

UK'S
BIGGEST
SELLING!

WIN! £1000 of Dream Workshop Kit

Issue 174 £3.30

TESTED Metabo's
unbeatable little router

Good Woodworking

Testing • Ideas • Workshops • People • Solutions

BANDSAWS

Which blade is best for your saw?

We reveal the
bandsaw blades
experts choose

TECHNIQUE

Band tails

How to cut dovetails
accurately on a bandsaw



Great Little Ideas

Upholstered stool
Circle cutting jig

PROJECT

Drinks Cabinet

Mastering glazed
doors the simple way

Future
MEDIA WITH PASSION



BUYING GUIDE

The ideal 1/4in router

- Which small router is best for hand-held work?
- DeWalt's superb little router table tested
- Do great hand-held routers work in tables?



Made in Britain



a comprehensive range
it's what makes draper different

4

**250mm 2000W 230V SLIDING COMPOUND
MITRE SAW WITH LASER CUTTING GUIDE**

SMS250

STOCK No.87934

Specification:

Blade diameter	... 250mm
Bore	... 30mm
Speed	... 4200rpm
Preset index	... 0°, 15°, 22.5°, 30°, 45°
Maximum cutting capacities (W x H)	
Bevel cut at 90°, mitre 0°	... 75 x 300mm
Bevel cut at 90°, mitre ±45°	... 75 x 210mm
Bevel cut at 45°, mitre 0°	... 40 x 300mm
Bevel cut at 45°, mitre ±45°	... 40 x 210mm
Weight	... 21Kg

Typical Retail Price

£168.25 inc vat.



This saw includes an integral laser cutting guide, which allows users to preview the saw blade path prior to cutting, thus avoiding miscutting and material wastage

