear in this issue will encourage you to experiment and take a higher profile.

Linda Nathan, Editor



ADAMS TIMBER

Fine Timber Specialists

**Friendly professional service
for manufacturers
cabinet works
joineries
furniture makers
woodturners
hobbyists**

**Delivery
anywhere**

Timbers stocked include

Blackwood, Huon Pine, Celery Top Pine, Myrtle, Ash, Sassafras, Walnut, Rosewood, Oak, Ebony, Zebrawood, Maple, Cedar, Camphor Laurel, Jarrah, Jarrah burls, Blackboy roots, Mahogany, Kauri, Jelutong, Silky Oak, She Oak, Purpleheart, Cherry, Wenge, Padauk, Bubinga, Yew, Sapele, Pear, English Brown Oak, Box and Elm.

Melbourne

Factory 2
80-86 Canterbury Road
Kilsyth VIC 3137
Tel (03) 9761 8688
Fax (03) 9761 8699

Canberra

46-48 Townsville St
Fyshwick
ACT 2609
Tel (06) 280 6467
Fax (06) 280 6487

Vacuum Veneering

Professional results in your own workshop

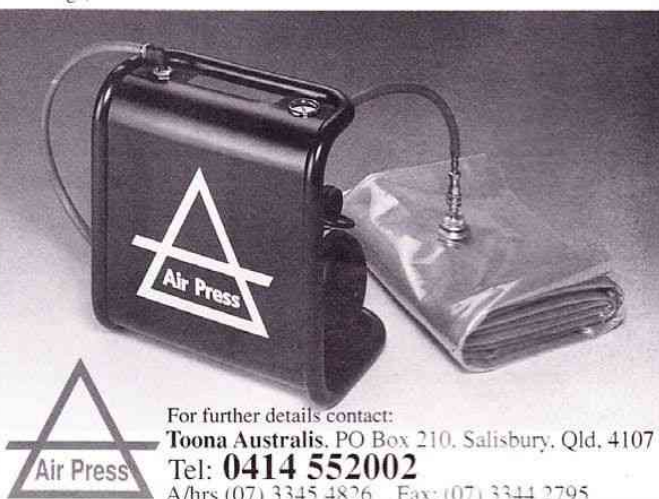
With the Air Press

The Air Press uses vacuum technology to veneer flat boards and laminate curves without the need for large and expensive machinery.

This is the only vacuum system good enough for Rolls Royce to lay their famous walnut dashboards.

Another happy customer is John Makepeace, arguably the world's most renowned contemporary furniture design/maker.

- Simple and easy to use
- Compact size—stores away when not in use
- Consistent and reliable
- Versatile: presses flat boards and curved laminations, will veneer any size from coffee tables to boardroom tables.
- Transparent bag allows for inspection of work.
- Even pressure distribution for perfect results.
- Ready to use—requires no cramps.



For further details contact:
Toona Australis, PO Box 210, Salisbury, Qld, 4107
Tel: **0414 552002**
A/hrs (07) 3345 4826 Fax: (07) 3344 2795

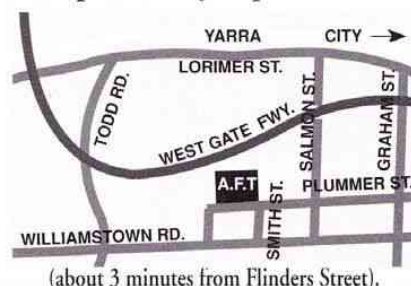
*Do you marvel at Mahogany?
Wonder at Walnut?
Revel in Rosewood?
Or just pine for some Celery Top?*

Experience the warmth of timber! Rich red Mahogany, golden Kauri, Huon—busy with “birdseye”, marbled black and grey Ebony. Blackwood which belies its name, the white, cream and pink hues of Shining Gum. Silver Wattle and American Maple, the speckle of Beech, the character of Elm and grandeur of Oak. It has uses in every corner of your home and in every aspect of your life.

We stock over 100 species in hundreds of sizes. Big or small, white or black, pink or gold, brown or red. Australian native, North & South American, Asian, African, European and Pacific species.

A detailed catalogue of stock is available on request. We welcome your enquiries in person or by telephone.

A Australian Furniture Timbers
351 Plummer Street, Port Melbourne
Tel (03) 9646 1081, 9646 2376
Fax (03) 9646 4734.



also at Cnr Hassell & Palmer Sts, Portsmouth, Cairns Tel (070) 351 301, Fax (070) 351 780

TRUPRO WORKSTATION TP96

The TP-96 is an ideal multi-function machine for the home handyman or professional workshop. With solid cast iron construction and precision engineering, the TP-96 gives professional results every time.

The TP-96 combines a robust sawbench, balanced 3-knife jointer and disc sander. Add even greater versatility with the TP-96 Accessories.

SAW BENCH	METRIC	JOINTER	METRIC
Saw table size	374 x 500mm	Max width of cut	150mm
Blade diameter	235mm	Max depth of cut	10mm
Saw arbor	16mm	Max rebate depth	10mm
Depth of cut	80mm	Total length of table	780mm
Table ahead of blade	225mm	Cutter head diameter	60mm
Fence length	500mm		
Fence tilt	45° both ways	MOTOR	
Max - blade to fence	370mm	1HP (0.75KW)	Single phase
Height to table top	830mm	SANDER	METRIC
Overall width	750mm	Sanding disc diameter	230mm



Optional extra machine fitted with extension table, router kit, clamps.

Router Kit (TP-9606)

Turn your portable router into a spindle moulder. This kit comes complete with adjustable fences and dust hood.



STANDARD
MACHINE ONLY
\$1,199
INC. SALES TAX

Vic - **MAJOR WOODWORKING MACHINERY** 2828/2830 Main Rd, Rye, East Malvern
NSW - **MAJOR WOODWORKING MACHINERY** 55 Gow St, Padstow
Qld - **GREGORY MACHINERY Pty Ltd** 119 Jane St, West End
S.A. - **DAVID TREMBATH AGENCIES Pty Ltd** 75 Grange Rd, Welland
W.A. - **POWER TOOLS & MACHINERY SALES** 13 Beechboro Rd, Bayswater

(03) 9885 6198
(02) 9708 3233
(07) 3844 4433
(08) 8346 4561
(09) 272 3844



**WOODMAN
GROUP**



B.O.S.S. Bench Oscillating Spindle Sander Cat. No. DE-31-780

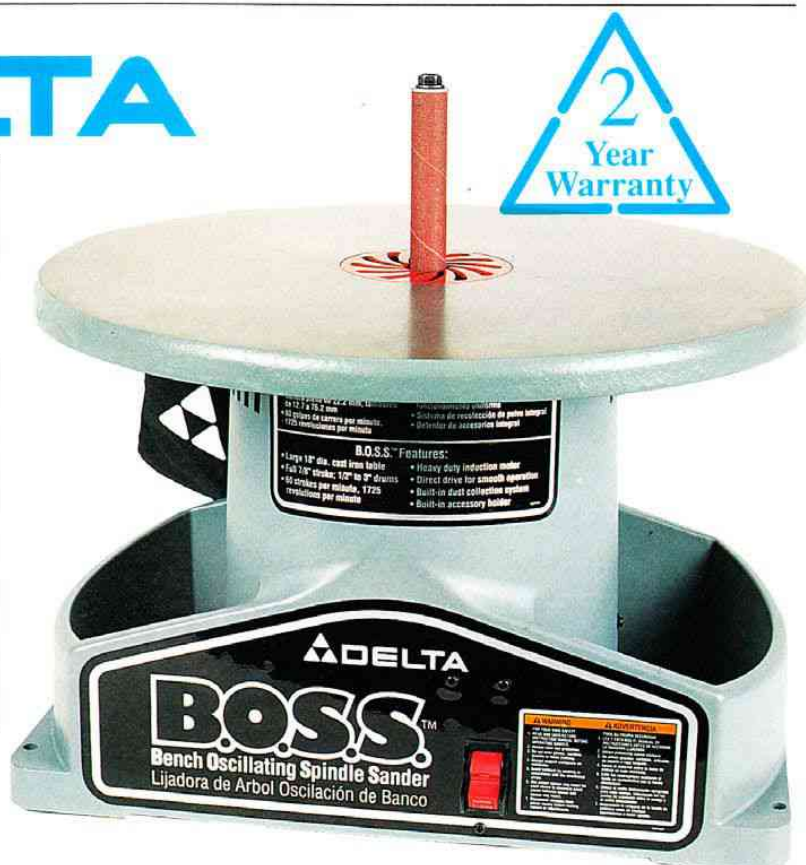
In charge of all your sanding needs.

Specifications:

Motor: 1/4" HP, 1725 rpm
Stroke: 7/8" (.8750 mm)
 Strokes per minute: 60
Capacity: 3/4" to 3" max.
Table: 4457mm Opening: 102mm
Dust Collection: 38mm
Weight: 19kg
Price: \$359.00 Inc. Tax
 Please add \$20 freight per machine

B.O.S.S. Sanding Spindle Set (Sold Separately)
 The set includes 1", 1-1/2", 2", and 3" rubber spindles, drum plates, abrasive sleeves and table inserts. **Cat. DE-31-781 \$93.20**

Cat. No. DE-31-780 Bench Oscillating Spindle Sander. Includes basic machine with 1/4 HP motor, cast iron table, 3/4" sanding drum and sleeve, 1/2" spindle, and dust bag.



Router/Shaper Cat. No. DE-43-505

A low cost alternative to the production wood shaper.

Cat. No. DE-43-505 Router/Shaper includes basic machine with 1-1/4 hp, 240V induction motor, fence, cutter guard, dust chute, table insert, ring guard and starter pin for free hand shaping, 1/4" and 1/2" collets included.

Specifications:

Motor: 1-1/4 hp, 240V
Spindle: Speed: 10,000 rpm
 Travel: 60mm
 Collets: 1/4" & 1/2"
Table Size: 457 x 508mm
 Insert Opening: 95mm
Dimensions: 660 x 559 x 394mm
Weight: 24kg.
Price: \$519.00 Inc. Tax
 Please add \$25 freight per machine



*Router Bit Not Included

Woodstock Australia
 Perth: (09) 345 4522

CARBA-TEC 370 Swan St. Richmond 3121
MELBOURNE Ph (03) 9427 8444 Fax (03) 9427

CARBA-TEC 44 Cambridge St. Coorparoo 4151
BRISBANE Ph (07) 3397 2577 Fax (07) 3397

TOLL FREE: 1-800-653 777

TOLL FREE: 1-800-658 111



10" Table Saw Cat. No. DE-34-670
A true performer in any application.

80mm depth of cut!!
Best in its class by
an amazing 20mm!



Cat. No. DE-34-670 10" Table Saw.
Includes basic machine with 2.3 hp., 240V, single phase motor, stand, mitre gauge, rip fence, table insert, see-thru blade guard with splitter and anti-kickback fingers, 10" carbide-tipped saw blade, wrench and operating instructions.

Specifications:

Motor:	2.3 hp, 240V
Blade:	Dia.: 254mm
Capacity:	Max. depth of cut at 90°: 80mm
Dimensions:	H: 971 x W: 1178mm
Weight:	69.5 Kg
Price:	\$779.00 Inc. Tax
Please add \$50 freight per machine	

Self-setting blade feature allows you to change & set the 2 double-edged, reversible blades in seconds and get on with your woodworking project!

12-1/2" Planer **Cat. No. DE-22-560**

12-1/2" Planer includes basic machine with 2.2 hp, 240V motor, 2 reversible quick-change knives and instruction manual.

Specifications:

Motor:	2.2hp, 240V
Capacity:	Width of stock: 12-1/2" (317mm) Thickness of stock: 152mm max. 5mm min.
Feedrate:	26 fpm
Cutterhead:	2, double-edged, reversible blades
Table w/ ext:	317mm x 597mm
Weight:	29kg
Price:	\$739.00
Please add \$30 freight per machine	



Lockable cutterhead together with flat infeed/outfeed tables significantly reduces snipe.



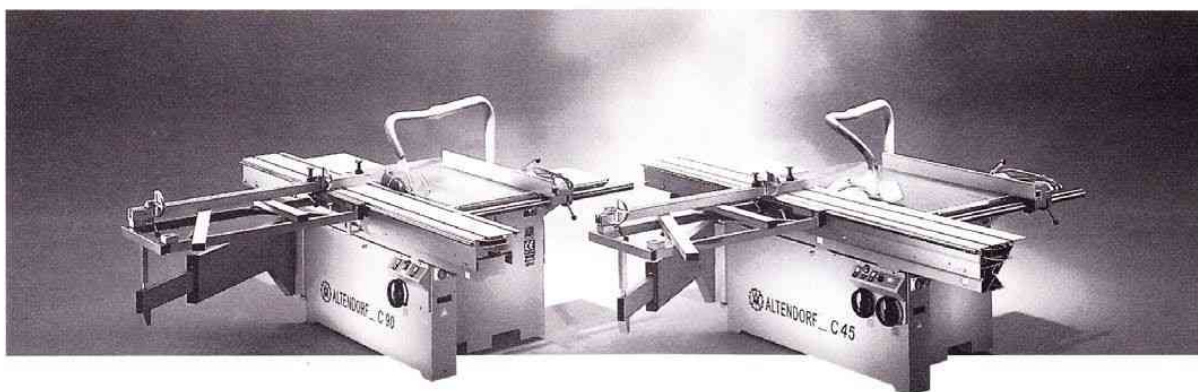
CARBA-TEC 370 Swan St. Richmond 3121
MELBOURNE Ph (03) 9427 8444 Fax (03) 9427 8448

CARBA-TEC 44 Cambridge St, Coorparoo 4151
BRISBANE Ph (07) 3397 2577 Fax (07) 3397 2785

TOLL FREE: 1-800-653 777

TOLL FREE: 1-800-658 111

Altendorf C-class: Low price – high performance!



C 90: Each part is manufactured with the world-famous Altendorf precision. This machine cuts like a full-size Altendorf, but requires less space and sells for a lower price. The best way to achieve quality cutting right from the start. **An original Altendorf for \$ 13,900.00.**

C 45: An all-around machine with tilting sawblade. As standard: the digital tilt display for the tilting sawblade and much more. Ideal as a second machine, or as a machine for first-time buyers. **Chose a genuine Altendorf from \$ 16,900.00!**



Altendorf Australia Pty Ltd, Unit 1/50 Bentley Street, Wetherill Park NSW 2164, Phone: (02) 9756 6669, Fax: (02) 9756 6776

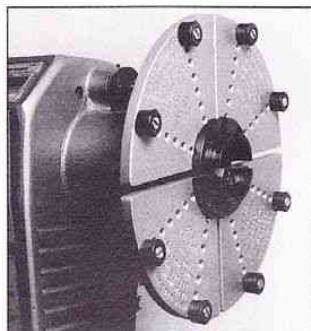
WHERE WERE YOU...CHUCK REVOLUTION 1988?

The **Nova Chuck** began the workholding revolution. All great ideas have imitators. But the Nova Chuck is still the most popular worldwide. *Why?*

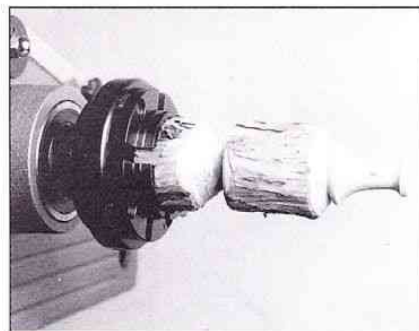
- More Accessory Options
- Superior Quality
- Great Product Support
- Fits wider range of lathes
- At an Unbeatable Price—*Buy, Now!*

ASK TO SEE THE NOVA CHUCK VIDEO

Join the revolution 1997!



Nova Chuck Cole Jaws, one of the nine accessory jaw options available for the Nova Chuck. **Nova Versatility!**



Standard Nova Chuck holding rough branch in the contraction mode. **Nova Power!**



The Woodturning Centre, 6 Roger St, Brookvale Sydney Ph (02) 9938 6699
Power Tools and Machinery Sales, 13 Beechboro Rd, Bayswater Perth Ph (09) 272 3844
Gregory Machinery, 119 Jane St, West End Ph (07) 3844 4433

And from other outlets throughout Australia, contact the above outlets for further information. Email: sales@teknatool.co.nz.

Correction

Last issue we featured a review of works by students of architecture at the University of Melbourne. While each photo was carefully numbered, the corresponding list of captions didn't make it to the printer's plate. The makers of the images on page 8, issue 14 are: 1 Kimberly Pannan, 2 Mandy Tucker, 3 Peter Ho, 4 Toby Laughlan, 5/6 Kirsten Johnstone, 7 Brenton Weisert. Photos were by Terence Bogue.

EXHIBITIONS

Expressions in Wood: Masterworks from the Wornick Collection

Oakland Museum of California,
February-July, 1997

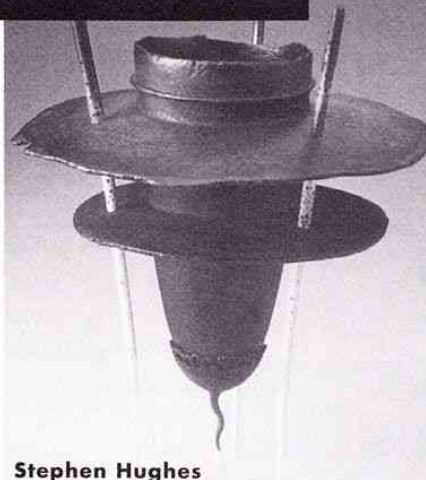
Reviewed by Andrew Potocnik

'The more I learn, the more my respect grows for the professionals who produce work of such impact as to transcend the process. Their pieces are of such originality, technical perfection, inspired design, and sensitivity to the material as somehow to be more than they are.' And so, Ronald Wornick writes, the search for 'art in my own work set the stage for collecting'. Wornick and his wife Anita now have a collection of some four hundred pieces, 62 of which were selected for this touring exhibition.

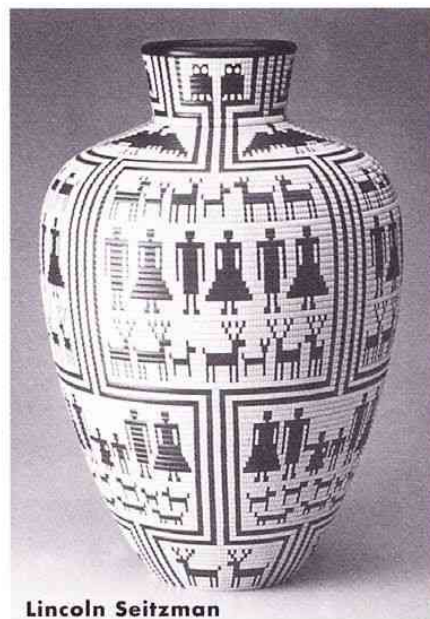
Most of the pieces are turned, some are carved, others are built up from small segments of wood. The focus of the collection (and this exhibition) is to 'celebrate unique examples of the recent artistic shift away from lathe focussed, technique obsessed vessels'. Collectively these works make a statement in balance and bathed in a sense of their own fulfilment.

Some of the more striking pieces are by Todd Hoyer, Christian Burchard, Ron Fleming, William Hunter, John Jordan. In particular, Hap Sakwa's metre high vessel fascinated me. Made entirely of small segments of wood glued together, the piece achieves a technical symmetry usually associated with lathe-turned forms. The more I look at the image of this piece, (which has never come into contact with a lathe) the more it reminds me of a New York skyscraper and the office workers within who glimpse out.

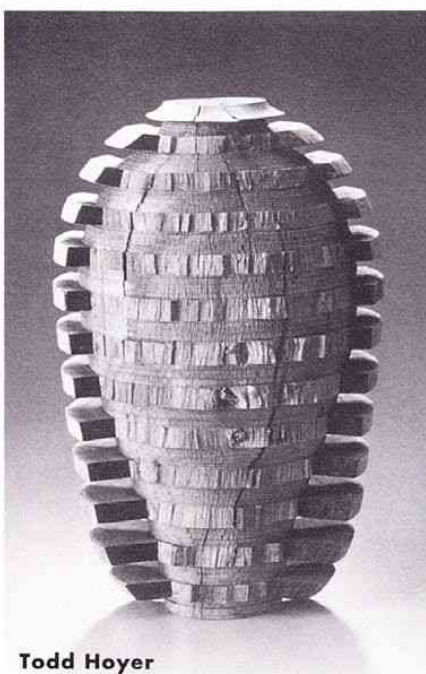
The exhibition, housed in the Decorative Arts section of the Oakland Museum of California, is an example of contemporary wooden vessel making. A



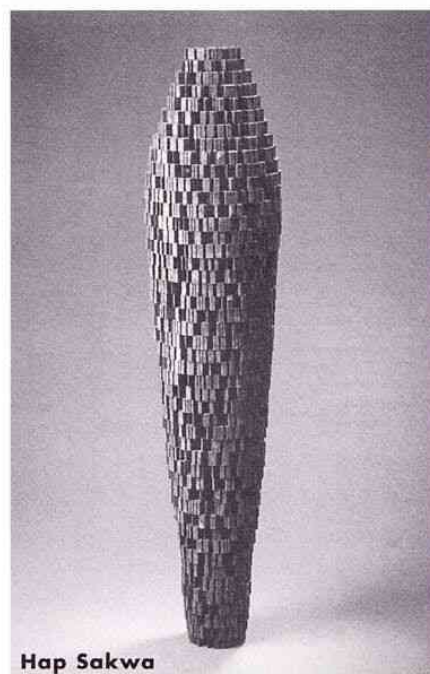
Stephen Hughes



Lincoln Seitzman



Todd Hoyer



Hap Sakwa



Andrew Potocnik

Ben Trupperbaumer



David Ellsworth



project coordinator, exhibition designer, lighting engineer and photographers are amongst the professionals enlisted to prepare this exhibition. A 168 page book, which contains four critical essays and biographies of all featured artists, was produced in a limited hard cover edition as well as the soft cover version. Four Australian artists were included: Vic Wood, Stephen Hughes, Ben Trupperbaumer and myself.

Many of the more recent works were already familiar, so this exhibition is already somewhat dated. The exhibition will travel to Texas after a five month sojourn in Oakland, then on to New York early in 1998. Negotiations are taking place for 'Expressions in Wood' to make its way to the National Gallery of Victoria in 1999. The test will be whether the work will be a dated representation of the wooden vessel for those of us who are familiar with current developments in the field, or whether it will still be strong enough to have an impact on the community who will visit it.

TESTAMENT IN TIMBER

Coal Creek Historical Park, Korumburra, April-May, 1997

When Bass Coast designer/maker Jim Hammerly decided to invite 16 other workers in wood to participate in an exhibition the results were a testament to the support of both the local community and the buying public. Over 5,000 people visited the exhibition and sales during the period of display topped \$6,000.

Jim Hammerly, curator of Testament in Timber, takes a break in a cypress settle made by Martin Savery of Koonwarra. The settle was for sale at \$1,800.

FELDER
Woodworking Machines

FELDER Machinery

66 Wadhurst Drive, Boronia West, Vic. 3155
Ph.: 03 9801 7728 · Fax: 03 9800 1706

EuroTech Woodworking Machinery Ltd

P.O. Box 117 · Whitianga, NZ
Ph.: 07 866 21 88 · Fax: 07 866 28 49



Call now for free INFO!
(03) 9801 7728

"The accuracy of
my new FELDER K-7
saw beats everything I've
ever experienced!"

K-7 Precision Sliding Table Saw



- Motors up to 9.5 HP
- Precision miter guide
- Digital controlled angle adjustment
- Cutting length from 1240 mm up to 3200 mm
- Patented linear guiding system

Versatile
Precise
Reliable

Woodworking Systems · Precision Sliding Table Saws
· Planers · Thicknesser · Tilting Spindle Moulder
· Bandsaws · Mortiser · Sanders · Tools · Accessories





JET

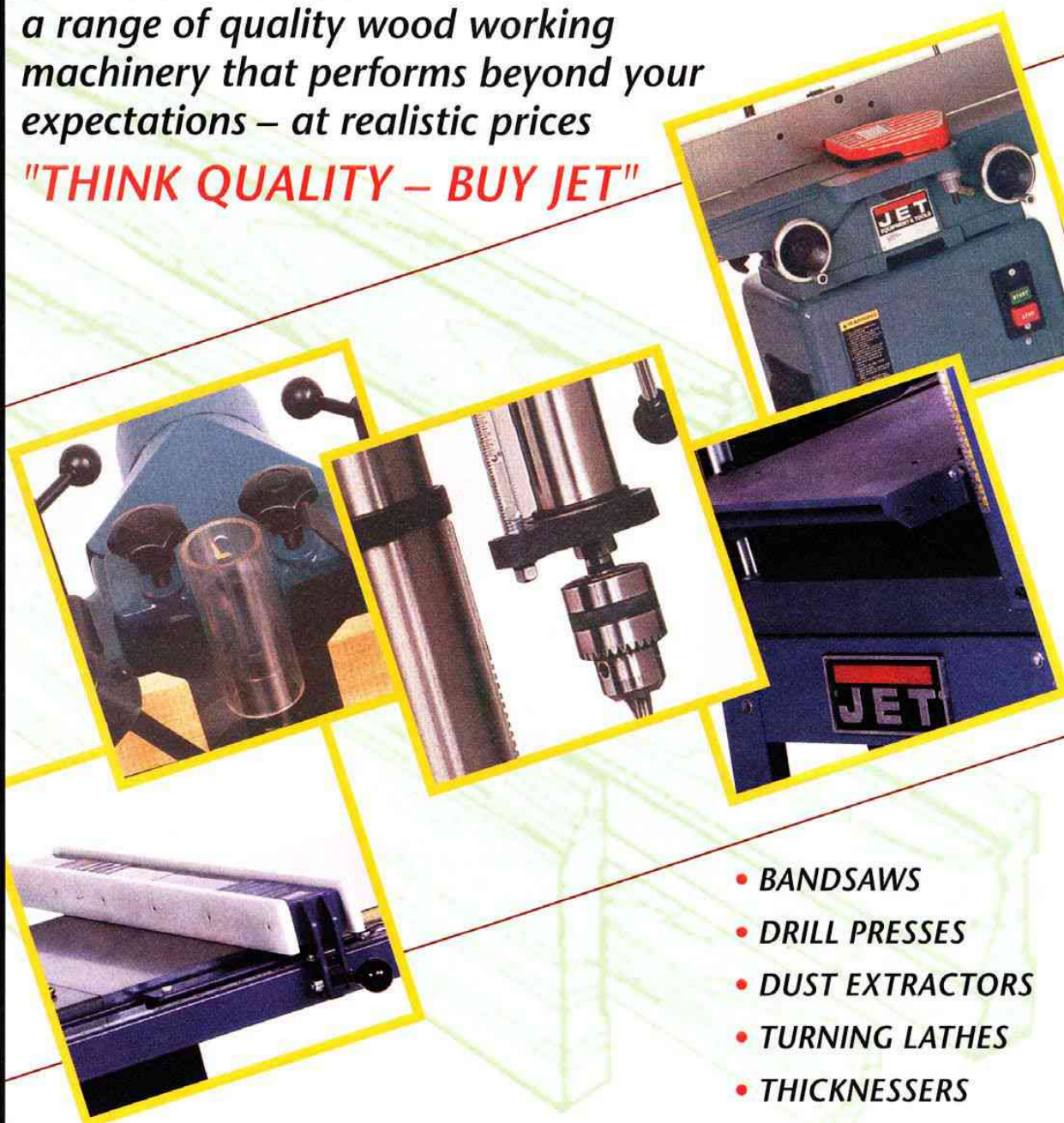
EQUIPMENT & TOOLS



AT LAST—

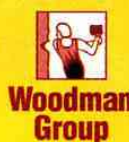
a range of quality wood working machinery that performs beyond your expectations – at realistic prices

"THINK QUALITY – BUY JET"



- BANDSAWS
- DRILL PRESSES
- DUST EXTRACTORS
- TURNING LATHES
- THICKNESSERS
- MOULDERS
- SAW BENCHES

For your **FREE** Jet Catalogue, just contact your nearest Woodman store.



VIC
NSW
QLD
SA
WA

Woodworking Warehouse
Major Woodworking Equipment
Gregory Machinery Pty Ltd
David Trembath Agencies
Power Tools & Machinery Sales

22 Wannan Street, Highett
55 Gow St, Padstow
119 Jane St, West End
75 Grange Rd, Welland
13 Beachboro, Bayswater

(03) 9555 5199
(02) 9708 3233
(07) 3844 4433
(08) 8346 4561
(09) 272 3844

EXHIBITIONS



D1 EXHIBITION

King St, Perth, May, 1997

By Rita Clarke

King Street is *the* address in uptown Perth and that's not to mention its newly paved, cobble-brick guttered road, designer cafés and shops. Lately, the last of the old three storey warehouses are being tarted up. No. 68 gleams with paint, rebuffed woodwork and *Mondo Luce* lights.

On May 1, No. 68 opened its doors with a flourish to D1—a furniture Design Exhibition with a difference, initiated by five designers committed to public and commercial exposure of modern design. Its aim? To make specifiers, architects and designers aware of the design potential in Perth, and the public see that contemporary design is happening in its midst.

As David Smith points out, furniture

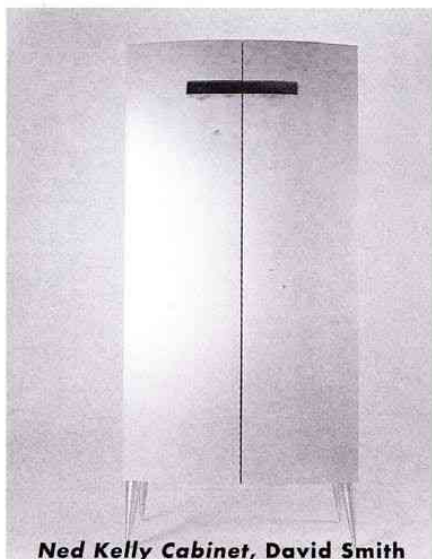
D1 Exhibition designer/makers left to right: Sander Dijkstal, Lee Jackson, Catriona Gregg, Paul Waterson, David Smith.

shows have been prevailingly traditional. 'There was no other vehicle available for contemporary furniture—now there is', he says with the hint of a triumphant smile. Actually the group is all smiles—the exhibition has caused a stir, with about 450 people attending the opening night.

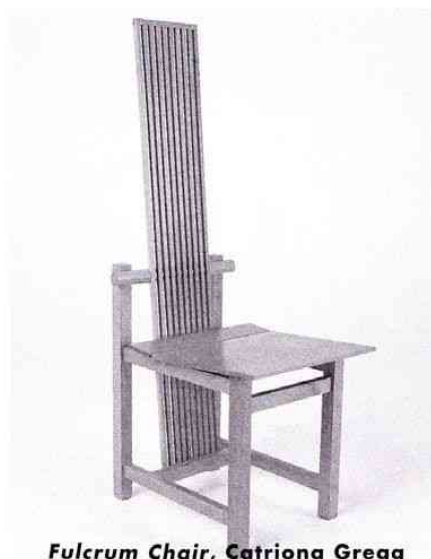
Each designer's work is different but the same, in its minimalistic, clean lines and its basic manufacturable simplicity. Sander Dijkstal's leather bar stools' rolled steel curves are continuous and easy to manufacture once the machine has been set. His C3 Stereo Cabinet on castors, with hidden cables, is beech veneered board with solid edges. You can sit or stand on it—a child's dream! C3 was made because 'we buy 20th century technical equipment and still put it in 19th century cabinets!'

David Smith's *Kelly Cabinet* is lacquered MDF with curved plywood doors in aluminium laminate and solid aluminium legs. It seems to have a strength and human presence, and was christened because people kept commenting on its likeness to the bushranger. His *Albany Table* was christened after his newborn daughter. 'I wanted a table that had really strong three dimensional form but was made out of flat material and could be packed flat, was simple to put together and simple to manufacture'. It is glass and veneered MDF in Queensland walnut. 'It's 60's, slightly trashy—a little retro and I love it', grins David.

Loving their work is something transparently obvious when you wander around the exhibition. Catriona Gregg's *Wheely Table* is pure whimsy. A low, small square of glass on two of the



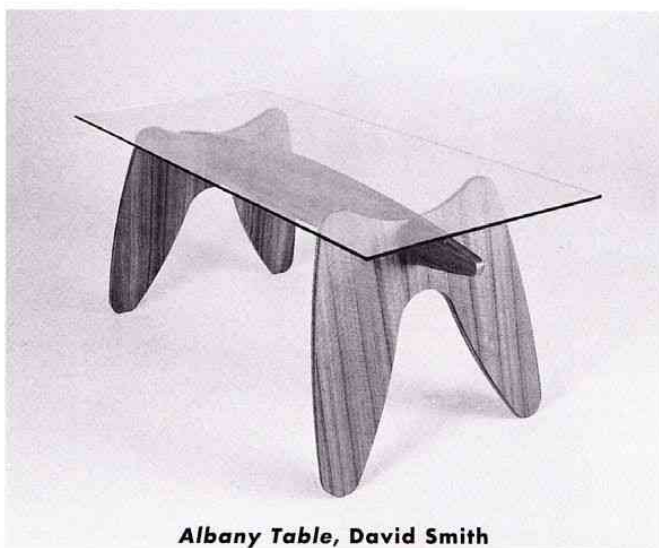
Ned Kelly Cabinet, David Smith



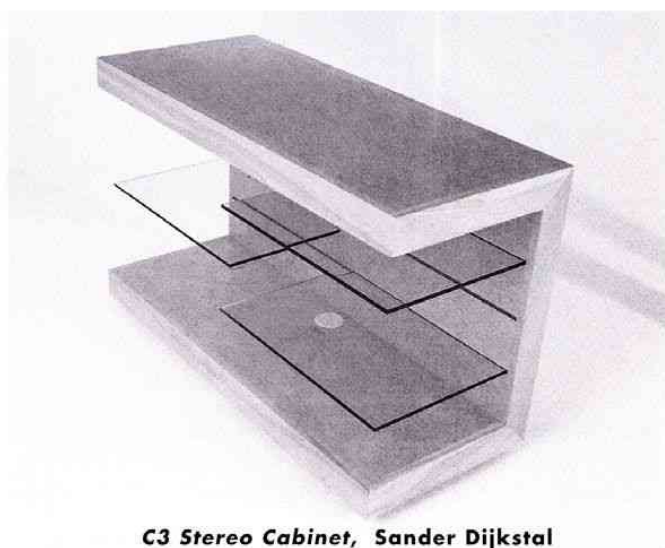
Fulcrum Chair, Catriona Gregg



Lift Chair, Sander Dijkstal



Albany Table, David Smith



C3 Stereo Cabinet, Sander Dijkstal

biggest industrial pneumatic wheels, it would look wonderfully ironic beside a Futon bed. On a more serious note, Catriona, trained at the UK's famous John Makepeace School, has designed the silky-fine English oak, *Fulcrum Chair*. Each slat moves independently so that the back will flex and meet your tall or heavy requirements. The seat has a kick so the pelvis is perfectly positioned. Her simple, high backed sofa, designed, she says, not to 'bottom out' is made on the 'less is more' principle.

Lee Jackson and Paul Waterson work as a team. Their European Beech *Hollo Table* is made in hollow form with double skin all the way round. 'It has', says Lee, 'visual weight without



Hollo Table, Mad Cow Design



Gazelle Table, Mad Cow Design

being too heavy. It is completely veneered on all surfaces and the face is veneered in one piece, rather than in sections, so there are no join marks'. Their graceful, yet sturdy, *Gazelle* occasional table designed for hotels is low cost, very simple with minimal fixing techniques—no screws, no metal fixings. The top is American white ash, with black lacquered hardwood legs.

No. 68 will continue to feature Perth's best contemporary designs as the home of the re-situated *Mad Cow*, late of Subiaco. But where better to hold next year's contemporary design exhibition—D2 on May 2, perhaps? Watch this place.

Photos: Tony Harrison

LAMINATED CURVES FOR YOUR FURNITURE

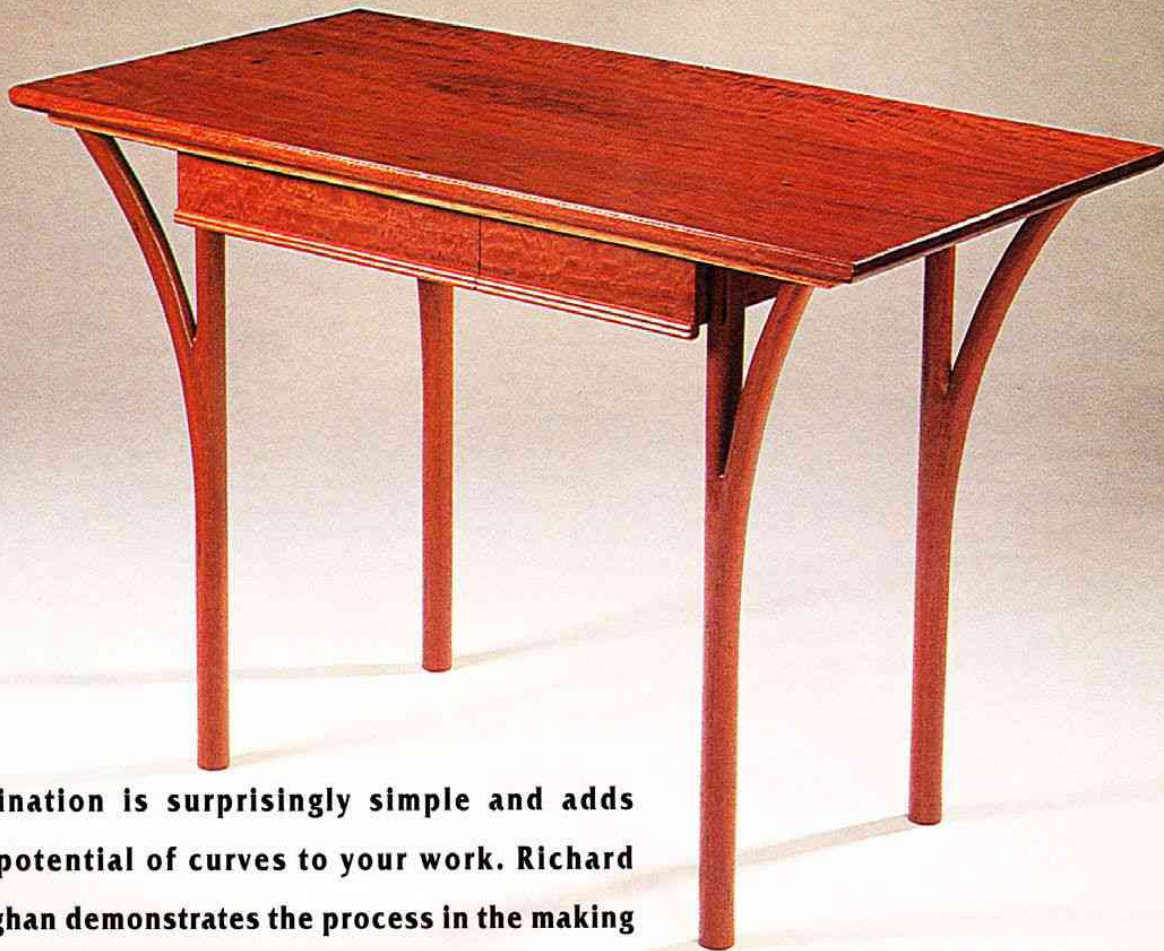


Photo: Ian Hobbs

Lamination is surprisingly simple and adds the potential of curves to your work. Richard Vaughan demonstrates the process in the making of this desk in Sydney blue gum.

The desk pictured was one of two designed as part of a complete office fitout, which featured cantilever type legs. Lamination was the obvious way to make the curves because it is far stronger, as well as being less wasteful, than cutting out of solid. Also, any visible glue lines give the curves continuity which cutting across the grain tends to break.

Planning The Shape

Before addressing the process of laminating I'll offer a few tips on getting the shape right. Once you've moved from initial sketches to scale drawings you need a full size elevation of the piece. A 2400 x 1200mm sheet of 3mm MDF is ideal as it can be leant against a wall to give a more realistic view of a piece of furniture. However

even a full size elevation won't give you a true idea of the way curves will appear in solid rounded form.

The legs of the desk are at an angle which further complicates things, so a full size mock-up was used (photo 1). Only the front left leg in the photo is in the round. It was made from glued up scraps of chipboard bandsawn and shaped with surform and rasp until it looked right. The other legs are just profiles, also in chipboard. A spray can of brown paint is handy to help the imagination reconstitute the chipboard.

Once I'd shaped the first leg it took about twenty minutes to bandsaw and nail gun the mock-up together so I could trial the overhangs and angles. It was barely stable enough to

withstand a sneeze, but we're only interested in looks at this stage.

Making The Former

The simplest method of laminating requires only one former plus several clamps (photo 2 shows two formers). Broader and more complicated shapes require both male and female moulds or formers which match while accommodating the component.

Estimating the amount of springback or memory (ie. the tendency to straighten) of the wood when the clamps are removed is a combination of guesswork and experience, as it depends on the type of wood and the thickness of the individual laminates as well as the amount of curve. Not surprisingly, the thinner the laminates and the shallower the curve, the less the springback.

I used both Sydney blue gum (*Eucalyptus saligna*) and rose gum (*E. grandis*) in laminates of 50 x 4mm for the legs and the springback was a negligible 2mm. I have used 90 x 4mm laminates of spotted gum (formerly *E. maculata* now *Corymbia maculata*) for a 2 metre curve with 300mm deflection which straightened by about 4mm at each end.

The larger former in photo 2 defines the inside of the leg curve and is built up from layers of 18mm chipboard. Once you have one with a smooth sweet curve and an edge square to the face you can use it to trace out other formers which you then bandsaw slightly oversize.

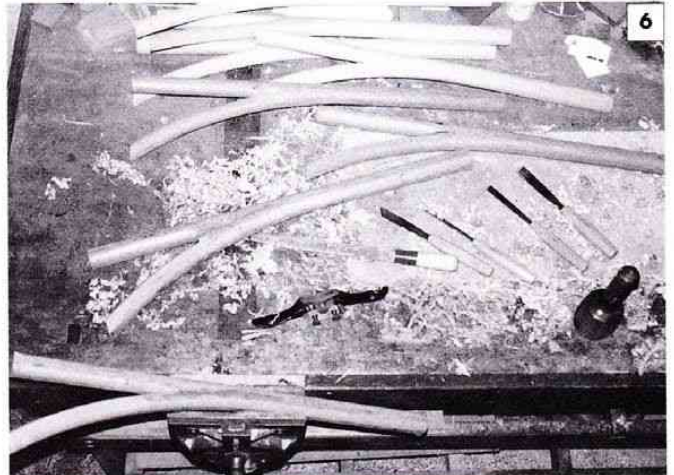
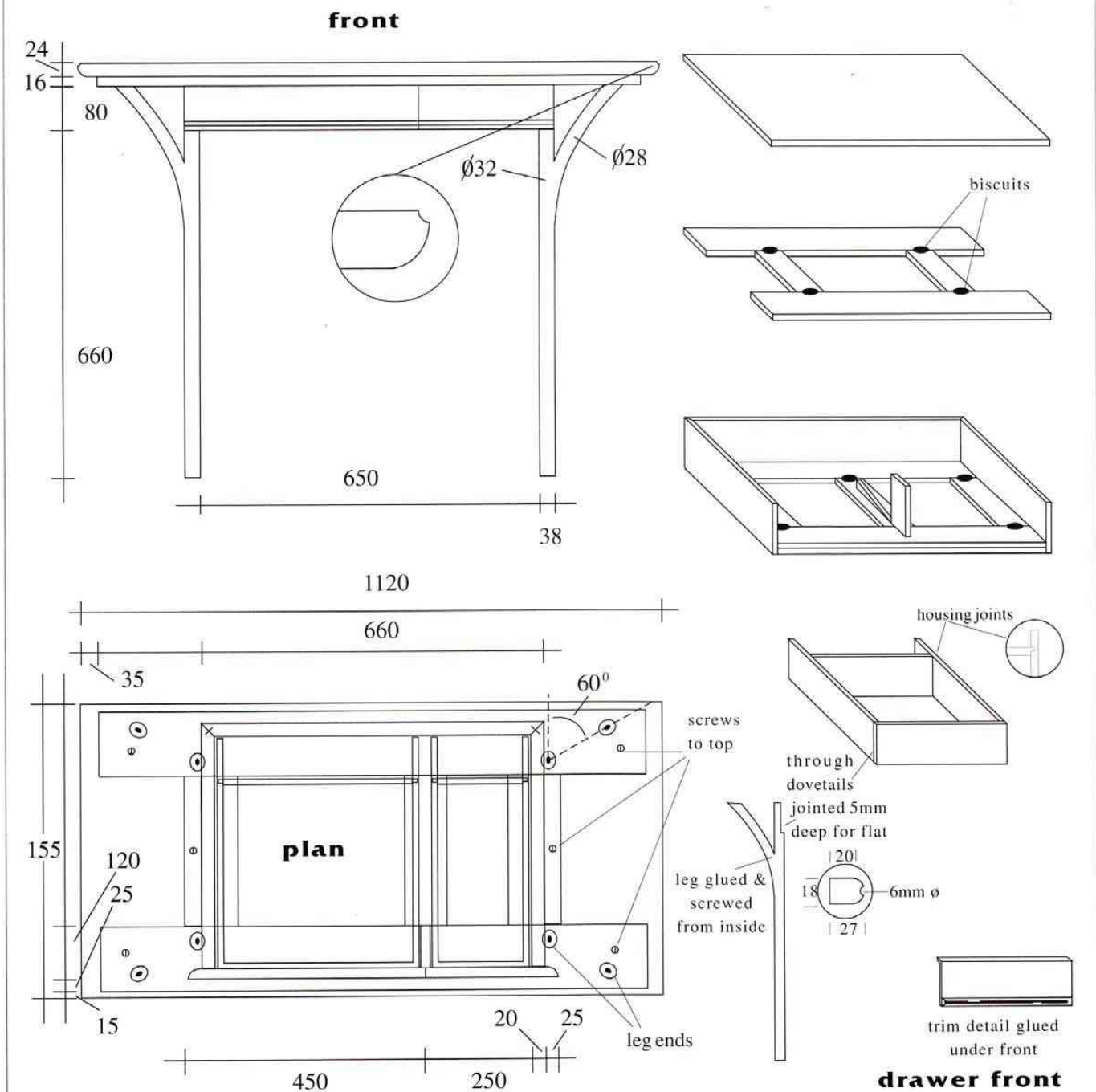
With the original pattern fixed to a base board you can pin and glue the subsequent layers one by one. Fix these slightly proud and use the router with a pattern following bit to duplicate the original. Make the stack slightly higher than the edge of the laminates. About 100mm is wide enough to give the former strength and still accommodate the cramps. Anywhere the glue could possibly reach is covered with tape (ducting or packing) and then rubbed with paraffin wax.