just a selection of the draper power range



KEY STOCKISTS

ENGLAND

AVON

Bell Tools

Precision Profiles

Woodberry Chilcote

0117 969 0288

0117 960 9911

0117 877 0407

BEDFORDSHIRE

Kempston

Leighton Buzzard

Maulden

01234 856658

01525 372062

01525 404878

BERKSHIRE

Aldermaston Tool Co

Eaton Berry

Newbury

Slough

Spencers Wood

Twyford

0118 981 1470

0118 976 1076

01635 43448

01753 685921

0118 988 4888

0118 934 3676

BUCKINGHAMSHIRE

Aylesbury

Aylesbury

Blotley

Buckingham

Buckingham

High Wycombe

Milton Keynes

Milton Keynes

Milton Keynes

Stony Stratford

01296 434878

01298 484631

01908 220988

01280 812035

01280 815358

01494 470000

01494 835200

01908 310707

01908 220988

01908 371084

01908 375221

01908 568595

CAMBRIDGESHIRE

Peterborough

Welland Eng Supplies

01778 560057

CHESTER

Chester

Great Sutton

01244 376764

0151 339 5711

CORNWALL

Helston

Redruth

Celtic Engineering

South West Supp Tooling

01225 561857

01208 843656

CUMBRIA

Carlisle

Penrith

Thomas Graham & Sons

Penrith Tool Hire

01228 525364

01768 864557

DERBYSHIRE

Bradwell

Christchurch

Matlock

01298 871636

01428 864801

01629 56651

DEVON

Barnstable

Barnstable

Exeter

Exmouth

Hybridge

Newton Abbot

01271 324788

01271 371571

01392 277345

01395 269209

01752 690390

01225 833666

01404 815666

01884 254444

01202 486240

01202 686238

01325 464452

01268 793928

01376 325790

01375 374901

01268 514499

020 8590 3279

01206 574620

01206 781216

01702 470100

01245 390311

01708 765489

01452 300805

01594 544521

01568 613137

01992 785109

01923 457676

01252 547709

023 9237 2111

0870 9907033

01227 766275

01227 375207

01634 830331

01732 462798

020 8300 3161

01524 69112

01282 517334

0161 624 9160

01508 230100

01508 505011

01476 512333

01507 603482

01507 477177

01724 860331

01724 865603

020 8980 1672

020 8556 6060

020 7490 1111

020 7272 2764

020 8874 2671

0161 665 6025

0151 708 2000

01784 254936

01784 888555

020 8805 3535

020 8707 5000

01384 78081

01675 464280

024 7622 0771

01384 564122

01562 829722

0121 472 6226

01384 564122

0121 556 1531

01902 366551

01384 78081

01675 464280

024 7622 0771

01384 564122

01562 829722

0121 472 6226

01384 564122

0121 556 1531

01902 366551

01384 78081

01675 464280

024 7622 0771

01384 564122

01562 829722

0121 472 6226

01384 564122

0121 556 1531

01902 366551

01384 78081

01675 464280

024 7622 0771

01384 564122

01562 829722

0121 472 6226

01384 564122

0121 556 1531

01902 366551

01384 78081

01675 464280

024 7622 0771

01384 564122

01562 829722

0121 472 6226

01384 564122

0121 556 1531

01902 366551

01384 78081

01675 464280

024 7622 0771

01384 564122

01562 829722

0121 472 6226

01384 564122

0121 556 1531

01902 366551

01384 78081

01675 464280

024 7622 0771

01384 564122

01562 829722

0121 472 6226

01384 564122

0121 556 1531

01902 366551

01384 78081

01675 464280

024 7622 0771

01384 564122

01562 829722

0121 472 6226

01384 564122

0121 556 1531

01902 366551

01384 78081

01675 464280

024 7622 0771

01384 564122

01562 829722

0121 472 6226

01384 564122

0121 556 1531

01902 366551

01384 78081

01675 464280

024 7622 0771

01384 564122

01562 829722

0121 472 6226

01384 564122

0121 556 1531

01902 366551

01384 78081

01675 464280

024 7622 0771

01384 564122

01562 829722

0121 472 6226

01384 564122

0121 556 1531

01902 366551

01384 78081

01675 464280

024 7622 0771

01384 564122

01562 829722

0121 472 6226

01384 564122

0121 556 1531

01902 366551

01384 78081

01675 464280

024 7622 0771

01384 564122

PRO MACHINE TOOLS LIMITED

Tel: +44(0)1780 740956

Fax: +44(0)1780 740957



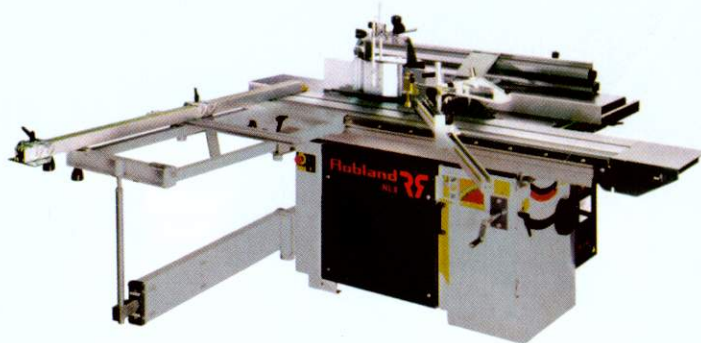
Knapp Profimat KFS Saw/Spindle – £5108



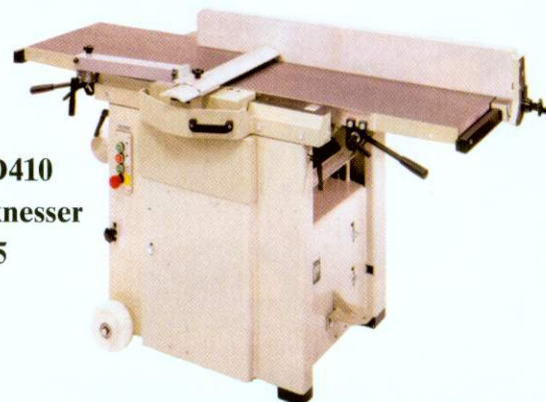
**Knapp TK410
Universal – £8836**



**Robland X260
Universal – £2499**



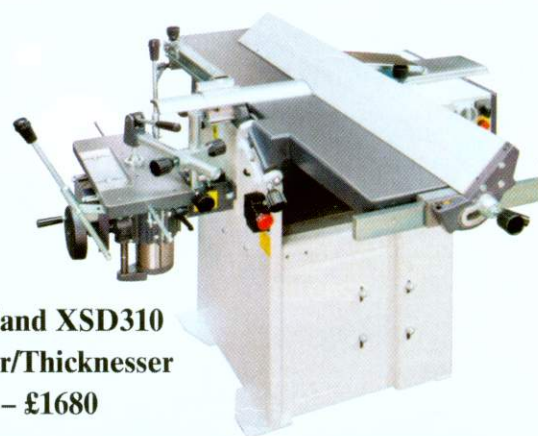
Robland NLX 310 Universal – £4935



**Knapp AD410
Planer/Thicknesser
– £4465**



**Robland E300
Panel Saw – £2972**



**Robland XSD310
Planer/Thicknesser
– £1680**

Prices include VAT
www.emcomachinetools.co.uk

Email: sales@emcomachinetools.co.uk

Showroom: Pro Machine Tools Ltd

17 Station Road Business Park

Barnack, Stamford, Lincolnshire PE9 3DW

Machines may be shown with
optional accessories.

Contact us now for technical catalogues,
technical data and full price lists

knapp
Maschinenbau

Robland
machines belgium



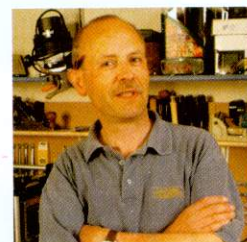
Nick Gibbs
Editor

... this month I've been repairing the workshop flue that I bodged with baking foil last issue



Andy King
Technical Editor

... this month I've mostly been working on the house: insulating the ceiling, hanging doors, building wardrobes...



Phil Davy
Contributing Editor

... this month I have been making an oak weatherboard for a door on my cottage



Bill Newton
Contributor

... I have made a nest of tables (p20) and I'm now building a corner cabinet that'll be in a future issue



Welcome

We all went down to Dave Roberts' workshop earlier this month, mainly to see **his remarkable 1600-piece vase**. We couldn't quite believe he'd go to such lengths, but sure enough the pau amarello and rosewood piece (p26) is **a feat of effort and engineering**. Most of the cutting was done on his tablesaw, but I'm still of the opinion **the bandsaw is best**, so on p44 this issue we're looking at bandsaw blades, and which ones our experts fit in their machines. Enjoy.

Nick Gibbs

Nick Gibbs, Editor

PS. If you can't always find *Good Woodworking* on the shelves, turn now to p40 to discover a superb opportunity to subscribe and guarantee satisfaction every month. Or just call our hotline: 0870 837 4722.

The **Good** Woodworking promise

We aim to publish the best techniques, the best tests, the best ideas and the best projects. We aim to answer your questions with expert solutions. We aim to enhance your enjoyment of our great hobby. Please tell us if we ever fail.

We endeavour to ensure all techniques shown in *Good Woodworking* are safe, but take no responsibility for readers' actions. Take care when woodworking and always use guards, goggles, masks, hold-down devices and ear protection, and above all, plenty of common sense.

Contact us

Editorial 01225 442244

Email goodwood@futurenet.co.uk

Post Good Woodworking, 30 Monmouth Street, Bath, BA1 2BW

Turn to p16 for a full list of magazine contacts

Good Woodworking Contents

May 2006

Tools • Projects • Techniques • Advice



Cover workshop

Turner Dave Roberts in his own workshop with his bandsaw, in the process of giving us some tips! 44

On the cover

Which blade is best for your bandsaw? 44

Our experts reveal the blades they keep on their bandsaw, and those they store for a rainy day

Bandsaw dovetails 47

How to cut pins and tails using a bandsaw and some jigs

Drinks cabinet 58

A glazed cupboard in pine

TESTED!

Including Metabo's lithium-ion circular saw, DeWalt's new 125mm random orbit sander and a beginner's carving chisel set

The ideal router 84

Andy King reveals what makes the perfect handheld router

WIN! Dream Kit 41

Machine Mart are giving away £1000 of machines for the workshop. Enter now!

Projects

Nest of tables 20

Challenge yourself with this classic table set

The 1600-piece vase 26

Accuracy is the key to this vase that's so big, we're making it over two issues!

Bandsaw dovetail jig 47

Get impressive results from this simple jig

Great Little Ideas 51

Make an upholstered stool and a very mysterious cube...

Glass-fronted drinks cabinet 58

A sturdy, wall-hanging home for your tipples

Fitting a letterbox plate 64

Give the postman a really fine welcome with our guide to placing and cutting a letterbox

Techniques

Stack laminating 26

Assembling parts for a segmented vase

Lapped dovetails 34

Stage two of Rob Cosman's masterclass

Piercing turned work 36

Everything you need to know about making open piercings to decorate your turning

Repairing sprung joints 37

Fixing two is easy, but what if only one's gone?

How to use a firmer chisel 38

Techniques to suit every application

Shaping a cabriole leg 54

Bryan Blow shows you how to do it with files and a drum sander

Your Favourites

Views from the Bench 9

Letters 14

Solutions 33

Subscriptions 40

Competition 41

Great Little Ideas 51

Book Reviews 57

Around the House 63

Free Reader Ads 95

Back Issues 96

Readers' Tips 98

Good Woodworking Kit & Tools

Gadget of the Month 75

First Impressions 76

Small but useful things for your workshop

Tools on Test 76

Kreg Jig K3 Master System

Metabo KSAP 18 circular saw

DeWalt D26453 random orbit sander

Flexcut carving chisel set

Veritas right angle saw guide

AEG BBS 14 KX drill driver

Kit & Tools Extra 80

Find out why good router bits are so dear, plus product launch news

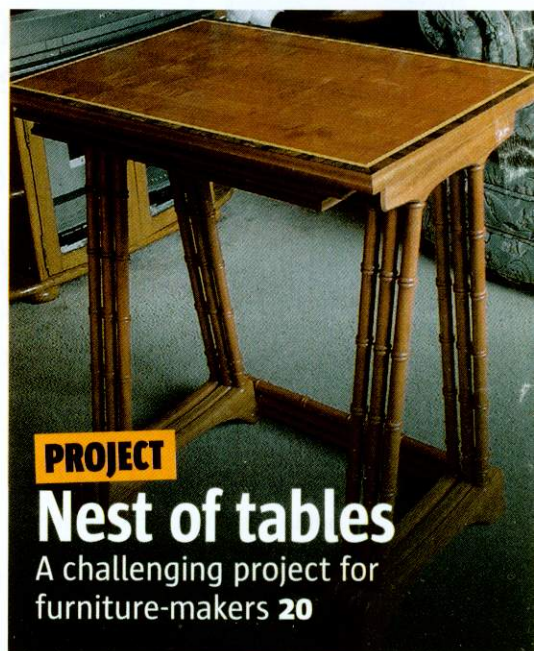
Group test 84

Getting the best from your router

GROUP TEST

Cutting edge

Routers worth shouting about 84



PROJECT

Nest of tables

A challenging project for furniture-makers 20

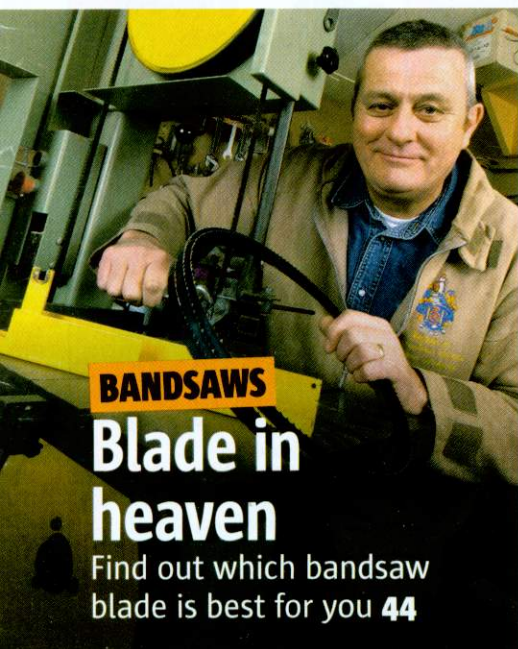


COMPETITION

£1000 of FREE kit

You could win
£1000-worth of
tools in our huge
Machine Mart
giveaway **41**

Machine Mart



BANDSAWS

Blade in heaven

Find out which bandsaw
blade is best for you **44**



Illusion cube

Discover the trick to making
this 'magical' cube **51**

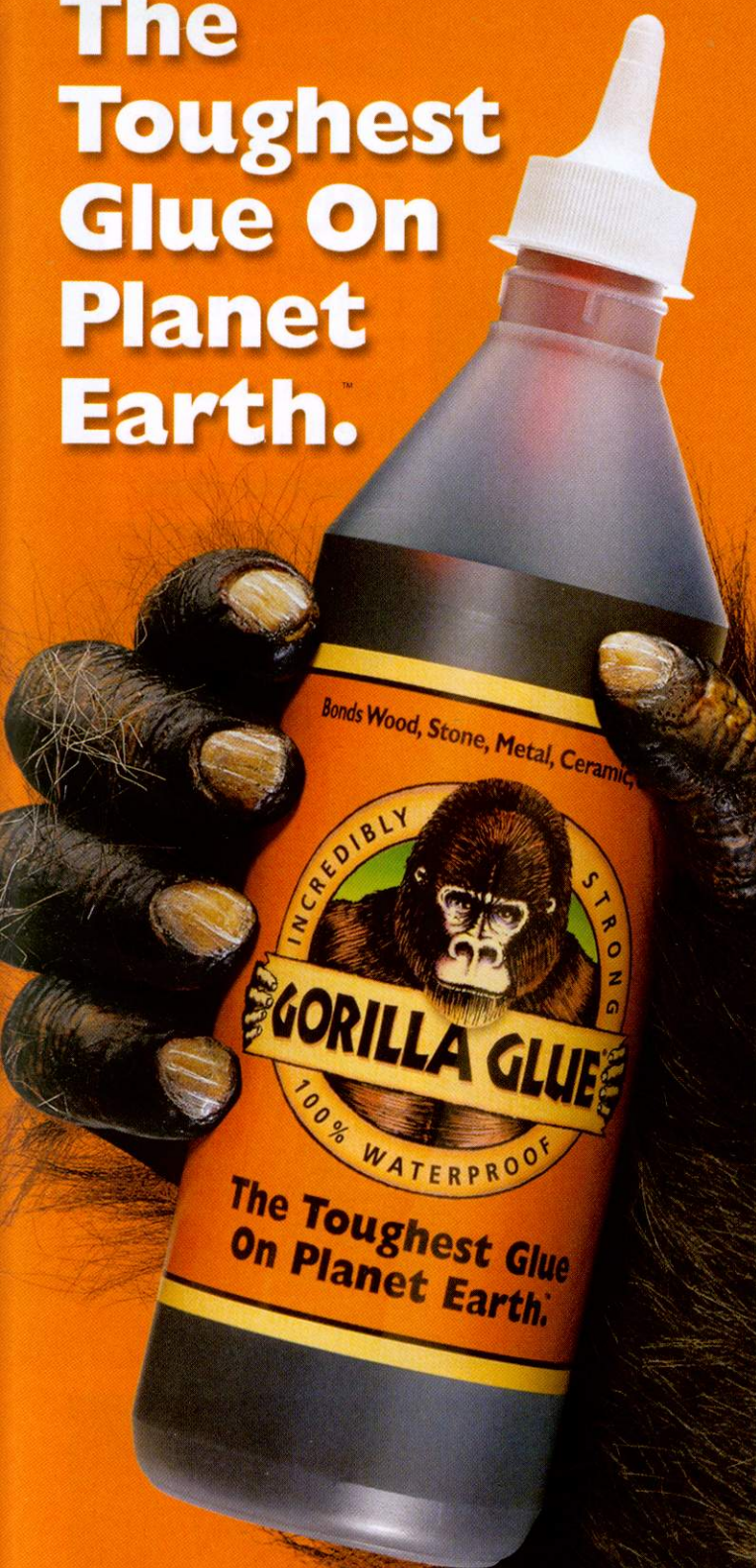


BOATBUILDING

Traditional craftsmanship

Keeping old skills alive at
Falmouth Marine School **68**

The Toughest Glue On Planet Earth.™



Gorilla Glue is the versatile, interior/exterior adhesive ideal for most household fixes and building projects: furniture repair, crafts, woodworking, and general repairs around the house. **Glues hundreds of materials including: wood, stone, metal, ceramic & more! Incredibly strong and 100% waterproof.**



For more
information, visit
www.gorillaglu.com

Kendal Tools & Machinery

Telephone: 01539 733 774

Visit our large, well stocked show room in the beautiful Lake District or visit our websites
www.kendaltools.co.uk and www.toolpage.co.uk

JET
EQUIPMENT & TOOLS

MiniMax

scheppach

SEIDGWICK
EQUIPMENT & TOOLS

Scheppach HMS260Ci



10 x 6 Planer/
Thicknesser,
Cast iron Tables,
Substantial
Fence, 'the best
finish by far'

£Enquire

Scheppach TS 2500Ci



Precision
Cabinet Saw,
Cast Iron Table,
3.6hp Induction
Motor,
Various Options
Available

£Enquire

Woodster PT 85



204mm x 120mm
Planer /
Thicknesser,
1250w Motor,
Compact and
Portable, 26kg

£199.00

Woodster IH 45



Hydraulic Log
Splitter,
4 Ton Splitting
Ram,
2hp Motor

£199.00

Trend Airshield



Battery Powered
Respirator,
Protects From
Dust, Protects
From Impact,
C/W 4hr Battery,
Charger etc

£148.90

Including Carriage

Tormek 1206 / 2006



Whetstone Sharpening System,
Complete Kit Incl: Straight Edge Jig
Horizontal Base,
Angle Master,
Micro Adjust,
Honing Compound,
Book and Video.