Cutting The Laminates

Make sure you have enough timber to allow for the 3mm or so which will be lost with each saw kerf, then lay out and match the boards for inconspicuous joins. They should be docked to at least 150mm over length. Mark them on a



Photo: Ian Hobbs



face and an end with crayoned diagonals (chalk gets lost) so you can reassemble them in matching order after cutting.

For cutting the laminates I use a 300mm diameter 72 tooth blade on my tablesaw. You need a clean unjagged cut for the joints to be all but invisible and working straight off the saw gives good keying for the glue.

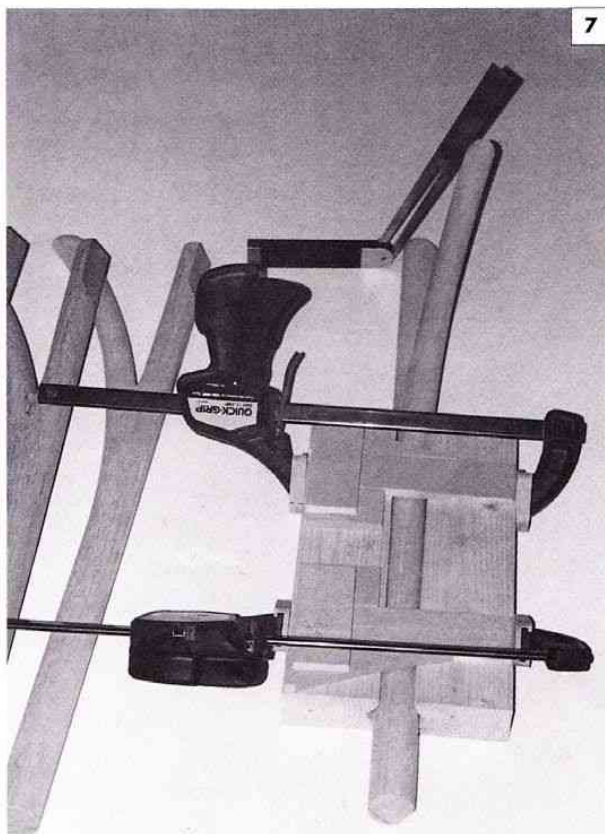
I slide a piece of 6mm MDF onto the table and clamp it there so there is zero clearance around the blade and full support for the laminates. It is essential that you set up the fence to be truly parallel to the blade so neither surface is scored on the way out. The riving knife/splitter should also be checked for accurate alignment. You may need to enlarge the fence to give maximum bearing surface. Well waxed MDF works fine and must be square to the table (photo 3).

The legs have three components (the full length straight piece is 14mm thick) which were sawn in the same order as the laminates to preserve the grain match (photo 4).

Gluing Up

Epoxy glues are ideal. They give a comfortable working time, easily slipping surfaces for adjustment and a bond which won't creep, but isn't brittle. Some epoxies have hardeners which react with the tannins in some species to give an obvious black glue line. I have been satisfied with *Techniglu* for about 5 years now. A warning though: epoxy glue doesn't like the cold so be sure the temperature won't be under 10° Celsius while the glue is setting. Use no more cramping pressure than is necessary to bring the surfaces into contact as it is possible to overcramp and starve the joint of glue.

Spread the glue thoroughly on both faces of each joint, then cramp the bundle to the former. Usually I work from the middle of the curve outwards but in this case it was convenient to pin the waste at the straight end with



a nail gun and work from there. Plywood blocks with newspaper facing were used to distribute cramp pressure and the hammer and plywood block (wood would split) served to encourage alignment (photo 4).

Each leg was clamped for 24 hours before the next one went in. Glue squeeze-out was scraped off and the edges jointed and thickened. The tops of the curves were tapered on the bandsaw. Sliding bevel and handplane were used to fit the other components for the glue up (photo 5).

Shaping Up

The router with a bearing guided round-over bit did the initial shaping. I then settled in for the indulgence of hand shaping with carving gouges, rasp, spokeshave and cabinet scraper (photo 6). The skew is my hardest working carving tool and it was essential for the junction here.

The next step was to use a sliding bevel and jig (see photo 7) to make a flat on the tops of the legs with the jointer. This flat was glued to the drawer box and screwed from inside.

7 Making The Desk

The desk carcass was simply a box to hold the drawers, with a frame on it for attaching the top. The fully concealed dovetailed mitre is a joint of utter elegance and profound appeal. There is a different kind of appeal in mitres off the tablesaw locked with biscuits and epoxy glue, and that's the secret of the two mitres on this desk.

Biscuits were also used for joining the construction rails and drawer runners as well as for the frame which was glued and screwed on top of this box. The legs were attached to the box with the 'branch' component fixed to the top frame by a screw from above.

The drawers are of uneven width for both visual interest and for the practical aspect of being able to get at the contents of the smaller drawer without having

to push the chair back from the desk. The drawer sides continue past the drawer back to reduce the chance of dropping it when fully extended. The back is housed into the sides and this joint is reinforced by gluing the ply bottom into its groove across the corners. The front is through-dovetailed to the sides.

The drawers have a glued on 20mm thick facing which carries a feature grain across the fronts and which overhangs the sides. The bead detail glued along the bottom of these fronts was made on the router table. The top was attached by 12 gauge screws up through slots in the top frame to allow for expansion and contraction across the grain.

Hopefully you'll now feel more inclined to include laminating in your woodworking repertoire. It's an accessible technique for creating curves which are very strong and identical. Applications such as table and chair legs and chair backs are ideal, but of course these are only a few of the possibilities you can now dream up.

LIVING WITH Bunnings Jarrah

Australia's Finest Red.

Unique, stylish and full of character, inherent features in Bunnings Feature Jarrah ensure that every piece is unique. Individual growing conditions in the forests result in exciting colour variations from mellow hues to full-bodied reds. Bunnings Feature Jarrah excites the senses - it's as pleasing to touch as it is to the eye.

BUNNINGS
FOREST PRODUCTS
Member of the Wesfarmers Group of Companies

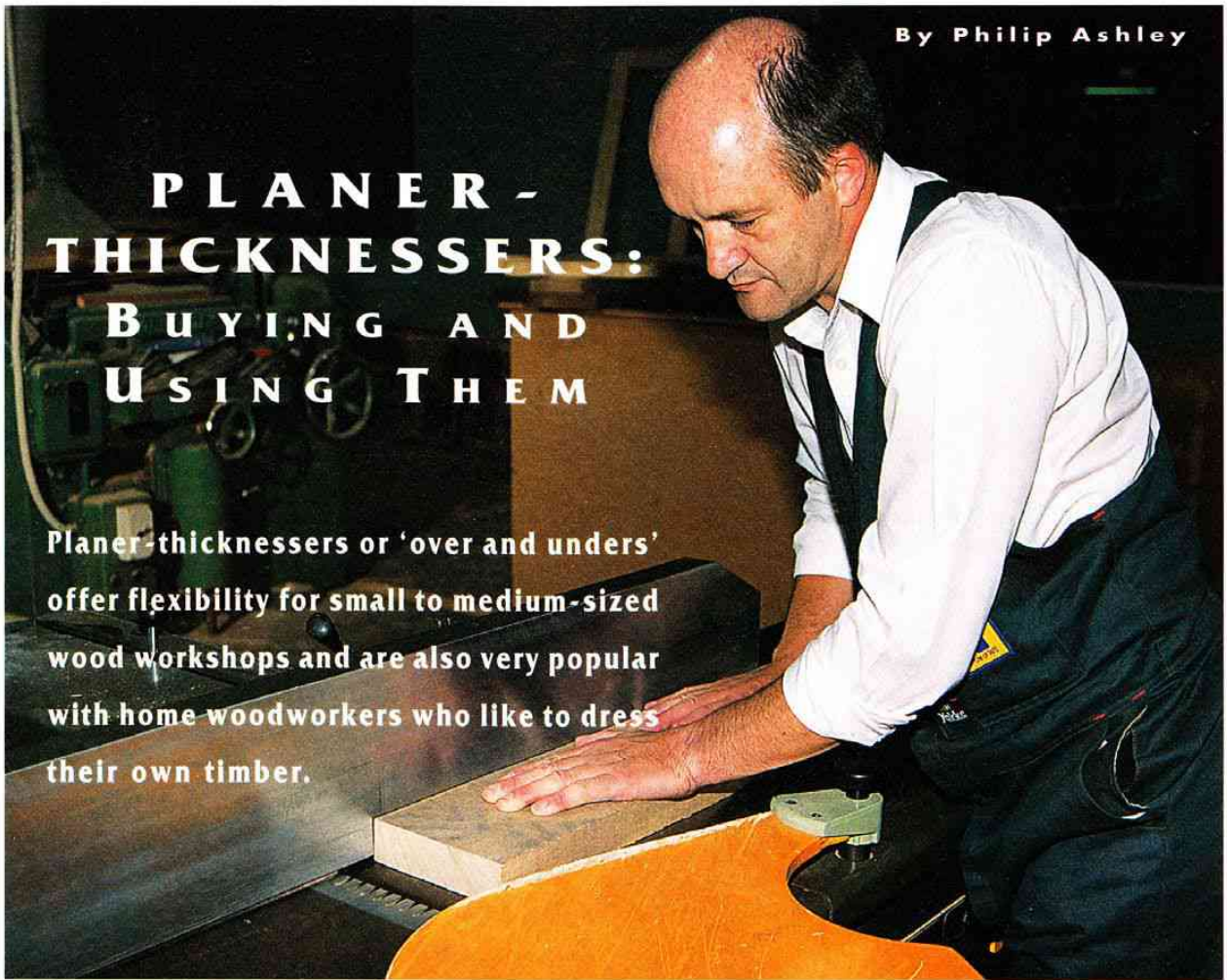


Phone (+618) 9351 6222 Fax (+618) 9351 6399
Email: marketbu@ozemail.com.au
Website: <http://www.buildata.com.au/bunnings.htm>
Furniture available from:
Antry Pty Ltd Phone (+618) 9472 8131
and BVR Furniture Phone (+618) 9331 1027

By Philip Ashley

PLANER - THICKNESSERS: BUYING AND USING THEM

Planer-thicknessers or 'over and unders' offer flexibility for small to medium-sized wood workshops and are also very popular with home woodworkers who like to dress their own timber.



With a surface planer on top and a thicknessing planer underneath, the work of two separate machines is performed by one. Of course, you can only use one function at a time, but if your planing requirements are moderate, this may well be the machine for you. Quite a few large companies keep a planer-thicknesser machine in the workshop to take care of additional work that comes through from time to time. It can also be a good back up in case one of the production machines breaks down.

The recent European CE regulations have brought about some minor design changes such as the abolition of the small rebating support table on the surfacer. This operation is now considered too dangerous for the surface planer, and should be done on a spindle moulding machine. While there are a few different standards of guarding (the British, Germans and French each have their own) yours must now, in accordance with Australian Standard 1473, come with guards to automati-

Philip Ashley demonstrates the right way to do it: hold hands flat on the board and keep your fingers at least 100mm from the end of the timber. Roll up your sleeves.

cally cover both the cutting and non-cutting sides of the cutterhead.

Pro's And Con's

You'll pay a lot less for this dual purpose machine than you would for two 'stand alone' surfacing and thicknessing machines. You'll also save on floor space, ducting and electrical connection costs. What you lose is the time it takes to change over the machine from surfacing to thicknessing, time which adds up, especially if you only do small orders. Planning your work in batches helps to overcome this problem.

Unlike a single purpose planer machine, some planer-thicknessers only offer adjustment of the in-feed table, which does limit usage. Drilling and mortising attachments are available for some models.

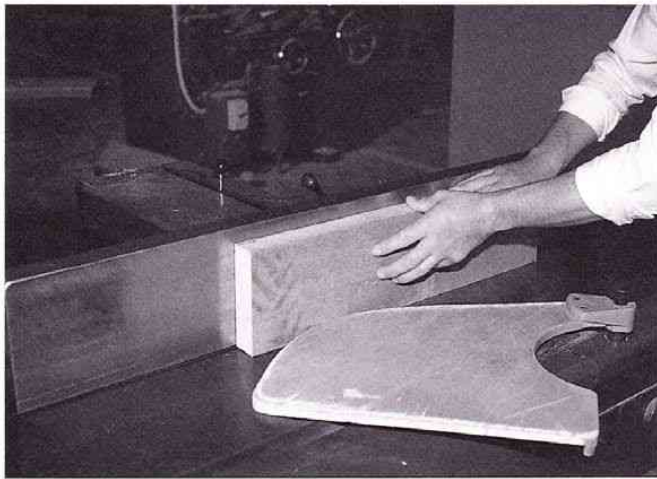
Machine Round Up

Your main consideration in purchas-

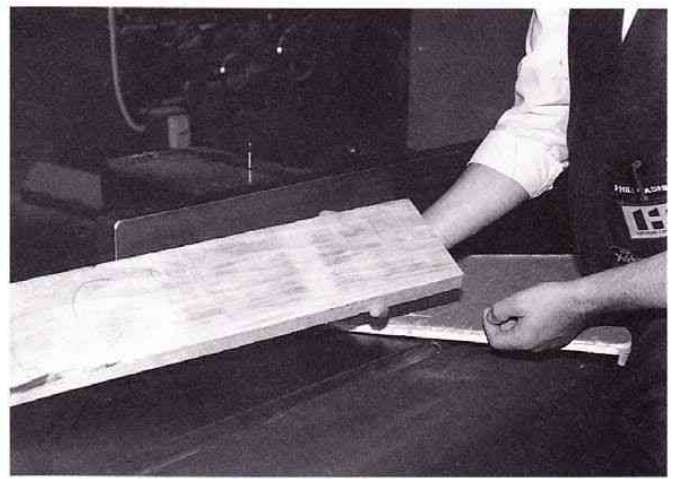
ing a planer-thicknesser comes down to how well the machine is thought out. The one set of cutters are used for planing and thicknessing, so any problem with cutter setting will affect both operations.

Consider the ease of change over—if it takes too long to move from surfacing to thicknessing operations you'll lose out in the efficiency department. A one piece surfacing table will be quicker to remove than a two piece table, but it will be heavier, and you will need to make sure that it is assisted in some way.

In the budget category (width of cut up to 250mm) there is the *Hafco TS250* (Hare and Forbes), the *DeWalt DW1150* (Hare & Forbes, Woodman, Wolfenden Machinery), *Scheppach HMT260* and *HM2 Kombi* (WMS, Vic), *Elektra Beckum HC260K* (Craftmaster), *Kity 1673*, and the *GLS 2500* (Woodman).



When planing an edge, keep all of your fingers in sight, and you won't lose any of them. Hold the wood up against the square fence.



You only need enough flat surface to support the wood in the following thicknessing operation. If you take off too much, you may not be able to clean up the other face.

All of these machines come with a short planer table length of about a metre, which will make your job of straightening the timber a little more difficult. They are all light machines which suit a small workshop, and some of them come with wheels so you can put the machine in the corner when you are not using it. Expect to pay from \$1,500-\$3,000 for these machines. What you get here is a very light duty machine with a small motor. You are going to have to take it easy with a machine of this size, but if you only dress a few boards a day it will be very cost effective.

More up-market are the *Robland XSDB310*, *Kity 639*, and the *Felder AD6-31* all with 310mm wide tables. Tables on these machines are generally longer (1.5 metres) they are heavier, and the motors are more powerful. Prices here range from \$3,000-\$5,000.

For the bigger machines with tables up to 510mm wide, expect to pay up to \$15,000. The *Felder AD7-51*; *Mini max FS350*; *Griggio FS430* and *FSA 530* (Wood Tech), and the *SCM* (Allwood) *2041* (410mm), *2252* (520mm) and the new *FS520* (one piece table) are all industrial standard machines with 2.4 metre tables. These bigger machines give excellent performance and generally the more solid they are the better the finish.

Setting The Machine

As with any woodworking machine, initial set up is critical, particularly

where the blades are concerned. A tool setting device is good value, and may save you thousands of dollars over the life of the machine. With this device you can also easily guarantee a tool projection of not more than 3mm (the smaller the better), to meet safety requirements.

A properly set blade will be parallel with the cutterhead, and the blade edge will be tangential with the outfeed table. If you cannot achieve both of these two important setting criteria, your work will not be square or straight, and you'd be better off with a hand plane.

The cutters have to be set tangential to the surfacer outfeed table to get a straight and square piece of timber, but you also need the cutters parallel to the cutterhead for optimum thicknessing performance. If you have a problem with the machine and you can only achieve one of these settings, you will need to alter the setting of the cutters for each operation.

If the fence is not square to the table, your timber won't be square either, and your problems can only get worse from here. Blunt tools will tear out the wood fibres, make your work harder, and increase power consumption, so keep them sharp. Maintain your machine on a regular basis—it will last longer, give better performance, and be easier to use.

Operating Techniques

Operating procedures are of course the same as for stand alone surfacers and thicknessing machines. If your cutter settings are correct you will be ready to start machining. The surfacing operation must always be done first, and can only ever be properly done on one face and one edge. This operation, called facing and edging is essential for straight, square timber, and is best achieved with light cuts of between one and three millimetres.

Place the material to be planed with the bowed, or hollow face down on the table. If the material rocks back and forth you have got it wrong. With both your hands flat on the timber and at least 100mm in from the ends, push it over the cutterhead, walking forward as you go. This will prevent you from reaching over the machine.

You don't need much pressure on the in-feed table, and you should transfer most of your weight over to the out-feed table as soon as you can, because this is the part of the machine which does the straightening. You may need several cuts to get a good dressed surface, but you don't need to get a completely clean face. If there are a few missed areas the thicknessing operation will clean them up. What you are looking for here is a reasonably flat but straight surface to base future operations on.

The next step is to machine an edge square to the face which you have just

1 Felder AD 6-31, 310 wide, table 1350mm long, 2 or 4 cutters, 370kg, made in Austria, Felder Machinery, (03) 9801 7728

2 DeWalt DW1161, 250mm wide, table 1000mm long, 2 cutters, 63kg, from Hare & Forbes, Woodman Group (03) 9885 6104, (02) 9708 3233, (07) 3844 4433, (08) 8346 4561, (09) 272 3844

3 Hafco TS250, 250mm wide, table 940mm long, 2 cutters, made in Taiwan, from Hare & Forbes, (02) 9933 8916, (07) 3849 1888, (08) 8346 5522

4 Elektra Beckum HC 260K, 260mm wide, table 1090mm long, 2 cutters, Germany, Craftmaster (02) 9534 4555, 018 588 522, (07) 3279 4811, (08) 8388 7678, (03) 6273 1355

5 Mini Max FS350, 350mm wide, table 1800mm long, 3 cutters, 320kg, made in Italy, Fletcher Machine Tools, (03) 9877 7211

6 GLS 2500, 250mm wide, table 1156 long, 3 cutters, made in Italy, Woodman.

7 Kity 638, 310mm wide, table 1550mm long, 3 cutters, approx 100kg, made in France, Woodworking Machinery Specialists, (03) 9416 9022, Power Tool Specialists (06) 280 4966



1

machined, so place that face against the fence, with the bowed edge down, and push it across the cutters. Be careful here, and watch your fingers. On narrower material you can be closer to the cutters than you think.

Swing the tables clear, connect your dust extractor, and machine all four sides of the timber in the following order: rough edge, surfaced edge, rough face, surfaced face. The reason you should thickness the surfaced faces again is that the power fed thicknesser will give a much more controlled finish than a hand fed one. Let the machine do the work! One thing to watch when replacing the surfacing table is dust or wood chips on the seating surfaces, which will cause your tables to sit on an angle to the cutters.

Other Operations

As we've mentioned before, the rebating operation is no longer possible on new machinery made in Europe, which is where most machines come from. If you do have a machine with a rebating table, you may need to remove the automatic cutterhead guard to make a decent rebate, thereby exposing the cutter and increasing the danger. If you choose to do this against the best advice, hold the timber firmly, never hold the wood with your fingers on the ends of the board, and push the work well over the outfeed table before you pick it up. Push sticks make this a safer job.

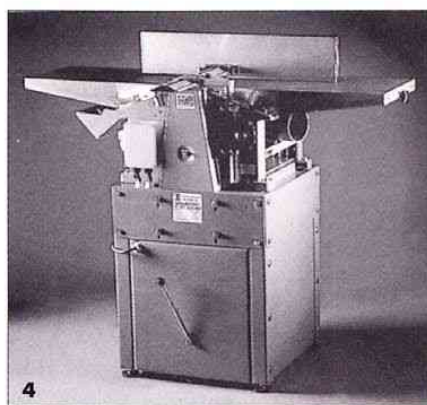
Other operations that can be safely



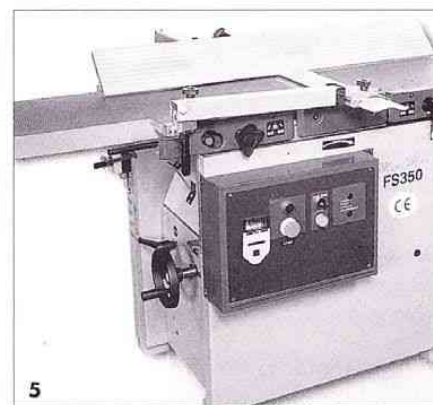
2



3



4



5



6



7



Left: Jig samples, at the front a 'box' type jig for machining a tapered leg. Direction of feed is indicated. At the rear a jig for machining bevels (bevelled beads). Note the stop at the right of the jig to stop it being fed through the machine. Wax prevents friction. Right: Use push blocks where possible—they are safer, keep you cleaner and prevent you getting splinters.

performed on this machine are chamfering (where an angle, usually 45°, is machined between a face and an edge) and bevelling (where an entire edge is machined to an angle other than 90°). With these operations the fence will need to be tilted to the appropriate angle, and the machining done with the cutter guard still on the machine. Set the fence angle with a bevel gauge set off a protractor, and sight the angle as close to the cutter as possible, with the cutter stopped, of course. Operate the machine normally.

'Dropping on' operations are when the wood is lowered onto the cutter some way from the end of the board. Typical components would be tapered table or chair legs, and although this work would be better done in a jig on a spindle moulder or through the thicknesser, when you need only a few pieces, good results are possible on the surface planer.

First, mark the taper on a sample piece, and draw a parallel line 2mm away from the first line on the waste side. You now have a 'finish' line and a 'waste' line. With the cutter stopped, and the machine isolated, lower the in-feed table to the depth of the waste line. Place the timber onto the table so that the start of the waste line rests on the cutter at the initial contact point. Firmly attach a stop to the fence using G-clamps only, the quick-release type often vibrate loose.

You can now proceed to remove the bulk of the taper. Take the timber away and start the cutters. Place the timber onto the outfeed table and up against the stop, and with your hands on the in-feed side of the cutter, slowly lower the timber onto the cutter. Push the piece across the machine just as you would with an ordinary planing operation.

You now have a rough taper with a slight depression at the top. This was caused when you lowered the straight piece of wood onto the round cutter, and cannot be avoided. This is why the job is done with two cuts. To remove this, take away the stop, reset the in-feed table to about 1.5mm and plane the taper normally. The 1.5mm is less than the 2mm we allowed, but from experience, 2mm is always too much.

It is also possible to make a cut which stops at both ends of the timber, such as stopped chamfers. After setting the fence angle, both tables will need to be lowered the same amount, and you will need stops at both ends of the fence, one to start the cut and one to finish it. Lower the wood onto the cutter the same way as before, with your hands on the in-feed side of the cutterhead, and you will not have any problems.

Jig It, For Better Results

Jigs can be made for running thin slats down to 2mm thick. What you do here is to add the thickness of the jig to the

setting size of the machine, so if you need 5mm and the baseboard is 18mm, you set the table at 23mm.

You can also make fence capping and other components with angled cuts on the thicknesser. These jigs will need to tilt the timber to the required angle, and they will need to have a stop on the back edge of the jig, under the baseboard, to prevent the jig being fed through the machine. You may need to wax the rubbing part of the jig, which may affect the polishing of the job.

If you intend doing more than a dozen tapers of the same design, you should consider making a jig to hold the work. It may take some time, but will be worth it for the safety factor, and you'll get a better result. These jigs are essentially a holder for the piece, with a wedge inserted to tilt it to the correct angle. They should be fed through the machine, thickest part last.

Planer-thicknessing machines are a cost effective way of machining medium sized batches. There are some advantages and disadvantages, and the decision on whether to buy one will be determined by the type of work you do, smaller organisations possibly benefiting more from their use.

Philip Ashley is a lecturer in furniture manufacturing at Holmesglen TAFE.

Photos showing usage: Stephen Nathan.

C.T.S. 16 PIECE FORSTNER BIT SET

\$75.00



BORES INTO ANY GRAIN PATTERN...EVEN KNOTS

- High quality carbon tool steel
- Large bits—1 5/8" to 2 1/8" have saw-tooth edges to reduce friction & heat build-up
- Sizes 1/4" to 2 1/8" (1/8" increments)
- Quality wood storage box
- 3/8" Shanks

7 PIECE TAPERED DRILL BIT SET WITH COUNTERSINK AND DEPTH STOP

\$30.00



For screw sizes 5,6,7,8,9,10 & 12

- Quality Carbon Tool steel
- Drill, countersink/counterbore in one operation

T.C.T. 7 PIECE BRADPOINT BIT SET

\$28.00



- Tungsten Carbide tip features sharp centre point & 2 outlining spurs for clean holes
- Sizes 1/8", 3/16", 1/4", 5/16", 3/8", 7/16" & 1/2" (7/16" & 1/2" have 3/8" shanks)

**EACH SET COMES IN A QUALITY
WOOD PRESENTATION CASE**

SEND IN YOUR ORDER NOW WHILE STOCKS LAST

B.J.R.(AUST) PTY LTD

11 P'CE T.C.T. ROUTER SET

AVAILABLE WITH 1/2" OR 1/4" SHANKS

\$85.00



Plunging 1/2, 3/4"



Rabbeting 3/8"



Chamfering 1 3/16"-45°



Cove 1/2"



Roundover 3/8"



Roman Ogee 5/32"



Pierce & Trim 1/4"



Straight/Mortising 1/4, 1/2, 3/4"



V Groove 3/8"



Dovetail 1/2"



11 P'CE ROUTER BIT SET
1/4" OR 1/2" SHANKS

- 1/2 & 3/4" Straight/Mortising bits also suitable for plunging
- Our Router bits are just as good as those costing up to twice as much!
- The Tungsten-Carbide tips are heat resistant and so durable that they are almost unbreakable
- Why settle for less when you can have bits of this quality for such an incredibly low price!

- 1/4" & 1/2" SHANK AVAILABLE
- ANTI-KICKBACK DESIGN
- PLUNGING FACILITY
- DUST PROOF BALL BEARINGS FOR SMOOTHER CUT



BJR (AUST) PTY LTD

P.O. BOX 714 WAHROONGA, N.S.W. 2076

AUSTRALIA ACN N° 067 523 719

**24 Hr ORDERLINE
(043) 966 112
PHONE OR FAX**

- ☐ 11 P'ce 1/4" Router bit set(s) @ 85.00
- ☐ 11 P'ce 1/2" Router bit set(s) @ 85.00
- ☐ Taper drill bit set(s) @ 30.00
- ☐ Forstner bit set(s) @ 75.00
- ☐ Bradpoint bit set(s) @ 28.00

Please send me the following:

(Please enter quantities in the relevant boxes)

ALL PRICES INCLUDE POST AND PACKING

I enclose a cheque / Money Order for A\$ _____

or charge my **BANKCARD / VISA / MASTERCARD**

Expiry Date _____

Name _____

Address _____

Post Code _____

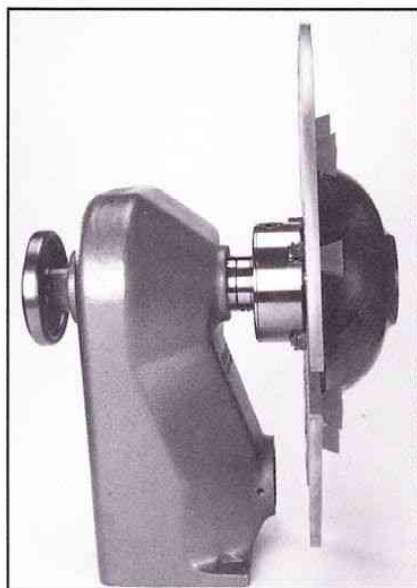
Signed _____

Tel N° _____

W R

Offer applies to residents of Australia only. I understand that if I'm not completely satisfied I can return unused within 21 days for a complete refund.

The Leader in Woodturning Innovation



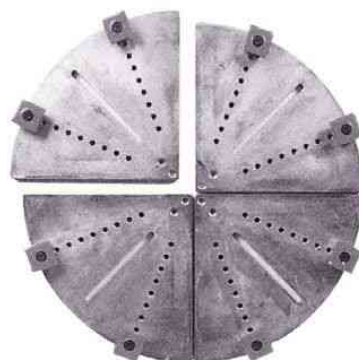
BOWL JAWS Vicmarc's new *Bowl Jaws* allow you to re-chuck bowls to finish the base or do light clean-up work on the foot of the bowl. The bowl is reversed and held by the rim (either internally or externally) with 8 soft PVC stoppers attached to the face of the jaws. These unique stoppers have been specially designed by Vicmarc and are moulded to conform to the inside or outside curve of the workpiece. Multiple jaw mountings permit location of the stoppers in any positions.

There are two sizes of jaws for the VM 90 and the VM 120 and 140 chucks.

Maximum diameters of bowls that can be mounted in the different jaws are:

To suit VM 90 chuck:
285mm—rrp\$75, 385mm—rrp\$99

To suit VM 120/140 chucks:
385mm—rrp\$99, 485mm—rrp\$122



SHARK JAWS Vicmarc's new *Shark Jaws* feature a long spigot and serrated internal teeth for an aggressive hold on large spigots. The *Shark Jaws* give a security that standard jaws cannot provide. Available in sizes 35mm and 45mm for all chucks.

VM 90—rrp\$49 VM 140—rrp\$57.

Manufacturer of quality woodturning lathes

VICMARC MACHINERY
PTY. LTD.

52 Grice Street, Clontarf,
Queensland 4019

Tel: (07) 3284 3103

Fax: (07) 3283 4656

deltron timber moisture meter



DELTRON MOISTURE METERS

10 Merton Street,
Rozelle NSW 2039
ph (02) 9818 5155
fax (02) 9818 5277

- All Australian Made
- Calibrated to Australian Standards
- Special Offer for Wood Review Readers!

Buy a complete moisture meter and probe in case and receive a FREE 15% moisture standard for calibration checks. (offer ends 31/8/97)

THE GOOD OIL ON WOOD

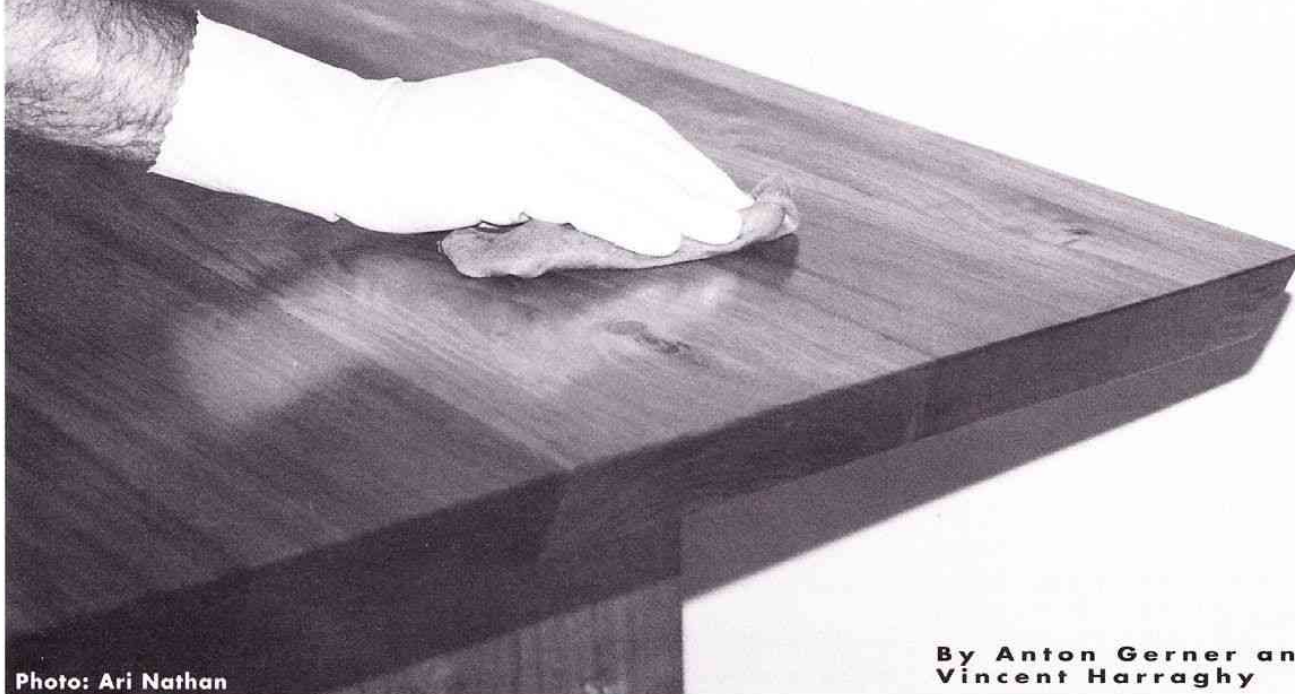


Photo: Ari Nathan

By Anton Gerner and
Vincent Harraghy

For hundreds and hundreds of years the oils pressed from flax, tung, poppy, olive, hazelnut, safflower, soybean, sunflower and other plants have been used to preserve and beautify timber. In Asia and Scandinavia especially, fine wood oils were employed to protect the structural timbers of buildings and boats, as well as furniture. Oils can be applied with little or no equipment, with minimal expense and in most cases, highly satisfactory results.

Nowadays hardware and woodworking specialist suppliers carry numerous brands of oil finishes which contain not only an ever-widening variety of oils (such as orange, clove and red gum) but also additives which offer faster drying times and harder surfaces.

Linseed Oil

Linseed oil from the multi-purpose flax plant is perhaps the most widely recognised type of wood oil, and is used in both raw and boiled form. In fact the latter is not really boiled but rather treated with additives to assist drying. Linseed oil does not,

however, match up to tung oil in terms of hardness, build and drying time.

Tung Oil

The most common ingredient in modern finishing oils is tung oil (also called China wood oil or Japanese wood oil), a thick and toxic oil obtained from the nuts of the tung tree. Now mostly imported as a concentrate from the US, tung oil wholesales at over \$80 per litre. Commercial preparations usually contain mineral turpentine as an evaporative agent. Generally, the higher the tung oil content of a preparation, the better the result you will achieve.

Tung oil has traditionally been used as a drying agent in varnishes so it should not be necessary to contaminate it with terebene, polyurethanes or chemicals under the guise of drying agents for the oil. It is more likely that these additives are intended to increase volume, create build or to stabilise the thinning agents.

Scandinavian Oil

These types of oil finishes are based

on tung oil with the addition of polyurethane for body, gloss and quicker drying ability. Turpentine is used to reduce viscosity, however some preparations are so thin their oil content is suspect and information on the contents of the solution are tightly guarded.

What Oil Does to Wood

Oil does not sit on the surface of the wood but instead penetrates deep into its fibres. As the oil dries, the liquids evaporate leaving a base of solidified resins which harden and preserve the delicate timber cells. Subsequent applications will 'build' upon the solid base coats, adding lustre and 'choking' up the open pores of the grain.

Preparation

Preparation is critical for producing good results. In fact, while oil finishes are amongst the easiest to apply, they depend on surfaces which must be sanded much more finely than those prepared for other finishes, such as lacquer or polyurethane. An oil finish will only be as good as the surface to which it is applied. Oil finishes are in effect the test for surface smoothness

and quality as every imperfection is not only exposed by lack of surface build, but appears more noticeable than if the wood were left unfinished.

Surfaces must be sanded to at least 320 grit, but the results will be even better if you go to 400 or 600 grit. Although the ideal surface for finishing is one which has been cleanly cut to expose cell walls with no damage, for general work this is not always possible.

Work carefully through a progression of sanding grits, each of which will produce a scratch pattern at least the depth of the previous one. Always use new sharp sandpaper to cleanly cut the surface. A damaged surface cell structure, though finished smoothly, may later show variable light reflection or an uneven finish. Time spent on surface preparation is well worth the effort if you want to achieve very good results.

Before applying any oil to your work, all surfaces should be wiped or blown

free of dust, particularly just prior to finishing when excess dust packed in the cell structure may later mar the finish. Dusting during the sanding process is also advisable.

Oils Ain't Oils

When selecting an oil you will need to consider cost, odour, viscosity and ease of application. Scandinavian oil can have a powerful aroma which will last for several hours due to the polyurethane content which acts as a setting agent. Two or three coats applied over as many days will provide an appreciable lustre.

Tung oil is much more pleasant to work with—it may not dry as hard or fast as Scandinavian oil, but will return equally good results from the same treatment. Linseed oil does not have an unpleasant smell but is very slow to dry and it will take many more coats to achieve a reasonable lustre.

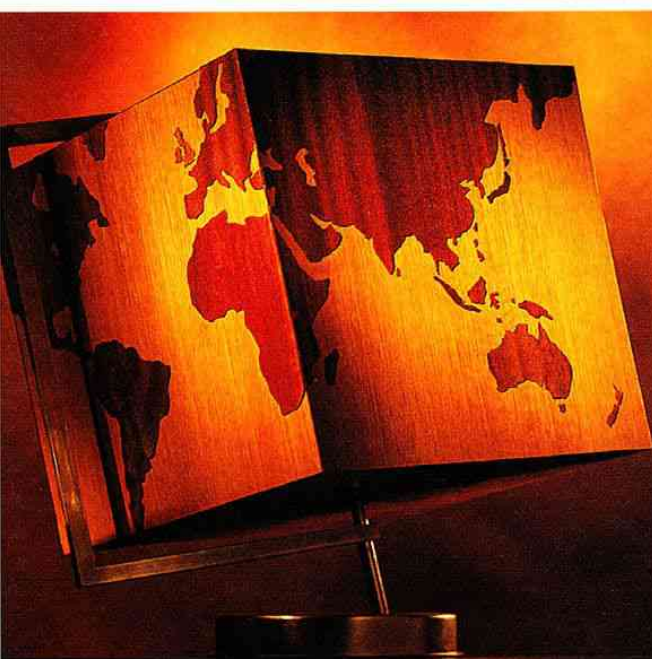
Viscous oils will give a stronger build, filling the grain more quickly by depositing more solids into the grain.

Thinner grades of oil will mostly evaporate with their solvents, they dry faster but will require more applications to achieve depth and gloss.

Commercial penetrating oil finishes may contain solvents, resins or drying agents (heavy metal salts) to accelerate oxidation (reaction of the oil with the oxygen in the air). Driers cause the oil to form a skin on the wood surface. When the solvent evaporates the resin or oil hardens, polymerises and remains firmly adhered to the wood surface.

The drying time of oils can also be greatly affected by temperature and humidity and the time the oil is allowed to sit wet on the surface. The consistency of the oil will also affect drying time.

Deciding which brand of oil to use is largely a matter of trial and personal preference. Good results can be achieved with most products if you follow the directions and, above all, prepare your surface properly. Some manufactur-



**WE STOCK
QUALITY TIMBER
FROM EVERY
CORNER
OF THE GLOBE.**

Mathews Timber stock the largest range of furniture and joinery timber in Australia. So if you're looking for Alder, Arakaria, Avodire, Amoor, Baltic Pine, Beech, Blackwood, Blackbean, Brush Box, Bubinga, Cedar, Celery Top Pine, Cherry, Ebony, Gerrongang, Ghana Hydua, Huon Pine, Iroko, Jarrah, Jelutong, Kauri, Kauvula, Lignum Vitae, Mahogany, Maple, Meranti, Merbau,



MATHEWS TIMBER

FURNITURE AND JOINERY TIMBER SPECIALISTS

Nyatoh, Oak, Padouk, Pepperwood, Purpleheart, Ramin, Rose Alder, Rimu, Rosewood, Silver Ash, Sepiter, Sassafras, Southern Yellow Pine, Sitka Spruce, Sugar Pine, Radiata Pine, Sycamore, Tasmanian Oak, Teak, Victorian Ash, Walnut, Wenge, White Ash, White Pine or even Zebrano, you'll find it at Mathews Timber.

In fact if you can't find it at Mathews Timber, it probably doesn't exist.

ers will supply you with 250ml sample tins, which makes experimentation easier.

Repair & Maintenance

Oil finishes provide a beautiful coating which is reasonably durable yet totally renewable. To rejuvenate a surface that is in good condition simply wipe on a light coat of oil, then buff after a few minutes till the shine is restored. When the surface is in a lesser condition, clean the surface with mineral turps first, then cut back firmly with 00 steel wool and apply a coat of oil, leave 1-5 minutes before removing excess. Leave 24 hours before buffing.

A damaged oil finish can usually be repaired by cutting back the surface with fine sandpaper dipped in oil. Avoid rubbing in a circular motion and follow the pattern of the grain if possible. Keep a close watch on the blemishes and try not to overdo it—you may end up with light patches if you go through timber surfaces which have naturally darkened with age and exposure to light.

Lightly smooth out any scratches with 0000 grade steel wool. Apply a liberal coating of oil but do not rub off, simply allow it to dry untouched for two days. If the lustre has not been fully restored, buff with fine, new 0000 steel wool again and repeat the dose.

Staining

Wood can be stained prior to oiling but take care to observe the recommended drying time for the stain before proceeding. For a quicker result the oil can be tinted by adding up to 10 per cent pigment or dye stain and stirring thoroughly.

Staining can be carried out on a dried oil surface directly with pigment or dye stain. Be sure to follow the direction of the grain and do not rub excessively, the stain will adhere to tung or Scandinavian oil but will remove linseed oil very easily.

Clean up and Safety

Always safely dispose of all oil soaked rags immediately after use. Oily rags will be highly flammable and can very easily self combust. Either soak them in water, or hang them out to thoroughly dry prior to disposal.

Always work in a well-ventilated area with air movement and wear appropriate gloves to protect your hands. Oil mixtures with drying agents added can emit very toxic fumes while drying. Remember to tightly close tins after use to prevent oil from deteriorating over time.

Conclusion

The main advantage of oil finishes is that they are easy to apply and easy to renew. At the same time this is their downside, as periodical reapplication is necessary to guarantee continued protection and maintenance of surfaces. To some the ability to easily rejuvenate and add to the patina of a piece of furniture is a boon. In heavy usage or commercial situations this type of finish may simply not be practical. In most cases the accepted finish for furniture produced in medium to large runs is lacquer and it may be difficult to persuade clients to accept a product which they have to commit themselves to preserving on a regular basis. Compared to lacquered surfaces however, surfaces finished with oil are much more tolerant of everyday use and abuse.

The type of finish you use on your work is largely a matter of individual preference, but finishing with oil will let you create a renewable finish that protects the surface, while enhancing the depth and richness of colour of the wood. Because oil finishes penetrate the wood rather than rest on the surface, they accentuate grain and figure rather than mask it as other finishes, such as lacquers are prone to do.

The co-authors of this article have different ways of applying oil finishes.

Method 1:

Vincent Harraghy

Wash the wood with a solution of one part turps and one part meths to clean off any contaminants if these are present. All traces of glue or previous coatings must be removed to allow penetration of the oil. On new timber, sand with medium grade sandpaper, dampen the surface with water to raise the grain. When dry, rub smooth with medium grade paper (180-240 grit).

Dust off the timber thoroughly before coating. Recycled timber may require more extensive sanding, dampening timber between grades will help eliminate coarse scratch marks but the 'furry' texture must be thoroughly smoothed out before oiling. For optimum results fine sand with 320-400 sandpaper.

Application

Stir oil well and pour a small amount into a dish. Use a quality brush or soft rag to apply a wet coating all over the surface. For better penetration, rub oil in a circular motion initially, then straighten out with the grain.

Allow oil to soak in for 1-5 minutes before gently wiping off with another



Left to right: Three pieces of oak finished in tung oil, linseed oil and Scandinavian oil.

soft, absorbent rag. Oil that has been left on the surface too long will become sticky and difficult to remove. To rectify this situation, apply another coat of oil and wipe off immediately.

Do not attempt to buff up the oil to make it shine, this will only remove most of the base coating you have just applied. Let dry overnight. When you sand back the dried coatings you should find a very fine dust forms under the abrasive paper—this indicates the hardness of the oil.

Avoid using a sanding block when cutting back unless the coating is thoroughly hard, a soft coating will clog up the sandpaper and tear at the surface. Cut back lightly with 400 grit pre-cut paper to flatten the sheen only. Repeat the applications of oil until desired build and sheen is achieved.

Method 2:

Anton Gerner

The great thing about oil finishes is the ease and speed with which they can be applied. Most woodworkers use the simple wipe-on/wipe-off method, but I find this can be a bit slow on large surfaces. I use different methods of oil finishing depending on the timber and desired result.

Using a large soft brush is good, but I find application with a spray gun to be the most effective. I simply spray on a light coat, then buff off by hand. Depending on the type of oil I'm using, I leave the oil to soak in for about 10-15 minutes. The first coat is particularly important where penetration hardens the surface and provides a base for subsequent coats. Allow the first coat to dry thoroughly to seal the surface before applying the next coat.