£Enquire

SIP 01314 10" Sliding Mitre Saw



2000 watt Motor,
90mm x 315mm
Max Cut, Laser
Guidance

£149.00

Including Carriage

10" Bandsaw



120mm x 245mm
Capacity,
Cast Iron Tilting
Table,
C/W Fence and
Mitre Guide,

£129.00

Carriage Included

FOX F36-529 10" Cabinet Saw



Cast Iron
Tables,
Sliding
Carriage,
Great Value

£705.70

Carriage £10.00

Charnwood W412



12" Disc Sander,
750w Induction
Motor,
Cast Iron Frame
and Base,
Tilting Table

£99.00

Fox F46-717



14" Wood lathe,
1hp Motor,
Cast Iron Bed
and Legs,
C/W Face Plate and Centres

£288.34

Carriage £10.00

Robert Sorby Supernova2 Chuck



Self Centering Lathe
Chuck
Enclosed Back Plate,
T Allen Operation,
State Thread Size

£131.95

Carriage Included

All prices include VAT. Carriage extra unless stated.
Mail Order - Credit Cards Accepted

Unit 10, Lake District Business Park, Off Shap Road,
Kendal, Cumbria LA9 6NH
Tel: +44 (0)1539 733 774 Fax: +44 (0)1539 740634
Email: info@kendaltools.co.uk

Good Woodworking Views

from the bench

Comment, insight, views and profiles of woodworkers across the globe...

5
pages of
views and
comment



“We spent years perfecting a process to transform silk into a rigid medium”

How Did I Get Here?

Vince Lee

One half of a furniture-making venture with his partner, silk painter Mary Thorpe

Vince Lee and Mary Thorpe have developed a patented technique for inlaying painted silk into wood, and now make their living making unusual pieces of furniture.

How did you become a cabinetmaker?

I'm not actually sure at what point I became a cabinetmaker, it sort of evolved from antique restoration. Knocking apart furniture is a good education!

What do you do now?

Mary is a silk painter, using dyes. A while ago she started playing around with techniques to differentiate her work from other silk painters, particularly embedding painted silk in resin

on a reflective backing. It leaves colour and reflectiveness. She was looking for new ways to develop her ideas and we have now spent more than seven years perfecting and patenting a process that enables us to transform floppy silk material into a rigid medium. We call ourselves silk laminators.

What do you do?

The furniture-making is pretty straightforward. Often I finish the piece with 3mm sawn veneers, which I cut myself, glued to the substrate using a vacuum press. I either cut out the recesses for the silk first, or make them with a router later. Then we build up layers of backing, silk and resin, leaving

it slightly proud, then sand it back later.

Do you work together?

We design together. Mary has a little workshop and mine's a bit bigger, with a Scheppach combi machine. We move from one workshop to the other, and the pieces always come back to mine for finishing. I did have a rented workshop, but we kept talking about working together. I still do other commissions, but want to get to a point when we're just doing new stuff. ↗

Vince and Mary will show their inlaid furniture at the Living Crafts show in Hertfordshire (4-7 May). For tickets and information call 0870 011 1912



Diary of a Beginner

Learner woodie Mike Riley unites East and West with his design for the perfect handsaw...

■ Last year I bought a Dozuki saw but unfortunately it arrived damaged. Classic Hand Tools (01449 721327, www.classichandtools.com) was a paragon of customer service and I soon had a replacement.

The blade on the first one was bent, so it was valueless to Classic Hand Tools and they didn't want it back. It has sat on the shelf ever since, and last week I decided to try an experiment.

I always struggle with Western saws, probably because of a combination of my poor technique and their teeth. I find Western saws bend, buckle and bind. There's no point in marking out because, in my hands at least, they wander off-line by miles.

With a Dozuki, on the other hand, I make fine, accurate cuts. But the handle on a Japanese saw is more stick than handle, if truth be told, and I find they feel a bit odd to use.

So I decided to make a Western-style handle to go with my bent Japanese blade, which I planned to try to straighten.

The handles on the Western saws I have are too bulky for my taste, and I like the look of pistol-grip handles, so I searched the internet for pictures I could use as a design. I found one, and

after some fiddling with the image I managed to print out a paper template.

I taped the template to an offcut of ash and used a Swiss army knife to trace the shape. I made a series of cuts from edge to mark and then cut the shape out in a series of shorter cuts with a coping saw. Annoyingly, I broke my only blade in the process, so I had to finish with my Powerbase jigsaw.

I cheated with the tight curves and drilled them out with the largest Forstner bit that I have, which met the curves quite closely, leaving less to cut with the jigsaw.

I then tried to drill an open-ended mortice on the front of the handle to slot the blade into but snapped the bit I was using and had to twist it out with a hefty pair of pliers. Finally I shaped the handle with rasps and sandpaper, although the rasps caused a lot of tearout: I'm told it's called spelch, and I hope that practice and finer rasps may cure it.

The handle currently awaits a coat or four of Danish oil, after which Frakensaw will be ready for action. It looks strange but it feels very comfortable in my hand and should work well.

If it does all go as planned, I will be buying a few more Japanese blades (unbent ones!), digging out some offcuts and making some more. ✂

Tales of a chairmaker

James Mursell previews a unique symposium for chair lovers

Two years ago I was heavily involved in the arrangements for Chairs 2004 – a symposium bringing together chairmakers from around the world. This year Chairs 2006 will take place on 3-5 June in south-east Sweden. It's shaping up to be a fantastic event.

Chairs 2004 was the inspiration of chair enthusiast Chloe Darling. Her vision was to bring together chairmakers, and other interested people for several days, to exchange ideas, gain fresh inspiration, and to promote hand-made chairs to the wider public.

Chloe put together a small group (who all, bizarrely, happened to be called James) to help

realise her vision, and we spent two years planning the event, receiving substantial financial support from the Forestry Commission, the Arts Council, the Worshipful Company of Furniture Makers, Woodland Heritage and other groups.

The event was sold out, with 160 participants, mainly chairmakers, gathering together at the National Arboretum at Westonbirt in Gloucestershire for three days over the May bank holiday.

Makers came from 12 countries, each bringing an example of their work that combined into a uniquely broad-ranging exhibition.

Chloe has now passed the baton to Kalle Forss in Sweden, who is organising Chairs 2006. Perhaps in the future the events will be in other European countries, or even to another continent altogether.

Chairs 2006 will be held in Kristianstad in south-east Sweden, approximately 70 miles away from Copenhagen, close to



▲ Talks at the 2006 event will cover history, techniques and raw materials



▲ At Chairs 2004, makers from 12 countries displayed their work in an extraordinarily broad-ranging exhibition

the Baltic Sea. If you are interested in going, the best way seems to be to fly to Copenhagen and go by train to Kristianstad.

Makers attending the symposium are encouraged to send photographs of their work to make a wide-ranging audio-visual display. There will also be two summer-long exhibitions of contemporary and antique Swedish chairs.

Sweden has a long tradition of fine country chairs, with some bearing close similarities to the Welsh stick backs.

British experts Bill Cotton and Mike Abbott will be keynote speakers. Bill will be talking about the diversity of regional chairs throughout the British Isles between 1700 and 1900. Mike will be discussing green woodworking techniques and chairmaking. The list of speakers also includes Dr

Johan Knutsson talking about vernacular chairs in Sweden, Jogge Sundqvist speaking about the use of naturally bent parts in the making of chairs and Kalle Forss on south Swedish chairs.

Others will discuss the variety of possible raw materials that can be used in chairmaking and the use of crafts, particularly chairmaking, to help people who have suffered breakdowns at work. Luckily for us Brits, all the talks will be in English.

“There will be workshops aimed at amateurs and professionals, including steam bending and finishing”

James Mursell runs regular chairmaking courses in West Sussex. We can put you in touch by email or post.

There will also be practical workshops aimed at both the amateur and the professional, relating to aspects of making including steam bending and finishing, especially painting, which is a Swedish tradition.

And there will be a fair for delegates and tradespeople to sell tools, books, and materials, a great opportunity to investigate tools from a different tradition to our own.

I will certainly be going to Chairs 2006, along with a group of other British chairmakers and enthusiasts, but I'll report back from the event for anyone who can't make it over there. ✍

If you are interested in going, or just finding out more about Chairs 2006, visit www.chairs2006.se. Tickets cost 225 euros (about £156) which includes some meals.

School of hammer knocks

As the Government rethinks the way kids learn crafts, professor *Bernard Blain* has some advice for Tony Blair



▲ Dr Bernard Blain served an apprenticeship as a carpenter and joiner and has taught in various establishments, including a spell as dean of building and civil engineering at a college of further education

The Government has recently said it intends to restore vocational subjects to the national curriculum.

This follows a previous statement of intent that appears to have lost its momentum, over-shadowed by debates on top-up fees and work experience for school pupils.

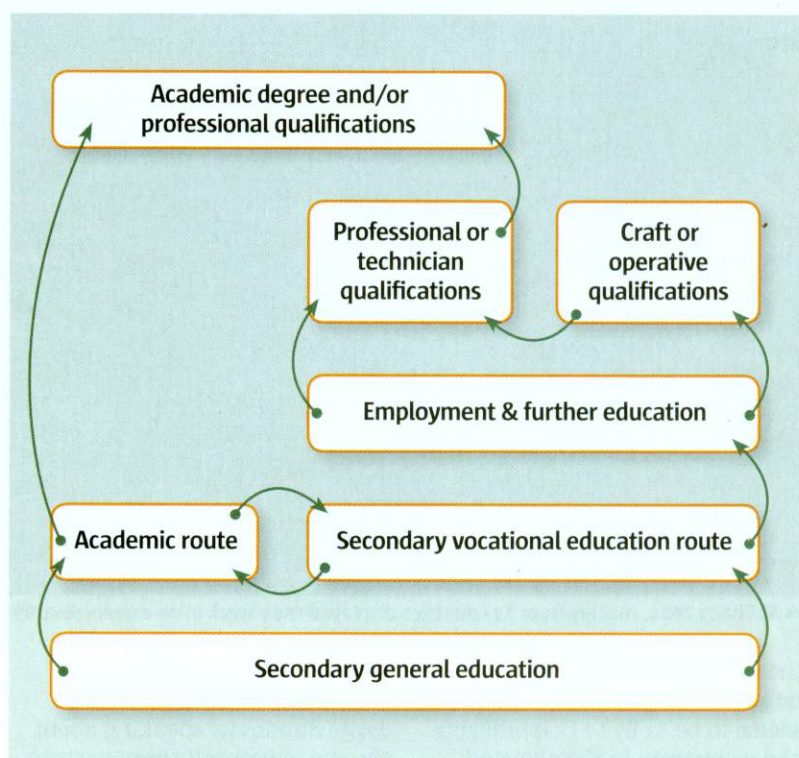
But we should be concentrating on giving vocational education the prominence that's needed to create a competent workforce.

The continued emphasis on university education at the expense of vocational training is a great mistake. Proper vocational subjects must be re-introduced into the school curriculum.

Previous attempts to provide vocational subjects into secondary education have been short-lived.

Junior Technical schools, introduced in 1913, were superseded in the 1940s by Secondary Technical schools. These were few in number and often housed in technical colleges or annexes. Claims of national prejudice against vocational education, plus a lack of physical and human resources, brought about their demise. The multi-lateral (grammar, technical and modern) schools of the 1960s pursued an academic route at the expense of the vocational and were short-lived.

Comprehensive schools came next, with a philosophy that all pupils should have the same opportunity to study academic subjects, but without providing a 'comprehensive' education for those pupils who wanted to pursue a non-academic career.



If this latest initiative is to be saved from a similar fate to its predecessors, we might consider returning to the old paths and to the former GCE syllabuses in vocational studies.

High standards

They required a high standard of literacy, numeracy, science and technology, together with practical ability. Assessment had undoubted credibility because the exams were externally set and marked, and first seen by the candidate at examination time. Could this be restored?

Provision for vocational education must be carefully planned and made available to all

pupils according to their aspirations, ability and aptitude and the course content should be influenced by industry.

It should be housed in the secondary sector so that all pupils, not only the less able, will know what industry, commerce and the caring professions entail

“We might return to the GCE syllabuses in vocational studies”

and what is on offer as a career. There will be no need for 'beacon' schools nor specialist schools; but there will be a need for schools with specialist departments. What better than comprehensive schools with spare capacity caused by this changed curriculum?

Pupils should be allowed to switch courses to accommodate their changes in aspirations. Vocational and craft training should not be denied to pupils of high academic ability just because they are considered to be bright.

As a former pupil of mine once told me, "a carpenter and joiner must have the brain of a professor and the back of an ox".

Admission to secondary education should be on a non-selection basis with a general education from age 11 including domestic science, woodwork and metalwork. At 13 years of age, pupils should, while continuing their general education, be allowed to opt for an academic or vocational route according to their ability, aspirations and aptitude.

The vocational route should provide courses to satisfy professional, technician and craft institutions at national and regional standard and operative courses designed to satisfy local industry requirement, as I've outlined in my diagram (left).

Truly comprehensive

Schools will then provide a truly comprehensive opportunity for the education or training of one's choice. The ladder of progression will remain as it always has done.

Yes, it will take longer to climb for those who take the vocational route. But they will have the advantage of being able to support themselves financially while on the ladder, because a person with a craft background can pay his or her way to any level of academic achievement on a part-time basis, without the burden of debt that many students face these days.

Those completing the climb should then know whether or not a carpenter and joiner or any other craftsman or technician must indeed have the brain of a professor and the back of an ox: they will certainly have useful, marketable skills. 🛠️



Nick Gibbs' Old Cotswold Outhouse

For my sins, I've recently been made clerk of the parish meeting that runs our tiny village. One of

the controversies that dogs our community is the lorries that pass up the dead-end street, searching for homes to deliver books from Amazon, clothes from Next and food from Tesco Direct. I suggested that we all fix house names to our gates to direct drivers to their destination more quickly, and as clerk I've been concerned that I've not been leading by example.