For a straight oil finish I sand the surface to 320 grit, dust it down and then spray on the oil. With finely grained timbers I let the oil soak in for a while, then buff off with a soft cloth. More open grained timbers may require burnishing afterwards. With the oil still on the surface I use 600 grit wet and dry paper with a sanding block and sand in the direction of the grain. The fine abrasive of the 600 grit creates a fine dust which mixes with the oil and fills the open pores of the timber and dries hard.

Repeat this process two or three times until a mirror surface with a soft lustre is obtained. Finally I apply wax to further protect and smooth the surface.

Another method I use is to firstly bring out the depth in the timber, then when thoroughly dry (about two days) finish the surface with lacquer. This gives a finish which is rich in colour, but has the durability of lacquer.

I also use oil for burnishing and polishing lacquer and shellac finishes. Oil applied to lacquer or shellac with 0000 grade steel wool cuts back and polishes the surface to create a softer and smoother feel. This method also works well to rejuvenate worn surfaces.

Oil Finishing Tips

- A higher gloss finish may be obtained by first filling the grain.
- Very dry timber will soak up a lot of oil, a sealer coat of thin shellac will provide a useful barrier on tops and end grain.
- Remember to coat undersides of table tops to keep the moisture balance in check and prevent warping or splitting.
- If excess oil becomes sticky and difficult to remove, coat the surface again and wipe off once it has softened.
- When oil has cured for around seven days it can be buffed to a higher gloss using a soft pad and lots of elbow grease.
- A satin finish can be obtained by buffing the fully hardened oil finish with 0000 steel wool smeared with paste wax.
- To produce a super smooth finish and assist penetration of the oil, rub with one thousand grit wet or dry paper while the oil is wet on the surface.
- Thinner oil solutions do not offer the high build properties of thicker oils but in their defence they are easier to work with in warm weather, particularly on larger projects.
- The gradual build up of coats will provide an enduring finish, whereas heavy coats can remain soft and vulnerable to smudges and marks.
- After 3 or 4 coats of oil the timber should have a consistent glow and deep lustre which is resistant to moderate heat, alcohol and water, especially if it has been waxed.
- To achieve the smoothest finish, cut back the surface with a piece of worn 400 grit and dust off.

Howard Products are available Australia-wide phone (067) 669933 for nearest distributor or more information. Products come in 473ml, 1/2 gallon, 1 gallon size containers and include *Howard Orange Oil* (100% Orange oil, selected mineral oils), *Howard Feed-N-Wax* (orange oil, carnauba wax, beeswax).

Intergrain products are available from paint and hardware stores Australia-wide in 500ml, 1/4/10 lt sizes. Included in their range are: *Intergrain Tung Oil Wood Sealer* (tung oil), *Intergrain Scandinavian Teak Oil* (50/50 tung oil/polyurethane), *Intergrain Patina Carnauba Wax* (carnauba wax and lemon oil) Phone (03) 9558 4944 for further information.

Watco Timber Finishes produce a range of oils for use on furniture, floors and exterior surfaces. *Watco Danish Oil Finish*, *Watco Wood Floor Finish* and *Watco Exterior Wood Finish* contain resin oil formulas and mineral spirits. 1/4/20 litre containers are available. Contact SA (08) 8281 6767, Vic (03) 9889 1461, NSW (044) 74 2995, Tas (03) 62658568, Qld (07) 33004545

DRILL PRESSES: FROM BASICS TO BUYING

Selecting the best drill press for your purposes can be like trying to find the proverbial needle in a haystack. The matter is further confounded by the fact China (and Taiwan) are gearing up to replace Japan of 1960s as the biggest industrial manufacturers in the world. Container loads of drill presses, identical in appearance except for different brand name stickers, are now imported into this country. In some cases they are painted green but when placed side by side, the cheaper models tend to be a lot smaller. Some are incredibly cheap but not surprisingly, don't last. Others are marginally more expensive but may last a lifetime.

WHAT TO LOOK FOR

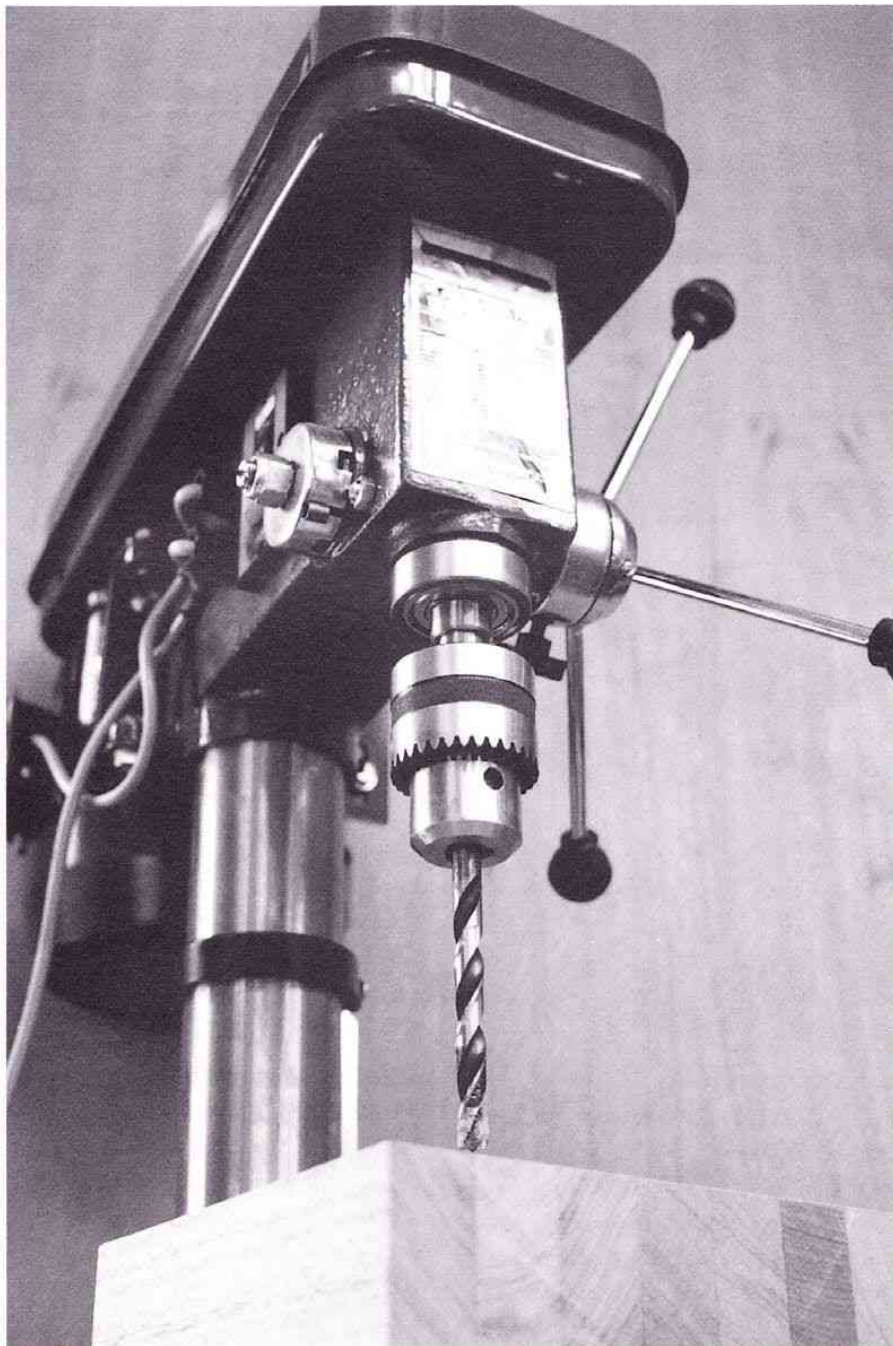
No matter what end of the market you operate at, from the hobbyist through to the high volume industrial workshop, there are a few basic features that should be included in the drill press you are investing in.

Motor

At least 1/2 hp is recommended, although 3/4 to 1 hp is preferable. The body of the motor should be cast to prevent vibration. A safety switch is also a big plus or a plug that can be removed from the body of the motor.

Speed

Speed control should range from 8 to 16 speeds with a good low speed and top range speed with reasonable variance. Changing speeds is a matter of changing belts, this should be a quick and easy process which is largely dependent on the quality of the belts and pulleys. Belts are graded as M-section (10mm) wide, A-section (12mm) and B-section (16mm). The more surface area, the less likely it is that the belt will slip.



Table

A round table is more useful because it can be turned a full 360° with the object to be drilled bolted to it. It should tilt to 45° for angle drills. The ideal method for moving the table up and down is a rack and pinion mechanism which moves smoothly. This cogwheel system ensures accurate, non-slip settings.

Head

The headstock of the pedestal drill (which differs from the bench drill by its longer shaft) should be able to move 90° on the column so that larger pieces can be worked with the extra space to the floor. The covering on top of the head shouldn't rattle when operating—some models do!



Jet JPD 14M



Record RPD12



Delta DE-17-900



Carba-Tec CR-16NF pedestal



Hafco PD-20A

BASIC SAFE HANDLING

1 Only use the drill press with the appropriate attachments—this is no time to improvise.

2 Correct speed is important in the use of drill presses and is determined by the kind of material being drilled, size of the hole, type of drill or other cutter, and quality of cut desired. The smaller the drill the greater the required RPM.

3 Ensure the work being drilled is securely clamped and blocked to the table. Always use a vice or clamps—never your hands. Any movement will result in an inaccurate hole, a broken drill bit or material being flung from the table.

4 Ensure the chuck is tightened to the spindle so that it cannot become loose, and make sure the key is removed from the chuck after adjustment. While most are spring loaded to ensure they don't get left in during operation, others are not.

5 Make sure the base is securely fastened to the floor or work-bench before using the drill press.

Construction

A few drill presses have components that are not cast iron, they aren't as strong and don't absorb vibration. Vibration can lead to inaccuracy and more noise in the workshop. The quality of the cast iron can vary too. Generally speaking, the heavier the drill press, the more solid it is.

Others Issues

Look for slop in the spindle—this will lead to inaccurate drilling. Not all models have depth stops which are essential for high production work. Some have the capacity for mortising attachments, both of which extend the applications of the press in the workshop. Make sure the model you choose

will take most of the popular brand mortising attachments. A good chuck should take a range of drill bits. A keyless chuck is also a big plus. Guarantees vary from 3 months to five years and are worth looking at. Many offer warranty but do not carry parts as part of the deal!

What's on the Market

You can pick up a drill press for as low as \$95 with 1/4 hp motor. While this machine may be ideal for the very small, lightweight applications—such as electronics work or small scale wooden model or toy building, it has a very limited usage. For around \$200-\$400 the home workshop can be graced with a medium duty bench drill press that

has many applications and will last beyond its warranty period.

The *Hafco*, *Record*, *Woodman*, *Jet*, *Carba-Tec*, *Delta*, and *Craftmaster* brands include medium duty light and industrial range drill presses in the \$200-\$600 range and upwards to the high volume industrial range. Full industrial drill presses peak with Australian manufacturers such as *Brobo Waldown*. Other Australian companies, now defunct due to a restructuring in the manufacturing industry include *Robinson* and *Drillmore* which are available on the second hand market.

The table on p.31 compares drill presses on the market and is grouped into light and industrial models.



Variable speed control knob and on/off switch are all located above the table for instant access. Combination blade guard and work hold down adds safety to this great machine. Adjustable dust blower (that really works) keeps cutting line free of chips and saw dust.



18" Variable Speed Scroll Saw Cat. No. DE-40-650

Our most innovative scroll saw yet! Lightweight, graphite reinforced composite arm for quiet, smooth operation.

Cat. No. DE-40-650 18" Variable Speed Scroll Saw. Includes basic machine with steel stand; powerful variable speed 240V motor, upper and lower Quickset II Blade Chucks, work hold-down, dust blower and instruction manuals.



10 second blade disconnect and 10 second blade reconnect.

Specifications (DE-40-650):

Motor:	Variable speed 240V, 1/4 hp
Speeds:	Variable 300 to 2000 spm
Table:	406mm dia. Tilt: 45° R; 9° L
Capacities:	Throat: 457mm Thickness of cut: 50mm Stroke: 22mm
Weight:	41 Kg
Price:	\$849.00 Inc. Tax
Please add \$40 freight per machine	



A wet/dry sharpening system designed to give your workshop the edge.

Cat. No. DE-23-710 Sharpening Center includes basic machine with 240V motor, 5" dia., 120-grit aluminum oxide dry wheel, 8" dia., 1000-grit wet wheel, tool rest base, sliding tool holder, water tank, tool rest, eye shield, wrenches and instruction manual.

Specifications:

Motor:	1/5 HP, 240V
Wheels:	Dia: 127 mm; 203mm
Type:	Aluminium Oxide Wet/Dry Wheel width: 51; & 25mm Hole: 12.7 & 17.7mm
Speeds:	3600 rpm (127mm) 400 rpm (203mm)
Weight:	19 kg.
Price:	\$299.00 Inc. Tax
Please add \$20 freight per machine	



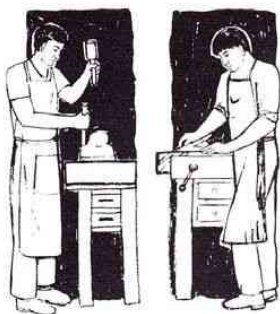
Woodstock Australia
Perth: (09) 345 4522

CARBA-TEC 370 Swan St. Richmond 3121
MELBOURNE Ph (03) 9427 8444 Fax (03) 9427 8448

CARBA-TEC 44 Cambridge St. Coorparoo 4151
BRISBANE Ph (07) 3397 2577 Fax (07) 3397 2785

TOLL FREE: 1-800-653 777

TOLL FREE: 1-800-658 111



LAZARIDES TIMBER AGENCIES

Over 60 species in
stock — ask for our
Timber Species List

**NO ORDER
TOO SMALL**

Telephone
(07) 3851 1400 or
(07) 3268 1191

3/1089 Kingsford Smith Drive, Eagle Farm 4007
PO Box 440, Ferny Hills 4055
Mobile 0418 741 1399 • Fax (07) 3851 1685

Suppliers of Australian
and imported fine
cabinet timbers and
products — for furniture,
musical instruments and
boatbuilding, including:

- selected burls
- turning blanks
- mallee roots
- natural-edged
timber slabs
- timber end sealer
- "Tramex" wood
moisture meters
- "Racal" health and
safety equipment.



BOWL SAVER

N.Z. PATENT NO 314558

SAVE TIMBER, TIME & MONEY



Make several bowls from
one block of wood

- Safe and easy to use for all skill levels.
- Accurately removes a perfect bowl, every time.
- Two high strength blades are all that is required.
- Long lasting Stellite cutter will save up to 500 bowls.
- Unique system transfers forces back to the tailstock.
- Fits any lathe, simply specify lathe tool post diameter.

Woodcut Tools International

Australia
3 Avon Street
Dee Why, Sydney, NSW
Phone: 02-9971-1181
Fax: 02-9971-4873

New Zealand
PO Box 82
Morrisville
Phone: +64-7-889-7757
Fax: +64-7-889-7725



Hare & Forbes is the one stop shop for all
your woodworking machinery needs.

In stock right now is a wide selection of:

- Woodlathes • Panel Saws • Dust Extractors
- Scroll Saws • Belt Sanders • Thicknessers
- Planers • Bandsaws • Saw Benches
- Combination & Radial Arms

With such famous brand names as:

- DURDEN • HAFCO • WOODFAST • DE-WALT
- RECORD and ELU. Just to mention a few!

**CALL INTO OUR SHOWROOM TODAY
or Send for our FREE 60 Page
Colour Catalogue**

HARE & FORBES PTY LTD

NEW AND USED ENGINEERING & WORKSHOP EQUIPMENT
180 GEORGE STREET
PARRAMATTA NSW 2150
(02) 99338916
FAX (02) 9891 2467

ESTABLISHED 1930
550 KESSELS ROAD
MACGREGOR QLD 4109
(07) 3849 1888
FAX (07) 3849 1414

FW HERCUS PTY LTD
12 CAMIRA STREET
REGENCY PARK SA 5010
(08) 8346 5522

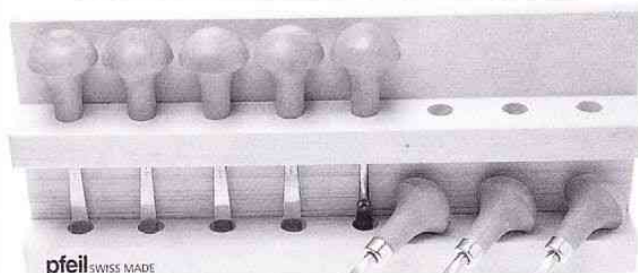
pfeil

- For woodcutting and carving
- Pear handles
- 135mm overall length
- 80mm blade length
- Linden wooden stand

Available in set form or individually:

Set of 8:	normally	\$254.70	SPECIAL	\$237.00
Individual:	normally	\$30.45	SPECIAL	\$27.00

PRICES INCLUDE SALES TAX AND POSTAGE
M/card - Visa - B/card - Diners - Amex accepted



MIK International

504 Glynburn Rd, Burnside SA 5066
ph (08) 8333 2977 fax (08) 8364 1685
CALL US FOR NEW COLOUR CATALOGUE!

DRILL PRESSES—BUYERS GUIDE

Medium Duty/Light Industrial Drill Presses

Make/Model	Bench/ Pedestal	Wt (kg)	Motor (hp)	Speeds	Drill Cap (mm)	RRP
<i>B.Waldown</i> Workmax	B	86/105	3/4	12	13	\$1295/1495
<i>Carba-Tec</i> CH-6	B	18	1/4	5	13	\$159
<i>Carba-Tec</i> CH-10	B	30	1/3	5	13	\$209
<i>Carba-Tec</i> CH-16N	B	48	3/4	16	16	\$299
<i>Carba-Tec</i> CH-16NF	P	59	3/4	16	16	\$310
<i>Craftmstr</i> 41MD12	B	20	1/3	5	13	\$220
<i>Craftmstr</i> 41MD16	B	48	3/4	12	16	\$403
<i>Craftmstr</i> 41MD16F	P	58	3/4	12	16	\$443
<i>Delta</i> DE-11-990	B	32	1/3	5	13	\$289
<i>Delta</i> DE-14-070	B	71	1/2	12	16	\$519
<i>Hafco</i> SBD-20A	B	53	3/4	16	20	\$279
<i>Hafco</i> SPD-20A	P	60	3/4	16	20	\$328
<i>Jet</i> JPD14M	B	60	1/2	16	16	\$545
<i>Jet</i> JPD14MF	P	76	3/4	16	16	\$655
<i>Jet</i> JPD17MF	P	86/105	3/4	16	16	\$690
<i>Record</i> DMD24A	B	35	1/4	5	13	\$729
<i>Record</i> DMD28	B	36	1/4	5	13	\$845
<i>Woodman</i> DP104	B	32	1/4	5	13	\$195
<i>Woodman</i> DP109	B	50	3/4	16	16	\$379
<i>Woodman</i> DP119	P	58	3/4	16	16	\$395

Industrial Range

<i>Craftmstr</i> 41HD16	B	70	3/4	16	16	\$490
<i>Craftmstr</i> 41HD16F	P	78	3/4	16	16	\$582
<i>Craftmstr</i> 41HD20F	P	90	1	16	16	\$727
<i>Craftmstr</i> 41HD28F	P	143	2	12	16	\$943
<i>Delta</i> DE-17-900	P	88	3/4	12	16	\$569
<i>Hafco</i> BD20A	B	70	3/4	12	20	\$377
<i>Hafco</i> PD20A	P	80	3/4	12	20	\$426
<i>Hafco</i> PD20	P	88	1	16	22	\$609
<i>Hafco</i> SPD30	P	100	1	16	32	\$645
<i>Hafco</i> PD30	P	136	1	9	32	\$970
<i>Record</i> RPD12	B	74	1/2	5	13	\$1380
<i>Record</i> RPD58	B	77	3/4	5	16	\$1460
<i>Record</i> RPD12P	P	78	1/2	5	13	\$1410
<i>Record</i> RPD58P	P	82	3/4	5	16	\$1540
<i>Woodman</i> DP222	P	157	1	9	32	\$1235
<i>B.Waldown</i> 8SN series	B/P	86/105	3/4	12	13	\$1690/1890
Super 16	B/P	86/105	3/4	12	16	\$2055/2255
Vari Speed	B/P	96/115	3/4	variable	13	\$3300/3500
<i>B.Waldown</i> 2M series	B/P	109/134	3/4	4/9	22	\$2295/2495
3M series	B/P	109/134	3/4	4/9	32	\$2695/2895
Utility Radial		160/190	3/4	12	13	\$2695/3295

* Thanks to Harold Lauer, Power Tool Specialists, Canberra (06) 280 4966 for input into this article.

Notes

- All drill presses are made in Taiwan except *Record* (UK), *Craftmaster* (China), *Brobo Waldown* (Australia).

- RRP includes 22% sales tax except for *Brobo Waldown*.

- All *Hafco* models are backed up by spare parts & 12 month guarantee. TEFC motors with overload protection; safety chuck guard.

- All *Record* models have a 5 year guarantee; cast grey iron body dampens vibration and noise; British fan cooled induction motors; full length drill guard.

- *Craftmaster* models are covered by 6 months guarantee and spare parts are available. All models have a front safety switch, HD series includes work light. All models offer a twin capacitor ribbed motor, two rod motor adjustment.

- The Woodman Group supply both *Woodman* range and the new *Jet* range. All *Jet* models feature a built in worklight & safety switch, drill chuck and key, adjustable tension spindle return spring and 13mm external positive depth stop with 3 nut lock. Speeds: (195-3630); (200-3630). *Jet* offer 2 years warranty; *Woodman* offer 6 months warranty.

- The *Delta* range have tilting tables, a table raising mechanism, single phase motors and a 2 year warranty. Delta presses are manufactured under strict quality control and are therefore robust.

- *Carba-Tec* models have fully enclosed motors for their medium duty range and a 6 month warranty.

Suppliers of drill presses:

Carba-Tec: Carba-Tec Brisbane 1800 658 111, Melbourne 1800 653 777, New Zealand 0 800 444 329

Craftmaster: (02) 9534 4555, 018 588 522, (07) 3279 4811, (08) 8388 7678, (03) 62731355.

Delta: from Carba-Tec, see above.

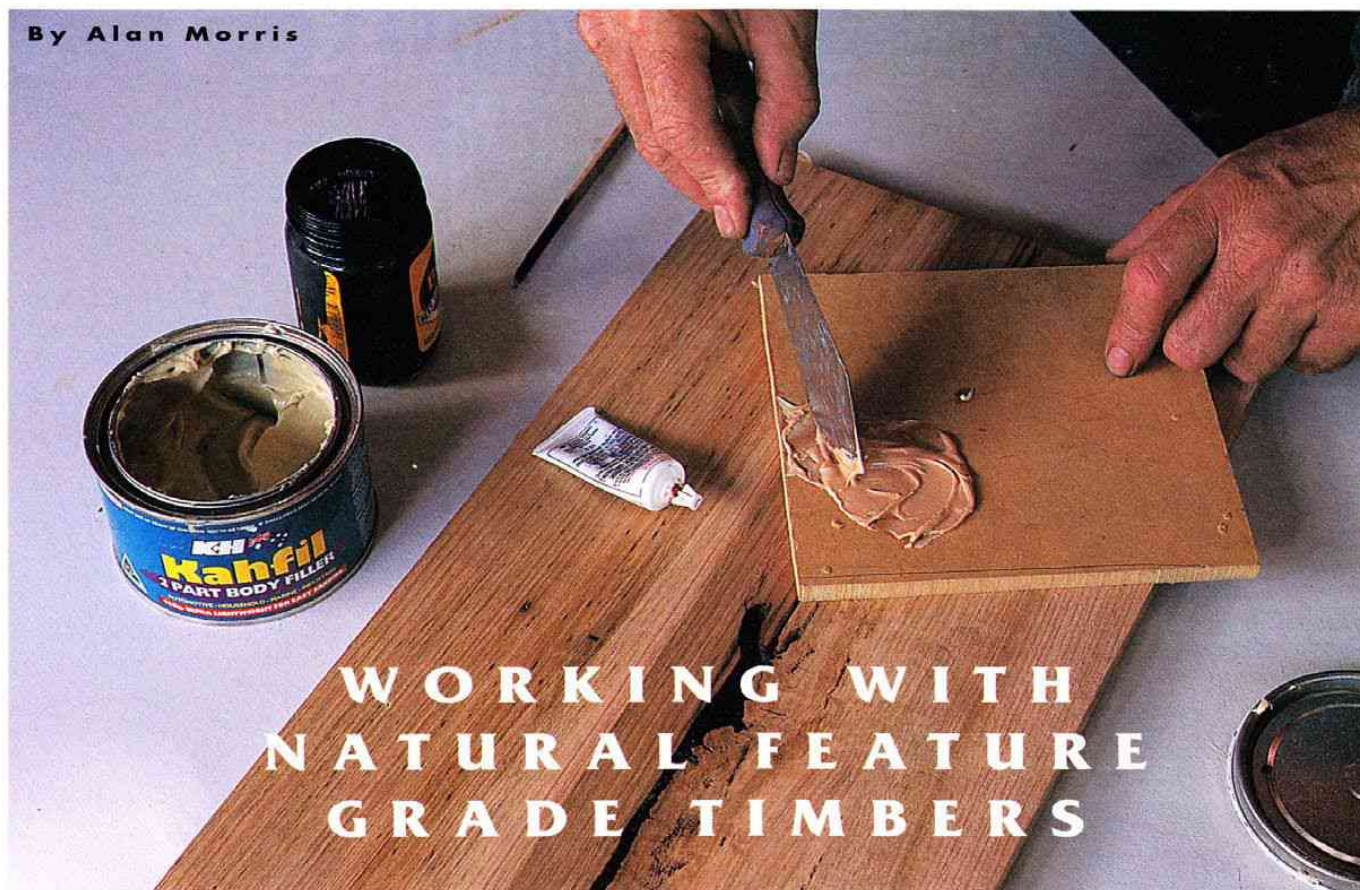
Hafco: from Hare & Forbes (02) 9933 8916, (07) 3849 1888, (08) 8346 5522

Record: from Record Hand & Power Tools (02) 9748 6800

Woodman: from Woodman Group (03) 9885 6104, (02) 9708 3233, (07) 3844 4433, (08) 8346 4561, (09) 272 3844

MacDonnell Rd Hardware (07) 3283 1558
Power Tool Specialists (06) 280 4966

By Alan Morris



WORKING WITH NATURAL FEATURE GRADE TIMBERS

The timber industries in Victoria, Western Australia and Tasmania are now marketing *Natural Feature Grade* (NFG) Australian hardwoods. The presence of features such as gum vein, pin hole, hobnail and colour stain in timber is becoming more acceptable, if not desirable.

To date the possibilities of NFG timbers have been overlooked in the quest for clear, select grade timbers, which are becoming more difficult to procure. Some furniture and cabinet manufacturers have realised the marketing potential of NFG timber and are producing, and in some cases exporting, product in this grade (see story on *Wentworth Furniture*, AWR#13).

It is important to note that the new grading is an 'Australian Standard' and should not be confused with *Standard* or *Merchant* grades. The new standard (AS2796.2) is now in its final draft stage and should be instituted by the time you read this. NFG specifies more 'natural feature' than standard grade timber. 'Man-made' defects such as splits and compression fractures are not permissible. In addition, bark,

Application of fibreglass filler. Mix the fibreglass putty and hardener to the maker's instructions and then add the universal colour tinter. Apply the putty liberally, pushing it into the voids with a knife, leaving a small amount of excess on top to allow for shrinkage.

wane, loose knots, surface to surface voids, or degrade from termite or *Lyctus* (borer) must also be excluded. The grading also restricts the amounts of loose gum vein, resin pocket, borer hole, tight knots, checks and sapwood—all of which may cause reductions in strength.

NFG eucalypt veneer is also a new product which has been sliced from carefully selected logs that display consistent amounts of feature such as pin hole borer and narrow gum vein. The amount of feature is controlled to ensure easy handling during processing.

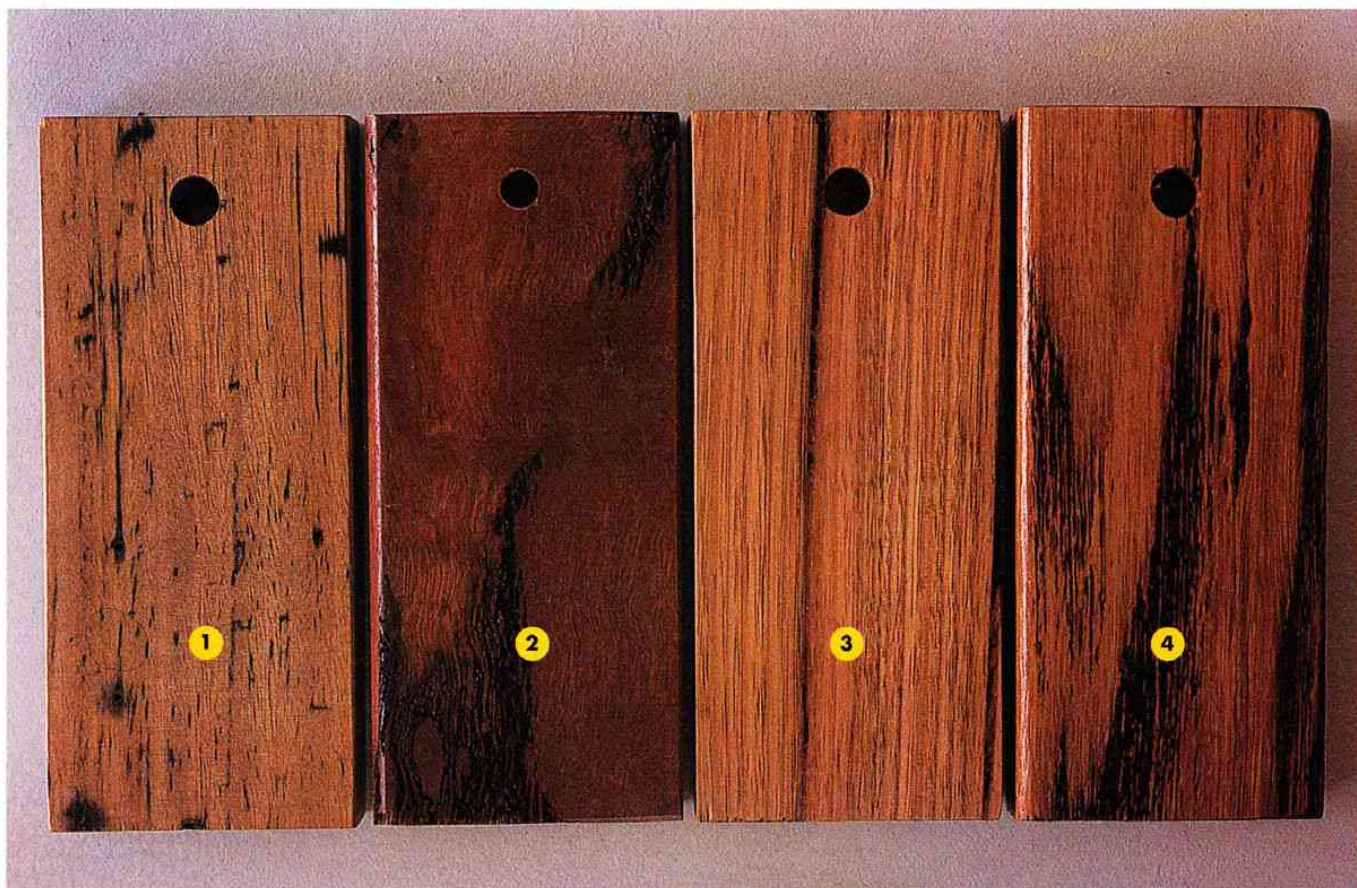
NFG In Structural Usage

When selecting timber for narrow width components where strength is required, such as chair rails or legs, avoid large voids or concentrations of natural features, such as rows of pin holes across the width of the member. Multiple pin hole borer with its associated black stain can greatly weaken timber. The fungi, which causes the stain associated with the hole, will also reduce

the strength of the surrounding timber to some extent.

NFG flooring has great character and warmth, however common sense with regard to the features present and their placement is required. A row of borer holes across the width of a flooring board used to span the distance between bearers for example, may give when placed under the point load of very heavy furniture.

Gum vein in smaller sectional furniture components also needs some consideration. Thin tight veins still retain their strength, however larger and wider veins may split under side loadings. Avoid concentrations of natural feature in jointing areas. Avoid cutting tenons or dovetails in areas which would leave the remaining section dominated by gum vein, open knots or voids. On horizontal surfaces avoid using boards that have wide gum veins or pockets located at the ends, as the resulting movement may loosen any fillers.



Samples of NFG timbers: 1. Messmate (*Eucalyptus obliqua*) quarter sawn with pin hole borer and associated stain. 2. Red gum (*E. tereticornis*) backsawn with gum vein. 3. Vic ash (*E. delagatensis*) quarter sawn with narrow gum vein and fungal colouring. 4. Messmate backsawn with gum vein.

When spindle turning legs or rails for furniture it's probably best to avoid knots, hobnail or heavily gum veined pieces. If you want the dramatic effects of gum vein in your piece, try first cleaning out the loose particles of gum vein and filling the holes with epoxy resin.

Dressing

Dress NFG hardwoods as you would other hardwoods. Knife blades will however wear quicker when dressing large amounts of gum vein. A second bevel of 10° on cutters may help.

Sanding

The procedure for sanding NFG hardwoods is the same, but there may be some lifting of the grain where heavy fungal growth has occurred in colour stained areas. When sanding to 280 grit and beyond, wet the wood lightly with water, let dry and sand again—this will help settle the lifting grain.

Using methylated spirits to wet the surface also works well as it dries quickly and does not 'pool' as some-

times happens with water. In both cases it is important to make the surface dust free as wetting a dusty surface can stain the wood.

Filling

In most cases there is no need to fill the various voids that might be created by nature because that's exactly what gives the wood its unique character. Voids in working surfaces such

as table tops and floors, or surfaces that are constantly handled, may require filling.

A wide variety of fillers, which includes fibreglass putties, epoxy resins and shellac sticks, can be used to achieve many effects. Colour fillers with universal tinters can be obtained from your local paint store. These are highly pigmented and less likely to change



Gum vein over 3mm exposed in the ends of boards should be avoided as resulting movement can loosen fillers.

Sustainable Crown Cut Eucalypt Veneer



Crown Cut veneer is an environmentally responsible choice when specifying timber veneer products.

The veneer process sees a log sliced into around 1,000 individual leaves with a standard thickness of 0.6mm. The unique characteristics of the veneer will enhance the natural beauty of timber doors, kitchens, panels and furniture and can be moulded to fit any shape, making its uses virtually unlimited.

Gunns Veneers is committed to using sustainable timber and \$1.8 million has been spent on the installation of Australia's first Staylog Lathe and Centre Sawing System.

This is a result of logging of old growth forests being reduced and Gunns Veneers efficiently utilising the smaller logs produced from younger forests as the resource of the future.

Crown Cut veneer can match the task and transform a room from ordinary to breath-taking.

It's a slice of Tasmania's finest eucalypt that's a cut above the rest.

For more information on *Sustainable Crown Cut Veneer* or quarter sliced Tasmanian Oak or Ash, Pinus Radiata, Blackwood and Sassafras or any of our product range, contact:

Gunns Veneers, PO Box 315,
New Norfolk, Tasmania 7140
Telephone: 03 62 613 317
Fax: 03 62 613 207

or any panel laminator in your area.



with exposure to UV, a problem which can occur with dyes and inks.

The many wood putties and fillers on the market are mostly designed for small holes up to a few millimetres wide. These and coloured beeswax will successfully fill small ambrosia holes. Larger voids require the use of fibreglass putty, epoxy resin or shellac sticks. These fillers will harden and won't shrink or cause dips when sanded. Clear polyurethane finishes have also been used to fill voids, however I have not fully tested these for impact and flexibility. For voids over 3mm wide the following fillers were tested:

Fibreglass Putty Two-part putty (as used in car repairs) absorbs tints well and sets reasonably hard in 30 minutes. It sands easily but will clog the paper, although this is readily cleaned.

Epoxy Resin Clear two-part resin can be applied with or without tinter. Epoxy resin sets very hard but curing times are long and can take over 24 hours in cooler conditions.

Shellac Sticks (Button Polish) Applied with a heat source shellac sticks are flexible and set very hard, usually in two minutes. They are easily sanded and come in various colours.

I have tested the above fillers for hardness and for adhesion (both to the timber and to the main finishes used in industry). They have also been tested

for impact strength and as long as the voids are not over 10mm wide all performed satisfactorily.

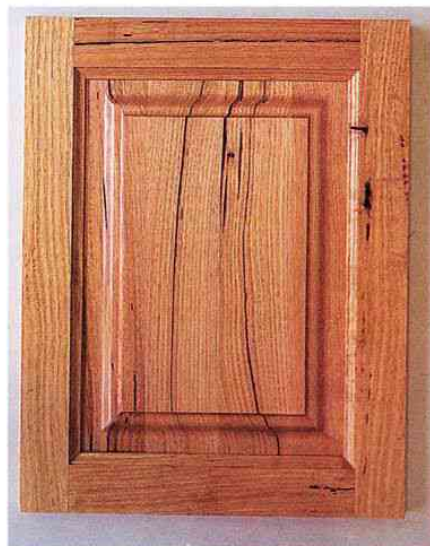
Filler Application

Apply filler amply to avoid later subsidence of the material into the voids. A top up may be required after partial curing. Grain fillers and liming techniques also work well on NFG stock, particularly if a distressed or aged appearance is sought. I have been using *Wattyl One Pot Plastic Wood Filler*, which can be applied quickly and easily over wide areas.

NFG boards often vary widely in tone and colour—a more uniform appearance can be achieved by staining. I recommend thinning the stain down with the appropriate thinning agent, and then slowly building up the colour and tone to avoid masking too much of the natural feature.

Finishes

Most timber finishes such as nitro-cellulose lacquers and polyurethanes are suitable. If the finished piece has many voids and crevices it is probably better to avoid large amounts of finishing waxes, such as beeswax or carnauba, as the excess will fill the voids, catch in the crevices and collect dust. In my opinion the character of the timber demands a soft warm finish. A combination of nitro-cellulose lacquer which has been rubbed



A cupboard door in NFG Vic ash showing a natural distressed appearance.

back and then coated with wax or furniture oil makes for an attractive, durable and easily maintained surface.

Alan Morris has taught furniture design and runs a consultancy 'Australian Natural Feature Hardwoods'. He has worked with the Victorian Timber Promotion Council on the development of NFG.

Suppliers of NFG timber/veneer:
 Bunnings Forest Products (09)351 6222
 Mathews Timber (03) 9874 1666,
 (02) 9604 2077
 Gunns Veneers Pty Ltd (03) 62613 317
 Bowens (03) 9763 7522
 Australian Natural Feature Hardwoods
 (03) 9482 7126
 Adams Timber (03) 9761 8688, (06) 280 6467

Filler solutions from the filler specialists TIMBERMATE PRODUCTS PTY LTD



PO Box 19
 Eastern Mail
 Centre
 Victoria 3110
 Phone:
 (03) 9873 4811
 Fax: (03) 9873 3765

PO Box 466
 St. Ives, Sydney
 NSW 2075
 Phone:
 (02) 9983 9906
 Fax: (02) 9983 9907



SAFETY PART II: THE EYES



Everything from dust and wood particles to acids and flying nails can reduce, if not destroy, your eyesight. Eyes are the possibly the most valuable of the senses and yet the most vulnerable part of the body...and the most often damaged in woodworking.

Statistical surveys support this claim—with nearly one half of power tool related injuries involving the eyes. Injuries may range from a few days of eye irritation to blindness. Going blind in just one eye often isn't the end of the story. Blindness in one eye often precedes a sympathetic reaction of the other eye, leading to total blindness. Yet many woodworkers still don't wear protective eye gear.

The Evidence

The National Surveillance Injury Unit found in a 1991-92 study that of a total 1090 cases reported, 491 cases involved eye injury, of which 333 cases were associated with a grinder and/or a welder, and 92 cases were associated

with a drill. This national trend is backed up by a Queensland study that found that of 83 head injuries sustained by woodworkers in the study period, 1986-1994, 60 involved damage to the eye: foreign body (41 cases), abrasions (14), inflammation (3), bruising (1) and partial burn (1).

The Queensland report included hand tools in its study while the national report covered power tools alone. Many mistakenly believe there is no need to wear eye protection when using hand tools. An American study has indicated that hand tools are actually involved in more eye injuries than power tools, and involve tools such as hammers and screwdrivers. Too easily a ham-

mer glancing on a nail can be returned as a skewer to an eye.

Goggles, Glasses, Visors—Put Them on Your Face

While the local hardware shop stocks the basic goggles for around \$3, which some reluctantly don as eye protection, to be sure you are affording your sight the best protection available, check for the Australian Standard 1337 followed by a 3 digit licence number printed on the frame or lens. Chances are, the cheap goggles will stay on the hook, rather than your face, because they are too uncomfortable, too hot, and tend to fog up. The reality is that there is a huge range of inexpensive eye protection gear on the market.

1. **Face (Bilsom)** Universal brow guard with ratchet headgear offers full face and browguards, can be attached to safety helmets/earmuffs/respiratory protection. Fully adjustable, replaceable sweatband.

2. **Ultra Shield (Uvex 9301.383)** Lower face shield clips onto *Ultra Vision* goggle (see 11.), fits over breathing filter with additional ventilation.

3. **Safety Goggles.** Possibly better than nothing, however, they are not marked with a safety standard and probably offer little in the way of impact resistance. The band actually broke on these while being photographed.

4. **Astro OTG (Uvex 9167)** Lightweight design to fit over prescription spectacles, lens inclination, adjustable temple length, one-piece for full view, moulded-in sideshields and browguard, lens replacement, scratch resistant. Various tints and shades.

5. **Duo-flex range (Uvex 9180)** Lightweight, close fitting, adjustable inclinations and sidearms, replaceable lens. Especially suited to turning, milling and grinding. 100% UV protection.

6. **Ultra Spec 2000 (Uvex 9165)** General purpose, medium impact polycarbonate plastic. Ventilated side guards. Good for indoor use as yellow tint enhances ambient light.

7. **Novus (Bilsom 900007)** High tech, stylish gold-framed image offers protective sideshields. Lightweight contoured design, soft form fitting nosebridge with adjustable metal temples.

8. **Astroflex (Uvex 9168)** Lightweight (34gms). Frame is made of high impact resistant polymid or metal frames (9169). Adjustable lens inclination to 3 positions, temple length adjustable to 4 positions. High impact resistant polycarbonate, scratch resistant, replaceable lens with integrated sideshields.

9. **Duo-Flex/Uvex (Uvex 9161)** Especially suitable for lathe work, light, fits over glasses, 180° view, covered ventilation on sideguards, integrated inclination, adjustable temple with lock, frosted brow of upper frame to prevent light reflection and some splash.

10. **TrueBlue (Bilsom)** one of the colours offered in the *Santa Cruz* range of safety spectacles. One-piece wrap around, positive lock temples, interchangeable lenses. Larger for more protected area. Lightweight nylon frames.

11. **Ultra Vision (Uvex 9301)** Close comfortable fit goggles, integrated indirect ventilation with splash guard and anti-glare frosting, anti-fog coating on lens, nose bridge designed to work well with respirator, optically correct panoramic lens does not distort view or cause headaches. Fits comfortably over most prescription glasses.

Visors

Generally, the higher the speed at which a tool operates, the more eye protection needed. High speed rotating machines, such as lathes and table-saws are capable of throwing large objects moving at high speed at your face, therefore a face shield, at least, should be worn. Considering an object may be moving at 80 metres per second, the need for high impact resistance is necessary.

Visors are generally made of either polycarbonate or acetate. Polycarbonate is high impact resistant but acetate isn't. Acetates however, resist solvents, whereas polycarbonates are destroyed by them. It is worth considering a visor of each material to be used in conjunction with the activity being undertaken in the workshop. All visors meeting the Australian Standard should have their impact rating on the top corner of the faceshield. Visors should be worn with a brow guard (\$10-\$15) preferably fitted to a ratchet harness which can be adjusted while on the head. The pin lock harness needs to be removed for adjustment.

You can also wear goggles or glasses under the shield for lifting the visor to check work in progress or to protect eyes from airborne wood dust. Impaired vision from dust in the eye may provide an early warning to a developing allergy to a particular wood.

While a visor offers some protection for the eyes, and is priced up to \$30, sealed goggles provide protection from dust. There is one product on the market which has goggles joined to a face visor. There is however, overwhelming evidence to support the use of the ultimate protection—the powered air purifying respirator which ensures the toxic dusts don't reach either your eyes or lungs. A full protective integral face shield, hearing protection and hard hat are also available for heavy work.

Safety Glasses

Safety glasses with side shields are probably adequate when using small-er, slower speed tools—including hand

tools. Don't for a moment consider your everyday optical glasses to be protective wear; they simply aren't designed to withstand heavy impact, and may shatter in your eyes on impact. Contact lenses should also be avoided in the workshop as damage will occur if dust or chemical is trapped under the lens. Time taken to remove the lens from a eye clamped shut in pain is time the acid or alkaline is acting on the eyeball!

Safety glasses are increasingly crossing the boundaries between work and recreation. Research has established that image is a major factor in whether or not workers will wear something as basic as safety glasses. Consequently a huge range of big name fashion brands have reached the market ranging in price from \$5 to \$30. Made of tough, impact resistant polycarbonate, as opposed to glass, they can have prescription lenses or tinted lenses fitted, with a non-scratch surface applied. Clip-on or permanent side shields can also be fitted. Side shields offer up to 25% more protection for the eyes. Many of the safety glasses are designed to be close-fitting like goggles, yet light and comfortable enough to wear for extended periods. And because of the Australian Standard applied to tinted safety glasses, they double as some of the best and cheapest sunglasses around.