Of course, I wanted to make my own, but as a woodworker with a perishable and limited quantity of time on my hands, you can see my dilemma. So imagine my opportunism when Kevin Inkster of Arbortech dropped in on his way from Australia to the Axminster Tools Show, and mentions he plans to demo his PowerChisel by carving a house sign. We sent him off with a length of American oak, a joke about the Ashes, and a reminder that we live at 'The Hope'.

When I arrive at the show a day or so later, he's kindly done the sign in fantastic swirling text, carving through the interlocking grain with remarkable ease.

To celebrate this Australian craftsmanship, my small contribution to the nameplate is to finish it with Organoil, which is produced

in New South Wales and available from Axminster (0800 371822, www.axminster.co.uk). It works a treat. Two coats are enough to seal the oak beautifully, and the colour has come up nicely. Of course I left the excess on too long, and the finish is a bit thick, but it's gone off fine now and rainwater runs down the letters perfectly. I'll be fascinated to see how the oak changes in colour over the spring and summer.

When I'm not clerking and editing I have another small job producing *Smallwoods* magazine, the quarterly newsletter/magazine for the Small Woods Association.

I love doing this. It's a great opportunity to learn more about woods and trees, and timber production. We'd like to do more about using

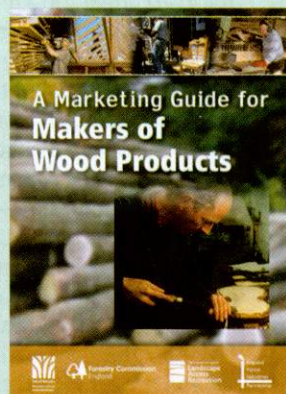
home-grown timber for projects, and we want to follow the progress of a log from felling, through conversion and seasoning. Do tell us if you come across a tree being felled that might be the star of that show!

The SWA has recently produced a 36-page free booklet on marketing for woodworkers. The idea is that by encouraging us to promote our businesses we'll use more British timber, and so boost British woodlands.

It certainly makes sense for us all to use more wood from neighbourhood forests. For a free copy contact SWA on 01743 792644 or visit www.smallwoods.org.uk.

On the tree front, I've just heard that the Festival of Wood at Westonbirt in August has been renamed the Festival of the Tree. And the Wood Awards, previously only open to architects, now has a furniture category. Entries must be in by 26th May; see www.woodawards.com for more information.

The bodge-up I mentioned last month to the rusted flue from the Outhouse stove has lasted only a few weeks. Baking foil was never going to last! But I've got a new elbow from Hot Spot now, and all's warm again. 🛠️





Good Woodworking Letters

Which projects do you make? Tell us about them

 Write to 30 Monmouth Street, Bath, BA1 2BW
 Email goodwood@futurenet.co.uk

Fuelled in France

I discovered a love of wood later in life and since I became a subscriber to *Good Wood* some years ago your excellent magazine has fuelled my enthusiasm. Now I've retired to live in France, your articles and advice have helped me choose the most affordable, useful tools and machines for my long-awaited workshop.

Although well-priced tools and machinery are available in France, I often prefer to purchase from UK suppliers because my pension is UK-based. Not all will deliver to France, D&M Tools included.

However, after telephoning their resourceful and very helpful Operations Manager, Ian Sims, a suitable solution was found. I can now take advantage of their competitive pricing and am very happy to give them my business.
John Clayton, Montaigne le Blanc, France

Thanks, John, and well done to D&M Tools. Nick

Miller techniques

I was interested to see Adam Leitch's efforts in holding parts together while drilling for Miller dowels. I have used these dowels quite a lot and have found the best way is to screw the whole piece together using screws smaller than the intended dowels.

You can check everything for a good fit and squareness and then remove the screws one at a time, replacing them with the dowel, using the screw hole as a pilot for the Miller bit. You just have to make sure you set out the holes in advance.

Colin Vaughan, Southampton

Blowing hot air

Alan Brooksbank's question about fuses blowing when he started his tablesaw was unfortunately not answered correctly (GW173:80).



▲ Bill Irvine (letter, below) sides with Andy in last issue's tablesaw debate

Nick's 'gentle push' was, I'm sure, tongue in cheek, and Andy's technically wrong.

A fuse in any electrical circuit is there to protect the cable and equipment from short circuits, rather than motor starting loads.

A 13a fuse will not break at 13a but will prevent damage or overheating of the equipment should the current rise to a point where the heat melts the device. The heat generated is proportional to the square of the current.

When a motor or other device is connected to the output of the circuit it can be protected by a long-duration fuse or circuit breaker.

When a motor is energised at standstill the instantaneous current it draws from the circuit can be as high as eight times the full load current. On a drilling machine this value is the same, but decays more quickly because the torque required to start a small-diameter drill rotor and chuck is less than that needed to accelerate a large-diameter saw blade. So the problem is in-rush current and the time it takes to decay before the fuse melts.

Fitting a larger fuse can prevent the problem, but one must ensure that the other parts of the circuit are still protected by the larger

fuse. The answer is to upgrade the complete circuit to either 16 or 20a and to fit either a larger fuse or a delayed one.

Another, better solution would be to remove the fuse and feed the saw directly via a 16 or 20a plug and socket with a 16 or 20a circuit breaker in the supply box.

Regarding the debate about the worth of a tablesaw (GW173:44), I have a relatively small workshop and find my Kity 1619 tablesaw indispensable, even though the brute has already chopped off the ends of two of my fingers.

Sure, it takes a lot of space, but I have incorporated my router table on one end, which gives me a large table and economical use of space. I also have a bandsaw, but the tablesaw is much faster and more accurate for ripping and panel cutting.

I think the new format of the magazine is great; much more informative and interesting.

Bill Irvine, Glasgow

Thanks, Bill. My comment wasn't actually meant to be that tongue-in-cheek, but the blown fuse must have been coincidence. Nick

Robot chucks

In the latest issue (GW173:82) Michael Horsley asked about

Robot chucks. I have exactly the same Robot chuck, which I bought just before the company was acquired by Robert Sorby. As I recall, for a while Sorby marketed the same chucks under the Robot name, but then they seemed to disappear. They were actually decent chucks for the day, but I guess they went out of favour when the scroll chuck took over.

Graeme Durant, Cambridge

Hands-on help

I just wanted to congratulate you and say thanks to the staff and contributors for an excellent, hands-on woodworking magazine. I have been out of the workshop for too long and needed a little shove to help me get back in there and start getting the satisfaction created by 'doing it myself'.

Your magazine is excellent in the way it lays out the planning and execution of tasks in a clear and logical sequence, and also includes those little mishaps which all too frequently can, and do, occur for all of us.

I have taken out a subscription and look forward to receiving the magazine. Well done, and thanks again for the shove.

Colin Cowell, Frejus

Bandsaw breaking

I have had the same problem with the blade breaking on a Record BS300 as Tony Box (GW173:80). I, too, tried all the standard setting-up procedures, but saw only marginal improvement.

I'm new to woodworking but it seemed logical that the back of the blade guides should be perpendicular to the fence. As supplied, it was a few degrees out. I found a nut underneath the table

◀ Jeff Gorman still inspires his former student (letter, below)



that can be loosened so that the whole table can be rotated.

Having done this, so that the guides are at right angles to the fence, cutting against the fence was massively improved. This should be one of the standard setting-up checks.

Richard Armstrong, Surrey

My Record BS300, when first assembled, gave me problems when trying to cut with the fence, and the blade would jump out of the guides.

I eventually realised that the bed and fence were not square to the blade. Adjusting the bed is not easy, and can only be done by trial and error, tweaking and testing.

Barry Sisson, Notts

Thanks for your letters: we passed on your notes to Tony and have spoken to Record. **Nick**

Extraction pipes

Rainwater downpipes are an alternative to heavy and expensive soil pipes. And I find it satisfactory to have a single 'socket' in my 2m wide workshop central to my 'chip and dust' tools, which I plug in as I use them. The socket is plumbed to the extractor with a short length of flexible 3in-diameter hose, which makes it easier to empty the extractor.

I have mostly succeeded in forcing each tool to accept a common connector, but where

this is not possible I have contrived a special connector.

These have a length of old vacuum cleaner hose that plugs into the turned, wooden boss.

When nothing is attached, the socket sucks dust from the vicinity of my bench-mounted disc sander. The power sockets for all these tools are current-sensitive, and automatically turn on the extractor when needed.

David Fraser, Oxon

Back to woodwork

I've started to become interested in woodwork over the past couple of years. I was always good with art at school and generally most things practical; then, about two years ago I designed a bedside cabinet with a glass top.

I dived in blind and made the cabinet from MDF, which I veneered. Although I could easily spot 101 mistakes with it, other people have been impressed. Most importantly, I enjoyed making it and learned a lot from it.

I have now started to remake it, along with several other projects from hardwood, using different joints I have learned since. I have very little spare time, so my progression is slow, but I do enjoy what time I get.

I have subscribed to your magazine for a few months and find it very useful.

Alan Richens, Camberley

Double double

I read with interest your review of the Veritas 4in double square (GW171:74). Readers may be interested to know that an almost identical tool is available from Axminster (ref 100184), but is calibrated in both metric and imperial.

▲ My Heath Robinson crosscut slide is just the job for cutting repeat lengths on a table saw. It pays to add a batten along the back edge (nearest to you) to act as a stop, and a clear plastic cover because you must remove the crown guard. Make sure you clamp the workpiece to the angled fence for safety's sake. I recently knawed 1/4in from the end of my left thumb on my new sawbench.

John Rigalsford, by email

Another bonus is that it is less expensive: it has been on a special offer of £14.36.

Your magazine continues to inspire me. I particularly enjoy 'At the Bench' with Jeff Gorman. He was my woodwork master at Market Harborough Grammar School some 40 years ago. I can still hear his voice as I read his articles every month!

Having been rather seriously injured in a road accident some four years ago, I have lost most of the use of my right hand. My injuries cause me to be very slow, but the therapy woodworing provides keeps me motivated and saves me innumerable trips to the occupational therapy department.

Thanks for producing such an interesting and varied magazine. Keep up the good work.

Chris Cowan, Leics

Excel at maths

I read several letters recently (GW172:14) highlighting the difficulties of maths. I am delighted to say that I can offer a solution. I have crafted a package that will run on your readers' computers if they have Excel.

It has 25 pages of easily used calculators and charts for converting feet and inches to millimetres, acres to hectares, carats to milligrams, and nearly

Snippets

Colin Vaughan (GW173:15) could try DIY Plastics (0870 444622) for plastic for templates. Thanks for your efficient reply regarding my SIP jointer. In 1994 I wrote to another magazine for information, and am still waiting for a reply. What a contrast!

Brian Halls, Lincs

Just thought you'd like to know that Kynda Carter (GW170:9) won the RBS Enterprise Award at our national event in February.

Louisa Beejay, Prince's Trust

Thank you so much for the £1000 cheque from Future Publishing for the Peter Martin Tulip Fund, which currently stands at £1839.26. It will help us care for families affected by life-threatening illness, in their own homes or at our hospice in Winsley.

Katrina Sudbury,

Dorothy House Hospice Care

There was an article about a drop-side cot back in May 2001 (GW108:4), and provided details of Mamas & Papas (01484 438222) who supplied me with the bits for about £7 two years ago. I hope the chap who wrote in doesn't live in my area and follow Nick's advice to scour skips because I'm a serial skip raider!

David Kendall, Dorset

There are some US sites that can supply Trevor Lewis with plans for a revolving bookcase (GW173:15). Try www.scrollsaw.com, www.abouttimeplans.com or www.woodcraftplans.com.

John Allison, by email

Is Mr Barber's mysterious planer (GW172:83) similar to the Charnwood 570, which is shown on p11 of Buyer's Guide No.3 (free with GW172)?

Mick Walter, by email

Not So Clever...

The advertisement for Jordans in the Buyers Guide No.3 with the GW172 issue said that they are the Exclusive Distributor in the UK of Rojek products. This is no longer the case: Axminster/Jet now supply them as well.



Letters

 **Write to** 30 Monmouth Street, Bath, BA1 2BW
Email goodwood@futurenet.co.uk

1000 other transformations. It will work out useful geometry, including the chord length of a 19-sided polygon, the tread length of a flight of stairs and the Hambridge progression when designing a chest of drawers. You can use it to look up the type of thread if you know a bolt's diameter and pitch and the drill size to tap it.

It keeps getting better as ideas are suggested to me. Readers can download a free trial version from the Office page of my website (www.stephentribbick.co.uk). For £10 they can download the full version, which does twice as much stuff as the trial version.

Incidentally, Google will do the simplest of conversions for you. Try typing '23.4 square feet in square metres' into the search box and hit the button.

Stephen Tribbick, Harrow

Cutting mitres

I was interested to read about the problem Hugh Coleridge was having cutting clean mitres in 3mm stock for linings of his jewellery box (GW172:15).

To solve this I take my 3mm stock which I have already prepared to the correct width and place it between two pieces of wood about 12-15mm thick, to form a sandwich. Then I clamp the sandwich to the back fence of my Nobex saw (pictured above). Using a fine blade I make my angled cut for a good, clean finish.

You can place one or two small strips of double-sided tape either side of the 3mm stock to keep the pieces together when removing the clamps and to turn the sandwich around.

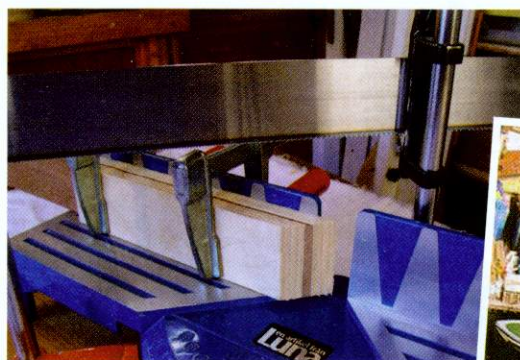
Ken Green, Doncaster

Thanks for the solution and photos. I can see how it will produce a good, clean cut. I don't have such a mitre device, but will bear it in mind, and possibly Father Christmas will come to my rescue!

Hugh Coleridge

Sawtable debate

I am with Nick on the sawtable question (GW173:44). A modern benchtop bandsaw is ideal for the garden shed workshop, which is typically small and not soundproof. With a few jigs it can



▲ **Ken Green's cunning method of cutting mitres on 3mm stock (letter, below)**

tackle most of the essential cuts, like resawing boards, cutting tenons and crosscutting to length.