Goggles

If you are not interested in buying a second pair of sight lenses for your safety glasses then some goggles with adjustable arms can be worn over sight glasses. Goggles generally cover a larger area around the eye, are flexible and absorb impact. They are best worn over normal sight glasses if there are fine flying particles and for any other work that doesn't involve a full face mask.

Goggles do have their drawbacks—they can be notoriously hot to wear and fog up, however, one brand has developed a range of anti-fog and anti-scratch applications for truly successful use of goggles and safety glasses. Check that the goggles you wear have hooded ventilation to prevent splashed

HOFFMANN

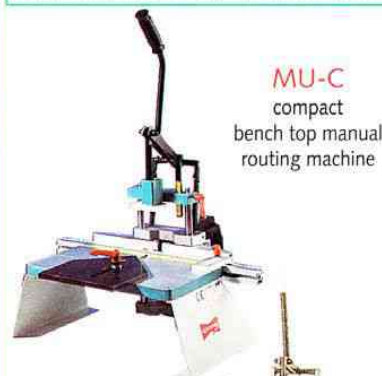
*The tried and trusted principle
for making perfect joints.*

The range of manufacturers now using Hoffmann equipment verify that the system:

- ✓ can be used on all joints, not only mitres
- ✓ does not require skilled labour
- ✓ can be used on composite and solid timbers
- ✓ does increase productivity
- ✓ can be used without glue
- ✓ reduces handling time

There are Hoffmann machines for single person, medium-size and the largest manufacturers.

MU-C
compact
bench top manual
routing machine



MU 2
bench top
manual routing
machine



PU 2
semi-automatic
pneumatic
routing machine



PP 2
semi-automatic
pneumatic
routing machine,
for series and
mass production



For more information contact:

Key Joining Equipment

Tel (02) 9526 8590 Fax (02) 9526 8591

chemicals from reaching your eyes. They range in price from \$5 to \$15.

Prevention is Better

A professional approach is to have and use the right tools and this includes eye protection. Serious pain and damage can be avoided by wearing adequate eye protection, as can loss in productivity and wages in down time when a worker has to go to the doctor or take sick leave.

First Aid

It is always best to err on the side of caution with vision. First aid should be understood and applied quickly and calmly, then medical attention sought. Apart from obvious injuries, blurred vision, a loss of the visual field or pain are all indicators of eye problems and urgent medical attention is needed.

Foreign Body

Sawdust in the eye of a woodworker is common and promises to be at the very least, irritating. Sawdust should be flushed from the eye with water. A small particle may easily scratch the cornea and if not cared for, could become infected. If you have the sensation of something remaining in your eye, get it checked out.

Bruising

If the eye is hit by a flying object or a piece of wood kicking back, cold compresses applied immediately will help alleviate swelling and bruising as the cold constricts the blood vessels around the eye. Should pain, pressure or a change in vision be experienced, seek medical attention immediately.

Laceration

Emergency medical treatment should be sought if there are signs of blood in the eye between the outer surface (cornea) and the inner definition of the eye (iris). Never apply pressure even if the urge is unbearable—pressure may result in the retina detaching and sight being lost in that eye. Place a clean pad over the eye with further protection, such as a piece of cardboard to avoid any pressure being applied.



Record Turbvisor offers full protection.

Chemicals

If anything is splashed in the eye it will be extremely painful and the natural response is to jam the eye shut. It should be forced open and flooded with water for at least 15 minutes before a medical visit. Eye wash units are available from safety product stockists.

A Final Word

The cost of eye safety is very low when it comes to the cost of the equipment necessary to protect your eyes. There is no monetary value that can be placed on the sense of sight. So before you next pick up your tools, put something on your eyes to protect them—you won't ever regret it.

Thanks to Peter Ogden (Allsafe), Nev Smith (Bilsom) and Michael Riggall (Uvex Safety).



Purelite helmet protects face, eyes and lungs.

Rare Tasmanian Timber and Veneers

Blackwood - figured, birds eye, fancy, plain

Myrtle - crown cut, plain

Celery Top Pine - crown cut, plain

Sassafras - blackheart and plain

Leatherwood - redheart

Huon Pine - birds eye and plain

Musk/Eucalypt /Myrtle Burl - when available

from

Britton Bros Pty Ltd

Sawmillers, Veneer & Timber Merchants

Contact: Robert Keogh

Brittons Road, Smithton, 7330

Tel (0364) 52 2522 Fax (0364) 52 2566



FELDER
Woodworking Machines



Call now for free INFO!
(03) 9801 7728

FELDER Machinery

66 Wadhurst Drive, Boronia West, Vic. 3155
Ph.: 03 9801 7728 · Fax: 03 9800 1706

**EuroTech Woodworking
Machinery Ltd**

P.O. Box 117 · Whitianga, NZ
Ph.: 07 866 21 88 · Fax: 07 866 28 49

"I never thought
quality could be
so affordable!"

BF 6-31 Compact Woodworking System

- Planing and Thicknessing width 310 mm
- Self aligning planer knives
- Cutting length from 850 mm up to 1240 mm
- 3 motors with 4 HP, single and three phase
- Tilting Spindle Moulder optional
- Optional 15.000 rpm router

Versatile
Precise
Reliable



Woodworking Systems · Precision Sliding Table Saws
· Planers · Thicknesser · Tilting Spindle Moulder
· Bandsaws · Mortiser · Sanders · Tools · Accessories



Record
HAND & POWER TOOLS

Est.
1898
Sheffield
England

- Check the Price ✓
- Check the Quality ✓
- Check the Guarantee ✓

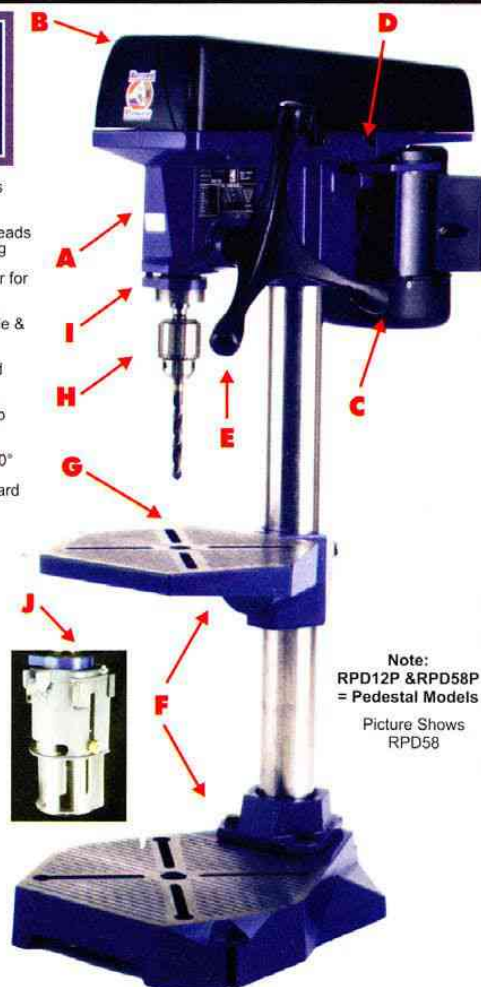
RECORD BENCH & PEDESTAL ENGINEERS DRILLING MACHINES

There are many brands of Drilling Machines available today. Most with their predominant selling feature being low price. Having been engineers since 1898 Record know a thing or two about drilling machines and now after 4 years of research and development, Record offer a series of Sheffield manufactured drills capable of giving exacting precision, combined with a guarantee that goes well into the next century. All Record Drilling Machines are individually hand assembled and inspected, in addition to being fitted with a unique "No Volt Release Switch", which prevents the machine from starting up again once a power failure has ceased.



5 YEAR GUARANTEE
on all components
including motor

- A Cast grey iron body dampens vibration
- B Cast aluminium belt guard. Leads to low noise & is hard wearing
- C Enclosed fan ventilated motor for durability
- D Cam speed change, for simple & quick speed gear changes
- E Easy to use comfortable solid cast hand wheels
- F Table & base are machined to high tolerances
- G Fully adjustable table Tilt 0-90°
- H Drill chuck supplied as standard
- I Non slip accurate depth stop
- J Full length quality drill guard, supplied as standard



Note:
RPD12P & RPD58P
= Pedestal Models
Picture Shows
RPD58

Part No.	DMD24A	DMD28	RPD12	RPD12P	RPD58	RPD58P
Drill Capacity	13mm (½")	13mm (½")	13mm (½")	13mm (½")	16mm (5/8")	16mm (5/8")
Speeds	540,780,1150, 1160, 2430	540,780,1150, 1160, 2430	450,700,1080, 1680, 2600	450,700,1080, 1680, 2600	450,700,1080, 1680, 2600	450,700,1080, 1680, 2600
Motor Rating	¼" HP (INT)	¼" HP (INT)	½" HP (INT)	½" HP (INT)	¾" HP (INT)	¾" HP (INT)
Spindle Stroke	50mm (2")	50mm (2")	78mm (3 1/16")	78mm (3 1/16")	78mm (3 1/16")	78mm (3 1/16")
Height	762mm (30")	863mm (34")	1060mm (41 ¼")	1684mm (66 ¾")	1060mm (41 ¼")	1684mm (66 ¾")
Weight	35kg (77lb)	36kg (79lb)	74kg (163lb)	78kg (171lb)	77kg (169lb)	82kg (180lb)
Special Price	\$635.00	\$739.00	\$1,209.00	\$1,235.00	\$1,279.00	\$1,350.00

ALL PRICES INCLUDE SALES TAX

CROWN CUT FURNITURE DESIGN COMPETITION



Photos: Terence Bogue

This magazine promotes contemporary design and the appreciation and use of native timbers. To this end in December last year we launched the *Crown Cut Veneer Furniture Competition*, jointly sponsored by Australian Wood Review, Gunns Veneers Pty Ltd and the Forests and Forest Industry Council of Tasmania.

The competition brief was to design and make a practical and commercially viable piece of furniture or cabinetry from *Crown Cut Veneer*. Entrants were permitted to use a combination of veneer and solid timber and smaller amounts of other species for detail. The final submission was in the form of photographic images. Interested designers and furniture manufacturers were asked to submit recent images of their work for selected entry.

Crown Cut eucalypt veneer is produced from regrowth forests and is available in different grain patterns (cathedral, swirl), colours (biscuit, cream), grades (clear, feature, backing) and with selected features (stress marks, branch knots, pin knots, resin streaks, hobnail streaks).

Two winners were chosen from what may truly be regarded as a complete field of 'winners'. David Collins Furniture (Warragul, Vic) won the first prize of \$1,000 and Benjamin Hunt Design (Ivanhoe, Vic) won the second prize of \$250. The results, we hope you will agree, were outstanding and reflect the high level of commitment which each entrant applied to the competition concept. In accordance with the competition guidelines the winning pieces were chosen according to the criteria of commercial viability and practicality, taking

Above, the winner of the Crown Cut Furniture Design Competition:

TV & Stereo Display Unit
1700h x 2130w x 575d

David Collins Furniture, Warragul, Vic (03) 5623 1287. Design consultation: Raven Designs.

Cream, swirl pattern *Crown Cut* book-matched veneer board, solid Vic ash, Hettich hingeware, runners, Hewi handles. The cabinet features ergonomic height placement of appliances for easy, 'no-bend' usage. Simple CD and video tape storage on sliding shelves for easy visual access. Modular design adapts to appliance variation. Solid timber edging on tops, other edges finished in veneer tape.

into account the multitude of issues which these two criteria implied.

Australian Wood Review, Gunns Veneers and the Forests and Forest Industry Council of Tasmania would like to congratulate all who took part in this competition.

Right, winner of second prize:

Moonshine (1500h x 515w x 300d)

Benjamin Hunt, BHD, Ivanhoe, Vic (03) 9497 4054

Crown Cut veneer (S1CF), polished aluminium nodes, plate aluminium, castors.

The aim in designing this furniture item was to produce a financially viable product suitable for mass production and distribution in a knockdown form.

Moonshine provides storage for 28 bottles of wine and 24 glasses in the floating central cavity. The hobnail streaks of the timber contrast with the polished surfaces. Simplicity of form enhances the quality of the timber and frames the wine held within. The soft yellow tinges of the veneer and the bright reflective bursts of light emanating from the aluminium play on the image of 'moonshine'.

Photo: Terence Bogue

Below: Cubit

1200h x 1360w x 400d

Graeme Hunt, ZED Urban Objects, Bulimba, Qld (07) 3395 5443

Crown Cut veneer (cathedral cut, biscuit, resin streak feature) pressed onto 25mm MDF, silver ash, aluminium/rivets, castors.

Cubit is a moveable, modular storage unit system which offers versatility and adaptability. The use of line and bevelled edges draw the eye into the spaces. Converging surfaces highlight texture, light and shadow on the material. The system will reconfigure as needs change.

Photo: Clive Buxton

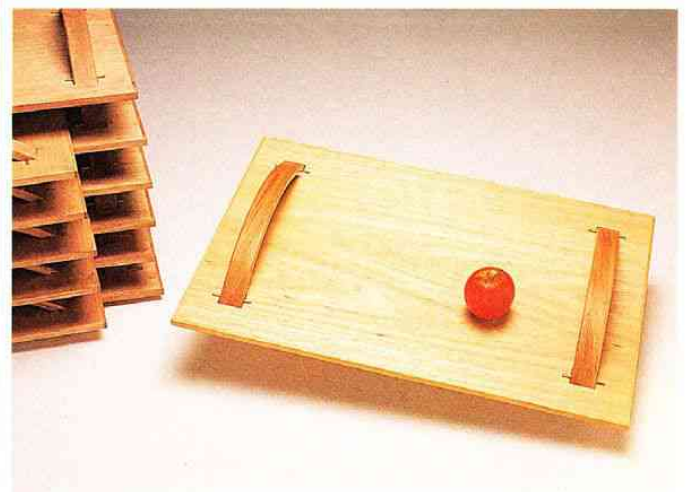
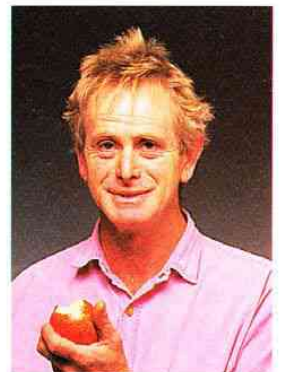


Below: Water Under The Bridge (12 serving trays, each 605 x 406 x 72mm)

Stephen Oram (right), Daylesford, Vic (03) 5348 2592

Crown cut reverse slipmatched cathedral, biscuit colour veneer on 9mm MDF, messmate.

Laminated handles of messmate are fixed by brass locking pins. The trays are knockdown for flat packing. Once assembled, they stay that way! Matt nitro-cellulose finish. *Photos: Terence Bogue*



Wave Desk

730h (adjustable) x 1800l x 900w, legs 38mm dia
 Sander Dijkstal, Shape Interiors, East Perth, WA
 (09) 221 1313

Cathedral Crown Cut veneer, biscuit colour, feature face grade, bookmatched with pin knots and stress marks, rolled steel legs.

Shape Interiors produces furniture prototypes intended for batch or mass production. This piece features knockdown construction and forms part of a collection launched in May this year.

Photo: Tony Harrison

**Series ISZU Dining Table**

750h x 1800w x 900d

Mette Mäntynen, Design By Mette, Brunswick West, Vic (03) 9380 9164

Crown Cut veneer, solid Vic ash, chrome plated steel.

This table is part of a range of products designed for residential and commercial environments. The *ISZU Series* includes coffee table, dining and arm chairs and has been designed with short run production in mind.

Photo: Sally Newell, Serendipity

**Flat Pack Coffee Table**

1200l x 420h x 600w

Dave Humphries, Hobart, (03) 6239 1207

Stained table: Reverse slip matched cathedral Crown Cut, biscuit colour, feature/clear mix. Veneer for lighter coloured table: Slip matched cathedral cut, cream colour, pin knot feature, clear face.

The legs of this flat packing coffee table are hinged to the table top and held upright by a corner connector. This reduces assembly to the placement of two screws. Two tables can easily be made from one 2400 x 1200 panel.

**Yang Factor Table**

1200l x 600w x 450h

Joanne Mclean, Malcolm Borrell, Furniture by Suddesign, Manly, NSW 0411 402583

Crown Cut veneer, stainless steel

Designed for ease of construction using CNC technology. Stainless steel legs add strength and aesthetic accent. The table flat packs and is easy to assemble. Two tables can be used separately or joined together to form a large, generous surface. Castor feet add more versatility as does the storage shelf underneath. This design has been developed with apartment living, mobility, flexibility and full utilisation of space in mind.

Photo: James Murphy, J & M Photographics



Display Shelf (1000h x 1300w x 300d)
Andrew Rogers Industrial Design, Thebarton, SA
(08) 8234 1833

Reverse matched, swirl pattern, cream Crown Cut veneer, MDF, jelutong.

The shelves are dowelled and spaced out from the vertical supports. The front edges of the shelves are eucalypt stained green black. Shelf supports are a box construction of MDF. Front vertical edges are made from a quartered tapered cylinder turned from jelutong. Non-veneered surfaces are finished with black and charcoal grey *Protek* auto acrylic. The features of this design will be adapted to an entire office furniture system.

Photo: Saul Stead



Regrowth

760h x 2000l x 1000w

Thor Pedersen, Scandinavian Cabinets, Westbury, Tas
(03) 6393 2064

Crown Cut reverse slip matched cathedral veneer, solid fiddleback Tas oak.

The central veneered panel of the tabletop is framed by a 60mm border of fiddleback Tas oak. The softly curving frame is made from thin strips of laminated Tas oak. This procedure allows the use of small regrowth forest products as well as other small sections of timber. The table comes with eight upholstered chairs.

Photo: Owen Hughes



Amaretta Sideboard

900h x 1200w x 450d

Martin Zanin, Creative Cabinets, Keysborough, Vic
(03) 9798 7309

Cathedral Crown Cut cream veneer, inlay, solid red amoora.

This elegant cabinet is dowelled together and finished in sprayed satin polyurethane. The top features 5mm inlay and solid insert plaques and shaped feet in red amoora provide contrast.

Photo: Terence Bogue



Dovetail Furniture Series

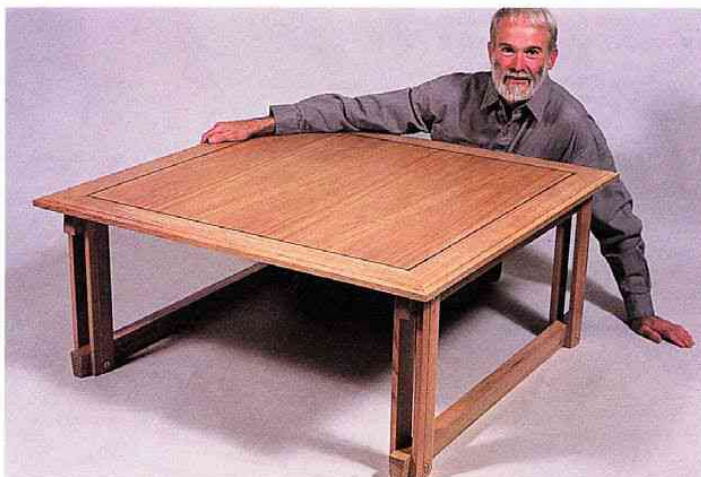
Large table (1030 x 1030 x 455), side table (600 x 600 x 455), lamp (800mm high)

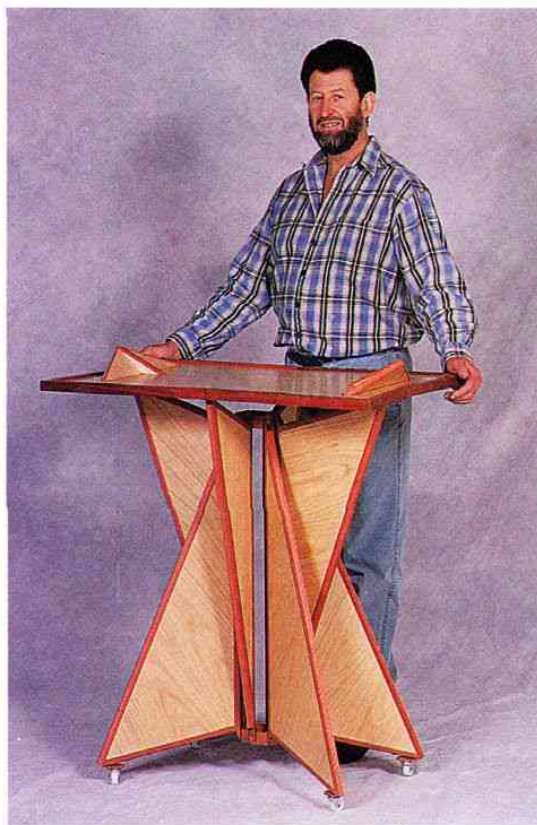
Steve Blakeney, Gray Owl Timber Products, Deloraine, Tas
(03) 6362 2688

Crown Cut Veneer, biscuit colour, pin knots and stress marks. Solid Tas oak, jarrah, brass KD fittings.

This occasional series of tables and lamps features knockdown construction for flat pack shipment. The veneer leaf has been 'dovetailed' by laying up in a reversing pattern.

Photo: Steve and Jan Blakeney





Jolly Trolley (servery) tray 850 x 530

Denis Fletcher, Fletch Design, Mount Gambier, SA (08) 8739 4210

Cream, swirl Crown Cut, habnail feature, book matched, jarrah edging, steel channel backs each support triangle to enable slim attachments to the two steel octagonal centre pieces.

Assembled with 16 bolts, so the nine individual pieces of veneered board can be stacked flat to 900 x 550 x 210mm. Castor size and type can be changed to suit requirements. Multifaceted, double sided display highlights the veneer.

Photo: Frank Monger



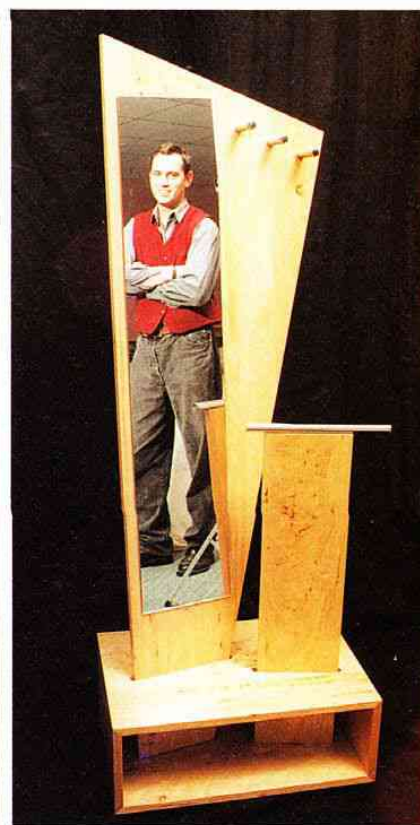
CD Tower 900h x 180w x 170d

Rod Nathan, Interwood, Qld (07) 3287 7088.

Crown Cut veneer

Modular construction characterises this variable capacity CD storage system. Each compartment takes 13 CDs. Rod Nathan is the publisher of Australian Wood Review and a furniture designer/maker.

Photo: Clive Buxton



Dressing Valet

Geoff Ryall, Dream Haven Furniture Co, Epping, Vic (03) 9408 7533

1700h x 595w x 395d

Cathedral Crown Cut veneer, 19mm dia chrome tube, tube closures, bolts, washers, silvered glass, nylon castors.

The dressing valet is of mitre box construction, panels have been housed in slots and screwed in place. The mirror tilts for full height view. The unit can be flat packed for transport.

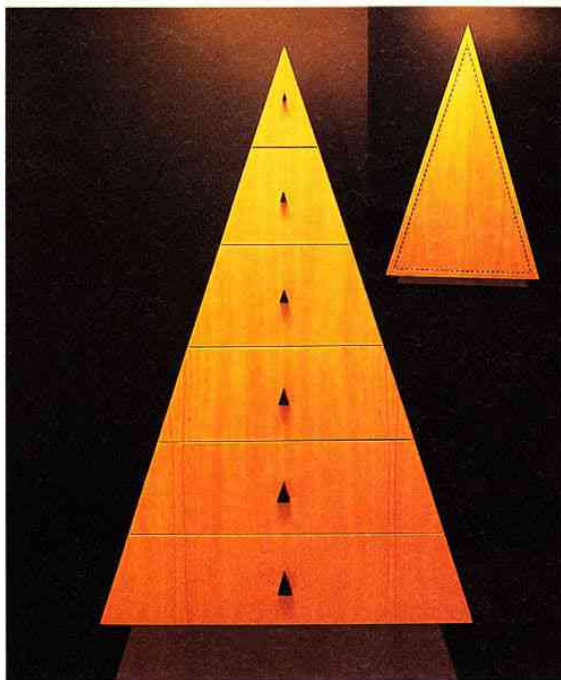
Bermuda Storage Chest
Kevin Wiegel, Carrum Downs, Vic 019 415 755

925h x 550w x 450d

Crown Cut cathedral bookmatched cream veneer with minimal features, MDF, hand shaped MDF knobs.

Fine lines, angles and detail work characterise this freestanding chest. Drawer pulls mirror the shape of the carcase while remaining proportional. Veneer leaves were applied after carcase construction. The back of the chest features fine detail inlay in contrasting black.

Photos: Jason Alexander



Occasional table by David Ransome





Above: Gash Cabinet

Lee Jackson, Mad Cow Design, Perth, WA (09) 486 8686

Crown Cut veneer bookmatched with stress marks, legs and handle surround in American red cherry.

Entirely constructed with mitres so no panel lines are visible.

Below opp. left: Occasional Table (600h x 450w x 350d)

David Ransome, The Kitchen Works, Billinudgel, NSW (066) 802 246

Crown Cut cathedral cut veneer, Tas oak edge strip.

This is a new way to use veneer board. Exposed edges are minimised by 'folding' pre-veneered board with a specially developed tool. Compound folds are possible and complicated designs can be easily achieved. After tooling up, the actual construction time for this piece was only three hours.



Above: Privacy Screen (1800h x 1500w x 17mm)

Dawn Ferguson, Dwellingup, WA (09) 538 1395

Cathedral, biscuit, Crown Cut, stress mark feature, 12mm MDF, jarrah, brass hinges and rod, iron-on edging tape.

Free standing in a 'Z' pattern. Lift-off hinges allow panels to be separated. Panels are cut in opposing grain directions and are joined with 6mm brass rod and are framed in jarrah, bridle joined. Photo: Frank Maietta

Below: Seattle buffet (810h x 1660w x 515d)

Design: Alain Huin (USA), Rex Carr. Manufacture: Wentworth Furniture Co, Heidelberg, Vic (03) 9459 2922

Crown Cut carcase, lock mitre construction. Fascia solid ash with blind mortise and tenons. Solid ash drawers, dovetailed with centrally fitted roller runners. Designed to suit the trend in homes with a neo-classical influence.





Buffet

Thomas J. Degens, Boambee, NSW (066) 584 264

Crown Cut veneers, silky oak

This two door buffet features veneers backed onto a plywood substrate. An upstand and a glass shelf extend its versatility. Both drawers are dovetailed and lined.



I was thinking of the 40s

Steven Hall, Steven Hall Design, Burleigh Heads, Qld (07) 5533 8245

1540h x 1290l x 470d

Crown Cut veneer (swirl, cream, hobnail streak feature), solid cooktown ironwood, kavula, *Hettich* hardware. This two door cabinet features a display shelf, a drawer and an internal adjustable shelf.

Photo: Clive Buxton



Bookshelf No. 12 (2100 x 800 x 285)

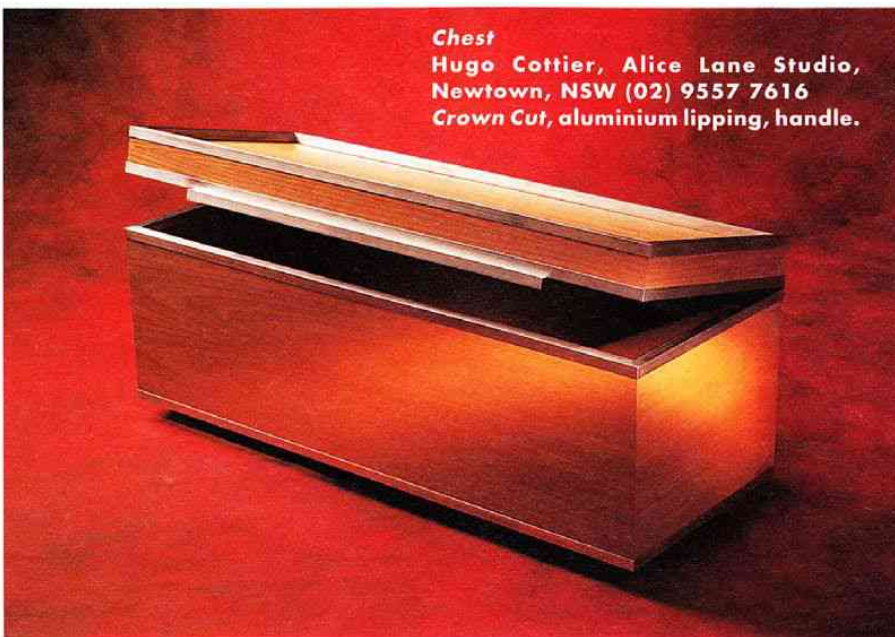
Peter Walker, Head of Furniture Studio, Jam Factory Craft & Design Centre (08) 8410 0727

Crown Cut hobnail, swirl, cream, stainless steel, solid oak edging, blackwood inlay detail. Angled shelves eliminate the need for bookends. Designed with production potential in mind. Produced from 2400 x 1200.

Photo: Dan Armstrong

Below, Slim Bookshelf: Bodo Mordek, Mordek Frames & Mouldings, Braidwood, NSW (048) 464 066. *Crown Cut* bookmatched veneer, solid Tas. myrtle.

A versatile bookshelf. No joints are visible where sides and back meet as a 45° tongue and groove cutter was used to mitre the joins.



Chest

Hugo Cottier, Alice Lane Studio, Newtown, NSW (02) 9557 7616
Crown Cut, aluminium lipping, handle.





Showcase

Jeff Phillips, J.J. Phillips Cabinet Makers, Waterloo, NSW (02) 9319 5710

1800h x 630w x 300d

Swirl, biscuit coloured Crown Cut, mirror, solid jarrah, leadlight, Allen key bolts

The mirror is framed within solid timber for safety, the rest is constructed totally from the board (with almost no waste!). The decorative trim is jarrah and the leadlights which are lit from behind by the showcase lighting are made specially to the maker's design by *Arabesque* stain glass in Kings Cross, Sydney.

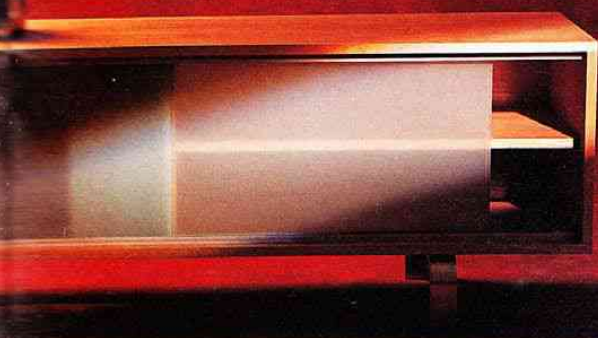
The shelving is adjustable and removable and the whole cabinet, though very solid when assembled, completely disassembles in 5 minutes with Allen key bolts. The aim was to make the whole cabinet transportable by one person in a regular car (following requests from 'jeweller' customers struggling to transport fully assembled showcases to trade shows).

Photo: Adrian Conelly, Cumming Agency & Studios

Sideboard

**Benjamin Gray, Alice Lane Studio
Crown Cut, frosted glass, ball bearing track, aluminium feet**

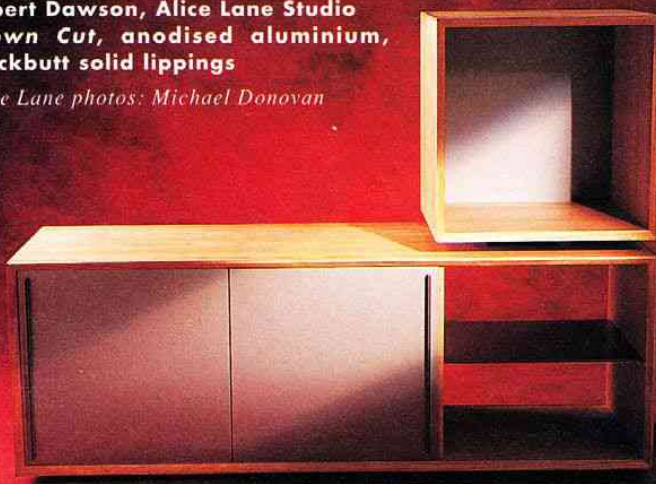
Alice Lane Studio is a group of four designer/makers who work together and individually to produce prototypes and limited edition work.



Cube Modules

**Robert Dawson, Alice Lane Studio
Crown Cut, anodised aluminium, blackbutt solid lippings**

Alice Lane photos: Michael Donovan



By Linda Nathan

**DON
POWELL:
THE
IMAGE
MAKER**

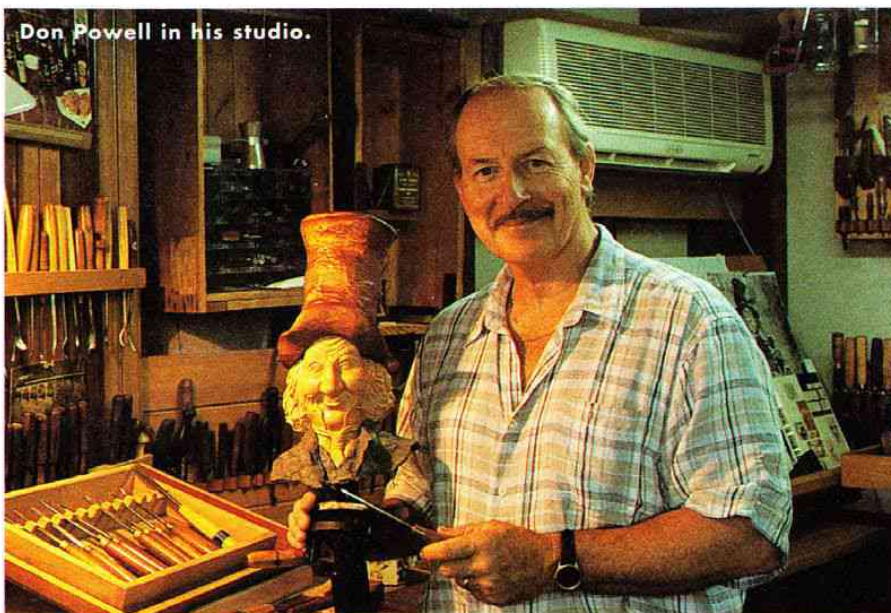


One November day in 1989 a police force hostage negotiator, bodyguard and detective inspector closed the door on a lifetime of work and privately vowed to become a wood-carver. Artist/sculptor and past recipient of a Churchill Fellowship, Don Powell, is today at 57, what he set out to be only eight years ago.

Completely self-taught and now a teacher himself, Powell decided to develop a talent which he had in his youth for whittling. An A-grade sporting shooter, Powell has decided that that too must be sacrificed. He deems that at least eight hours a day hands-on time must be spent working at his new career. The same determination which saw him abruptly change his direction in life is now fully applied to each new sculpture.

It is likely that training in the police force has developed his powers of observation, attention to detail, his ability to research and investigate. Years spent setting up Queensland's witness protection program, not to mention being a hostage negotiator after training in Chicago, have surely made him a keen psychologist and judge of

Don Powell in his studio.



character. As an inspector (who didn't particularly care for him) once commented in a routine 'conduct sheet': "The sergeant has a flair for detail".

Receiving the Churchill Fellowship in 1996 was a watershed in his artistic development. It gave him the opportunity to learn from masters past and present. In Germany he appreciated at first hand the brilliance of the 15th century woodcarver Tilman Riemenschneider, an artist whose stylised

religious sculpture is the palpable expression of humanity as described in the Passion of Christ.

Six weeks spent with British wood sculptor Ian Norbury affirmed his artistic directions and gave him an insight into the business side of his newly chosen career. Powell and his wife Maureen spent part of their time assisting Betty Norbury organise and mount her prestigious yearly exhibition in the Cotswolds.



The Apothecary (opposite and detail left)

Although the original commission did not eventuate, the idea for this piece took hold and Powell went back to medieval times and the imagery of the 15th century German Renaissance artist Albrecht Durer.

The work was undertaken during Powell's nine weeks working in Ian Norbury's workshop in England. Carving certain parts of the sculpture (such as the ringlets in the beard), Powell admits, were purely an indulgence.

This romantic and mysterious figure of the Dark Ages is surrounded by objects which are symbols.

The retort that he holds, along with the timer, is symbolic of the short time he has to redeem life from death.

The silver clasp on his cloak is fashioned as the Celtic symbol of eternity. Silver, which the serpent's tongue is also made of, represents redemption.

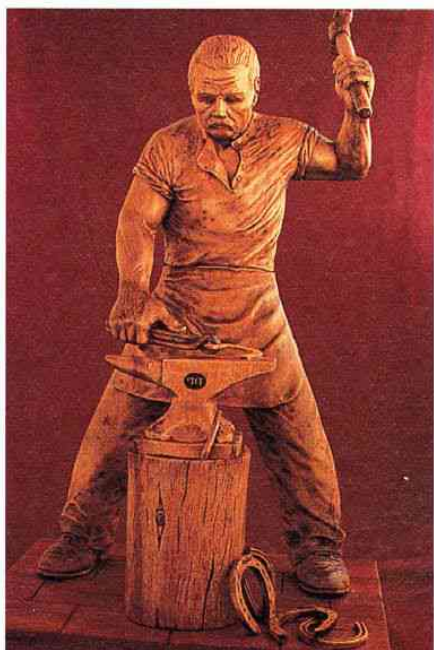
The bag carries the priceless potions, ointments and elements of his trade. The vulture's head on the toggle of the bag symbolises the inevitability of death.

The serpent entwined in the wood represents healing.

His knowledge is stored in his books and scrolls.

As Powell says 'out of the murk and ignorance came his descendents, today's teacher's of medicine and chemistry.'

The figure is sculpted in walnut, limewood, holly, elm, yew, oak burl, briar, ebony, rhododendron and imbuya. The wood is complemented by marble, soapstone, copper and silver. Photos: Don Powell



Ian Norbury encouraged Powell to experiment with and develop the technique of using different species of timber as well as other media within the one work. Norbury also encouraged him to develop the themes of his work even more fully.

If Don Powell were to carve his sculptures from a single block of wood he claims it would take only a third of the time to complete. However, by carving different parts in contrasting timbers and engineering their placement, Powell trades the extra hours of work for a richness of colour, texture and expressivity. His *Apothecary* is sculpted from at least ten species of timber, and also incorporates marble, soapstone, copper and silver.



The falcon of scented northern New South Wales rosewood which currently sits in his carver's vice will in time receive a 'hood' of Huon pine with decorative feathers of purpleheart. The life-like talons will rest on a gloved hand also of Huon pine.

The leprechaun pictured in his vice on the preceding page is also carved from many timbers. A full month's work has produced a face and hands made from pale lime, a jacket from mid-brown Fijian rosewood, a lower body in breeches of Australian white beech, rosewood shoes, a camphor laurel barrel, yellowwood base and the signature leprechaun hat of goldiewood.

The effect of this assemblage will be marred, if not totally lost, if the pieces do not appear to be part of a whole. The extra hours of work which a con-



Top: *The Blacksmith* in limewood conveys the power of the man...and the heat, sweat and grime.

Centre: *The Potato Picker*. An Irish immigrant to Australia circa 1900. Carved in walnut, mounted on gidgee and teak.

Left: *Long John Silver*. The partly exposed skull next to the treasure chest is a reminder that the diggers were often buried alongside the treasure to ensure the location was kept a secret. This piece is in white beech.

Photos: Don Powell

structed piece like this takes are spent on a careful labour of trial and error. Plasticine models facilitate the engineering of pins and joints, but basically it is the patient fitting and refitting of parts which achieves a seamless blend.

Powell spends hours and hours of research and preparation for a major piece. It's hard to convince students. Powell explains, that time spent researching a potential subject, seeking out photos, drawings and other historical evidence will make a piece work. 'They're so eager to pick up the chisel and start. "Why should I waste time looking in the library for photos or making clay models—I came here to learn to carve wood" is what they generally say.'

'It's the face, the hands, the details which give expression to a work' says Powell. Years ago, stationed in Cairns, Powell was a police photographer, producing numbered mug shots of suspects and offenders. Now the superb photos he takes are of his own work either final images (as shown here) or working shots of models in costume from various angles for the figures he primarily likes to sculpt. These, combined with extensive sketches, as well as clay and plasticine models, resolve the image he is trying to capture.

Travelling through Germany, Switzerland and England made Powell aware of the levels of opportunity which exist for woodcarvers there. Returning to Australia he came to observe that there is simply not the market for carving in Australia that exists in those countries. This market extends from folk art to handcarved tourist items and souvenirs, through to artisan and outright art works. 'It's hard to get established on the local scene, there just isn't the appreciation for 3-D work in this country that there is for painting, for example.' There is a broader cultural appreciation in Melbourne and Sydney, however the geographical vastness of Australia works to the disadvantage of an artist, who can in Britain, for example, attract many more visitors who have only a few hours' car journey to travel.

MAKING BEDS



Beds offer a range of challenges for both designer and maker. The bed is usually the most dominant piece of furniture in the bedroom and will set the scene for the entire room. It can be elegant or chunky, feminine or masculine, quirky or even humorous—not to mention opulent, extravagant or just plain Spartan. But some design elements remain constant for all beds—the main ones being that they should be demountable, yet stable when assembled.

The size of the bed is usually dictated by the dimensions of standard sized mattresses, but non-standard mattresses are sometimes requested and the bed is then made to suit. Standard single beds should accommodate a mattress 950mm wide, double beds 1375mm, queen size 1525mm and king size beds 1830mm. The standard length of mattresses is 2035mm. I prefer to allow around 20mm extra all around the mattress to make it easier to tuck in the sheets and blankets.

Mattresses are generally 230mm deep, with the double mattress type (the lower

base mattress with the inbuilt frame) 460mm deep. These measurements determine the height of the supporting rails. Some people prefer higher beds, others lower, but the average seems to be around the 550mm mark.

B A S E S

The type of mattress will dictate the kind of support required. Some mattresses have a built-in frame and only require support around the edges, others will require overall support via slats or springing. A futon style mattress will require closer spacing of the slats than for a sprung mattress. All

mattresses require air circulation to breathe so sheets of chipboard or even frame and panel base supports should be avoided.

My preferred base support for mattresses that do not have an inbuilt frame is laminated slats. These can be made in the workshop, but perfectly adequate slats can be purchased commercially. These are slightly curved to provide extra springing and, being laminated, are stronger than simple solid timber slats (see photo above).

B E D H E A D S

Mattresses with an inbuilt frame are

provided with their own legs and really do not require a bed base at all. Heads and feet can be attached to the built-in frame with angle brackets but in my experience this is an unsatisfactory and unstable method. It is far better to join the head and foot with side rails and either sit the mattress on or within these side rails. Quite often I am asked to merely provide the bedhead for these types of mattresses. These can be fixed to the wall or free-standing. The free-standing bedhead can be joined to side cabinets for stability and the bed merely positioned between the cabinets.

The function of a head board needs to be considered at the design stage. As the name implies you rest your head here when sitting up reading or for that early morning cuppa. Sharp edges or gaps between slats or rails that threaten to trap one's scone are to be avoided. Spaces should not be so big as to allow a pillow to fall through. Head boards may be upholstered for comfort but most of my clients, and, I suspect, most readers of this magazine, love the feel and magic of polished timber.

The bedhead, and to a lesser extent, the foot, determine the style of the bed. Traditionally they both consist of posts linked by horizontal rails. These rails may be solid, carved or pierced; two rails may be joined by vertical slats or panels which can also be turned, shaped or carved depending on the desired look.

Turned posts and/or rails, especially when also carved, will usually produce a traditional style; square posts and simple rails maybe with a bevel or plain moulding will produce what has become known as a Federation style. Flowing curves may be reminiscent of the Art Nouveau style.

Right above: Mortise and tenon joints are typically used in good quality frames.

Right: One of a wide variety of knock down fittings available for beds. These must be strong enough to withstand the substantial leverage encountered.

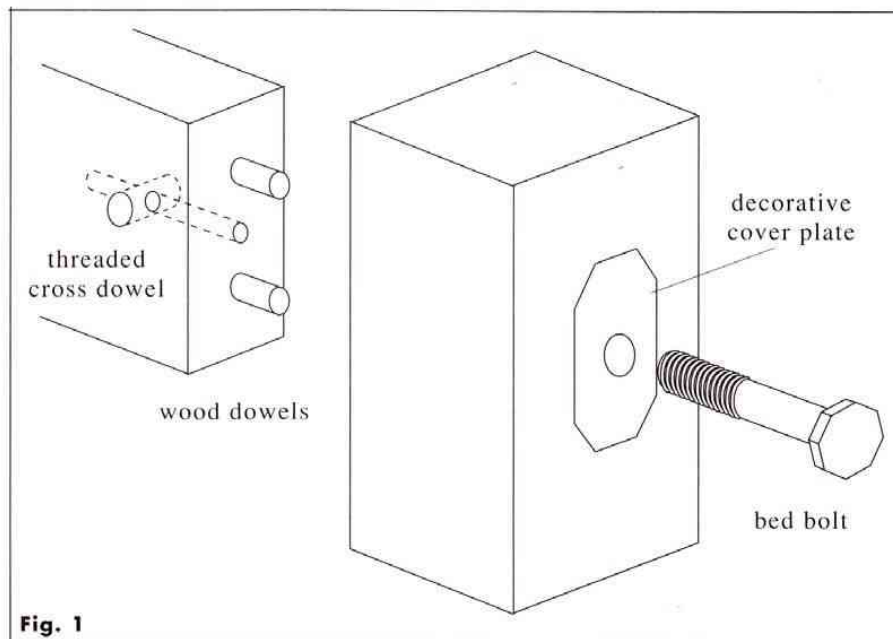


Fig. 1





JOINTS

One of the biggest hurdles for novice bed makers is to choose an appropriate jointing system for the frame. There are many different 'knock-down' systems on the market that are promoted as being suitable for beds. In my experience none have been satisfactory. If I could find a supplier of the old fashioned cast iron fittings that were used a couple of decades ago I'd give them a try.

Having tried most of the systems around I have reverted to using bed bolts and a captured nut in the rail. Threaded cross dowels are used for the nut in the rail and 6mm or 10mm threaded rod used for the bolts. Either a decorative head can be used or a standard machine bolt counterbored into the leg and concealed by a cover plate (fig.1). I'm trying to be delicate here, but the designer has to imagine the most strenuous activity a bed might encounter and choose a jointing system that will stand up!

Four poster beds basically resemble ordinary beds except the posts are higher and there may be provision for an overhead canopy. A half tester bed has the high posts only at the head with a smaller cantilevered canopy. Although most four posters and half testers are made to reproduce 18th or 19th century styles, there is a huge range of opportunities to explore and develop contemporary designs for these variants.

Of the beds I've made over the last few years the 'Sleigh' bed would have

Top: Wall hung bedhead in oak and ginkgo. An understated sculptural element has been introduced into the design.

Centre: A Federation style bed in blackwood with a contemporary feel introduced by the curved and carved panels. Note the cover plates over the bed bolts.

Left: A Huon pine free standing bedhead. This was designed to be placed in front of a large picture window overlooking both the garden and a mountain range. The design brief called for it to reflect the panorama outside without blocking the view.



to be my favourite, although such a dominant design requires a large room or it could be overwhelming. The bed pictured below left was styled loosely on a provincial French design but given a more contemporary feel. The head and foot were made up of 100mm x 25mm boards laminated together and then shaped to a pleasing curve and mortised to the posts. Counter top connectors were used instead of bed bolts to join the ends to the rails.

Beds are a somewhat overlooked item for the furniture maker but are a key purchase item for homemakers, particularly those wanting non-standard looks or sizes. Having met a fairly straightforward criteria for function the potential for decorative statements is limitless.

Knockdown bed fitting suppliers:

Knapp Fastening Systems (03) 9844 1377 or fax (03) 9844 1773

Left above: A free standing bedhead and side cabinets made of ash with walnut inlay. The shape of the bedhead reflects the octagonal theme of the room.

Left: 'Sleigh' bed in blackwood. This style of bed can be traced to ancient Egyptian times and was revived during the 18th century.



TREND TIMBERS
Specialists in Fine Woods



WOOD

Nature's most versatile and renewable resource-use it today!

Many species in stock including:

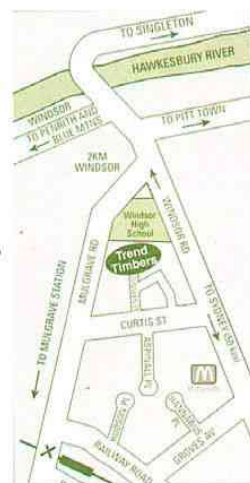
Teak-Burmese or plantation, European Beech-steamed or unsteamed, Canadian Rock Maple, American White Oak, Cherry, White Ash, Sapele, Anegre, Bubinga, Wenge, Malaysian Red Cedar, African Mahogany, Jarrah, Tasmanian Oak, Mountain and Victorian Ash, Queensland Maple, Tasmanian Blackwood, Sydney Blue Gum and many others.

Trend Timbers Pty Ltd

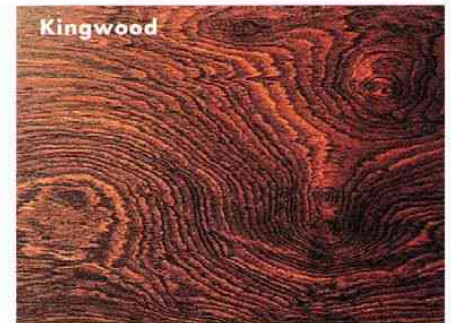
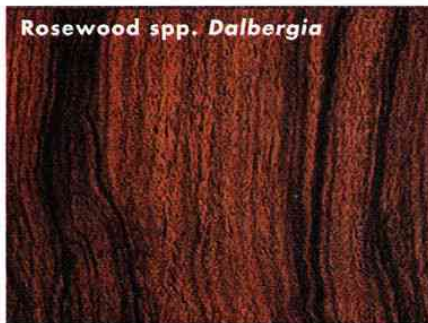
**Lot 1, Cunneen St, Mulgrave/McGraths Hill (near Windsor)
NSW 2756, PO Box 212, Windsor, NSW 2756,
tel 045-775 277, 775 207, fax 045-776 846**

No order too small or too large.

- Cabinet Making • Boat Building
- Carving • Turning
- Joinery • Business
- Home or School Projects



ROSEWOOD: BY MANY OTHER NAMES

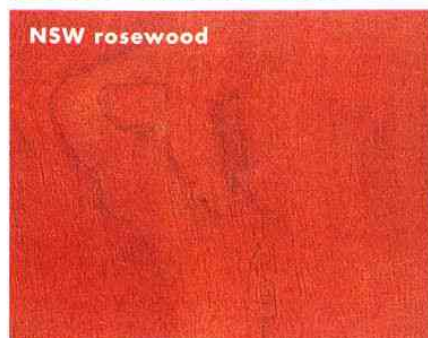
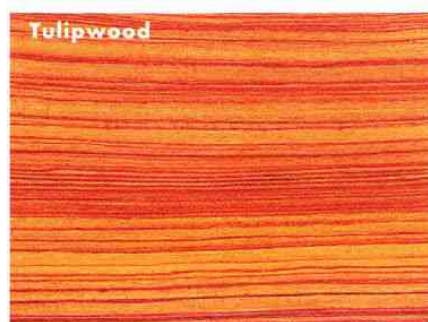


European awareness of exotic rosewoods grew within the Renaissance as they were appropriated from Brazil and neighbouring areas of colonial conquest and visitation. The favoured timbers were those with the darker reddish purplish colourings and became known as 'palisander'. Brazilian rosewood is valued for the deep rich colours and figuration which develop during two hundred years of growth. The distinctive figuring and fragrance are actually a result of deterioration from the inside, characteristics missing in the younger trees. Timbers displaying similar characteristics to Brazilian rosewood have inherited the name and the rosewoods have grown into a large unruly family.

In Name And Nature

There are at least a dozen different species of tree commonly referred to as rosewood. There are, however, about a hundred different names assigned to these species that grow typically in the tropical regions of the world. While the beautiful dark red and purple colours of the rosewood, combined with the rose scent, are the most obvious sensual aspects of these timbers, it is their density, workability and durability that make them so sought after. For instance, Brazilian rosewood is said to resist decay for 25-50 years in conditions that actually promote decay, such as the floor of a rainforest.

Some claim that a 'true' rosewood is of the specific genus *Dalbergia* and



that other rosewoods are merely substitutes for the increasingly rarer rosewoods. 'Rosewood' is often added to the name of the source country of a timber displaying properties similar to the Brazilian rosewoods, leading to the confusion over what is a rosewood.

Other Brazilian Rosewoods

Those sourcing the extremely rare and expensive Brazilian rosewood (*Dalbergia nigra*) for its tonal properties and fine polishing quality for the back and sides of acoustic guitars, may be supplied with **tulipwood** (*Dalbergia frutescens*) which is slightly lighter in colour.

Kingwood (*Dalbergia cearensis*) not to be confused with Goncalo alves,

draws its regal name from its popularity with Louis XIV and Louis XV of France and is also often substituted for Brazilian rosewood. Sourced in Brazil, and displaying dark violet hues and black stripes set against a yellowish background it is also known as **violetwood** and **violetta**.

Another Brazilian rosewood more commonly known as **jacaranda do para**, is **Amazon rosewood** or **spruceana** (*Dalbergia spruceana*). This version of Brazilian rosewood is identifiable by the yellow sulfur deposits in the pores.

Rosewood Forests

The huge rosewood family grows in two forest types: the tropical rainforests which receive up to 400 cm of rainfall throughout the year, and the dry or deciduous rainforests that depend on the monsoonal season for their rainfall.

Tropical Rainforest Rosewoods

The rainforest trees are extremely efficient in absorbing nutrients from the soil. So efficient in fact, that large mineral deposits resembling rocks have been found within the pore structure of the some rosewood trees such as the **East Indian rosewood** (*Dalbergia latifolia*). In smaller concentrations the mineral deposits will show up as small white dots on the surface pores.

Timbers commonly referred to as rosewoods which grow in the tropical humid forests include **Aniba rosewood** (*Aniba*

duckeii) also known as **coto** or **female rosewood** and is considered an endangered species according to the World Conservation Monitoring Centre (1992). **Borneo rosewood** (*Gluta* sp.) is sometimes referred to as **Straights mahogany** or **black varnish tree**.

Brazilian rosewood (*Dalbergia nigra*) also known as **Bahia rosewood**, **caviuna**, **jacaranda de Brazil** and **Rio rosewood** also heralds from these fast disappearing humid forests, as does **Madagascar rosewood** (*Dalbergia baronii*) or **palissandre voamboana** and **New Guinea rosewood** (*Pterocarpus indicus*). PNG rosewood is classified as 'vulnerable' in the Philippines, 'extinct' in parts of Malaysia and 'uncertain' in Vietnam. Logged in the Philippines since the 1700s, it is also the national tree of the Philippines.

Monsoonal Rosewoods

Tropical dry or deciduous forests rely on the seasonal monsoons yet outside the monsoon they are dry enough to host forest fires. Rosewoods of these

forests include: **East Indian rosewood** (*Dalbergia latifolia*), **Bombay blackwood**, or **sonokeling** is the 'second' rosewood after Brazilian rosewood. It displays golden brown to dark purple brown with almost black streaks and is especially valued for the most precise cabinet work. The tree grows to a large size and therefore the veneer can be cut on the true quarter producing a striped effect. It is currently being grown successfully in plantations throughout Indonesia.

Honduras rosewood (*Dalbergia stevensonii*) or **nogaed** was classified as being very scarce, however, with political stability returning in the region it is becoming available again. It is pinkish brown to salmon red with dark irregular grain lines. It is highly regarded by instrument makers especially for marimba bars. A similar species is **Guatemala rosewood** or *Dalbergia tucurensis* and *Dalbergia cubilquitensis*. **Nicaraguan rosewood** (*Dalbergia retusa*) is better known as **cocobolo** or **Bahia rosewood**, **granadillo**, **cav-**

iuna, **jacarandaholz**, **palissanda**, or **prieto**. This secure monsoonal forest rosewood flags the variety of hues displayed by rosewoods. Nicaraguan rosewood displays a wild grain of brilliant orange, rust, purple and yellow with distinctive superimposed lines of purple and black. Its oily content has led to its common use as knife handles which are waterproof and polish well.

African rosewood (*Guibourtia coleosperma*) or **Rhodesian copalwood**, **Indian rosewood** (*Dalbergia sissoo*) and **African blackwood** (*Dalbergia melanoxylon*) or **zebrawood** or **Mozambique 'ebony'**, are also monsoonal forest rosewoods.

Unlike the other rosewoods, African blackwood is found in grasslands or savanna where rainfall may only occur every 20 years or so. This timber is regarded as both a 'rosewood' and an 'ebony' and its classification here as a rosewood is because of its membership of the genus *Dalbergia*. The dark purple to black timber resembles

NEW GUINEA ROSEWOOD

The characteristics, uses and qualities of *Pterocarpus indicus* also known as **amboyna** (Moluccas), **narra** (Philippines), **ligi** (Solomons):

The tree varies considerably in height from 25 to 40 metres. The timber is described as having a somewhat variable grain pattern, which can be straight, interlocked or wavy with a texture that can be sometimes rather coarse and uneven.

Despite this description and a tendency to present a somewhat 'pitted' face after planing, some manufacturers actively seek out the timber for its flexibility, strength and relatively easy working qualities for furniture and cabinetmaking, where it also lends itself to turning and carving. It is not considered to be too hard on cutting tools although it is harder than African and Honduras mahogany. New Guinea rosewood is noted for its exceptional stability in use.

The colour varies from deep red to straw to mostly gold colours. In fact the redder samples, from which it has earned its 'rosewood' classification in the timber trade, make up only a small proportion of a parcel—unless your supplier has specially selected these for you. The latter will be significantly heavier than the general run of New Guinea rosewood and will also, if specially selected, cost you more. Generally the timber is easily stained, with the exception of the blood red heartwood which is very difficult to impregnate.

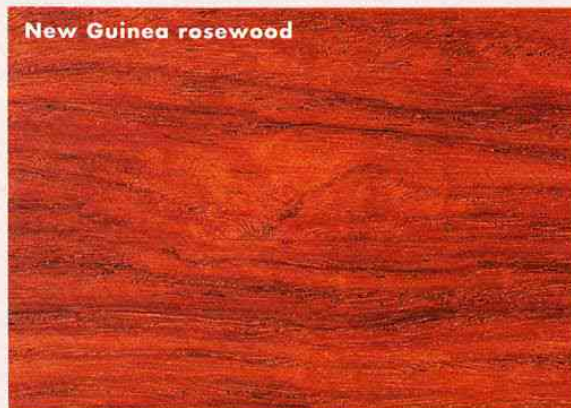
The timber is a Class 1 durable timber and resists both decay and termite attack for at least 25 years and up to 50 years. A density of 610 kg/m³ and hardness of 565-680kg/m³ make it appropriate for in-ground contact to cladding and exposed structural joinery.

In essence, this is a timber

with remarkable physical beauty, an amazing range of uses and durability matched only by timbers which are either much more expensive or which do not possess the same physical attraction or working qualities. It is moderately priced, works well with hand or machine tools and polishes to a lustrous finish.

Compiled by Lester Oldham and Russell Lawson, Australian Furniture Timbers, Port Melbourne.

New Guinea rosewood



ebony in its working properties and was traditionally used for the finest wind instruments, bagpipes and violin bows, ornamental turnings and precious treen, but it has also been applied to everything from construction to piano keys. It is now very rare and very expensive.

Alternative Rosewoods

There are many alternatives to the scarcer rosewoods, some of which are also becoming endangered, for instance bubinga (*Guibourtia demeusei*), bocote (*Cordia elaeagnoides*), granadillo (*Platymiscium yucatanum*), jacaranda pardo (*Machaderium villosum*), or purpleheart and padauk (*Pterocarpus spp.*).

Australian Rosewood

There are four species grown in Australia that are commonly referred to as rosewood: Rose mahogany (*Dysoxylum fraserianum*), two species referred to as scentless rosewoods (*Synoum glandulosum* and *Synoum muelleri*) and red bean may also be known as miva mahogany (*Dysoxylum muelleri*).

Adams Timbers (03) 9761 8688 Honduras rosewood.
 Albat Trading Wood Veneers (02) 9319 7831: Brazilian, scentless, Nicaraguan (cocobolo) and Madagascan rosewoods
 Australian Furniture Timbers (03) 9646 1081, (070) 351 301 PNG rosewood.
 Canapie Crafted Furniture (045) 71 1570 Rose mahogany
 Lazarides Timber Agencies (07) 385 11400 Rose mahogany, scentless rosewood, PNG rosewood, red bean/miva mahogany, bubinga, Brazilian rosewood, Indian rosewood, cocobolo, kingwood, tulipwood.
 Marquetry Craft Co (044) 234 717 S.American and Indian rosewood veneers
 Mathews Timber (03) 9874 1666: Indian and PNG rosewood, rose mahogany.
 Mullumbimby Timber Salvage (066) 84 0166: salvaged rose mahogany, scented rosewoods.
 Otto & Co (08) 8362 3525: Honduras rosewood
 Peter Scott-Young (03) 9870 8733 Veneers in Rio rosewood, Santos rosewood, Bombay rosewood, kingwood, tulipwood.
 Processed Forest Products (02) 9645 1000: Brazilian, Nicaraguan and PNG rosewoods veneers.
 Southern Timber Supplies (048) 691322: Rose mahogany, PNG rosewood, bubinga.
 Toona Australis 0414 552 002, A/h (07) 3345 4826 East Indian rosewood, Brazilian rosewood, cocobolo.
 The Woodage (048) 721 618: Rose mahogany, PNG rosewood.
 Trend Timbers (045) 775 277: East Indian, PNG and Amazon rosewoods, bubinga, bocote, cocobolo, African blackwood, NSW rosewood and miva mahogany
 Veneer and Timber products (07) 38812068 PNG rosewood

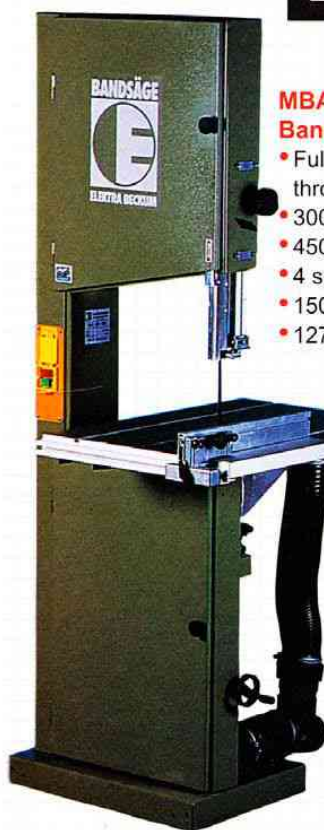
References:

Bootle, Keith R. Wood in Australia: Types, Properties and Uses McGraw-Hill, Sydney 1983
 Boland, DJ. Forest Trees of Australia, CSIRO Publications, Melbourne 1992
 McClure, Paul *Wither Rosewood?* in Fine Woodworking, Wood and How to Dry It, Taunton Press, Connecticut 1986
 Time-Life Book, The Art of Woodworking, Encyclopedia of Wood, St Remy Press, Montreal 1993
 Boak, Dick *The Rosewood Jungle* in Fine Woodworking Issue 77 July August 1989, Taunton Press Connecticut USA.
 Richard D. Miller Woods of The World, compact CD, produced by Tree Talk Inc, Burlington, VT, USA, 1995

WINTERFEST
in Warburton
 'Australia's Premier Wood Festival and Woodwork Exhibition'
 Live demonstrations 4-7 July
 Woodwork exhibition 4-13 July
 Workshops 8-10 July
 at the Upper Yarra Arts & Entertainment Centre
Over \$8,500 worth of prizes!!!
 Brochure, entry form and details from:
 Rob Zubin, Winterfest Committee,
 PO Box 248, Yarra Junction Vic 3797
 Ph: (03) 5967 5207 Fax: (03) 5967 1764
 Toll Free: 1300 368 333
 Email: wintfest@enternet.com.au

ELEKTRA BECKUM

IT'S GERMAN FOR QUALITY



MBAS 500 Bandsaw (new model)

- Fully dust extracted through base and table
- 300mm height of cut
- 450mm width of cut
- 4 speeds
- 1500w motor
- 127kg



PKR 250K Table Saw

- Full range of accessories to convert to panel saw
- 250mm dia blade
- 3100w motor
- Scribe blade with separate motor

SPA 1000 Dust Extractor

- All reinforced plastic construction—no sparks
- Reinforced bags
- 2.5m hose



For nearest stockist in your state please telephone:

NSW (02) 9534 4555, VIC 018 588 522, QLD (07) 3279 4811, SA (08) 8388 7678, TAS (03) 62731355 WA (02) 9534 4555

By Anton Gerner

IS IT DRY? — MOISTURE METERS

Knowing the exact moisture content of the wood you are working is a very important and often overlooked step to fine woodworking. The wrong moisture content can cause warping, swelling, splitting, and loose joints in your finished work, which can in turn cost you hours of time in repairs, and possibly customers in the process.

It is essential to ascertain whether your timber is dry and at the correct moisture content. Oven drying samples of board is the most accurate method of determining moisture content. The latter is expressed as a percentage of this oven-dry weight. To determine the moisture content of a piece of wood you must first weigh it, and then oven dry it at 103°C, until it no longer loses weight. The oven dry weight is subtracted from the initial wet weight and the difference divided by the oven-dry weight and multiplied by 100 to give a percentage.

For quick and easy readings of moisture content that don't require cutting samples of boards (or stoking the oven)

the hand held moisture meter is, not surprisingly, highly recommended.

Optimum Moisture Content

The correct moisture content for furniture timber in Australia varies greatly according to location, but the Australian standard for milled hardwood products (AS2796 1985) specifies a moisture content for kiln dried timber of 10-15%. In many indoor environments the equilibrium moisture content (EMC) is, however, as low as 8%, so for furniture applications a dried average moisture content of 8% would be optimal.



Deltron meter from Deltron Moisture Meters (02) 9818 5155

Remember though, wood is always susceptible to fluctuations in humidity and will try to reach a state of equilibrium with the surrounding atmosphere. When this balance of moisture exchange is established, the amount of moisture eventually contained in a piece of wood is called the 'equilibrium moisture content'.

Meter Types

Resistance meters measure the electrical resistance between two probes pressed into the wood surface. The most common type of probe is known as the hammer probe, which consists of a sliding hammer which is used to drive the pins into the wood at different depths. The hammer has a cable attached which is plugged into the meter.

Most smaller meters have 6-10 mm pins (or small probes) attached to the actual meter which don't take very deep readings on thick stock, but for general workshop use are very good. Good quality pins have an insulated coating except at the tips, which ensures that an accurate measurement is taken at the end of the probe.

If moisture is present the electrical resistance between the probes changes and a reading is taken. The greater the resistance measured, the higher the moisture content. This resistance is translated electronically into a percentage of dry weight moisture content and displayed on either an analogue or digital display. Note that surface moisture on the wood will influence

the reading, so the probes must be driven in quite deeply. Testing on fresh cut endgrain is recommended.

Non-invasive types of meters do not use probes, but send electro-magnetic waves through the timber. Surface moisture is not generally a worry here as the waves pass deeply into the timber.

Most moisture meters have been calibrated for Douglas fir, so it is necessary to refer to a correction table for the species you are using. Correction tables are reasonably accurate, but it is important to remember the correction figures represent averages and a variation of 1 or 2% each way is possible. Some meters come with test calibration buttons or simple test resistance strips may be available from your meter supplier.

Corrections for temperature also have to be made as most meters are calibrated at a temperature of about 21°. A correction of minus or plus 1.5% should be made for every 11° respectively above or below 21°. Some meters also come with temperature correction tables. Species correction figures should be applied after corrections have been made for temperature.

Using Your Meter

When taking readings from your moisture meter always take readings after the display has stabilised, usually after about 2-3 seconds. Prolonged measurement, however, can induce electrolysis, causing the reading to drop slowly. Try not to move cables during measurement as this can cause readings to fluctuate and vary. Working near electrical equipment or static electricity can also cause false readings, so it pays to take readings in different locations. Moisture itself can also affect your readings—keep your meter dry and clean.

Meter Comparison

I was sent seven hand held moisture meters which are currently available on the market to review. As you will see in the table overleaf the cost of the meters surveyed varies greatly, as do the accuracy and ranges of the readings taken.

After testing several boards with several meters and gaining many different results, I suspected many of the meters sent to me were inaccurate, so I decided it was time to do the oven test. For this I prepared samples, from opposite ends of 25mm thick boards of ash, blackwood and American cherry.

I carefully recorded readings from all the meters at the recommended 20° air temperature. Next, I weighed my samples and began oven drying them. I kept checking the weight of the samples until constant 'oven dry' weights were found which were recorded. After using the formula to determine the true moisture content, I concluded that all of the meters were out by between .25% and 4% and most gave inconsistent readings when checking the same board within a 24 hour time frame.

Conclusion

I found the *Wagner L606* meter gave instant readings, scanning large amounts of a board in only a few seconds, although I did notice its readings could be greatly affected by surface moisture. The *Tramex Professional*, *Wagner L606* and the *Mini Ligno DX/C* performed with consistent results every time, with readings accurate to within plus or minus 1-3%. The *Deltron* came highly recommended, but arrived too late for comparative review, although its features have been included in the table.

For woodworkers who want very quick and reasonably accurate results I would recommend the *Wagner L606* as the meter to go for. But for those who require slightly more accurate readings the *Tramex Pro* or the *Mini Ligno DX/C* should be chosen for very accurate digital display and scope for attachment of different probe types.

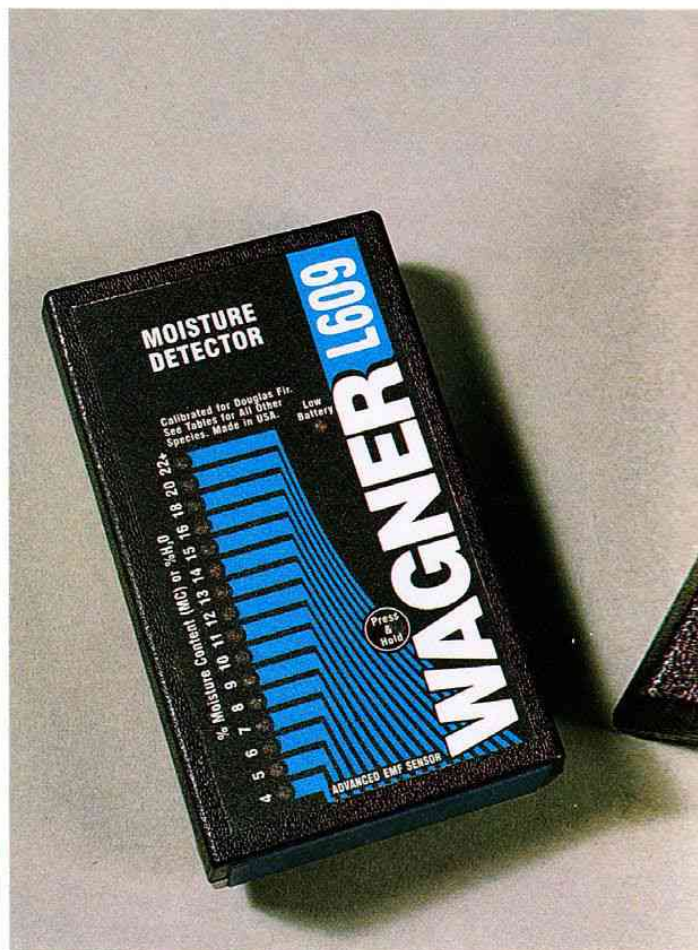
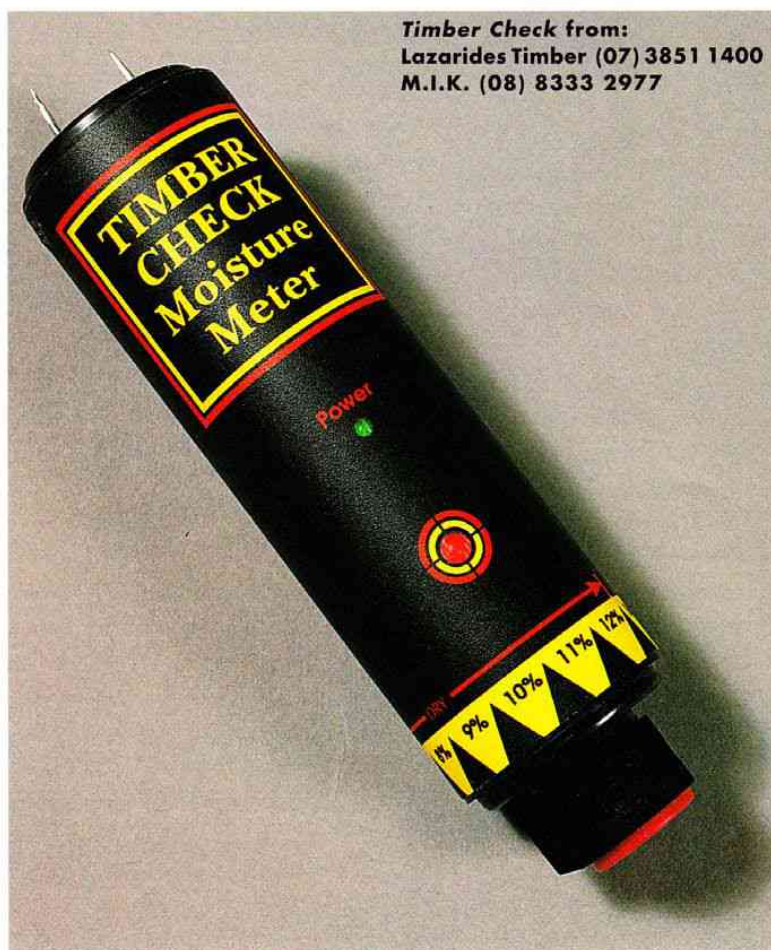
Prices quoted in the table include tax and were correct at time of writing.

**Mini-Ligno from Carba-Tec 1800 658 111,
M.I.K. International (08) 8333 2977,
Sunbury Woodmill (071) 21 6028**



Model	Origin	Size	Feel/Look	Display	Type	Cost
Deltron DCR-12	Australia	190 x 125 x 75mm	Straightforward design of unit, probe is very heavy duty, easy hold.	Analogue	Resistance	\$467 (probe extra)
Mini Ligno	Germany	135 x 70 x 28 mm	Easy to hold, looks square with rounded pin cover.	Digital	Resistance	\$191
Mini Ligno DX/C	Germany	135 x 70 x 28 mm	Easy to hold in one hand, comes with pin cover, quality plastic	Digital	Resistance	\$729
Timber Check	Canada	155mm long x 45mm diameter	Round cylinder with switch at end, easy to hold	Digital	Resistance	\$165
Tramex Compact	Ireland	160 x 75 x 28 mm	Easy to hold, square looking, quality feel	Analogue	Resistance	\$290
Tramex Professional	Ireland	160 x 75 x 28 mm	Easy to hold, square looking, quality feel, well made	Digital	Resistance	\$430 (probe extra)
Wagner L606	USA	115 x 70 x 40mm	Quite small and square, fits easily into hand and very light	Analogue	Resistance	\$470
Wagner L609	USA	115 x 70 x 25 mm	Quite small and square, fits easily into hand	Digital	Resistance	\$294

Thanks to Andrew Rozsa from CSIRO for additional information used for preparation of this article.



Readings Range	Includes	Battery Check	Comments
5-40%	Instructions, correction table, optional carrying case	Level indication	Designed for timber producers but will suit all wood users.
Two ranges, 6-20%, 22-36%	Case, instructions and correction table	No	Very easy and simple to use, good value for money.
5%-65%	Case, instructions and correction tables for species and temperature	No	Suit the professional woodworker who requires very accurate readings.
6% and under to 25% and over	Spare pins, pin cover, instructions and species conversion table	Battery indicator light	Very simple to use with reasonably consistent results. Good for occasional users.
7-42%	Case, pin cover, good clear instructions & species conversion table	Yes	Easy to use, but scale hard to read below 10% and not fine enough to take accurate readings for furniture use.
8-40%	Case, pin cover, good clear instructions and species conversion table	Yes	Easy to use, consistently accurate and very easy to read display. Suit the professional woodworker.
0-30%	Case, pin cover, good clear instructions and species conversion table	Low battery indicator light	Able to take many readings very quickly over a board with ease.
4-22%	Case, good clear instructions and species conversion table	Low battery indicator light	Awkward to use as you have to continuously hold the 'on' button, which takes some pressure. Affected by surface moisture.

Order from: Carba-Tec 1800 658 111



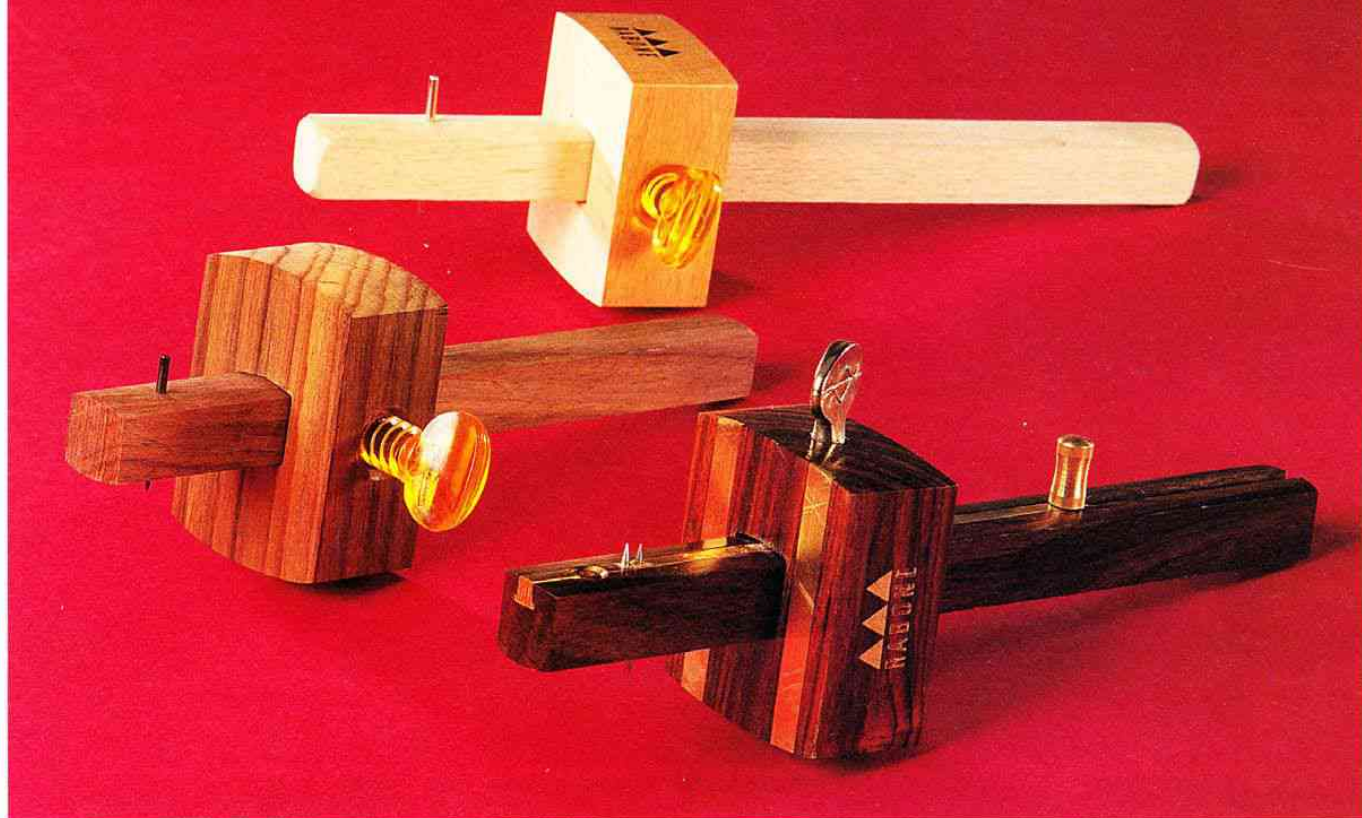
Tramex from Cornell Group (02) 9418 1002, Lazarides Timber (07) 3851 1400



Photos: Clive Buxton

By James Brook

MAKING YOUR MARK



The marking gauge is a simple but essential tool which is used for marking parallel lines to the edge of a board. The gauge normally has a wooden beam around 200mm long with a fixed sharp marking pin at one end. The beam slides through a wooden stock which has a screw for fixing the stock at desired locations. The required distance between the marking pin and stock is set, the stock is pressed against the board and with the edge of the pin trailing lightly and the gauge is pushed or pulled along the board.

Scoring long- and end-grain should pose no problem. For cutting across the grain however, a series of light cuts will be needed to prevent tearing and the subsequent inaccuracies that will follow. A cutting gauge is recommended for cross grain work, the difference here is that the pin is replaced with a flat cutting blade.

A mortise gauge has two pins, one fixed and one adjustable which al-

Top, Rabone: no frills tool offering a reasonably sharp stainless steel pin, parts of the tool are polished while other parts are raw beech. All edges are sanded, plastic screw, the fit of beam and stock was loose, not square.

Centre, Marples MR2049, \$22, made of unfinished medium hardwood. The steel pin needed sharpening and the ends of beam were rough cut and unsanded, plastic screw, fit of beam and stock was loose, not square.

Lower, Rabone mortise gauge, polished hardwood, stainless steel pins sharp, all edges sanded, brass screw, brass wear plates neatly fitted, fit of beam and stock was loose, not square, sliding mortise pin travel tight.

lows both sides of a mortise to be marked simultaneously. Gauges of this kind generally have another pin on the underside so they can also be used as marking gauges.

Marking gauges, like other hand tools, have developed a certain mystique about them. In fact, a simple, no frills tool will suffice. The cutting pin needs to be sharp (which can be achieved with a file or sandpaper), the stock should be square to the beam and able to be firmly locked in place with the screw. Beyond this the tools on the market vary according to finish, fitting of metal parts, the timber used and the refinement of the mechanisms.

The tools we reviewed for this article had pins of either stainless steel or hardened steel. Some arrived sharp and others needed sharpening—no big deal really. When it came to the stock being square to the beam however, there was quite a difference. Price was certainly no indication of squareness as none of the gauges were square all round (sometimes out up to 2mm). The fact that the beams on some tools were not quite straight only added to the problem. On further checking with a retailer it seems that, strangely, no gauges available will come to you square and will need tuning or bedding in.



Sanderson miniature mortise gauge, \$30, polished hardwood.

Tuning The Gauge

It is common to place a rule on the stock and measure off to the pin. If the pin and stock are not square this measurement will vary according to where the stock rubs against the board on which you are marking. To get the beam and stock of your gauge square you may need to glue a little piece of packing to the stock either fore or aft of the screw, depending which way it needs to be moved.

The screw mechanism also varied greatly in the gauges reviewed. All used a brass screw except two which were plastic. It's not hard to imagine a plastic screw breaking if the tool were dropped. The screw must be able to be locked in place quickly and tightly.

A decorative hardwood is the norm for hand tools like this although I have seen some tools with a less exotic timber stained up to look like rosewood or similar. The more expensive tools will have brass wear plates let into the face of the stock. These are attractive, but check that the brass is sanded flush to the wood—some of the gauges we checked had brass jutting out proud, or the fit of the brass in the wood was sloppy and/or the brass pins protruded.

The adjustable pin on mortise gauges we saw used a brass slide to carry the pin. The slide can be a simple push slide or may have a threaded rod to control movement via a screw, either system works well. The finish and detailing did vary greatly on the gauges reviewed, some were superbly sanded and polished while others were begging to have sharp edges removed.

Any one of these gauges will do you for years of service. The *Clenton* marking gauge cannot be ignored, it is so well made and detailed and probably worth the \$98 just to look at and feel, I found the stock too wide though with the screw located at the side. The *Marples* M2050, at \$33, is a good gauge but watch the fit of the brass wear plates on the stock. I thought the *Marples* M2153, at \$38, good value and very pleasant to the eye, except for the beam which is too short, which makes it a little out of balance in use.

Tools in this story from Record Hand & Power Tools (Marples), Woodworks Book & Tool Co (Rabone and Marples), Colen Clenton (Clenton), Carba-Tec (Sanderson).



Left above: Colen Clenton marking gauge, \$98, polished hardwood, hand made and detailed, HSS pin sharp, all edges fine sanded, brass screw would be better knurled, brass wear plates neatly fitted, fit of beam and stock good, not square. Right: Colen Clenton cutting gauge, \$132, polished hardwood, hand made and detailed, HSS steel cutter sharp, all edges fine sanded, brass screw would be better knurled, brass wear plates neatly fitted, fit of beam and stock OK, not square.



Marples M2050, \$33, polished hardwood, steel pin sharp, end of beam a bit rough, brass screw, brass wear plates on stock neatly fitted but pins slightly proud, beam and stock fit OK, can be squared.

Marples M2153 mortise gauge, \$38, polished hardwood, steel pins sharp, all edges sanded, brass screw, brass wear plates neatly fitted, fit of beam and stock good, square one side, sliding mortise pin travel OK.

Marples M2154 mortise gauge, \$46, polished hardwood, steel pins sharp, all edges sanded, brass screw, brass wear plates loosely fitted, fit of beam and stock good, square one side, sliding mortise pin travel good via screw adjustment.

Suppliers

Colen Clenton tools from Colen Clenton (049) 90 7956, Woodstock, Timber, Tools & Hardware (08) 9345 4522

Marples tools from Record Hand & Power Tools (02) 9748 6800, MacDonnell Road Hardware (07) 3283 1558

Rabone tools Power Tool Specialists (06) 280 4966

Carba-Tec 1800 653 777, 1800 658 111, NZ 0800 444329

Sanderson tools from *Carba-Tec*

NEW TALENT OFF THE LATHE

Woodturning in Australia is a trade, an art, a craft and a hobby. In the mass production stakes we have companies who produce predominantly spindle work for the furniture and building industries. On the art and craft side numerous small and often home-based businesses produce limited runs of turnery for the gift and gallery scene. On the world stage Australia boasts high profile 'name' woodturners who are lauded as authors, demonstrators and exponents.

Each year in Australia there are now many exhibitions where woodturning is featured, if not billed at the top. Woodturners are winning awards and grants from local and federal governments and at the same time lobbying for higher profile on the Australian craft scene, demanding the respect which other craft disciplines seem to enjoy. At the base of this pyramid are the part-time turners, numbered in the thousands. For them woodturning is a fulfilling, creative, achievable and,

sometimes, profitable pastime.

Last year we asked readers to send in recent work and this issue we present a selection of the images received. Some of the turners represented here are full-time professionals while others are serious part-timers. Many have become woodturners only recently, yet have achieved high standards and now derive income from what may have started out as a hobby. We hope you will enjoy viewing their work as much as they have enjoyed making it.



Peter Bradford, Pomona, Queensland

'I am a cabinetmaker of 25 years experience and work for a local company during the working week. My apprenticeship was served working mainly on church furnishings, antique restoration and reproduction. It was there that I was introduced to woodcarving and turning. However, it wasn't until I moved to Pomona that a chance meeting rekindled my interest in this part of my trade. Currently, all my spare time is spent turning, carving and collecting timber and burls.'

White beech bowl 400 mm diameter by Peter Bradford. The ribbon and lily stamen are in Leichhardt tree contrasting with the paler beech timber. The base is also carved.



David May, Clontarf, Queensland

'I have been woodturning for 14 years and sell my work through local galleries and markets. All of my timber is harvested locally and the majority of it is 'recycled', in the sense that it would otherwise have been burned or dumped.'

Above: Inland rosewood bowl, 230mm diameter, David May

Harold Irving, Blackburn, Victoria

'From my earliest memories I have loved working with wood, although I chose to become an electrical engineer and a teacher of Mathematics and Science. Now I look upon myself as an Artist/Sculptor who has the ability to adapt tools and fixtures to obtain the desired shape and finish.'

Below: Shallow form conical bowl made from jarrah burl, 370mm diameter x 180mm high, Harold Irving.



*Journey, blackwood,
520 x 230 x 80mm,
Robert Manhal.*



**Robert Manhal,
Inverloch, Victoria**

'The fundamental basis of my work is its design. I remove or cut away areas, add pieces and create different levels to complement the intrinsic quality of the timber. Off-centre turning also creates many different design features. I am making bowl 'units'. My bowls, platters and containers are useful and functional forms, made to be used. The timbers I use are largely locally sourced, mainly blackwood although I also use claret ash, sheoak, Huon pine, myrtle and banksia.'



**Blackwood bowl with white porcelain
insert, 500mm diameter, finished
in Danish oil, Guilio Marcolongo.**



Guilio Marcolongo, Wonthaggi, Victoria

'I started woodturning in 1994 and after a short time realised that I loved revealing the hidden texture and grain of our native timbers. Over recent times I have won a few awards with my pieces and this has inspired me to continue to experiment with new ideas. Wood is such a beautiful medium, it's always full of surprises.'

**Anthony Boerboom,
Big Springs, NSW**

'Having trained as a horticulturist, I have a natural affinity with trees. I try to reflect the natural strength of wood in my work, and I am also influenced by ceramic forms. I strive for simple, uncluttered lines and frequently use other materials to strengthen the statement.'



Ostrich Egg Jewellery Box, jarrah trays and fittings, pewter, Anthony Boerboom

**Simon Carter, Maylands,
Western Australia**

'I have been woodturning since 1980 and am totally self-taught. The majority of my creations have been made from recycled timber while I specialise in segmented work of which the patterns, styles, designs and colours allow for great creativity.'

Below: Barrel, jarrah and brass, 280mm high x 260mm dia, Simon Carter



Mark Duggan, Byron Bay, New South Wales

With a background in carpentry and woodwork, Mark Duggan, 40, has been turning for about four years. Red cedar 280mm diameter.

Photo: David Young.

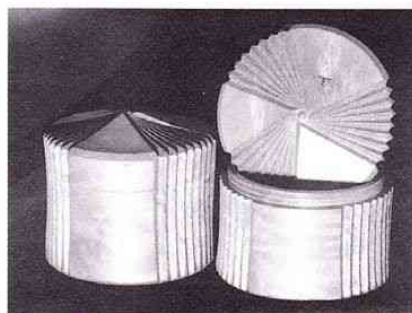


**Dave Brown,
Tea Tree
Gully, SA**

'I have been turning for approximately 18 years. I produce for the gallery, gift and the corporate market. I mainly use red gum which I buy from the mill by the cubic metre, wet and straight off the saw. Bowls are usually roughed out, waxed and dried in my friend's kiln for around six weeks, then stacked until required. Shape and finish are of paramount importance, without either the turnings just do not sell.'



Red gum and apricot boxes.



Myrtle burl lidded containers.

**Neville
Heinrich,
Thornlands, Qld**

'As a serious hobby woodturner, I am extremely fascinated by ornamental turning. I have developed a jig to mount my angle grinder into a cross slide vice which clamps to the lathe bed. All my containers have threaded lids cut with a home-made thread cutter. I enjoy the challenge of hollowing out the heart of these fragile pieces of wood, seeing how thin I can go without destroying them. I have also used banksia, tallow wood and scribbly gum termite-eaten hollow limbs.' Photo: Geoff Harwood.

TWO GOOD REASONS NOT TO GO PAST AUSTRALIAN BUILT QUALITY.



- ❑ 1" x 10 TPI spindle thread
- ❑ N°2 Morse taper spindle taper
- ❑ Six spindle speeds
- ❑ Quick action toolrest clamp
- ❑ Swivel head
- ❑ Single point mounting
- ❑ Largest bowl turning capacity in its class

NEW



- ❑ Solid construction
- ❑ N°2 Morse taper headstock and tailstock
- ❑ Standard accessories
- ❑ 1" x 10 TPI spindle
- ❑ Spur centre, live cup centre, 300 straight toolrest, ejector bar

CONTACT YOUR NEAREST DISTRIBUTOR WHEN YOU'RE SERIOUS ABOUT HAVING FUN.

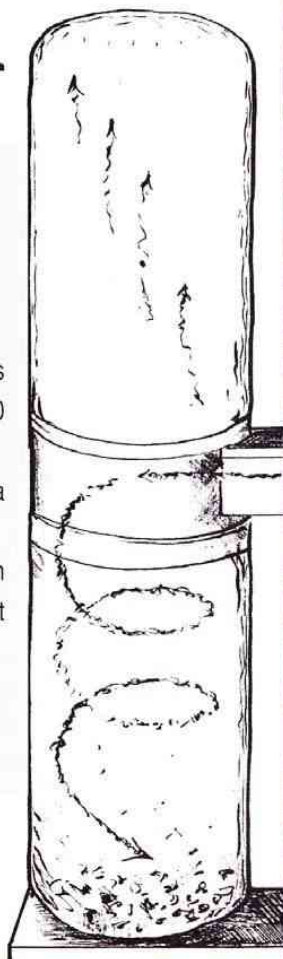
F.W. HERCUS PTY. LTD. 12 Camira Street, Regency Park, S.A. 5010 Phone (08) 8346 5522 Fax (08) 8346 5811

You Will Breathe Easier with Filtrair Dust Extractors

- High quality design and manufacture in Australia
- Full two year warranty on all parts, including motor
- Extractors for hobbyists through to large wood industry manufacturers
- Prices range from \$600 to \$1900
- Ratings of 675cfm to 4650cfm
- Motor ratings from 0.55KW to a massive 4KW
- Inlet sizes from 125mm to 305mm
- Special filter bags of needle felt
- Large collection capacity
- Low noise levels
- Excellent suction capabilities
- Full range of fittings

Call the manufacturers today:

L.C Henstock & Sons P/L
4 Yamma St, Sefton NSW 2162
Tel (02) 9644 8812
Fax (02) 9644 8471



VENEER & TIMBER PRODUCTS

DECORATIVE VENEER & TIMBER

EXOTIC TIMBERS, LOCAL & OVERSEAS

White Lacewood	Qld Blackwood
Silky Oak	PNG Rosewood
Pencil Cedar	Hoop Pine
Red Cedar	Blue Gum
Kwila	American White Oak
PNG Walnut	Ebony

W/sale & Retail enquiries welcome

(07) 3881 2068

28 Kremzow Rd, Strathpine, Qld

Fax (07) 3881 2071

POWER TOOL Specialists

PTY. LTD.

For ALL your quality woodworking needs.

We stock a large range of:

power tools, woodworking books (over 500 titles), vices, wood lathes & accessories, turning tools, carving tools, hand planes, clamps, router bits, forstner bits, drill bits, clock accessories, bandsaws, scrollsaws, hand saws, dust respirators, polishes, plug cutters, dovetail jigs, sharpening stones, squares, rasps & files, dust respirators, abrasives.

OVER 10,000 ITEMS ON DISPLAY!

Arbortech, Bahco, Bessey, Bosch, Carb-i-tool, Disston, Dremel, Durden, Eclipse, Festo, Hegner, Hermes, Leigh, Makita, Metabo, Nobex, Nova / Teknatool, P & N, Pfeil, Proman, Proxxon, Rabone, Racal, Record, Sandvik, Sorby, Stanley, Stubai, Triton, Tormek, U-Beaut Polishes, Veritas, Vermont American, WMS, & Woodfast, plus many other quality brands.

27- 29 Wollongong Street (P.O. Box 317)
 Fyshwick, A.C.T., 2609

Telephone: (06) 280 4966 Fax: (06) 280 4881

Open: 9am - 5pm Weekdays, 9am - 12 noon Saturdays

Processed Forest Products

Veneer Laying Specialists

**Manufacturers & Distributors of
 Natural Timber Veneered Panels,
 Solid Core Blockboard Panels
 and Fancy Veneered Plywood.**



Processed Forest Products

46-52 Ferndell St, Granville, NSW 2142

Tel: 61 2 645 1000

Fax: 61 2 644 7770

THE VENEER OF NATIVE HARDWOODS

Dr Barbara Ozarska, a senior research scientist with CSIRO Forestry and Forest Products, Wood Processing and Products Program, recently undertook an evaluation of East Gippsland hardwoods in collaboration with the Victorian timber and furniture industries and the Department of Industry, Science and Tourism.

The use of Australian hardwoods for structural products such as domestic framing, decking and fencing, has long been accepted. In response to growing interest in the use of these timbers for high value products, seven East Gippsland hardwoods were recently evaluated for use as decorative sliced veneers, veneered panels and profile wrappings. The species tested were regrowth mountain ash (*Eucalyptus regnans*), messmate (*E. obliqua*), manna gum (*E. viminalis*), shining gum (*E. nitens*), yellow stringybark (*E. muellerana*), red ironbark (*E. sideroxylon*) and silver wattle (*Acacia dealbata*).

After slicing, the resultant veneers were found to contain a high level of 'features' (see below and table opp.). Face grade veneers of mountain ash and manna gum were generally ivory

in colour, straight-grained and tended to be featureless in appearance, resembling the Tasmanian product (Tasmanian oak).

With their light to medium brown colour and generally straight grain messmate and shining gum would be equated with Tasmanian oak. The shining gum was distinguished by fairly conspicuous growth rings and, unlike messmate, provided a fine line stripe in quarter-cut veneer and well-defined crown figure in crown-cut. Veneer with fiddleback figure was obtained from the butt portion of a messmate tree.

In contrast, red ironbark and yellow stringybark tended to be figured woods. Both have interlocked spiral grain and as a result showed well-defined ribbon grain on quarter-cut surfaces. In addition, grain waviness in the tangential plane often added 'crossfire'

to the ribbon grain. The colour of the yellow stringybark was an even yellow-brown, at times tending to gold, while the ironbark was generally dark red with some variegation.

The entire yellow stringybark consignment tested was marred by extensive ambrosia borer attack. Reportedly, borer-free yellow stringybark is obtainable from certain areas in East Gippsland.

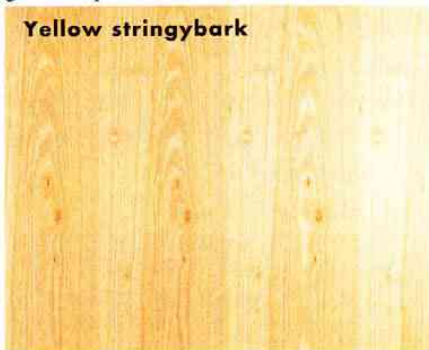
The silver wattle veneer was straight-grained and generally had a slightly streaked pale brown colour similar to that of the palest of blackwood (*Acacia melanoxylon*), along with that timber's characteristic lustre.

There is a growing demand within the furniture industry for 'featured' veneers. To satisfy industry interest, a few flitches of messmate showing localised burl formations were crown-cut

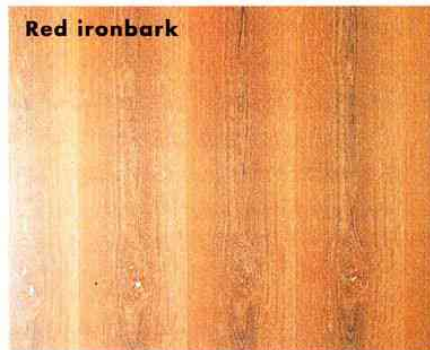
Manna gum



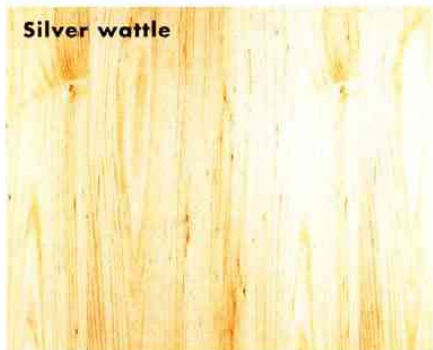
Yellow stringybark



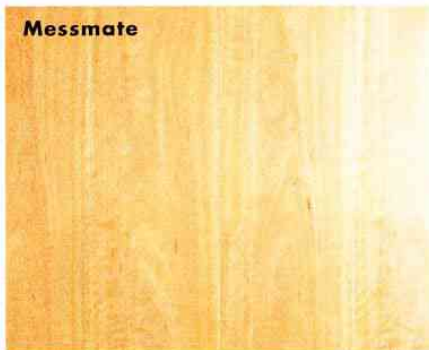
Red ironbark



Silver wattle



Messmate



Feature grade messmate



Species	Veneer Characteristics
Mountain ash	Gum
Messmate	Borer holes (from the pinhole borer ambrosia beetle), Gum, hobnail, fiddleback grain
Manna gum	Hobnail (tracings in the wood grain left by a grub (<i>Bucculatricidae</i> family), gum borers
Shining gum	Gum, epicormic shoots
Yellow stringybark	Borer holes, gum, hobnail, interlocked spiral grain
Red ironbark	Interlocked spiral grain
Silver wattle	Insect/grub damage, epicormic shoots

Typical characteristics encountered in the veneers

sliced. The veneer showed a coarse birds-eye figure.

CONCLUSIONS

Veneers

Slicing and drying procedures were trouble-free for all species except red ironbark and yellow stringybark. Poor veneer handling properties associated with the high density of red ironbark and yellow stringybark were largely overcome by raising flitch preheating temperature and extending heating time.

Gum vein was the main feature for mountain ash as was ambrosia attack for messmate. Silver wattle suffered suspected grub attack and an excess of epicormic shoots that left pin knot-like markings on the veneer.

Veneered Panels

No problems occurred during the production of veneered panels. Apart from red ironbark veneer which required a slightly longer pressing time, the laminating process for other veneers did not differ. Bond strength and durabil-

ity met Australian standard requirements. No sign of veneer delamination or splitting was observed in changing conditions of environment.

Profile Wrappings

There is a growing demand for veneer wrapped mouldings, particularly for architectural applications. Solid wood or reconstituted wood product such as MDF is used as a substrate for making products such as architraves. Test profile wrapping of the East Gippsland species veneers was carried out without need for any procedural variation.

Decorative veneered products manufactured from East Gippsland veneers have created great interest within the furniture industry in Victoria. Feasibility studies have been undertaken by the furniture and timber industries on the establishment of veneer slicing facilities in East Gippsland.

**The veneers tested in this study are as yet commercially unavailable. For further information on East Gippsland hardwoods contact Timber Promotion Council in Victoria (03) 9662 3222.*

Australian

Natural Feature

Hardwoods

Supplying Natural Feature Grade Timbers

- ◆ Victorian Ash (Solid and Veneer)
- ◆ Messmate
- ◆ Manna Gum
- ◆ Red Gum

Starter packs available

Trade enquiries to:

Phone (03) 9482 7126 Fax (03) 9482 7186 Mobile: 015 868 965



WELDBOND

BONDS MOST ANYTHING

UNIVERSAL BONDING ADHESIVE

- Gives a flexible bond of enormous strength - no heavy clamping required
- Dries crystal clear
- Takes a stain beautifully
- Withstands all climatic conditions
- Non-toxic, water clean up
- Concentrated for economy

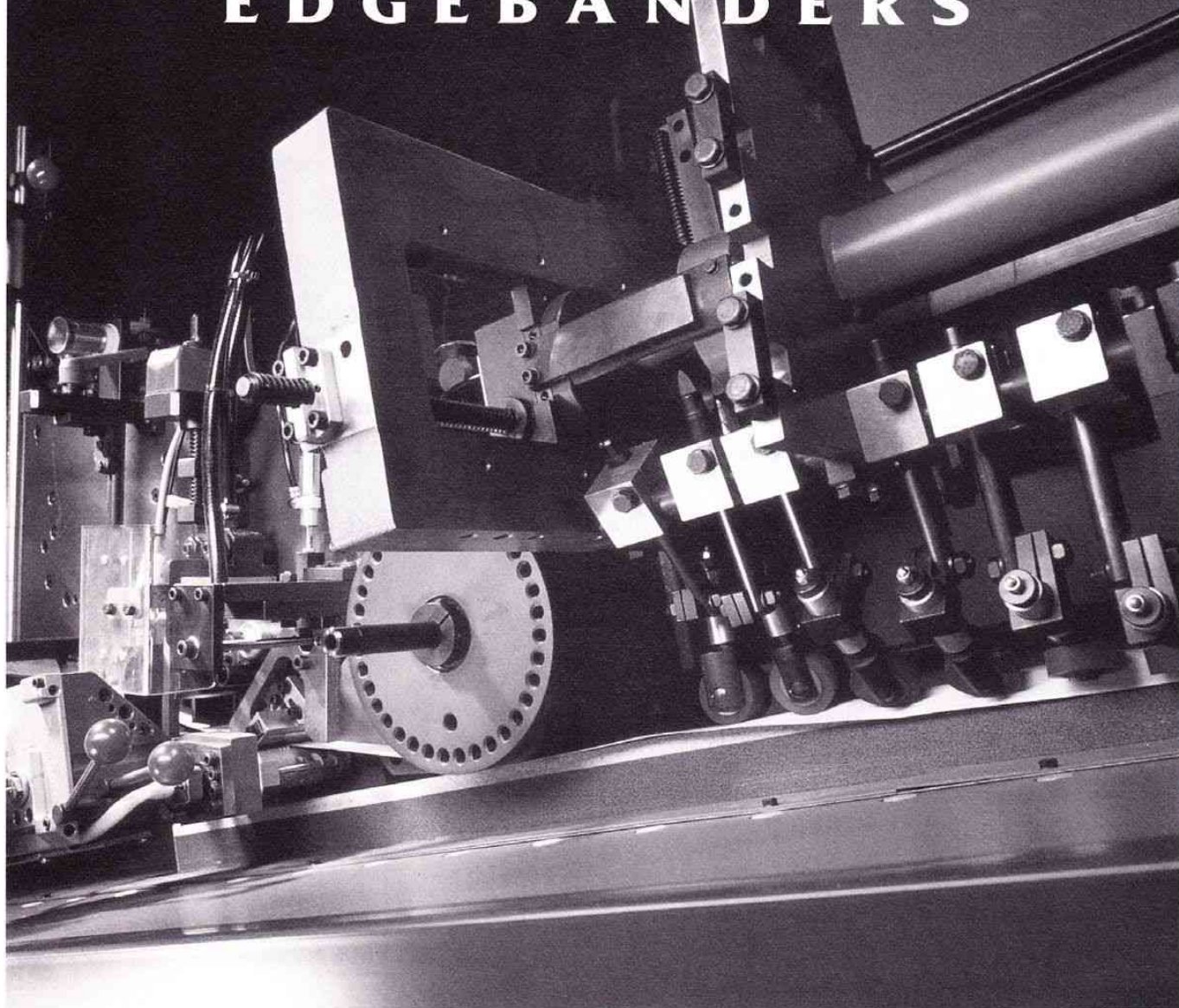
Use also as a sealer, weather proofer, dustproofer, hardener & bonding agent

AVAILABLE AT LEADING HARDWARE & BUILDING SUPPLY OUTLETS

Australian Distributor-
Sales Development & Management International P/L
Ph: (03)9720 8322

By Philip Ashley

EDGE BANDERS



When particleboard was invented in Europe in the late 1940s, it changed the way furniture was made, creating a whole new technology in the process.

Developments in tooling and machinery (much of it computer numerically controlled) for routing, boring, sanding and edgebanding quickly followed. The advent of medium density fibreboard (MDF) in America in the late 1960s has further accelerated the acceptance of manufactured boards as a substitute for solid wood.

Of course, new materials and technology have brought with them a whole new manufacturing ballgame. What was true and correct for solid wood was no longer applicable for the new

materials, and methods of furniture and cabinetmaking were redefined.

Manufactured boards come to us as sheets, usually coated with veneer or hard wearing melamine. Traditional woodworking machinery can perform most operations on man-made boards, although specialised equipment such as CNC beam saws and machining centres are generally superior, having been designed specifically to work the new materials.

One process that cannot be performed by traditional machinery is edging board components, that is, applying veneer, tape or plastic edging. On a very small scale pre-glued edging can be applied with a hot iron, but this is a messy operation which can sometimes result

in burnt edging material. For small and large production situations there is now a wide range of sophisticated edgebanding machinery available.

The edgebander is basically a long beam, which has a power feed and various processing units mounted onto it. Panels are fed into the machine and move through the units on a feed track. Some machines have an optional cutter which first trims the panel straight. Glue is applied to the panel edge and the tape is pressed on. A guillotine snips the tape and the overhang is then removed by knives or saws.

The top and bottom of the panel is rough and fine-trimmed with tiltable trimming units to give a chamfered edge. For 3mm PVC edges, a scraping

unit is employed, followed up by top and bottom buffing units. The edgebander is like a self-contained production line, with each unit performing a separate part of the process.

TYPES

A hand-held edgebander is available. It is very basic but, at around \$500, is certainly an option for the one-person shop doing low volume work. The most basic kind of free-standing edgebander is a small table machine which uses a hot air blower to heat a pre-glued melamine or veneer tape. The panel is hand fed past the tape feed and the end and surface trimming is done manually. A machine of this type can cost as little as \$2,000 and because it is hand fed even curved panels can be edged.

A step up is a machine with a small power feed, which will come equipped with end trim knives, and top and bottom flush trimming units. These are usually powered by high speed Bosch trimmers, which will work pretty hard. A machine of this type, built in Australia, can cost \$8,000 or more.

For serious edgebanding, you will need to have at least \$40,000 in your wallet, even for an Australian-made product. As a starting point, you will get a hot melt glue pot, glue applicator, pressure rollers, end trim, flush (surface) trim and buffing units. From here on you can look at investing up to \$200,000 on a quality German machine, which should give ten years or more of continuous use.

Additional units offer pre-trimming of the panel edge, quick melt glue pots, rough and fine surface trimming, corner rounding, surface scraping, profile trimming and edge sanding. Cheaper machinery may not be able to apply solid timber edges, or the 3mm PVC edges now popular on most office furniture. If you are buying a cheaper machine for these purposes, ask for a demonstration before you hand over your cheque. Secondhand machinery is, of course, well worth considering.

TROUBLESHOOTING

Dry conditions are a must when working

with any panel product. Most problems with edgebanders, however, centre on the glue pot. Too low a temperature and the glue will not flow properly, too high and it will burn. Glue manufacturers specify different temperatures, but usually the glue should be over 200°C at the application point, and slightly less in the pot. The glue should flow like honey.

Watch the 'open' and 'closed' times on your machine. Open time starts when the glue leaves the roller and ends when contact is made with the tape. The closed time is when the tape is being pressed. A high feed speed will give a short open time, (which is good) and a short closed time (not so good). A low feed speed will give a long open time (bad) and long closed time (good). What you want is the shortest possible exposure to the cool air (open time) and the longest possible pressing (closed) time—take the time to experiment for best results.

Make sure though, that the glue doesn't burn. This can easily happen when the machine is left on for long periods of time between periods of usage. On the other hand try to avoid short runs, as the glue will take up to 20 minutes to heat up, and well over an hour to cool down. The glue will deteriorate over time, and will give less than satisfactory results if left in the pot too long.

Machining problems can also be caused by poor dust extraction, where clippings are not removed and end up sticking to the moving parts, in particular to the trimming unit tracers. For successful edgebander operation the main point to keep in mind is regular and thorough maintenance. Clean all units (especially the glue pot) regularly and your problems should be minimised.

Edgebander suppliers

Woodman Group (03) 9885 6104, (02) 9708 3233, (07) 3844 4433, (08) 8346 4561, (09) 272 3844

A-class Machinery (045) 773685

WOOD VENEERS

importers and exporters

With 70 species in stock we have one of the largest ranges in Australia.

We specialise in high quality and exotic Australian and imported veneers.

Whether you need 5 or 5,000 square metres call Andrew at Albart.

ALBART TRADING CO PTY LTD

30-34 Garden Street,
Alexandria NSW 2015 Australia
Tel: (02) 9319 7831
Fax: (02) 9698 8660

A-CLASS WOODWORKING MACHINERY

Mon—Fri (045) 773685
Quality Used Machines In Stock
Delivery—Australia Wide

ACIMALL SS-511 Tilt Spindle Moulder
CENTAURO 1.2m Cast Iron Lathe
KAMRO D5 500mm Thicknesser
MULTICO MCD Chisel Mortiser
ROBINSON Chain/Chisel Model SL/E
SAGAR Bursgreen 16" Bandsaw Cast
TECNICA F5350 U/Over with Mortiser
SANDYA CL 110 Twin Wide-Belt Sander
SCM F3a 12" Planer 2.1m Tables
SCM C35 5-in-1 Combination
WADKIN 12" BAO Thicknesser
WADKIN UX 2 Overhead Router
WOODFAST 150mm Planer-240v/415v
WOODFAST 20" 7.5hp Ripsaw \$2,500

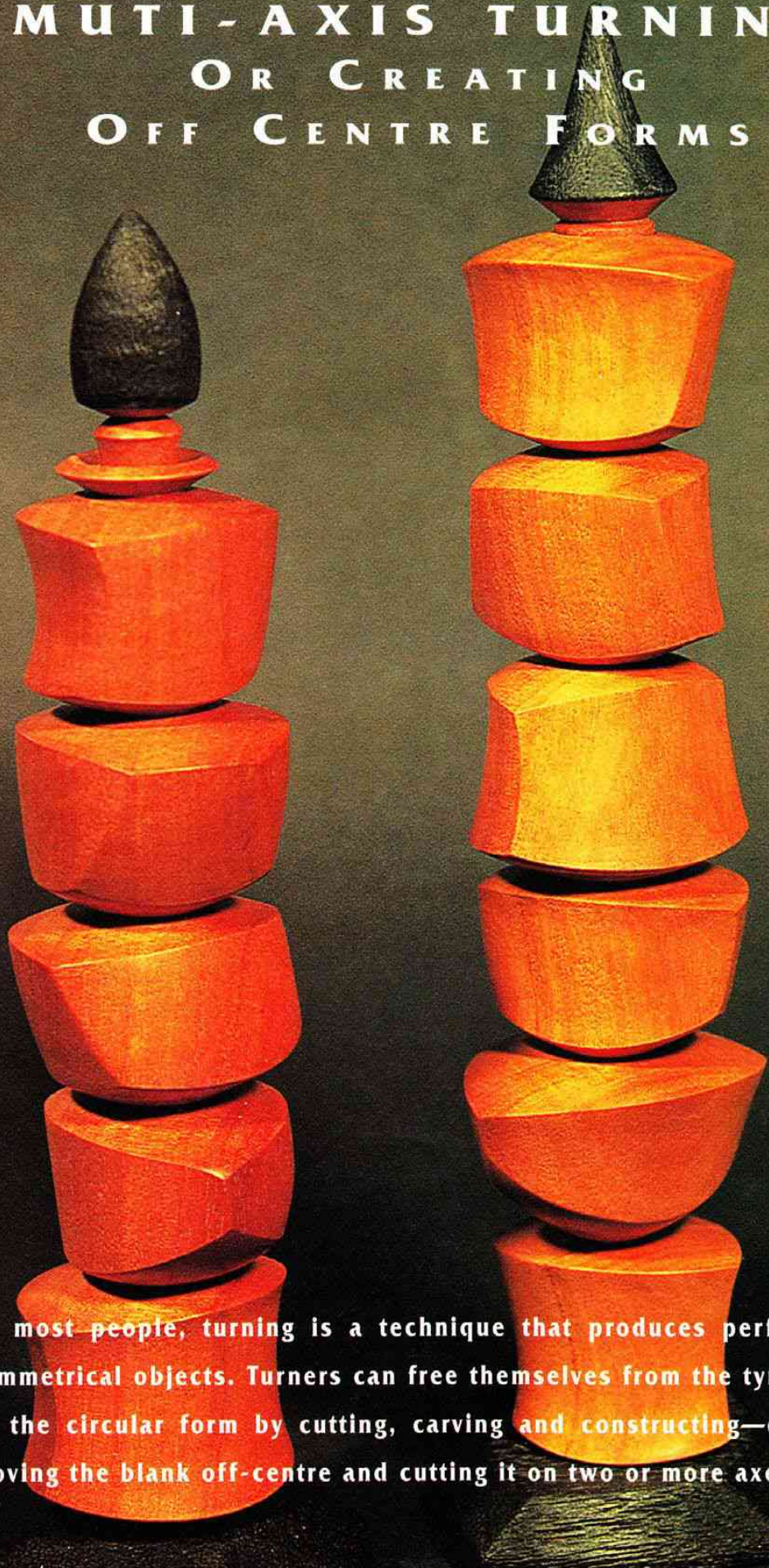
NEW—Call In And Inspect:

Combination 5-in-1 **LEDA C730**
Dovetailers—**OMEC 650/750**
Dust Extractors, Wide Belt Sanders, etc.

10 CURTIS RD, (off Windsor Rd)
MULGRAVE, NSW 2756

By Andrew Potocnik

MUTI-AXIS TURNING OR CREATING OFF CENTRE FORMS



To most people, turning is a technique that produces perfectly symmetrical objects. Turners can free themselves from the tyranny of the circular form by cutting, carving and constructing—or by moving the blank off-centre and cutting it on two or more axes.

In conventional spindle turning, both the driving spur and tailstock centre are positioned at the middle of each end of the turning blank. When turning off-centre, either one or both ends of the blank are repositioned.

Cabriole legs, for example, can be either carved or turned to shape by plotting converging or parallel axes. Shifting axes on faceplate turned items can produce a variety of geometrical and ornamental possibilities. The forms shown opposite illustrate the effects of random changes of axes; with planning however, the possibilities are limitless.

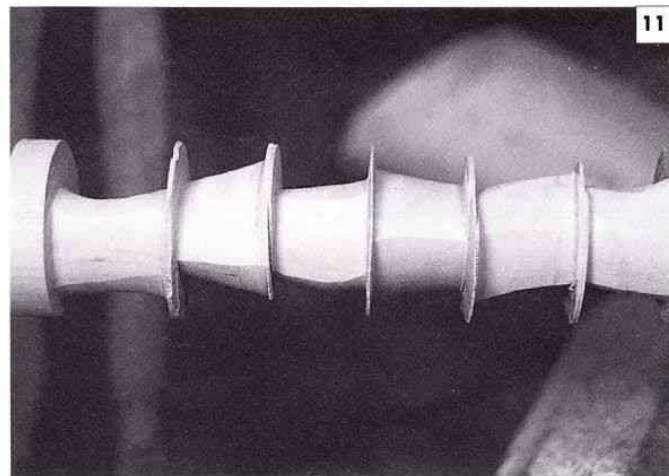
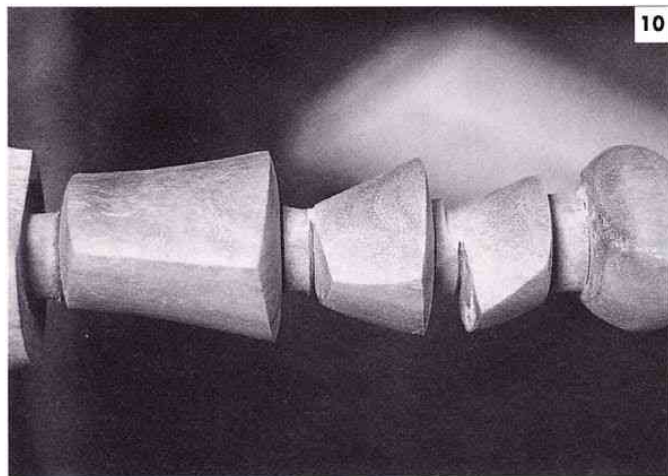
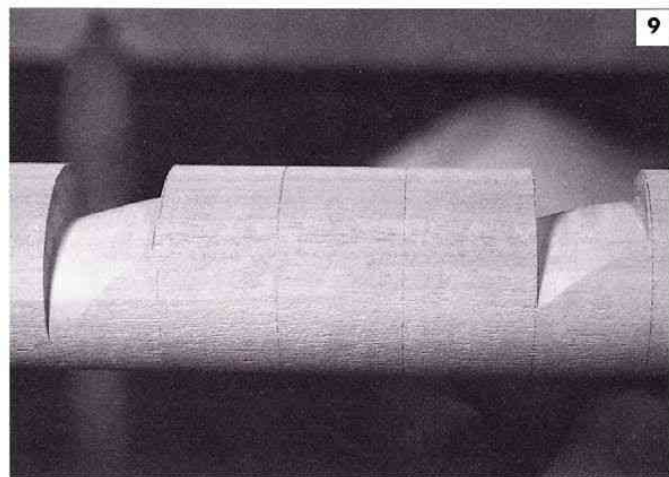
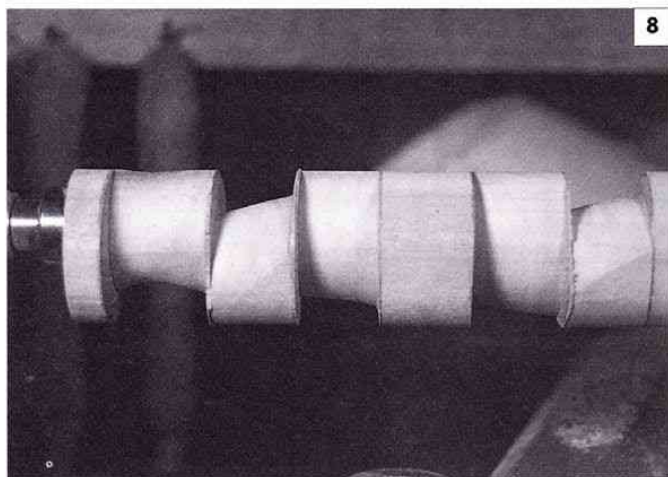
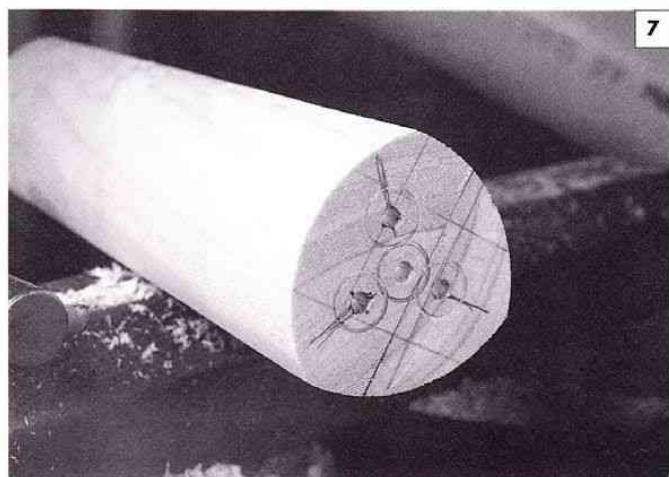
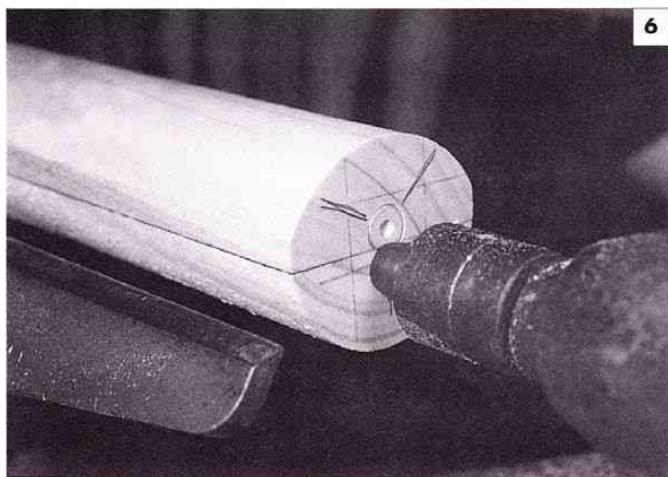
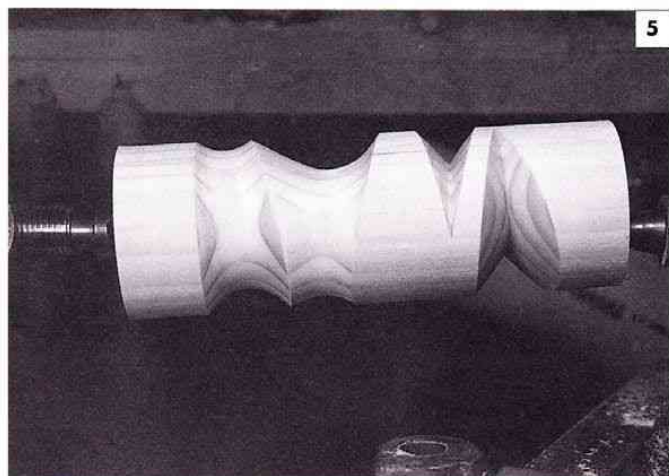
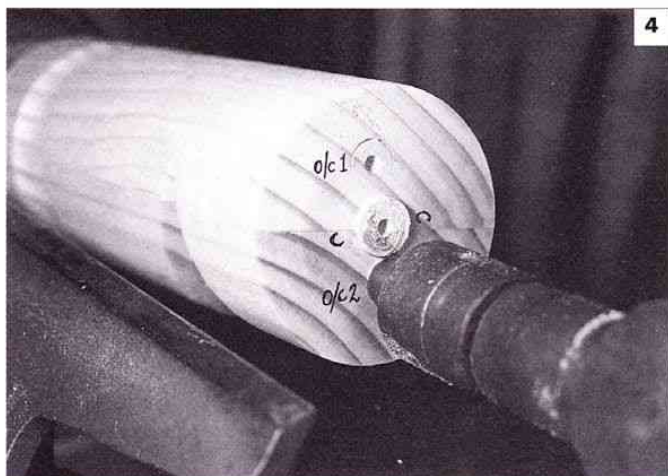
Great effects can be created by using timbers that have distinct grain lines or even stack-laminated plywood. Always be extremely careful when turning blanks that have been glued together—make sure everything is soundly bonded before beginning.

Once the lathe is switched on, the wood will travel in an eccentric motion around the new central axis of its support. This creates a new set of issues to be dealt with by the turner. Firstly, it is difficult to see the outer boundaries of the arc through which the blank travels, especially as it is necessary to run the lathe at a high speed. It is therefore important to be very careful when positioning your tool rest, to ensure that the wood will not hit it. As with any other turning operation, revolve the blank by hand through 360° to check there is no point of contact before you switch the lathe on.

Safety is paramount. Keep fingers well away from the workpiece, preferably behind the toolrest at all times. Introduce the tool to the wood slowly and gently until you are sure of where the blank's perimeters travel.

Another problem that may arise is that because the weight of the blank is not spinning in a balanced motion, the lathe may rock. If your timber is thin and has little mass, it won't cause the lathe to rock much, if at all. However if you are turning a larger piece of wood, you may well need to stabilise





ALTERNATIVE POWER SYSTEMS PHASE CONVERTERS

**Operate three phase machinery
from your single phase supply**

Introducing the M3 with:

- Full speed control (0 to twice nominal RPM of motor)
- Key pad operated Stop/Start & Forward/Reverse
- Digital display of motor detail (current, frequency etc)
- Controlled motor acceleration/deceleration
- Motor protection



0.75 kW/1hp = \$795 2.2 kW/3hp = \$1,175
1.1 kW/ 2hp = \$995 3.7 kW/5hp = \$1,575

Prices exclude Sales Tax (22%) and Freight/Delivery cost

Models are currently available to accommodate three phase (415 volt) loads between 0.37kW (0.50hp) and 75kW (100hp) from your single phase electricity supply. In a home, workshop, farm, garage or small business environment there is often a requirement for the operation of machinery driven by three phase induction motors where only a single phase of electricity is available.

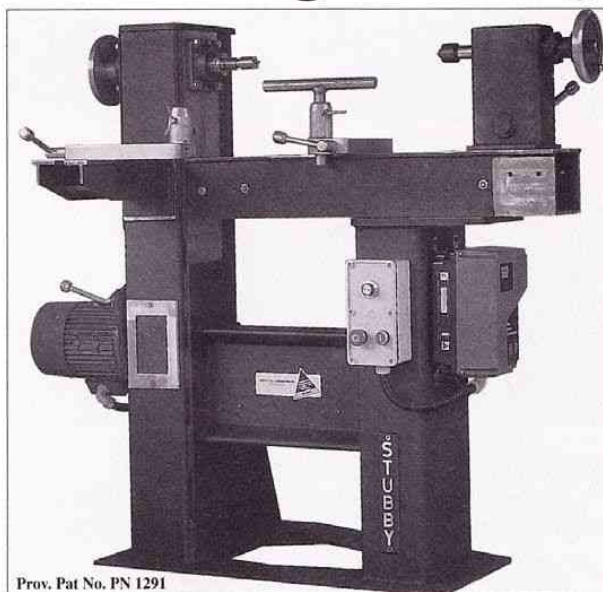
For the cost effective solution! Contact...

ALTERNATIVE POWER SYSTEMS

PO Box 91, Leura NSW 2780

Phone: (047) 82 6311 Fax: (047) 82 6134

The Omega Stubby



Prov. Pat No. PN 1291

Designed and built in Australia - a rugged spindle lathe with infinite speed control from 200-3000 RPM. With a centre height of 200mm & centre distance of 500-1000mm, the Stubby can also handle a massive 1000mm diameter, inboard!

Buy yourself the ultimate woodturning lathe.

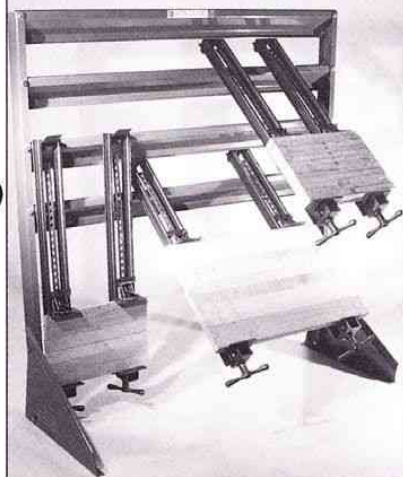
OMEGA TOOL & ENGINEERING PTY LTD

Fact 6, 10 Martha Street, Seaford 3198

Tel: (03) 9782 5226 Fax: (03) 9782 5227

South Australia Tel: (088) 825 3456

Quality Edge Gluing at an Affordable Price



Ready When You Are \$1050 Gluing Machine

Whether you need 1 panel or 10,
you swing out the clamps and start gluing!
Increase your quality, reduce labour
and eliminate the backache.

Order today or send for your free brochure

E.J Groth & Co, 14 Hocking St, Brompton SA
Tel (08) 8346 8211 Fax (08) 8346 0135

MORTICE GEAR SPECIALISTS



- * Mortice Chains, Bars, Sprockets and Spare Parts
- * Square Chisels & Bits
- * Reciprocating Cutters
- * Repair and Sharpening Available
- * Chain Bar Oil
- * Free Technical Advice



**ACADEMY
SAW WORKS** PTY LTD

8 Muriel Ave Rydalmere 2116

Ph (02) 9638 4099 Fax (02) 9684 2501



your lathe before beginning. This may be done by fastening it to the floor, adding extended feet or even extra weight to its base.

I usually begin by roughing the blank down to a cylinder. The further the timber is off-set, the broader the arc produced once you recommence cutting—start by off-setting the blank about a centimetre (photos 1 and 2).

By off-setting at the tailstock end only and making two cuts (one with the gouge, the other with a skew) you can create the effects seen in photo 3. By off-setting the blank an equal distance in the opposite direction (photo 4) and taking similar cuts a short distance along the blank, you can produce a similar effect in mirror-like opposition, as seen in photo 5.

If you off-set at both ends and trim the full length of your blank, you will create a separate facet (photo 6). This can be repeated as many times as you wish. Photo 7 shows the effect of off-setting to three axes equidistant from the original centre axis.

You may wish to part down sections of your blank and turn each into an individual multi-faceted 'block' (photo 8) or continue as I did, making them into containers.

Drawing divisions on my blank, I off-set in one direction and cut into a couple of the sections making sure that I kept straight edges on each section (photo 9). Planning to off-set in three directions, I moved the blank (at both ends) to a second centre, marking it C2 for later reference. The resulting



effect is seen in photo 10.

I continued to work on a third centre, C3, then bisected these centres equally to create centre 4, 5, and 6, allowing the slight off-setting of some 'blocks' from others. This produced a series of three faced blocks, which had clean sharp edges where each of the faces meet (photo 11).

The last stage in the shaping of these blocks was to divide them up, using a skew chisel. I cut the ends in sweeping curves that began at the outermost point of each block, to give definition and individual character (photo 12). Photo 13 shows the six centres used to produce the final form.

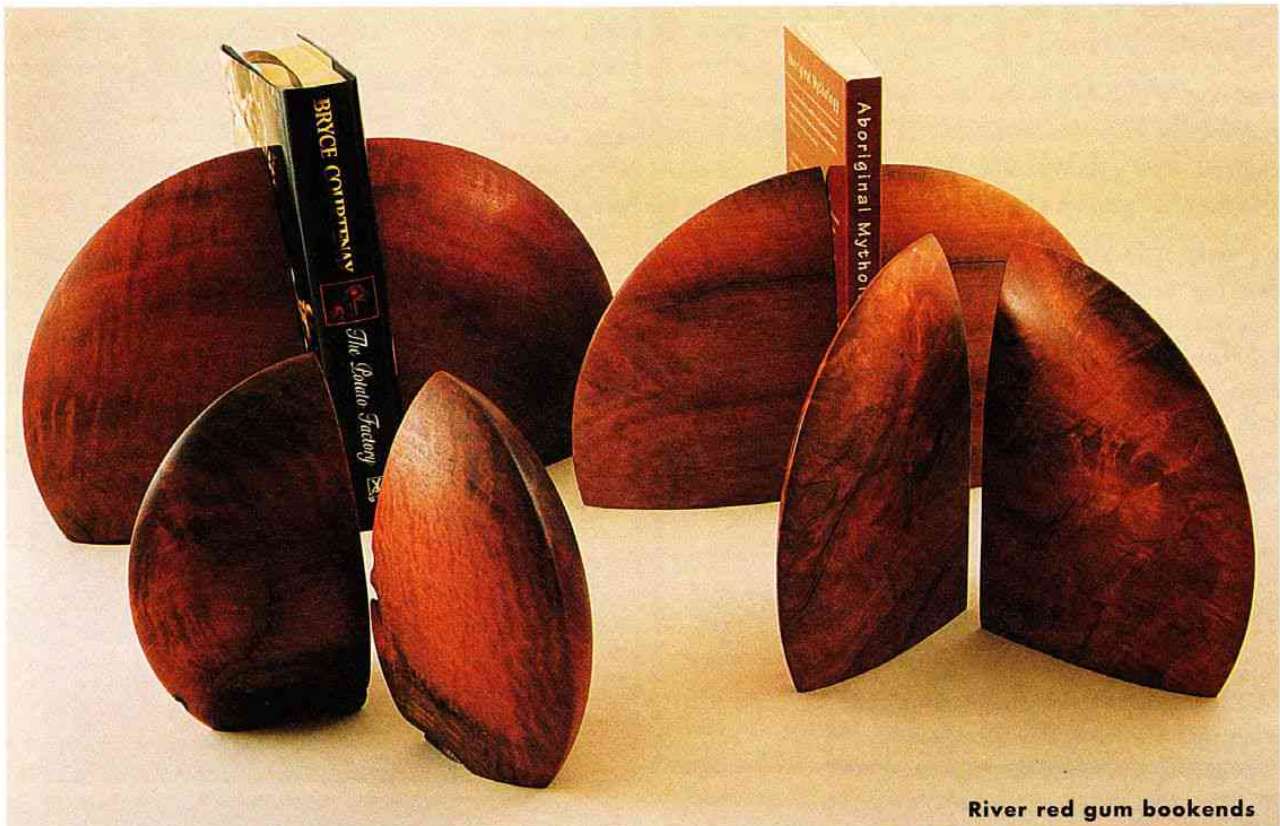
All that remained to be done was to part off the tailstock end of my blank, transfer the headstock end into a scroll chuck and drill out the centre of the container-to-be using a Jacobs chuck. This was held in the tailstock of the lathe (see photo 14).

A small stopper was turned, burnt and wire-brushed for texture, and a base was created. This was attached by means of a hole that accommodates a tenon which was turned at the end of the off-centre turned spindle.

To see some of the more advanced results that can be achieved look at the work of Mark Sfirri (AWR#14) or Jean-François Escoulen (AWR#12). If you wish to see how John Wooller applies it to faceplate work, you can see examples in AWR#7.



TURNING WASTE INTO PROFIT



River red gum bookends

Many woodturners dream of turning their hobby into a business, however the pitfalls are many and the rewards are usually of the non-monetary type. The Australian market for craftwork is small and competitive, however just because you love working with wood and may be technically proficient, it doesn't necessarily follow that customers are going to hand over their hard-earned cash to finance your business. It may be stating the obvious, but to establish some sort of foothold within a crowded marketplace you need to produce something that sells.

The marketing of craft items often occurs by trial and error, which is okay if you can afford the trial and absorb the errors. The hardwood bookends shown here have been successfully marketed around much of Australia and were originally developed in conjunction with Michael Griggs from 'Australian Craftworks' in Sydney. As a gallery owner Michael has the choice of any number of platters,

bowls and lidded containers from all over Australia. Michael felt he could sell well designed and made bookends which highlighted featured and figured wood—as long as they were the right price.

With this brief in mind I made some prototypes and was able to negotiate with him the ongoing purchase of bookends. The moral here, is that close co-operation with a gallery or retailer can be mutually profitable, based on the premise that both parties want a product that will sell.

MAKING THE BOOKENDS Selecting Your Stock

While I was developing a design for the bookends I was surrounded by numerous bowl blanks which had been cut on the bandsaw but were found to be unsuitable for bowls because of cracks, gum veins or other 'flaws'. Utilising these blanks and making a design feature out of their flaws seemed

to be good sense. Be very careful though that the wood you select is solid enough to be turned safely at high speed.*

The wood I use in my production work is slabbed by a portable bandsaw mill from 'firewood' quality hardwood cut into slabs between 40, 50, 75, 100 and 150mm thick. Much of the waste from standard bowls and platters can be turned into bookends, making this an excellent way to maximise profits.

Hardwood is best for bookends because it has the required mass to hold large books or CD's upright. I use river red gum, red box, red ironbark, grey box and sometimes jarrah. The wood needs to be at least 55mm thick and up to 110mm. I make a range of different sized bookends which when finished stand between 150mm and 350mm high. Photo 1 shows a sample of blanks which are suitable for bookends.

Mounting The Blanks

I use a *Golding* lathe with two *Golding* chucks. I have various faceplates

made from 50mm MDF screwed to the metal backing plate. The blank needs to be held firmly with three screws attached close to the outer edge of the disc you are making. The screw holes are turned off when the other side of the disc is turned.

Turning

I turn cracked and flawed timber at high speed with great care. Always use a face shield and head protection.

First I make a spigot on the base of the disc for the chuck to hold when I turn the reverse side. This should be slightly concave so it sits well on the bandsaw table when you are cutting the disc in half.

Turn the rest of the disc to the round. Mark the middle clearly on the edge, then turn the desired shape from this line to the spigot. I finish the shape with a scraping cut, then sand (photo 2).

Turn the disc over, mount it in the chuck and replicate the shape from the other side. Finish in the usual way. Use a pencil to mark the centre of the

disc, while it is still on the lathe.

Marking Out

Some discs have obvious waste sections which need to be removed, others allow you a little room to move. I prefer to have the grain running parallel to the base of the bookends. Use a ruler to divide the disc in half by drawing a straight line through the centre pencil mark. With a plastic protractor mark out the base at right angles to the vertical line.

Cutting

Hold the disc firmly and flat on the spigot and cut the base off by passing it through a sharp bandsaw blade. Next cut the disc into halves. Make sure you feed the thick edge into the blade first, or support the outer edge (photo 3).

The bare shapes you are left with (photo 4) need to be cleaned up and prepared for the finish. I remove the spigot with a sanding disc on the angle grinder and then finish with a flexible sanding pad. The centre faces of the bookends are sanded on a disc sander. Don't

sand the bases as they will be covered with felt.

Finish

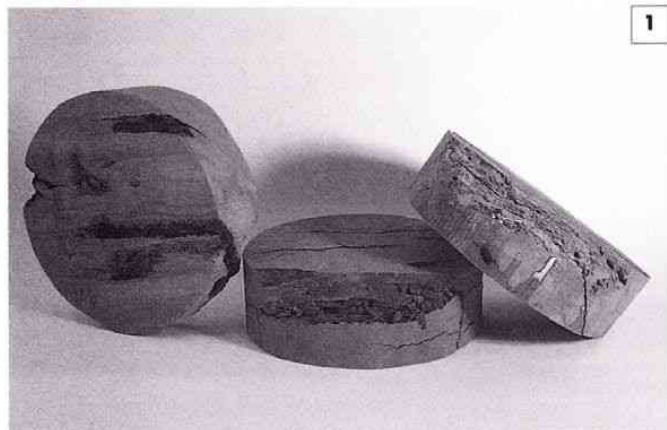
The quality of the finish you use is critical in helping to sell your product. I prefer tung oil or Danish oil which has plenty of lustre but still allows you to feel the wood. For the bases I cut felt out to shape and glue them on with a standard polymer adhesive.

This is a simple project which makes effective use of 'degraded' wood, is suitable for small production runs and has been successfully developed and marketed by closely co-operating with a gallery owner.

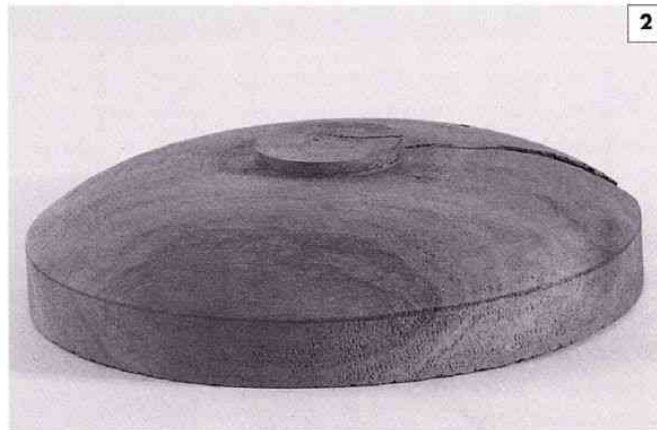
John Stewart is a professional woodturner who lives in rural Victoria.

Photos: Peter Abbey

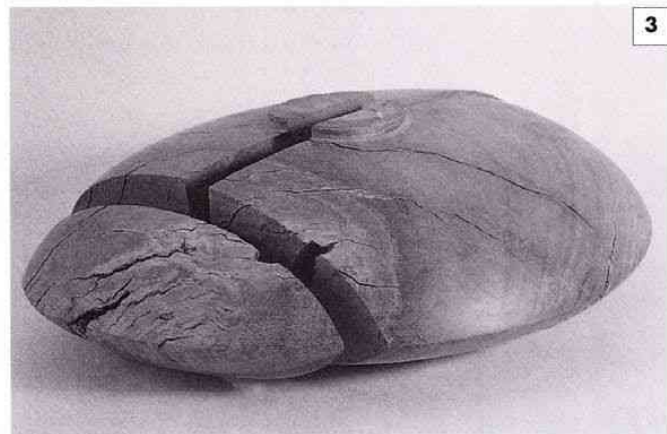
**Technical Editor's note: Woodturning can be dangerous. With regard to the use of flawed timber, our motto is: when in doubt, don't. Whilst this story recommends the use of figured timber, timber with structural defects should not be turned. Full face and head protection should always be worn.*



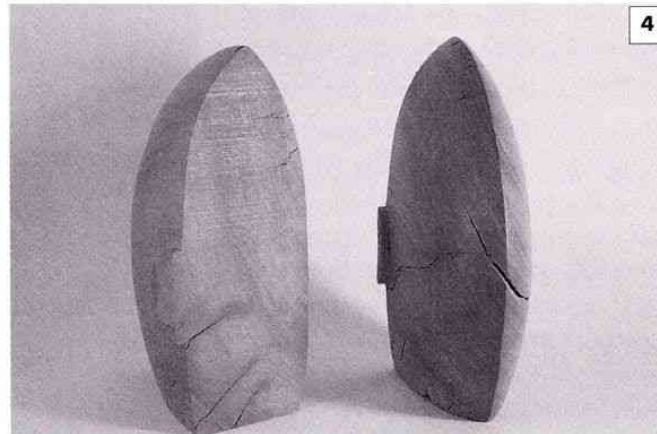
River red gum bookends blanks, average dia 250mm.



Half completed disc showing spigot.

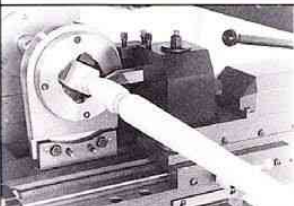
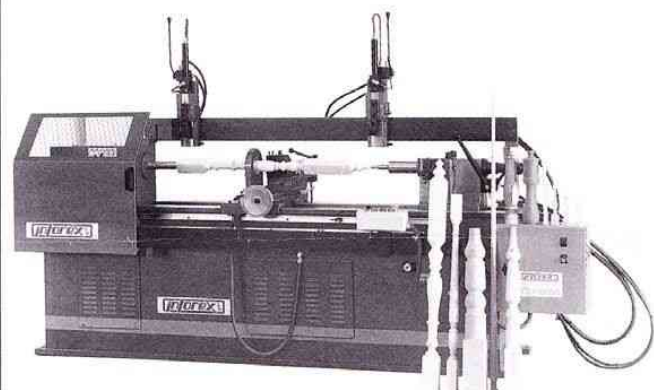


The discs are bandsawn into segments.



Bookend profiles prior to removal of spigot and sanding of sawn surfaces.

Intorex - High Speed Production Woodturning



Intorex is a world leader in state-of-the-art woodturning machinery and systems. The TI-1300/1600/1900 features full hydraulics of double knife for perfect finish, with variable advance speeds.

Complete consultation, delivery and back-up from:
Advanced Woodmachine Technologies Pty. Ltd.
43 Fraser St, Airport West
Melbourne 3042
Tel: (03) 9330 3370, Fax: (03) 9334 5460
Mobile: 018 335 425

RARE WOODS

At the Melbourne show of the Australian Knife Makers Guild, in March, **RARE WOODS** sold over 50 kg of select ringed gidgee - sufficient to make more than 500 knife handles.

Have you "got a handle" on this wonderful timber yet?

WE SEND MAIL ORDERS ANYWHERE

PHONE: 03 9427 0570 . FAX 03 9419 0407
MONDAY TO SATURDAY
24 GREENWOOD STREET ABBOTSFORD VIC
3067

OUR STOCKLIST IS AVAILABLE ON REQUEST

GET on the NET

Australian Wood Artisan Promotions have an established World Wide Web Site which is highly acclaimed on the Internet at :

<http://www.woodart.com.au/>

We offer Global Marketing & Promotions for a range of timber and wood related topics such as:

Crafts

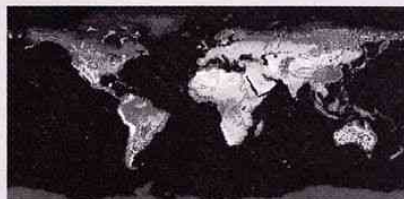
Tools

Guilds

Galleries

Publications

Exhibitions



Events

Finishes

Forestry

Equipment

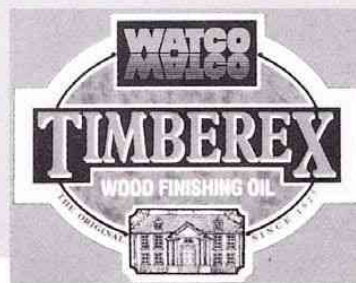
Eco-Tourism

Timber Supplies

To be part of this exciting scene contact Ainslie Pyne at:

Australian Wood Artisans Promotions,
82 Linden Ave,
Hazelwood Park 5066
South Australia

Phone: (08) 8379 6994
Mobile: 0414 796 994
Fax: (08) 8379 9444
email: woodart@woodart.com.au



THE FINEST NATURAL PROTECTION FOR YOUR TIMBER

Timberex Gold, a high performance, fast curing treatment for furniture, panelling and floors. Modified natural resins penetrate into the wood, filling the pores to form a wear and water resistant finish.

Timberex Heavy Duty, recommended for wood floors subject to extreme or intensive traffic.

Timberguard, a deep penetrating, resin based, decorative timber preservative for general and marine use.



Watco Australia
Lockheed Lane, Parafield,
Adelaide, South Aust.
Tel: (08) 8281 6767
Fax: (08) 8281 4303

PVA ADHESIVES: A TECHNICAL EXPLANATION

Woodwork is a conservative craft. However, three innovations have radically altered the way woodwork is done: woodscrews, reliable sharpening stones, and the water-borne poly(vinyl acetate) adhesives or PVA's.

PVA adhesives are the result of one of those sweetly serendipitous experiments that can happen in science. A strategic shortage of rubber in the early 1940s prompted the search for synthetic alternatives: the methodology was based on a naive hypothesis of how natural rubber polymers might have been synthesised. In a reaction flask, liquid monomer building units were emulsified in an aqueous soap solution, polymerised, and *hey presto!*, there was synthetic rubber. Just about any polymer whose monomer could be emulsified could now be produced in a finely divided, solid form dispersed in water.

Why A Dispersion?

A polymer dispersion is wholly different from a simple solution of the same polymer. In solution there is interaction between the solvent and the dissolved polymer. Thus, the higher the molecular weight of the macromolecule (the larger it is) and the higher its concentration (the more of it there is), the more 'structured' and viscously treacle-like the solution becomes. With any degree of concentration, the whole can become effectively unworkable.

Since in a dispersion there is effectively no interaction between the solid dispersed polymer particles and the aqueous continuous phase, a high molecular weight poly(vinyl acetate) 'solids' content of at least 50% can be produced with a viscosity that is still workable. However, dispersions are only partly stable, hence a stabilising agent or protective colloid is

added to prevent the particles clumping and massing.

The Glue-Line

The glue-line is simply a film of the polymer. Its formation from the dispersion occurs in three stages—concentration, compaction, and post-compaction. In the first stage the continuous aqueous phase both evaporates and is absorbed into the wood until the individual polymer particles are closely packed together. When the water drains away as if through a screen, the PVA particles become tightly enmeshed. The higher the 'solids' content of the formulation, the more rapidly concentration and compaction occur.

The time for the onset of the glue puddle to skin over is the 'open-time' window of the adhesive and is influenced by the moisture content of the timber and the environment of the workshop. Lightly dampening the joint surfaces can keep that window open a bit longer on hot dry days. The PVA film is permeable to water. This allows the trapped moisture to pass through it without compromising its adhesion or cohesion. The alternative strategy of diluting the dispersion with water, increases the open time but thins the solids content and thus the glue-line.

Temperature is critical during compaction, and the minimum film formation temperature (MFFT) defines a critical working condition for the adhesive. Above the MFFT, compaction and film formation occur; below, the result is a brittle, chalk-like powder. For an unmodified PVA this temperature is relatively high (circa 28°C). It is lowered to the minimum specified on the bottle by the addition of plasticisers to the formulation. The ambient temperature also governs the effectiveness of the post-compaction phase of

adhesion, when the polymer chains diffuse beyond the boundaries of the former particles to entangle, meld and give an integral film.

Tasteless, colourless, odourless and non-toxic; unaffected by light or oxygen, the PVA glue-line film manifests the bulk properties of the polymer. Insoluble in something as polar as water (or as non-polar as aliphatic hydrocarbons, oils and fats), PVA will dissolve or at least swell in solvents like acetone, ethyl acetate, the aromatic hydrocarbons, and the lower alcohols containing 5-10% of water. The upshot of this is that ethyl alcohol and the vigorous use of a toothbrush will remove those set-up, skulking traces of squeeze-out left after even a virtuosic damp cloth clean-up.

The Tailored Adhesive

Unmodified PVA adhesives ('white glues') do not give a glue-line resistant to either water or stress. Although insoluble in water, the polar PVA polymer behaves toward moisture a little like the cellulose structures it adheres to. Water hydrates the polymer causing it to swell, and ultimately to unzip from both the substrate and itself.

Even in a joint unaffected by water, PVA's polymer chains are able to move stiffly past each other under load. PVA is thermoplastic, that is, it will soften when heated. Covalently linking the polymer chains together would lock the whole into a cohesive mass more durable to moisture and stress. This is the object of the cross-linking PVA adhesive formulations.

Poly(vinyl acetate) is built up solely from the monomer building unit, vinyl acetate. Cross-linking PVA's are typically co-polymers of vinyl acetate and a derivative of acrylamide—N-methylolacrylamide.

This co-construction unit introduces reactive, pendant $-CH_2OH$ units into the PVA polymer chain. In one-pack systems (‘yellow glues’), cross-linking occurs in the glue-line with time. Thus, the bond gains in water resistance and hardness over time as coupling reactions proceed in the adhesive film.

The two-pack systems use a like polymer system, but are now catalysed or have other hydroxyl specific reactants added: organic acids or metal salts such as chromium or aluminium as catalysts; thermosetting formaldehyde compounds; or di-isocyanate cross-linking entities. This diverse range of materials all cause the $-OH$ groupings of adjacent polymer chains to become linked. These products still retain something of the tack and other working qualities we associate with ‘normal’ PVA-type adhesives. Clean-up is still with water, but must be done whilst the adhesive is wet.

Mineral fillers and vegetable flours

are added to PVA formulations to build the total solids content and to reduce the penetration of the adhesive into porous substrates, for example to control bleed-through in thin veneers. As usually formulated, PVAs are not gap filling because of their mobility and considerable reduction in volume upon setting. The addition of kaolin not only bulks out the glue-line, but causes the glue mass to become thixotropic. Thus, the formulation is gel-like *in situ* but readily mobile when stirred, shaken or squeezed, only to return to a rheological trance in the quiet of the crack or gap.

Along with hot-melts and 100% reactive polymers, PVA-like polymer dispersions are part of the replacement technologies being designed to meet upcoming volatile organic compounds (VOC’s) legislation. However, solvents may be added to PVA adhesives in specific formulations; for example, to promote adhesion to the wax contaminated fibres of MDF. A small percentage of wax solids are

added to MDF to slow its dimensional response to variable environmental moisture levels. Bonding this material with a standard PVA formulation may be setting up for later sadness.

Deconstructing The Glue-Line

Two chemically clean, fresh, truly mating surfaces both wet with *just* the right amount of adhesive and held in modestly firm contact for the recommended time will give a fine bond. Simple PVA adhesives are no mess, user-friendly things; that is, until there is a need to reverse the process.

As white PVA’s are susceptible to moisture and heat, hot water, rags, steam, heat lamps and so on will degrade the polymer’s adhesive qualities. The glue remains undissolved, but it is softened or hydrated sufficiently to enable one to get the joint apart and remove the residue. Persistence is required and lots of it. This is especially true with the ‘yellow’, one-pack glues



From Strength to Strength

The New ANCHOR-WELD™ Premium Quality Woodworking Range.

Now there are even more places where you can depend on the strength and reliability of Anchor-Weld™.

With the inclusion of high quality silicone sealants, construction and panel adhesives the new extended Anchor-Weld™ range is certainly going from STRENGTH to STRENGTH.



ANCHOR-WELD™

ADHESIVES

Don't just glue it, Weld it!

ANCHORWELD AUSTRALIA PTY LTD

(A.C.N. 070 082 307)

51-71 High Street, Thomastown, Victoria 3074

Phone: 1800 621 221 Fax: (03) 9279 9211

ADMAR AW 001

because, after all, they were designed to have a degree of moisture resistance. And there is a catch-22 in all this; the higher the quality of the join, the more heartache to get the thing apart.

An alternative that could be kinder to nearby finishes, is acetic acid. This causes both white and yellow PVA's to unzip at even room temperature without damage to the wood structure. White vinegar is about 3% acetic acid and

works wonderfully well to remove glue from clothing, but is probably only marginally better than water on glue-lines.

Remember that acetic acid will react with iron and will give wood a black/blue stain that is both light fast and very difficult to remove. Use a stainless steel knife if you are doing any prying, but test it out on a piece of scrap to ensure it really is 'stainless'. Wash up with water and let the joint

dry. Acetic acid is volatile and there should be no real need to neutralise the surface if sufficient time can elapse before further work. If time presses, use a dilute solution of sodium bicarbonate in water followed by thorough sponging.

Thanks to Brian Lourey and Fiona Byrne for invaluable access and guidance in the Technical Library of A.C. Hatrick Chemicals Pty Ltd. Thanks also to Leon Cohen for his guidance through the maze of PVA chemistry and formulation.

GLOSSARY

Colloid: A dispersion of a non-crystalline, macro-molecular substance. The particles are of a size intermediate between the microscopic limit of visibility and the molecular state. The state is ill-defined; fine suspensions show some colloidal effects, whilst macro-molecules are essentially colloidal in behaviour.

Dispersion: A system containing insoluble particles dispersed in, say, water. The particles are larger than those of a colloid. An emulsion is a dispersed system in which both of the phases are liquids—usually water and an oil or some other water immiscible liquid.

Phase: Any part of a system which is uniform in chemical composition and physical properties and separated from other parts of the system by boundary surfaces. For example, in a closed system containing ice, water and water vapour, there are three phases.

Polymer: A large molecule made up of the repeated combination of many constitutionally identical units (monomers). If the monomers used are not the same, the polymer is more complex and is referred to as a co-polymer.

Adhesion/Cohesion: Across the glue-line, adhesion is the measure of bonding of the adhesive film to the surfaces being joined and the like term cohesion, is the fidelity of the bonding within the glue-line itself. A good bond is when there is only failure of cohesion within the glue film.

Plasticisers: These are a critical addition to PVA formulations. They are low polarity, high boiling, stable liquids which coat the particles of the disperse phase. In the glue-line, the plasticiser molecules intrude between the polymer chains giving them some mobility and lowering the MFFT. Trapped in the matrix of the polymer, they dilute the intermolecular cohesion and thus make the glue-line more flexible. The presence of these non-polar entities also contributes to the water resistance of the polymer film.

Polar (of a molecule or solvent): Being or having molecules in which there is an uneven distribution of electrons and thus a permanent dipole moment (eg the water molecule). Generally the greater the dipole magnitude of the solvent molecules, the better it is as a solvent for ionic substances such as salts.

Covalent/Non-covalent Bonding: A covalent bond is a defined region in space between two atoms. The bond is often directional and of considerable strength. Covalent bonding might be looked upon as the struts in a molecular structure; non-covalent bonding is by processes other than electron sharing and it adds subtleties: details of shape, association and binding.

Thermoplastic: A term used to describe a polymeric or other material that can be repeatedly softened on heating. The converse is a thermosetting material which is infusible when fully polymerised, and won't soften when heated.

Thixotropic: Describes a substance which when allowed to sit, reversibly changes from a mobile liquid to being gel-like.

Rheology: The study of the flow and change of shape of materials, especially the viscosity of liquids.

PVA PRODUCTS

Anchor-Weld 3000 500ml, 5/20/200lt	Cross-linked PVA B3 water resistant, heat reactive, use R.F. cure, hot pressing, postforming.
--	---

Anchor-Weld 3100 500ml/5/20/200lt	General Purpose white wood glue Suitable for bonding wide range of timbers and boards.
---	--

Anchor-Weld 3200 500ml/5/20/200lt	Acrylic Based melamine board only adhesive.
---	---

Anchor-Weld 3300 500ml/5/20/200lt	Premium quality yellow woodworking glue, excellent bond strength, most timber applications.
---	---

Call 1800 621 221 for distributors of Anchor-Weld

AV101 500ml/5/20/200lt	High solids white, high quality joinery grade.
----------------------------------	--

AV180 500ml/5/20/200lt	High strength yellow, sandable, MDF and general grade.
----------------------------------	--

AV270 5/20/200lt	Single pack cross-linked High strength joinery grade.
----------------------------	---

AV260 500ml/5/20/200lt	Two pack cross-linked, superior strength water resistant grade.
----------------------------------	---

Koyobond 181 5/20/200lt	Isocyanate cross-linked, high quality hardwood & laminating glue.
-----------------------------------	---

AV Syntec P/L,(07) 3271 3411,(02) 9744 3144, (03)9798 4944

Franklin Titebond 125/500ml 1,2,4, 20,232 litres	Aliphatic resin emulsion, glues solid wood, particleboard and laminates, dries clear.
---	---

F.N. Chittams (03) 9853 7497

Garrett Wade 202GF 250/500ml, 1lt, 5lt	High strength, gap filling resin emulsion. Dries to light tan colour.
--	---

Anton Gerner Furn. P/L (03) 9813 2422

Weldbond 50ml-20lt	High quality catalysed PVA
------------------------------	----------------------------

From BBC, Hardware House, Bunnings, Mitre 10, Home Hardware, Thrifty Link/Hardware Stores & others.

AV/S ADHESIVES

QUALITY JOINERY ADHESIVES

Introducing AVS KOYO BOND 181

We have added a world leader in Timber Laminating to our extensive range of Joinery Adhesives. Koyo Bond has a proven record in hardwood and softwood timber laminating and is now available in Australia.

Our quality range of joinery adhesives includes Single and Two Pack Crosslink PVA, Phenol Resorcinol, Resorcinol, Urea Formaldehyde, PVA, Polyurethane, Hot Melt.

AV Syntec hold AS/NZS/ISO9001 Quality Assurance Certification including Research & Development. We provide cost effective products that do not compromise quality.

AV Syntec Pty Ltd

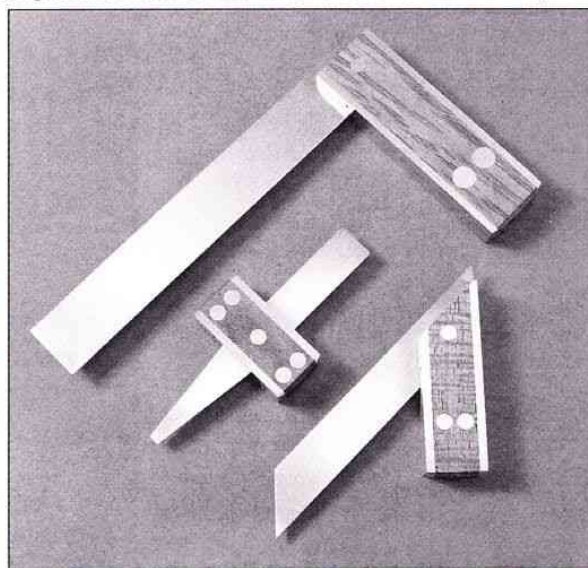
Brisbane (07) 3271 3411

Sydney (02) 9744 3144

Melbourne (03) 9798 4944

Colen Clenton

Designer and maker of traditional hand tools for the craftsperson.



Recalibratable Squares

	wood face	brass face
90° x 50mm	\$28	\$59
90° x 100mm	\$36	\$82
90° x 150mm	\$42	\$92
90° x 200mm	\$52	\$128

Dovetail Square, Brass Face

6:1 or 8:1	\$92
------------	------

Mitre square

45° x 80mm	brass face	\$88
45° x 150mm	brass face	\$138

Now Available in W.A. from Woodstock, Timber, Tools & Hardware (08) 9345 4522

TO ORDER OR FOR YOUR NEAREST STOCKIST:

Tel (049) 90 7956 Fax (049) 91 3080

MARQUETRY

If It's Inlay You're After, Then We Have It All...

We Are Specialist Manufacturers And Suppliers
of DIY Pictorial Marquetry Kits

Wood Veneer Inlay Motifs

Custom Made Inlay

Stringing Lines

Bandings

Imported and Local Veneers

Colour Catalogue \$5

The Marquetry Craft Company

1 Burrandool Avenue

(PO Box 3024)

Nowra North NSW 2541

Tel: (044) 234717

Fax: (044) 234 718

FURNITURE BUSINESS FOR SALE IN DARWIN

Manufacture and retail outlet
on main highway.

Well equipped workshop.

Turnover excess of \$600,000.

Six Full Time Subcontractors.

Established 14 years.

\$245,000 + S.A.V.

Telephone Brian Lewins on:

(08) 89 844040 Fax (08) 89 470339

Garrett Wade 202GF glue

high strength, gap filling
polyvinyl acetate resin emulsion glue

Now available in Australia exclusively from
Anton Gerner Furniture Pty Ltd

Phone for detailed price list
250ml sample bottles available now
\$8 (inc. sales tax and postage)

Mail orders welcome
Anton Gerner Furniture Pty.Ltd.
24 Victoria Rd, East Hawthorn, Vic, 3123
Phone/Fax (03) 9813 2422

THE MRH WOODWORKING CENTRE

WE CARRY A RANGE OF:

Carving tools, hand planes, saws,
wood chisels, G-clamps, sash clamps,
forstner bits, drill bits up to 300mm long,
dowel jigs & accessories, square files
and sharpening stones, abrasives,
power tools, woodworking machinery,
stains, finishes and waxes, brass screws
from 1 gauge, clock accessories, pen
parts, router bits, scroll saws and
blades, plug cutters, dust extractors
and respirators.

WE ARE STOCKISTS OF:

Arbortech, Craftmaster, Carba-Tec,
Elektra Beckum, Hitachi, Henry Taylor,
Dremel, Racal, Record, Ryobi, Marples,
Sorby, Skil, Vermont American, Vicmarc
& Woodcut.

TRADE-IN MACHINERY AVAILABLE

Cnr MacDonnell Rd & Victoria Ave, Redcliffe Qld 4019

Ph/Fax (07) 3283 1558

Personal shoppers, Phone or Mail Order
Post/Freight at Cost B/Card, M/Card & Visa

SPECIALITY OF THE ISLAND

In a picturesque corner of Tasmania's Huon Valley, some miraculous transformations are occurring. To get an idea of the changes happening in the craft industry, you could well start by looking at the wood burning in your fireplace. These days there are people who may surprise you with their alternative suggestions for the stuff that's heating your home.

Island Specialty Timbers was set up by Forestry Tasmania to supply the local craft and furniture industry with a range of special species timber. There are yards at Geeveston in the Huon Valley and at Killafaddy, near Launceston. Both are stocked with special species such as sassafras, myrtle, celery top pine, blackwood and other woods of interest such as burls and fiddleback grains, when they are found.

Only a few years ago, much of the resource provided by the yards would have stayed behind on the forest floor after harvesting operations, or ended up on the firewood pile. The cost of retrieving small sections and log butts outweighed any benefit. The advantage of the specialty wood outlets is the access they give designers and craftspeople to a range of material not readily available elsewhere.

In the past, craftwood licenses have been issued to allow people to collect and scavenge material directly from the bush. While still available, this is simply not an option for most people. The difficulties of vehicular access, handling and loading the wood are more than most are equipped to handle.

Today the efforts of Forestry Tasmania are paying off as an increasing number of craftspeople, like Ross Patston-Gill, are proving just how valuable this sort of salvage operation can be. Operating from his Franklin-based gallery Mikkris House, Ross lives a simple life, and makes his family's living from the works he produces.



While craftspeople can obtain a wood gatherer's licence to retrieve wood from the forest floor, many do not have the equipment necessary. An outlet like Island Specialty Timbers takes the hard work out of accessing the resource and without it, Ross Patston-Gill says he wouldn't be in business.

'More than 85% of the wood I use comes from Island Specialty Timbers at Geeveston. I don't have the means to gather my raw material from the forest floor, so they make my job easier by doing the hard manual work for me. Without them, I'd be foraging in the forest for my own wood—it's time and energy I could be spending on doing what I love best—and what earns me my income—creating'.

For Ross, the crafting of wood is not about mass production of functional or kitsch items. 'It's got to be something that when a person goes home, their next door neighbour doesn't say "I've been to Tasmania, I've got one too". I want it to be something the kids will fight over when the parents are gone!'

Although many of his pieces are specially commissioned and are large and striking, Ross is not just creating works

on a grand scale. 'A lot people can't afford expensive woodcraft, but they still want something that's beautiful and want to know that just as much time and effort has gone into it. Each piece of wood—no matter how small—can have immense value added to it.'

Ross says most people are surprised to hear that the piece of craft they're buying has come from wood destined for the open fire, rather than from a tree harvested for the purpose. 'There are two reactions—that it's a fabulous way of maximising the value of the wood resource or, that it came from firewood therefore it must be worth nothing—therefore he's making a fortune. They don't know that you've put in 30-100 hours making it. Some people don't care where it's come from—some are outraged there was a possibility the wood could have ended up as firewood. But the bottom line is that a lot of timber at Island Specialty Timbers wasn't coming in five years ago. Now it comes in so it is utilised—it's got a better fate.'

Photo: Katherine Meyer

Telephone (03) 6339 3937 or (03) 6297 1479 for more information.

JOIN A \$15 BILLION INDUSTRY

FIXING OTHER PEOPLE'S MISTAKES

Every year Australian's spend billions of dollars on furniture repairs, restorations and purchases.

Our unique services caters to a large and lucrative niche market and we have little competition.

This is an exciting and rewarding opportunity for the right person to become part of our established team of Mobile Repair and Restoration Technicians.

No previous experience is required and this opportunity is open to both men and women.

THE COMPANY

The Furniture Wizard Pty Ltd is an established organisation specialising in the mobile repair, renovation and maintenance of new and existing furniture and associated services.

The service, established in 1988, caters to a variety of consumers and was developed in response to a need in the market place for fast, efficient turnaround times for furniture and surface repairs.

Our products and services are the result of several years of research and development and are guaranteed to perform under the most rigorous of conditions.

WHAT WE DO

A high profile mobile service carrying out on site repairs to industry and the public.

Your clients will include Retailers, Manufacturers, freight & insurance companies, hotels, motels and the general public.

The on site services you offer include

Touch up repairs, Colour matching and shading, Graining, Restoration Remodelling, Re-sprays, general repairs and timber and fabric protection.

You will service many of our existing national account clients and after training will have a ready and waiting client base in your own area.

THE OPPORTUNITY

The Furniture Wizard are looking for suitable motivated people to join us in our nationwide expansion campaign.

The demand for our service is incredible! We currently have more work than we can handle with current operator levels and invite the right people to join us in our nationwide expansion campaign.

However, we are not looking for just anyone, we are looking for franchisees to join us as "Partners in Profit". Only people who have a genuine desire to build a professional business, have a dedication to outstanding customer service, want to become part of our team and be the best they can be need apply.



AT THE FURNITURE WIZARD SUCCESS COMES WITH INSTRUCTIONS

Comprehensive Training

Four weeks in depth training at our central training facility. At the end of training you are certified and able to start earning an income.

Ongoing Support

Regular Meetings and workshops. Industry updates. Newsletters, Regular assessments sales, Marketing and administration support.

Competitive Advantage

Ranked amongst top five opportunities in America. No other organisation does what we do in Australia. High profile professional image.

Large Exclusive Territories

Every territory is large enough to sub divide to enable you to grow or to re-coup your investment within twelve months.

Regular Repeat Work

Head office Support Team supply work from our existing client base as well as your own area client base. We grow your business with you, ensuring target earnings of \$2,000 p.w are achieved.

Advancement Opportunities

We promote from within, Management, supervisory, training and support opportunities. You grow as we grow.

Ongoing Research Development

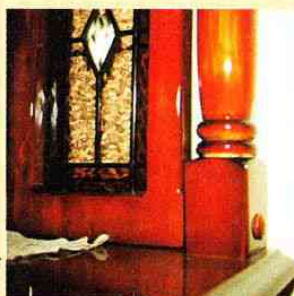
New Services and products ensure a career path if you desire it. Vinyl and leather repairs, Ceramic and enamel repairs, Laminex repairs.

Full Equipment and start Up Schedule

We supply only top quality tools and equipment. Everything you need to run your business from admin to accounts to tools and consumable. Absolutely no more to pay.

Bulk Buying Power

Group buying power ensures you never pay full price for equipment or consumable.



FULL INVESTMENT \$48,500

Single and Master Franchise Opportunities Available

FOR FREE INFORMATION PACK PHONE: 016 762 034 – Local call rate

Furniture On Show

Furnitex '97, The Australian Furnishing Industry New Products Parade (July 19-22) at the Melbourne Exhibition Centre features the latest innovations in furniture design. With 13,500 square metres, 250 Australian and New Zealand manufacturers will display their newest designs for four days. While entry is free for trade, pre-registration (by July 6th) enters you in a draw for a week in Hawaii. Fax the Association on (03) 699 4603.

Rollin', Rollin', Rollin'

'Woodworkers on Wheels' is the catchcry for July with three big NSW expos. From the *Coffs Harbour Wood Show* on the 5th and 6th, woodworkers, their families, friends and other interested parties can truck on down to the second *Cabot's 3D Woodworking and Craft* in Newcastle. With swags unpacked for the three day event (11th-13th), the fundraiser for the John Hunter Children's Hospital promises something for everyone. Phone (049) 467 509 for more information. Travelling south further again finds Sydney's *Working with Wood Show* in full swing the following weekend July 18-20, call Riddells (02) 9712 5623 for info.

Winterfest'97

Even further south around the same time the big names of woodworking are rolling up for Winterfest '97 (July 4-7). The Woodfest of Warburton features everyone from Dennis Moore to Sue Wraight, Soren Berger to Stephen Hughes, Ainslie Pyne, Vic Wood, Frank Wimmer and Laszlo Biro and many other leading woodworkers. Apart from three days of advanced woodcraft workshops (8-10 July), slabbing, timber sales, chainsaw carving, and live demos (4-7 July) (including routing, bush furniture and french polishing), a woodwork exhibition will run from the 4 to 13 July. With over \$8500 in prizes being offered in 7 different categories it's worth rushing to get entries in before closing date Wednesday 18th June. Phone Rob Zubin (03) 59675207.



Turn a Set

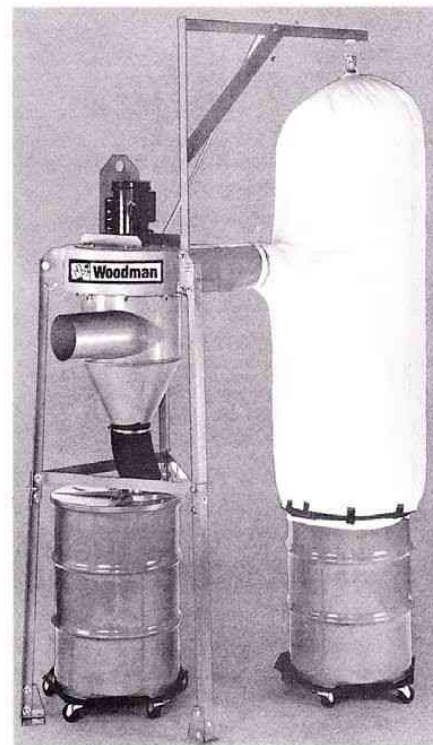
A creative new tool on the market enables several bowls to be cut from the one block of wood. *Bowl Saver* will fit any lathe, is safe and easy to use for all skill levels and accurately removes a perfect bowl every time, ensuring timber, time and money are saved. Invented by Errol Udy and developed by New Zealand company *Woodcut Tools International*, the new patented system is now available in Australia, tel Sydney (02) 9971 1181, fax (02)9971 4873 or direct to the factory in New Zealand 64-7-889-7757

New Name, Place, Lines

Excalibur woodworking accessories, scroll saws and *Retrofit T-slot fence* systems are part of the new range being offered by Malvern Machinery, a member of the Woodman Group. American manufactured Cyclone Systems, being sold under the *Woodman* label, are also now available from the newly relocated and renamed Malvern Machinery known as the *Woodworking Warehouse* and found at 22 Wannan Street, Highett, Vic 3190. Phone (03) 95555199

Slip No More

What has a product called Shower Guard got to do with woodwork? This water based formula is applied to concrete or tile floors and provides a non-slip finish, perfect around work-benches



Woodman's new two-stage central system dust collector.

and particularly machinery where safety is critical. From Timbermate Products (03) 9873 4811

Furniture Imports Increase

Total furniture imports, including office furniture and parts reached \$442million (before duty) in the calendar year 1996 which is up 7% on the 1995 figures, according to the FIAA. The increase represents a return to the trend of the early 90s and an about face on the improvements of 1990/91

Charlie Henry Timbers Pty Ltd

ACN 009 970 905

Wholesale Timber Distributors

Celebrating 21 years as a family business
servicing the timber industry

HOOP - SLASH - RADIATA

All grades - moulded - shaped
- cut to size



Ph (07) 3274 4111

Fax (07) 3274 1054

EST 1976

JUST TIMBER FINISHES AND PAINT



The specialists in...

Timber finishes, stains, paint, waxes, oils,
putties, shellac and wood treatments

Also rust treatments, spray packs and
paint accessories available

2 LOCATIONS:

1652 Centre Road
SPRINGVALE
(03) 9558 4955

1933 Malvern Road
EAST MALVERN
(03) 9885 2883

Franklin Titebond Wood Glue

NOW AVAILABLE in:

125mls, 250mls, 500mls,

1 Litre, 2 Litres,

4 Litres, 20 Litres,

232 Litres (1 Drum)



Distributor F.N. Chittams
363-365 High St Kew 3101
Telephone & Fax (03) 9853 7497

'u Beaut Polishes

SHELLAWAX—The world's best friction polish
TRADITIONAL WAX—Non-sticky paste wax
WOODTURNERS WAX STICK—Marvellous stuff
POLISH REVIVER—Medicine for tired furniture
NON TOXIC WATER DYES—NEW PRODUCT
SHELLAC FLAKES—HIDE GLUE—TALC

"A Polishers Handbook"

A concise Australian handbook on finishing
and finishes for Australian Woodworkers.

FOR MORE INFO OR YOUR NEAREST DISTRIBUTOR:

PO Box 46, NEWSTEAD, VIC 3462 OR

PHONE/FAX (03) 5476 2356

MOBILE 018 602 545

J.A. & J.L. Cullen

Oar Makers

Manufacturers of Quality
Wooden Tool Handles

SHOVEL, MATTOCK, HOE, AXE, SLEDGE ETC.

- One Piece Ash Boat Oars
ranging in size from 6' to 10'
- Trotting & Sulky shafts Steam
Bent to Your Specifications

**9 Mortimer Place,
WAGGA WAGGA NSW 2650
PHONE/FAX 069-253169**

H.N.T. Gordon



Handcrafted
Smoothing Planes
for the Craftsperson

For information or to order:

H.N.T. Gordon Sale Vic (03) 51433337
Carba-Tec Brisbane 1800 658111
Carba-Tec Melbourne 1800 653777
M.I.K. International Adelaide (08) 83332977
Woodstock Bentley WA (09) 3561653
Woodstock Balcatta WA (09) 3454522
Woodstock Bassendean WA (09) 3770277
Henry Black Sydney (02) 97447875
Shroff & Sons Auckland NZ (09) 3031722
<http://www.woodart.com.au>

6000 grit Waterstones
for Carvers or
Cabinetmakers



CIRCULAR SAW BLADES

**SIX GENERATIONS OF
SAWMAKERS TO AUSTRALIA**

CIRCULAR SAW BLADES
MANUFACTURED, REPAIRED AND
SHARPENED

ALSO WOODWORKING MACHINE
KNIVES, PLANER BLADES,
ROUTER BITS, BANDSAWS SOLD
AND SHARPENED

FACTORY: 9 ROTHESAY AVE RYDE NSW

POST: PO BOX 497 WEST RYDE 2114

PHONE (02) 9809 3746 FAX (02) 9807 2005



THE WOODAGE

Some TIMBERS in stock are: Sheoak, Mango,
Plantation Mahogany, Blackwood, Silver Ash,
Tallowwood, Raspberry Jam, Beefwood,
Chinese Elm, Aust. Red Cedar, English Oak,
Nth. Silky Oak, Queensland Maple
and many many more.

Mobile milling available.

Supply of unusual & figured timber

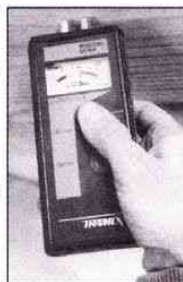
Tel: (048) 721618 Fax: (048) 721323

'Cobb Hall' 262 Hume Hwy, Mittagong
(opp. Welby Garden Centre)

TRAMEX

**MOISTURE METERS
FOR WOOD**

- ☐ Professional non-destructive
meters
- ☐ No need to damage surface.
- ☐ Also probe type meters.
- ☐ All meters come with
common Australian
species correction charts.
- ☐ For more information contact:



Cornell Group Pty Ltd
PO Box 73

Gordon NSW 2072

Ph: (02) 9418 1002 Fax (02) 9498 8576

Fine Timber Offered For Sale

A large selection of species and sizes ideal for many
woodworking applications. Logs retrieved mainly
from the greater Sydney region, a by-product of urban
sprawl, storms, tree maintenance etc.

The bandmill, log carriage and re-saw configuration used
ensures optimum recovery for grain pattern and volume,
and machining services are available.

Some species include: Southern Silky Oak, Blackwood,
Sydney Blue Gum, Mountain Ash, Hoop Pine,
Himalayan Cedar, American Redwood, Persian Walnut,
Camphor Laurel, Monterey and Mediterranean Cypress,
Flitches and sawn boards (to 1200mm wide), furniture
making, craft and turning sections.

Many other native and exotic species so please enquire.
Please contact Richard Parsons

Canalpie Custom Crafted Furniture

Tel: (045) 71 1570

EXPRESSIONS OF INTEREST

Sought from craftsmen and women
designing and making
fine contemporary furniture.
Internal Elements will advocate in the sale,
promotion and nurturing of Australian
contemporary furniture and design.

We seek works of excellent
craftsmanship, that are aesthetically
challenging, beautiful and unique.

For further information contact:

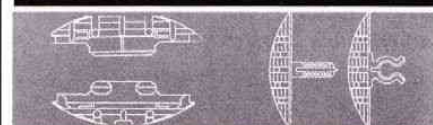
Internal Elements

311 Bay Street
Port Melbourne Vic 3207

tel: (03) 9646 5911 fax: (03) 9646 5611

KNAPP

FASTENING SYSTEMS



Products available from
KNAPP FASTENING SYSTEMS
36 Pound Rd Warrandyte Vic 3113

Tel 03 9844 1377 Fax 03 9844 1773

S.T.Y. Building Supplies

395 Station St, Box Hill Vic 3128 **Tel 03 9890 0737**

-1993/94. The FIAA suggests reduced tariffs and a stronger Australian dollar are not helping.

Nor too would the actions of the Lord Mayor of Sydney, Frank Sartor, in deciding to import street furniture in time to beautify the Sydney streets for the Olympics. Displaying classical symptoms of cultural cringe, Mr Sartor is seeking to source street furniture from Germany and other European manufacturers despite award winning, export dollar earning manufacturers on his doorstep. The FIAA is pursuing the matter.

Sell Yourself

The Sunshine Coast based Contemporary Furniture Exhibition is hosting a series of speakers July 26-27 to help participants promote their work. Chris Jones from *Designer Makers in Tasmania*, *Mad Ethos* a group of Brisbane designers and John Abraham who has recently completed a furniture commission of 30 pieces, will give insight into their experiences of 'making it'. Contact Judith Glover (07) 5449 2040

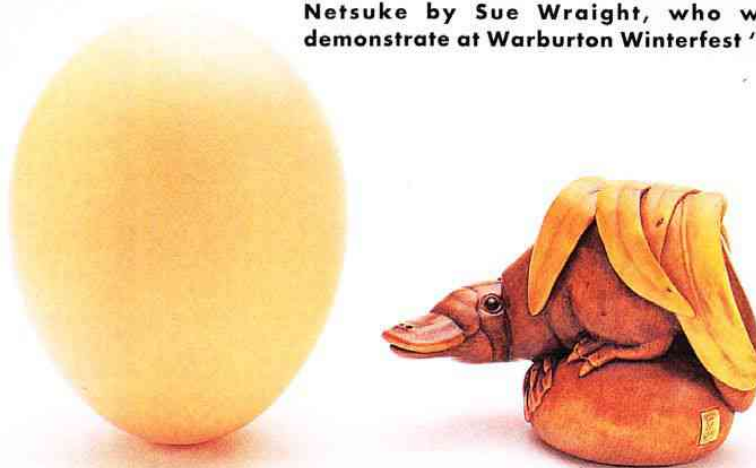
Knock Down, But Not Out

Sometimes a job requires a particular treatment other than traditional wood joins, like this knock down fitting used for joining two parts of a very heavy sideboard. *Knapp* make a range of fittings for detachable or permanent fixing, with many fittings based around biscuit joiners. Call (03) 9844 1377

On the Heritage Trail

Former wheelwright, blacksmith and coachbuilder MC Hendrikson, has turned writer and publisher with the release of his new, original and detailed work *The Secrets of Wheelwrighting: Tyres*. The 90 pages include over 50 illustrations, drawings and photographs and provide everything a horse drawn vehicle/owner user/restorer/model maker

Netsuke by Sue Wraight, who will demonstrate at Warburton Winterfest '97



should know. An autographed copy is available on request by mail for \$24.95 plus \$3 p&p: 8 Fox Close, Kariang, NSW 2250.

Superhighway to Timber

The Timber Research Unit, a research initiative of the Department of Architecture and Urban Design at the University of Tasmania with funding from the Tasmanian Timber Promotion Board has launched two new Internet sites devoted to timber and timber design. Key design and technical information about Tasmanian timber species with information on suppliers, fabricators and other specialists is offered on the *Tasmanian Timber* address: <http://www.tastimber.tas.gov.au>

Queensland Department of Primary Industries—Forestry and Dept. of Natural Resources has opened a site on the Internet. Featuring the latest information on forest types and management, research, timber and tree care advice. The site features information such as the *Queensland Tree Selector*, a data base of 415 Queensland species which offers advice on everything from growing windbreaks to trees for commercial cropping. Articles from the department's publications are also accessible at the same address: <http://dpiweb.isd.dpi.qld.gov.au/fiqweb/welcome.htm>

For those who build with timber the *Timber Building in Australia* site offers documentation of dozen's of Australia's best timber buildings with

backup information on timber construction, specification and species: <http://oak.arch.utas.edu.au>

WA Fine Wood Awards

Though the registration deadline has passed for the *Westfarmers Fine Wood Awards*, it is anticipated that the November exhibition

(3-14, Central Park, St Georges Terrace Perth) is to become a biennial event. Essentially about showcasing the new and exciting work of Western Australia's fine wood industry, the exhibition will reflect recent changes in the industry. A break with tradition has led to the creation of four categories based on sensibilities rather than place: Contemporary Urban Concepts; Country Essence; WA abroad; and Collaborations and Partnerships. The exhibition is to be professionally curated by Paola Anselmi, formerly of Art Gallery of WA. All works will be for sale.

Who's Who in NSW

The Woodworkers' Association of NSW has recently released the first edition of its *Directory of Services and Goods*. The first section alphabetically lists services and goods by category with the names associated, while the second section gives contact details and further information. The directory is available from the editor, Con Downey on (02) 9525 7593.

Furniture Franchise

So you always wanted to do woodwork, with some help? Well a new franchise operation just may interest you, particularly as the marketplace is short on skilled operatives. Furniture repairs, polishing or removalist damage are just some of the tasks you would undertake by joining *Furniture Wizard*. This highly professional out-

fit supports you with back-up, training and promotional support. Furniture Wizard 016 762 034 (local call rate)

Standards of Furniture

Australian Standards are being established everyday to ensure consumers are making informed choices. However, the standards can only be established with input from those who use the products regularly. Two draft standards open for comment specify the product and grade requirement for furniture components sawn and milled from hardwood and softwood; the moisture content and drying quality requirements for furniture timber and guidance for suitable moisture content specification. The Standards Australia/Standards New Zealand are:

Timber-Hardwood—Sawn and Milled Products, Part 3: Timber for Furniture Components (to be AS 2796.3); and *Timber—Softwood—Sawn and Milled Products, Part 3: Timber for Furniture components* (to be AS 1492.3). For further information contact Dr Barbara Osarka, CSIRO, Forestry and Forest Products on (03) 954 22137.

Gone to Town

The Turnery, Adelaide's only supplier of woodworking supplies specifically for the woodturner has moved from its Heritage Park location in Woodside to the more central location of Marlon. David and Sue Tulloch anticipate the central location will ensure the new day courses and scheduled workshops will be as well attended as the night courses with mail and courier services complementing the extension of timber supplies. Ph (08) 8358 1400.

Hoop Pine High

Australian company, Bulk Lumber Sales,

is at the forefront of securing valuable Japanese furniture and joinery markets. A recently signed contract with ACI Japan has opened doors for Queensland's indigenous plantation pine to be sold at a premium price—predicted to be in the order of \$1500/m³. Sold as edge-glued panel, hoop pine allows for considerable value-adding. Queensland is currently meeting 95% of the world demand for hoop pine from the 45,000 hectares under plantation. *Charlie Henry Timbers* are one of the top suppliers of hoop pine (07) 3274 4111

Australian Species in the Kitchen

Australian species such as manna gum, black wattle and fiddleback manna gum are making their way into the kitchen. *Fernview Timber* are furniture manufacturers who have found a niche market in kitchen trolley blocks, knife blocks and chopping boards with *Adams Timber* and *WH Bennetts* supplying the timbers.

Fit that Tenon

The *Keil* range of chain mortisers and accessories are now being sold by Academy Saw Works, these are possibly the best of their type in the world, (02) 9638 4099

Malaysian Success

The Malaysian Furniture Fair (MIFF) recorded a success in March with total sales reaching a record RM 818.5 million. 3692 international visitors from 79 countries and 17,200 locals visited over the five days. The Malaysians will now be looking to the middle and upper end of the value-added market through increasing technology to stay abreast of their immediate competitors. Already 90% of this years participants have booked for next years' show.



Power and Price: Another plate joiner has hit the market. The *Makita 3901* weighs just 2.8kg and features rack and pinion vertical adjustment, dust bag and strong construction.



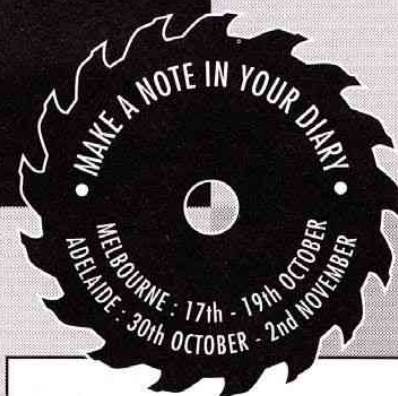
A Knapp knockdown fitting

TIMBER • AND WORKING WITH WOOD • SHOW

SYDNEY

Friday 18th July
to
Sunday 20th July

R.A.S. SHOWGROUNDS



If you're in the trade or just like working with wood then this is the Show for you.

See all the traditional skills and the latest woodworking tools and machinery in action. There's everything for the amateur and the professional wood-worker all under one big roof.

Obtain expert advice and try the products before you buy at special discount prices. Watch the experts demonstrate woodturning, carpentry, french polishing, picture framing, gilding, cabinet-making, carving and building with timber.

Discover the latest woodworking courses on offer. See and buy from a huge variety of timber on display.

SHOWS OPEN 10AM DAILY

FOR MORE INFORMATION CALL



03 9429 6088
02 9712 5623

STURT SCHOOL FOR WOOD



The School offers a thorough training for the committed woodworker, providing a sound foundation in the craft.

ONE YEAR - FULL TIME
Accredited for Austudy (Cert. IV)

Enq: Tom Harrington

PO Box 34, Mittagong 2575

Tel: 048/602090 Fax: 602081

BUILD A GUITAR

Carson Crickmore is now offering professionally tutored workshops, for those interested in the art of building acoustic guitars.

CARSON CRICKMORE SCHOOL OF GUITAR MAKING

237 Gertrude St Fitzroy Vic 3065
For brochure/enquiries phone (03) 9415 7711

LEARN TO WORK IN WOOD



COLES SCHOOL
OF WOODCRAFT

Part-time
DESIGNING IN WOOD -
a comprehensive
course to develop
skills in fine wood-
work and design.

Also short courses
in woodcarving,
general woodwork,
furniture design and
construction, french
polishing, furniture
restoration & more.

268 Wingrove St
Fairfield Vic 3078

Ph (03) 9486 3766

Fax (03) 9482 1202

Phone now for a free brochure

Training for your Future

DIPLOMA OF ARTS (FURNITURE DESIGN)

TWO YEARS FULL-TIME

This comprehensive NEW course will prepare graduates to become furniture designers, including the construction of prototypes, commissioned pieces and products for large scale production. Marketing, interpersonal skills and small business modules are included.

Enquiries: Andrew or Scott on (03)9286 9668
or Sandra Weaver-Hall on (03)9286 9687



BOX HILL INSTITUTE
of Technical and Further Education

Furniture Design Diploma of Arts

- Become an innovative Furniture or Wood Craft designer/maker
- Gain essential woodcraft skills in a creative environment
- Develop the knowledge to launch and market your own business

Course Features:

- Professional dedicated staff
- Fully equipped workshops/individual work spaces
- Access to extensive local timbers and drying facilities

Course Duration & Location:

- 2 years full time
- Situated in Bairnsdale, East Gippsland, Victoria surrounded by mountains, forest and lakes, flanked by 90 mile beach and 3 hours drive from Melbourne.

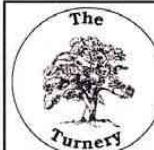
Further information from Kevin Breheny on (03) 5152 0736

EXCITING NEW CHANGES SEE NEXT ISSUE!

EAST
GIPPSLAND
INSTITUTE OF
TAFE



Advancing Regional
Development



The Turnery

For friendly advice, service
and support.
Mail order a specialty.

Woodturners Supplies

Woodfast lathes and accessories
Shellawax Friction Polish
Large range of craft accessories
Pens, Cutlery blanks, clock parts etc

Woodturning Tuition

10 week introductory courses

The Turnery

Unit 24/798 Marion Rd, Marion SA 5043
Ph (08) 8358 1400 Fax (08) 8358 1410
New Trading Hours: Mon-Fri 9am-5pm
Sat 9am-1pm Closed Sunday and Public Holidays

DJARILMARI TIMBER PRODUCTS

Specialty Craft Woods

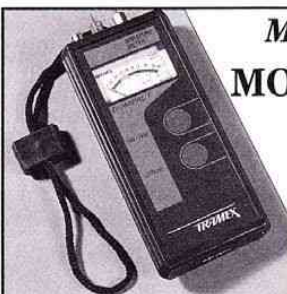
- Highly Figured Jarrah
- She Oak • Burl • Banksia Nuts
- Goldfields Root Wood

Natural Pieces Natural Features

For: Turning, Carving, Sculpture,
Veneering and Inlay

Djarilmari Timber Products

PO Box 550 Denmark
Western Australia 6333
Phone: (08) 9848 2020
Fax: (08) 9848 2010



Mini-Ligno MOISTURE

METER

Priced from
\$184

(Postage included,
plus tax if app.)

■ Imported from the USA

■ Pocket sized ■ Digital readout

Sunbury Woodmill

PO Box 244, Maryborough Qld 4650
Ph (071) 216 028

SALVAGED TIMBERS from very large, old, dead trees

- Large slabs, boards, turning blanks, unusual pieces, root systems
- Large sizes for carving
- Rosewood, White Beech, Camphor Laurel, Teak (Crows Ash), Red Cedar
- Cut to any size

*Specialising in Natural Edge
Buy Direct from the Source*

Contact: MULLUMBIMBY TIMBER SALVAGE

John Ireland (066) 84 0166 Mob: 018 66 6959

PO Box 530 Mullumbimby NSW 2482

TERRCO

TERRCO has a full range of machine carving & sign carving equipment. Beginner single spindle bench and sign carver models. Intermediate 2 spindle heavy duty bench and floor model with 1-8 spindles.



FOR ALL YOUR WOODCARVING
AND SIGN CARVING NEEDS

WOODWORKING WAREHOUSE

Australian agent for Terrco
22 Wannan Street, Highett, Vic 3190
Ph (03) 9555 5199 Fax (03) 9555 5060

CUSTOM CUT TIMBER

We mill on site anywhere!

Lucas Mill and Bandsaw Mill

*On-site urban and country milling
Slabs to scantling*

Timber for sale

Call Rodney: (059) 66 9535
or 015 51 2233

Bowens

Bowens Rowville have extended their range with:

Feature Grade Hardwood

Please contact Andrew Smith or John Bowen.

Bowens

Cnr Stud & Kellets Rd
Rowville, Victoria
Ph: (03) 9763 7522

SPECIALIST TIMBER SUPPLIERS

Suppliers of: Tas Oak, Blackwood,
Huon Pine, Jarrah, Aust. Cedar,
Rosewood, Silky Oak, Silver Ash,
Hoop Pine, Celery Top Pine, Baltic Pine,
Kauri Pine, Oak, Birch, Beech, Walnut,
Mahogany, Rock Maple, Teak,
Kwila, Clear Oregon.

* Kiln Drying * Detail Milling
* Woodturning

SOUTHERN TRADE SUPPLIES

135 Lackey Road, Moss Vale NSW 2577
Ph (048) 691322 Fax (048) 691870

EARLY STRINGED INSTRUMENTS

Harps, Lyres, Harpichord etc.

Plans, instrument
hardware and
construction manuals.

For catalogue

S.A.E. to

Pat Sephton

141 Brigalow St,

Lyneham, ACT 2602

Tel: (06) 247 8491



LIQUID WAX!?



yes

Feed-N-Wax is pure
beeswax, carnauba
wax and orange oil.

Applies like gel, buffs to a
lustrous, protective coat.
Feeds dry wood.



"ALL YOU NEED TO KNOW ABOUT WOOD CARE"

175 PEEL STREET • TAMWORTH • 2340

PH/FAX 067 669933

STOCKISTS AUSTRALIA WIDE

Cockatoo Timbers

Exclusive Tasmanian Timbers
Available in slabs, turning timbers,
boards and veneers.

Blackheart Sassafras, Leatherwood &
Myrtle, Burl Eucalyptus & Myrtle,
Figured Blackwood & Eucalyptus and
most other species.

Cockatoo Timbers

The Neck, Stanley, Tas 7331

Tel (0364) 58 1108 Fax (0364) 58 1337

Shane Dohnt Fine Timbers

Supplier of kiln dry blackwood, myrtle,
blackheart sassafras.

Available as select boards and tabletops.

Myrtle and eucalypt burl available for
turning or as clock discs.

Boxmakers specially catered for with
a range of highly figured woods.

Shane & Janine Dohnt

P.O. Box 360, Kingston Tas. 7050

Ph: 0362 396 138 Fax: 0362 396 352

VENEERS

Specialists in beautiful timber veneers
for use in cabinet making, marquetry,
boat building, furniture restoration, etc.
Enquiries welcomed from all states.
Large and small quantities available.

Peter Scott-Young

37 Alexandra Rd

East Ringwood Vic 3135

Phone (03) 9870 8733

BALTIC PINE

BUY DIRECT FROM THE IMPORTER

"KRASNE"

GENUINE RED & WHITE BALTIC PINE

FLOOR BOARDS

MATCHBOARDS/PANELLING

PAR/DRESSED

ROUGH SAWN

FURNITURE TIMBERS

BALTIC TIMBER IMPORTS

A Division of Russian Timber Imports Pty Ltd

66-68 BEDFORD ST. GILLMAN S.A. 5013

PHONE (08) 8240 1100 FAX (08) 8240 1122

TOLL FREE 1 800 811 538

CALL FOR FREE CATALOGUE

CLOCK MOVEMENTS

- Pendulums & Chimes ■ Bezels & Dials
- Woodturners Pen Parts ■ Wooden Pen Boxes
- Lazy Susan Bearings ■ Folk Art Watches
- Aristocrat Resins for Folk Art, Decoupage,
- Posters ■ Coffee Tables and Clocks
- Music boxes ■ Weather Instruments
- Wholesale Enquiries Welcome



Photogloss

29 Tin Can Bay Road

Goomboorian via Gympie Q 4570

Ph (074) 86 5361 Fax (074) 86 5446

craft supplies

M&R Universal Joinery

Make to specification:

- Decorative veneer board
up to 3600 x 2500 x 32mm
- Decorative wall panelling
- Veneer Inlay
- Veneer plywood from 1.5mm
- Sunburst veneers
- Special size boardroom &
dining tables with or without inlays

5/25 Wonga St. CANTERBURY NSW 2193

Tel: (02) 9718 3827

Fax: (02) 9789 5930

JACKSONS
LOCK
MANUFACTURERS
SINCE 1880

Australian Manufacturers

of
QUALITY BRASS CABINET LOCKS

FOR OVER 110 YEARS

2 to 3 inch Cupboard & Drawer Locks.
2 to 4 inch Box Locks.

FOR FURTHER INFORMATION
PHONE TOLL FREE 1800 804 970



& CO. PTY. LTD.

Make OTTO Your Motto
for Fancy Timbers

ARCHERY BOWS, BILLIARD CUES,
CARVING, CONSTRUCTION, CRAFTWORK,
FURNITURE, GUN STOCKS, JOINERY,
MARQUETRY, MUSICAL INSTRUMENTS,
RENOVATIONS, TURNING, WOOD BURNING
Timber, Joinery, Veneer-4 Wells St, Stepney
Bulk Timber Yard-3 Amherst Ave, Trinity Gardens
Main Office & Hardware-5 Ann Street,
Stepney S.A. 5069

Tel: (08) 8362 3525 Fax: (08) 363 82923

INSTY-BIT QUICK CHANGE SYSTEM

Combination Drills Countersinks save time & money

A complete system of quick change drills & countersinks
1/4" Hexagon Shank w/ detent for positive - non slip drive

- * Quick Change Chucks & Special Tools
- * Combination Drill - Countersinks & Drills

S Q U A R E

DRIVE "ROBERTSON" SCREWS

Once you use them you won't use anything else

* POSITIVE SQUARE DRIVE * HARDENED STEEL

* BRASS, SILICON BRONZE & STAINLESS STEEL AVAILABLE

Send \$20.00 for a Pack of 130 #8 Screws, Driver bit & Drill/Countersink

POCKET HOLE JOINTING SYSTEMS

Guide Blocks to make POCKET HOLE JOINTS economically & accurately

A unique two piece 3/8" drill has a separate, adjustable 9/64 drill inside.

#6 x 31mm (1-1/4") Face Frame Screws & 150mm (6") Power Driver Bits

SACHYS Industries Pty Ltd

Box 4123 Mail Centre, MULGRAVE VIC 3170

Phone & Fax 03-9803 2370

Reg. Office: 43 Browning Dve
Glen Waverley Vic. 3150

A.C.N. 054 299 599

Mega Subscriber Prize Draw



Record block plane, excellent tool with low angle high quality blade, superb machining and finish. Record Hand & Power Tools, (02) 9748 6800



Festo ET2E random orbit sander, 150mm dia, 250 Watts, variable speed industrial grade tool. Festo (03) 9795 9555



Bosch PEX12AE, random orbit sander, 125mm dia, 400 watts, variable speed. Robert Bosch (03) 9541 5308



Hitachi FSU13Y random orbit sander, 125mm dia, 270 watts, variable speed. Hitachi (02) 9666 3274

Winners announced issue 16

Become a subscriber to Wood Review, save some money and be eligible for this and all future prize draws. Return the form below today to:
Australian Wood Review, 435 West Mt. Cotton Rd, Mt Cotton, Australia 4165,
or fax to (07) 3287 7099, telephone: (07) 3287 7088

Subscription rates

4 issues in Australia [post paid] \$26, 8 issues in Australia [post paid] \$48

4 issues o'seas A\$46 air to NZ, A\$62 air to USA, A\$66 air to UK. Seemail (allow up to 12 wks) A\$39 to NZ, A\$42 elsewhere

Please enter my subscription to **Australian Wood Review**:

Start next issue # **16** or current issue # **15** [Circle # to start]

Subscription rate \$ _____

Send back issue/s # **6 # 7 # 8 # 9 # 10 # 11 # 12 # 13 # 14** [Circle # required, cost \$7 each back issue in Aust., o'seas \$15.50 airmail or \$10.50 seemail each] _____

Posters are \$10 each inc. postage & tube (O'seas \$25). Please send the following:

☐ Hand Tool Classics Poster

My main interests are ☐ Furniture ☐ Woodturning ☐ Timber ☐ Projects ☐ Tools ☐ Carving ☐ Design **Total \$** _____

Name _____ Address _____

Company _____

Profession _____ Tel no _____ P/code _____

I enclose a cheque made payable to **Interwood** or money order for A\$ _____

OR charge my ☐ Bankcard ☐ Visa ☐ Mastercard Exp date _____ Card No

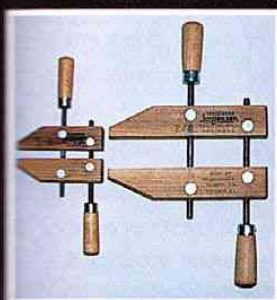
Cardholder's Name _____ Signature _____



Marking gauges, beautifully crafted from jarrah and she-oak with hand machined brass. Colen Clenton Tools (049) 907 956



Arbortech Mini-Carver, high speed shaping attachment for angle grinders. Arbortech (09) 249 1944



Jorgensen clamps, maple and steel, full adjustment. Mik International (08) 8333 2977

DeWalt DW670 XE, laminate trimmer, 670 watts, industrial grade tool. DeWalt (03) 9727 8200

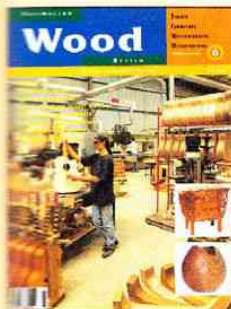


Square, dovetail marker and mitre marker, made from she-oak and brass. For the user or collector. Colen Clenton Tools (049) 907 956

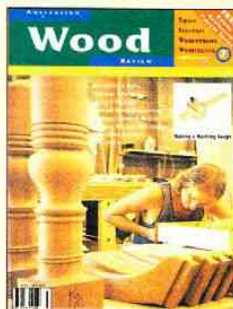


Marples marking gauges, all made of hardwood and brass, excellent finish. Record Hand & Power Tools (02) 9748 6800

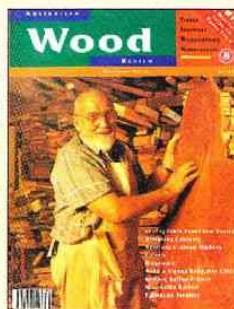
Back issues available



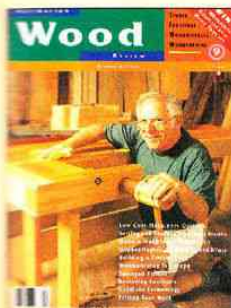
No. 6
Musical instrument making in Australia, timber veneer design, Chinese Furniture, laying a sunburst veneer match, computer design software reviewed, sanding and abrasives, bandsaws, winning at exhibitions, turning natural edged hollow forms, Maton Guitars.



No. 7
Designing chairs, torsion boxes, spray finishing, making a marking gauge, plywood, second-hand machinery, circular saws, education survey, blackwood, Parker furniture, making lathes, gift trade woodturning, computer software, veneering. Free Special Timbers Poster



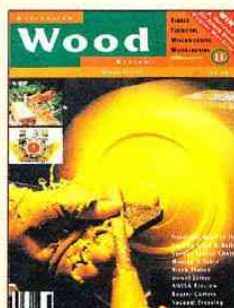
No. 8
Designing cabinets, panel saw review, desert & inland timbers, plantation forestry, Robert Dunlop, mini-lathe review, turning a lidded bowl, Wendell Castle, hingeware, the chisel, history of machinery, mahogany, making a Vienna regulator clock



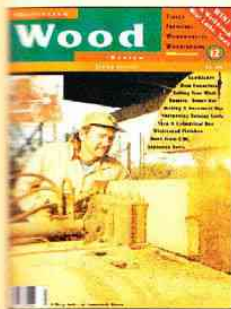
No. 9
Low cost machinery, planer blades, traditional workbench plans, restoring furniture, building timber decks, Stephen Hughes' turned and carved bowls, Salvaged timber, Woodworking in Europe, cordless technology, pricing your work, oak.



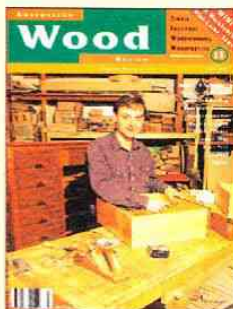
No. 10
Anniversary Australian Woodwork feature, designing tables, buying timber, joining systems, turning jewellery, pedestal table project, mortise & tenons, restoring furniture c't'd, mulga turnings, Raffan interview, machine sanding, solid wood joints.



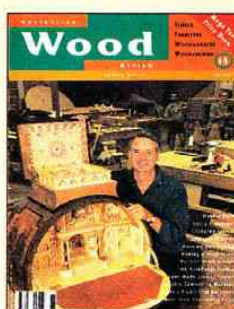
No. 11
Dovetails, router cutters, veneer reference chart, dowel joints, carving claw & balls, making a colonial table, block planes, turned and carved 'winged' forms, AWISA 96, Cook's Endeavour, collecting timber, walnut, tiger myrtle, vacuum pressing, Jah-Roc, MAP.



No. 12
Sawblades, dust extractors, routers, document box plans, sharpening turning tools, more from CNC, Japanese saws, distressed finishes, selling your work, sawmilling, Griffith Furniture, teak alternatives, French woodturners, a veneered table top.



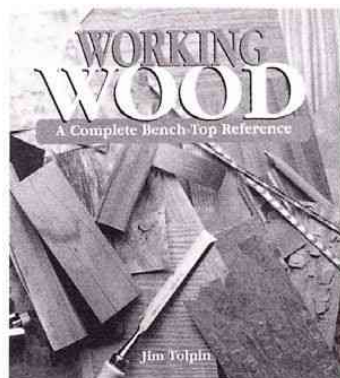
No. 13
Panel saw review, making drawers, safety, making a hall table, router usage, jigmaking, Huon pine, Leo Sadlek's clocks, working smarter, sawmilling, laminated and segmented turnings, teak alternatives, woodturning collaborations, Wentworth Furniture, Jeannette Rein.



No. 14
Making doors, spindle moulders, clamps, laminate trimmers, squares, making shoji, random orbit sanders, WA Goldfields timbers, drawer systems, portable sawmilling, carve a backboard, scroll chucks, turning handled bowls, inlay, David Boucher.

Bookshelf

Book reviews by James Brook.



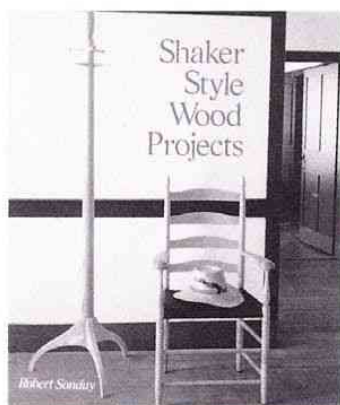
Working Wood

By Jim Tolpin

No single book can cover all woodworking topics, but many like this one attempt to give solid overviews. The eleven chapters give around one to two pages on specific topics, eg edge joints, circular saws, individual machines and power tools, etc. There is also a very useful resource and data section. This book is like a concise

woodwork encyclopedia and frankly, if you can absorb everything in this book you'll be very knowledgeable. Good for students and part timers to have on the bench.

Ring bound, 202 pages, all b&w, \$29.95, Davis



Shaker Style Wood Projects

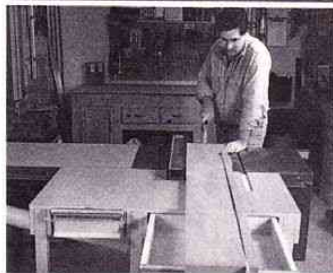
By Robert Souday

The shaker style is fairly well known both for its look and degree of refinement. Here the author with three other writers takes the reader through tables, cabinets, accessories and chairs, the latter being particularly well covered. There are twenty nine projects in this book which consist of a colour picture of the finished piece, specifications,

scale drawings and relevant text. A reasonable level of skill is assumed—chairs, for example, are very well covered, but to make them well is quite complex. One of the beauties of Shaker furniture is that it is a complete style and hence with this book you can make whole room settings, tables, chairs, coat hooks, hat stands and even candle holders. This is a good book for the professional seeking new lines or the part-timer wanting more sophisticated projects. 144 pages, black & white, some colour, \$29.95, Sterling

Shop Accessories You Can Build

The Best Of Fine Woodworking



Shop Accessories You Can Build

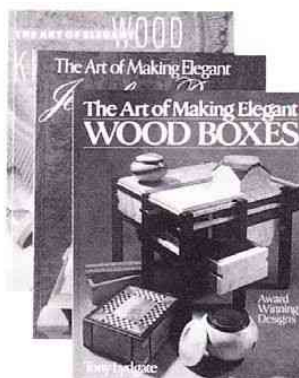
Best of Fine Woodworking

This is publishing for the wood scene at its best. Superb graphics, photography and crisp text make for enjoyable browsing and reading. There are 38 articles assembled here as aids to manufacturing, equipment, decorative tools, machines and fun things to make that also add to the workshop. If you're like me in spite of the number of projects you'll only find about two things that you would actually make

if it comes down to it, but if you are into self made equipment then you'll have a feast.

Soft back, 128 pages, all colour, \$35, Taunton

**Wood Review's Mail Order Bookshop—
There's nothing like a good book!**



The Art of Making Elegant Jewelry Boxes

By Tony Lydgate

This is a collection of 30 projects with reasonable text and plans and good colour throughout. Many different makers expose the construction details of their small wood boxes, some I found quite ugly, some were interesting and some are brilliant. There is also a gallery section up

the back with some very cool stuff. If you are a small box maker then you will have to get this eventually.

Softback, 144 pages, all colour, \$29.95, Sterling/Chapelle

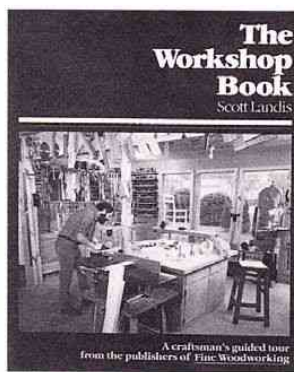
The Art of Making Elegant Wood Boxes

More of the same, although the drawings are better even though the text is not quite as good. The sea of imagination still flows strongly through this book which is really pitched at all those who bought the first one. It is still good value for your reference library.

Softback, 144 pages, all colour, \$29.95

The Art of Elegant Wood Kitchenware

You'll never guess who wrote this. It is not a project book but a gallery of some 34 American makers with a short statement from each. Apart from the photography (which I found a bit annoying) there are, once again, stacks of ideas either for similar pieces or derivatives thereof. People making work for the gift market will find this a very useful resource. Softback, 144 pages, all colour, \$29.95

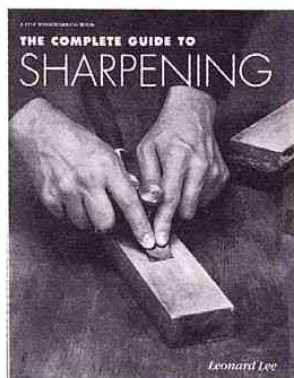


The Workshop Book

By Scott Landis

Some say that just being in the workshop is half the joy of woodworking. Another title for this book would have been the 'Art of the Workshop' because it takes the shed almost to the realm of a temple. Everything is covered, from location, machinery, systems and storage through to fixtures—there is even a chapter on dream workshops. This book is the perfect gift for a wood-working friend or for yourself.

Hard back, 215 pages, colour and b&w \$80, Taunton



The Complete Guide To Sharpening

By Leonard Lee

Originally available in hardback at \$80, this major work is now on the market in softback at \$55, even better value! Sharp tools are the secret to fine woodwork and Lee is certainly here to help you with quality detailed pictures, diagrams and in-depth text. If you still can't sharpen after studying this book you'll at least be good value at a woodworker's dinner party. Softback \$55, Taunton

✂ Cut or copy this form to order books

✓ **Tick books required**

.... Adventures in Woodturning—David Springett	\$29.95
.... Art of Elegant Wood Kitchenware—Lydgate	\$29.95
.... Art of Making Elegant Jewelry Boxes—Lydgate	\$29.95
.... Art of the Woodcarver—Woodcarving Mag	\$24.95
.... Australian Timber Buyers Guide	\$33.00
.... Bench Tools—The Best of Fine W/working	\$35.00
.... Biscuit Joiner Basics—Hugh Foster	\$16.95
.... Building Doors & Entry Ways—Craig Weis	\$19.95
.... Chairs and Beds—Fine W/working	\$24.95
.... Classic Finishing Techniques—Sam Allen PB	\$24.95
.... Colouring Techniques for Woodturners—Sanders	\$34.95
.... Complete Guide to Sharpening—Leonard Lee PB	\$55.00
.... Complete Woodfinishing—Ian Hosker	\$34.95
.... Decorative Techniq. for W/trns —Bowen NEW	\$34.95
.... Design Book Seven—Fine Woodworking NEW	\$60.00
.... Designing & Making Wooden Toys—Kelly	\$29.95
.... Electric Woodwork: Power Tool Woodworking	\$39.95
.... Essential W/wrker (Skills,Methods)—Wearing	\$29.95
.... Faceplate Turning—Fine Woodworking	\$24.95
.... Finish Carpentry—Spence	\$29.95
.... Finishes & Finishing Techniques—FWw	\$35.00
.... Forest Trees of Australia—C.S.I.R.O.	\$84.95
.... Fundamentals of Fine W/working—Ferencsik	\$19.95
.... Furniture Making from the Inside Out—Lawrence	\$29.95
.... Furniture Restoration—Kevin Jan Bonner	\$17.95
.... Furniture Restoration & Repairs—Bonner	\$34.95
.... Gilding & Antique Finishes—Rees	\$16.95
.... Hand Tools for Woodworkers —Wearing NEW	\$34.95
.... Heirloom Projects for Woodworkers—W/wrks Jrnl ..	\$29.95
.... How to Build 50 Classic Furniture Repros—Burch	\$29.95
.... Joinery Techniques—Fine Woodworking	\$35.00
.... Make Money from Woodturning—Phillips	\$29.95
.... Making & Modifying Wdwrkng Tools—Kingshott	\$29.95
.... Making Board, Peg & Dice Games—Loader	\$24.95
.... Making Wood Bowls with a Router & Scroll Saw —Patrick Spielman & Carl Roehl	\$24.95
.... Marquetry and Veneer—Fine W/working	\$24.95
.... Modern Cabinetry—Jim Christ	\$29.95
.... Modern Furniture Projects—Fine W/working	\$35.00
.... Multi-Centre Woodturning—Ray Hopper	\$34.95
.... Novelty Clocks —Raymond Haigh HB	\$29.95
.... Painted Furniture—Diane M Weaver	\$19.95
.... Planes and Chisels by Fine W/working	\$24.95
.... Pract. Tips for Woodtrnrs—BestWoodtrnng Mag	\$14.95
.... Practice of Woodturning—Mike Darlow	\$45.00
.... Reading the Wood—Michael Elkan	\$29.95
.... Resourceful Woodworker (Techniques)—Wearing ...	\$29.95
.... Scroll Saw Handbook—Spielman	\$24.95
.... Scroll Saw Scandinavian Patt & Proj—Spielman	\$24.95
.... Shaker Style Wood Projects —Sondag NEW	\$29.95
.... Sharpening Complete Guide—Kingshott	\$34.95
.... Sharpening Pocket Reference Book—Kingshott	\$19.95
.... Shelving & Storage (Practical Projects)—Snyder	\$29.95
.... Shop Accessories You Can Build—F Wworking	\$35.00
.... Small Woodworking Projects—Best FW/working	\$29.95
.... Spindle Turning—Best Woodturning Magazine	\$24.95
.... Spray Finishing —Andy Charron NEW	\$45.00
.... Steel Square—Siegele	\$19.95
.... Tables and Chairs—Fine Woodworking	\$35.00
.... Tables and Desks—Fine Woodworking	\$24.95

.... Things to make—Fine Woodworking	\$24.95
.... TIME LIFE BOOKS—The Art of Woodworking series:	
.... Advanced Routing	\$29.95
.... Hand Tools	\$29.95
.... Cabinetmaking	\$29.95
.... Home Workshop	\$29.95
.... Windows & Doors	\$29.95
.... Handbook of Joinery	\$29.95
.... Kitchen Cabinets	\$29.95
.... Toolbox Book—Jim Tolpin HB	\$80.00
.... Traditional Furniture Projects—Fine W/working	\$35.00
.... Turned Bowl Design—Richard Raffan HB	\$50.00
.... Turning for Furniture —Ernie Conover	\$45.00
.... Turning Projects—Richard Raffan	\$39.95
.... Turning Wood—Richard Raffan	\$39.95
.... Useful Woodturning Projects—Best W/turning Mag ..	\$24.95
.... Veneering Marquetry & Inlay—Fine W/working	\$35.00
.... Wildfowl Carving—Pearce (Volume 2)	\$29.95
.... Wood—Best of Fine Woodworking	\$35.00
.... Wood and How To Dry It—Fine Woodworking	\$25.00
.... Woodcarving for Beg—W/carving Mag New	\$24.95
.... Wood Dreaming—Terry Martin	\$75.00
.... Woodfinishing Book—Dresdner	\$57.50
.... Woodfinishing with George Frank	\$24.95
.... Woodshop Dust Control—Nagyszalanczy NEW	\$45.00
.... Woodturning—Wooldridge HB	\$39.95
.... Woodturning Projects—Keith Rowley NEW	\$34.95
.... Woodturning Techniques—Guild Master Craftsm.	\$24.95
.... Woodturning Wizardry—David Springett	\$29.95
.... Wood Working Course—Richard Crosland	\$24.95
.... Woodworking Mistakes (Fixing)—Nagyszalanczy	\$19.95
.... W/working Mistakes & Solutions—DeCristoforo	\$29.95
.... Workbench Book—Landis HB	\$80.00
.... Working Wood—Comp Bench-Top Ref Tolpin	\$29.95
.... Workshop Book—Landis HB	\$80.00

Please add \$5 packing and postage for each book \$.....

Total \$.....

TO ORDER BOOKS-

Complete and post this page (copies acceptable) to:
Bookshelf,

Australian Wood Review,
435 West Mt Cotton Rd, Mt Cotton, Qld 4165.

Phone orders to (07) 3287 7088 or fax (07) 3287 7099.

Book orders are despatched at 1-2 week intervals,
however occasionally some books are on back order
which can result in delays.

Enclosed is my cheque or money order for \$.....

OR charge my ☐ Bankcard ☐ Visa ☐ Mastercard

--	--	--	--	--	--	--	--	--	--

Exp Date:

Cardholder name:

Signature:

Please send the books indicated above to:

Name

Address.....

State..... P.Code..... Tel (.....)

WOOD DIARY

1997

Wood Dreaming Exhibition

Contemporary turning curated
by Terry Martin

6-24 June: Stanthorpe Art Gallery

1-24 July: Gladstone Art Gallery/Mus.

29 Aug-26 Sep: Mackay City Library

2-15 Oct: Emerald Art Gallery

7-8 June

Narooma District Woodcraft

Assoc Annual Exhibition

Central Tilba Hall

(044) 76 7715

11 June-12 July

Messages in Wood:

Works in Wood by Terry Martin
for America and Japan

Crafts Council Queensland Gallery

(07) 3229 2661

July

Contemporary Furniture Exhibition

Cooroy Butter Factory

(07) 5449 2040

4-7 July

Winterfest 97

Warburton, Victoria

(03) 5967 5207

8-10 July

Woodcraft Workshops

in conjunction with Winterfest

Warburton, Victoria

(03) 5967 5207

19-22 July

Furnitex 97 Melbourne

Melbourne Exhibition Centre

(03) 9698 4211

29 July-4 September

Living With Wood 1997

Meat Market Craft Centre

Entries close July 4

VWA 42 Courtney St,

Nth Melbourne 3051

8-10 August

WA Wood Show

including 'Out of the Woods'

Claremont Showgrounds

(09) 9387 5979

9-10 August

Barossa Working 'N' Wood Show

Tanunda (SA) Show Hall

(085) 633 3540

9-10 August

Woodturners Society of Qld

Exhibition, Mt Cootha

3397 8156

26-30 August

Caloundra Art & Crafts Festival

Caloundra Civic Cultural Centre

018 992 991

9-13 September

Tekhnoles 1997

Woodworking machinery,
tools, products

St Petersburg

Tel: +39-2-69 210 244

20-28 September

15th Annual Exhibition

'Treasures in Timber'

Woodcraft Guild of the ACT

(06) 281 6548

1-5 October

TIMI 1996—Int. Woodworking

Industry Trade Fair

Frederica, Denmark

Tel: +45 86 43 5155,

fax: +45 42 95 25 63

17-19 October

Melbourne Timber & Working

With Wood Show

Melbourne Exhibition Building

Riddells: (02) 9712 5623

30 Oct-2 November

Adelaide Timber & Working

With Wood Show

Wayville Showgrounds

Riddells: (02) 9712 5623

31 October

Dame Mary Durack Outback

Crafts Awards

Closing date for entry

(07) 3221 5300

3-14 November

Wesfarmers Fine Wood Awards

Central Park St Georges Terrace Perth

(09) 538 1395 Fax (09) 538 1352

21-30 November

14th Vic Woodworkers Association

Festival & Exhibition

Manningham City Offices, Doncaster

(03) 9497 1916

29-30 November

Woodturners Society of Qld

Mt Cootha

3397 8156

Dec 12-Feb 1, 1998

9th National Dame Mary Durack

Outback Craft Awards

Queensland Museum, Brisbane

Tel: (07) 3221 5300

Listings in Wood Diary are free.

Forward details to

'Wood Diary'

Australian Wood Review

435 West Mt Cotton Rd

Mt Cotton 4165

Advertiser Index

A V Syntec Pty Ltd	81
A-Class Woodworking Machinery	71
Academy Saw Works Pty Ltd	75
Adams Timber	2
Advanced Woodmachine Technology	79
Airpress Vacuum Veneering	2
Albart Trading Co	71
Altendorf	6
Alternative Power Systems	75
Australian Furniture Timbers	3
Australian Natural Feature Hardwoods	69
Australian Wood Artisans	79
B J R (Aust) Pty Ltd	21
Baltic Timber Imports	91
Bookshelf Bookshop	94,95
Bostik (Australia)	83
Bowens (Timbers)	90
Box Hill College of TAFE	90
Britton Bros	39
Bunnings Forest Products	16
Business for Sale	81
Canalpie Custom Crafted Furniture	87
Carba-tec	IFC,4,5,29
Carson Crickmore Guitars	90
Charlie Henry Timbers Pty Ltd	87
Cockatoo Timbers	91
Colen Clenton	81
Coles School of Woodcraft	90
Craftmaster Products	57
Custom Cut Timber	90
Deltron Moisture Meters	22
Djarilmar Timber Products	90
E J Groth & Co	75
East Gippsland College TAFE	90
F W Hercus	66
Felder	8,39
Forestry Tasmania	Back cover
Furniture Wizard	85
Garrett Wade Glues	81
Gunns Veneers Pty Ltd	34
H N T Gordon & Co	87
H T Chapman Pty Ltd	87
Hare & Forbes	30
Hitachi Power Tools	IBC
Howard Products	91
Internal Elements	87
J A & J L Cullen	87
Jacksons Lock Manufacturing Pty Ltd	91
Just Timber Finishes	87
Key Joining Equipment	38
Knapp Fastening Systems	87
L C Henstock & Sons Pty Ltd	67
Lazarides Timber Agencies	30
M I K International	30
M & R Universal Joinery	91
MacDonnell Road Hardware	81
Mathews Timber	24
Mullumbimby Timber Salvage	90
Omega Tool and Engineering	75
Otto & Co	91
P M Sephton Stringed Instruments	91
Peter Scott-Young Veneers	91
Photogloss Craft Supplies	91
Power Tool Specialists	67
Processed Forest Products	67
Rare Woods	79
Record Hand and Power Tools	39
Riddell Exhibitions	89
Sachys Industries	91
Shane Dohnt Fine Timbers	91
Southern Trade Supplies	91
Sturt School of Wood	90
Sunbury Woodmill (Mini-Ligno)	90
Teknatool	6
Terrco (Woodworking Warehouse)	90
The Marquetry Craft Co	81
The Turnery	90
The Woodage	87
Timbermate Pty Ltd	35
Titebond (Nathaniel Chittams)	87
Tramex Moisture Meters	87
Trend Timbers	54
U Beaut Polishes	87
Veneer & Timber Products Pty Ltd	67
Vicmarc Machinery	22
Watco Australia	79
Welbond Adhesive	69
Winterfest in Warburton	57
Woodcut Tools International Ltd	30
Woodman Group	3,9

The Master's Choice.

M 12V ROUTER

- Powerful 2,300 Watts-3 H.P.
- Soft start.
- Variable speed.
- Constant speed control.
- Spindle lock.
- Vernier depth control.



Capacity collet chuck	12.7mm (1/2")
No-load speed	8,000-20,000/min.
Overall Height	300mm (11-13/16")
Weight	5.3 kg (11.7 lb)

Standard accessories:

1 straight bit, 1 chuck sleeve, 1 template guide,
1 straight guide, 1 wrench

Available from leading specialist Power Tool Dealers
or telephone for a dealer nearest you -

NSW: (02) 9647 2022

VIC: (03) 9555 2053

QLD: (07) 3260 2800

SA: (08) 8347 1234

WA: (08) 9277 9855

TAS: (03) 6272 5651

Also Available — Models: M 8 (1/4"), M 12SA (1/2") & TR 12 (1/2")

HITACHI
POWER TOOLS



*Tiger Grain Myrtle mirror:
(Tasmanian Wood Design Collection)*

Designer wood.

When design is important, so is the material.
Hardwood and special species timbers from
Tasmania's working forests are renewable, sustainable,
infinite in their variety and available now.

Call our special species outlets.

Phone (03) 6339 3937 or (03) 6297 1479



Forestry Tasmania

GROWING OUR FUTURE