My shop is 8x6ft, and I mounted my Record BS250 on a wheeled base so that it can be rolled right to the end of my bench, guided by a single rail.

Peter Watthey, Luton

Glad to hear I'm not alone. I feel a workshop rejig coming on, and the wheeled bandsaw sounds like an excellent plan.

Nick

Ultimate woodwork

Congratulations on your superb magazine. Being a keen amateur I find the contents very interesting and informative, and there are some great projects. Also, Nick, well done on your book *The Ultimate Woodworking Course*. I am amazed at the contents and it has answered all of my questions I have at my present stage of 'keen novice'. Keep up the good work.

Rob Barker, West Wales

Thanks, Rob. I didn't realise I had relations in Wales!

Nick

Waiting room bonus

Thanks for supplying me details of skiver suppliers so quickly. I retired 12 years ago, and had never done anything with wood. While waiting at the doctor I picked up a magazine to look at. It happened to be *Good Woodworking*. I was impressed and decided to buy another. This I did for a few months, wondering if I could possibly make one of the projects from the magazine.

I bought a Record DML24 lathe and set it up on an old, solid kitchen table in a double garage. I tried my first attempt to turn a cylinder from a square blank and, taken aback by the speed of

rotation, gingerly offered up the gouge to a rapid machine-gunning noise. I think it must have taken me an hour to make a cylinder.

Len Clark, Cheltenham

Great idea, Len. Please, everyone, send us any woodie photos you take when on holiday.

Nick

That was 10 years ago, Nick, and I am now happily turning out tables, chairs, clocks, bowls and other wooden items. I have a nice workshop extended off my double garage and all the tools and machines I need.

If it hadn't been for that *Good Wood* in the doctor's that day I might never have known the pleasures of working with wood. I am now coming up to 80.

Thank you for your help, and may I wish you and all the team the very best for the future.

Jim Smith, Northants

What a story, Jim. Thanks for telling us. That must have been in the early days of the magazine, when, funnily enough, I too had a DML24 lathe. I eventually swapped it for a tent!

Nick

Book details

Whilst considering your magazine the best of the bunch by far, I'd like to suggest a small improvement. Could you please include the ISBN number of books you review?

Jim Reynolds, E. Sussex

Count it done!

Nick

Good Woodworking

Editor Nick Gibbs

Technical Editor Andy King

Production Editor Sophie Mason

Art Editor Fraser McDermott

Contributing Editor Phil Davy

Senior Art Editor Christian Day

Contributors

Rob Cosman, Phil Edwards, John Lander, Adam Leitch, Steve Maskery, James Mursell, Mike Riley, Dave Roberts, Stephen Simmons, Bryan Blow, Andy Pickard, John Hilton

Managerial & Marketing

Assistant Publisher Andrea Alway

Publishing Director Andy Semple

Group Publishing Director Simon Wear

Advertising Manager David Fieldhouse

Classifieds Michael Pyatt

Product Manager Jayne Fishwick

Marketing Executive Daniel Bruce

Print & Production

Senior Buyer Michelle Rogers

Production Coordinator Frances Twentyman

Want to Subscribe?

For great subscription offers call 0870 837 4722 (UK readers) or (+44) 1858 438795 (overseas readers). Alternatively, fill in the form on p40 or go to www.myfavouritemagazines.co.uk and look for *Good Woodworking*.

Existing Subscriptions

If you haven't received your latest issue or have any subscription problems, call 0870 837 4773.

Back Issues & Binders

Missed a copy or want a binder? Fill in the form on p96 or call 0870 837 4722 (UK readers) or (+44) 1858 438795 (overseas readers).

Next Issue on Sale Wednesday 12th May

Distributed by Marketforce (UK) Ltd, 5th Floor, Low Rise Building, Kings Reach Tower, Stamford Street, London SE1 9LS. Tel: 020 7633 3300

Licensing Enquiries

International Licensing 01225 442244

© Future Publishing Ltd 2006. No part of this publication may be reproduced without written permission from the publisher. Contributions are accepted only the basis of full assignment of copyright to Future Publishing, unless otherwise agreed in writing.

We endeavour to ensure all the techniques shown are safe, but take no responsibility for readers' actions. Always use guards, goggles, masks, hold-down devices and ear protection.



Future Publishing Ltd is part of Future PLC. Future produces carefully targeted special-interest magazines for people who share a passion. We aim to satisfy that passion by creating titles offering value for money, reliable information,

smart buying advice and which are a pleasure to read. Today we publish more than 150 magazines in the UK, US, France and Italy. Over 100 international editions of our magazines are also published in 30 other countries across the world. Future PLC is a public company quoted on the London Stock Exchange (symbol: FUTR).

Non-Executive Chairman Roger Parry
Chief Executive Greg Ingham
Group Finance Director John Bowman
Tel (+44) 1225 442244 www.futureplc.com



ABC 14,824 JAN-DEC 05



The text paper in this magazine is totally chlorine-free. The paper manufacturer and Future Publishing have been independently certified in accordance with the rules of the Forest Stewardship Council.



CRAFTPRO[®]

sawblades

The most popular
selling sawblades
in the UK

CRAFTPRO[®]
sawblades
TUNGSTEN CARBIDE TIPPED

Ø = 184mm
= 30
MAX = 9500
RPM

16mm
QUALITY
TCT BLADE

trend[®]
routing technology

Reamed bore to ensure precise fit to spindle.

Wood cutting blades have front bevel tooth form for a superior quality of cut.

Silverbrazed to ensure tip is bonded securely to body.

Microgranular Tungsten Carbide Tipped to allow cutting of abrasive materials.

Specific sawblades with anti-kickback tooth design.

Body hardened and tempered to maintain trueness.

Blades 250mmØ and above are roller tensioned to prevent distortion when blade is under stress when rotating and cutting.

Laser etched on reverse to European standard EN847-1/2. The Trend name for traceability and a guarantee of quality.

High grade alloy steel plate body precision ground to maintain flatness.

NON-STICK COAT BLADES

Non-stick PTFE coat to prevent resin build-up and increase sawblade life.

CRAFTPRO[®]
sawblades
TUNGSTEN CARBIDE TIPPED

Order Ref.
CSB/TC18424

PROTECTION
MUST BE WORN

16mm
QUALITY
TCT BLADE

trend[®]
sawing technology



Sawblades with the ultimate compatibility at affordable prices

trend[®]
routing technology

Trend Machinery & Cutting Tools Ltd Odhams Trading Estate St Albans Road Watford WD24 7TR
Email: enquiry@trendm.co.uk Web: www.trendmachinery.co.uk



Available throughout the UK

Phone 0800 487363 for your free 2005/6 Routing Catalogue and details of your nearest stockist.



YOU CAN TRUST US FOR ADVICE AND PRICE!

HAND & POWER TOOLS & MACHINERY SPECIALISTS

Welcome to the family firm with the **BIG** national reputation for range, **quality**, **value** and **FAST** response.

Order by phone, fax or online for next day delivery.* Our fully secure **24 hour website** is a virtual **online catalogue**, with extra features and updates. From hand tools to power tools to garden equipment to commercial machinery, our **experienced**, long serving **staff know their stuff**, so call us, fax us, or log on for **top brands**.

With over 25 years of holding down prices, the most experienced professionals and the keenest amateurs won't find better.

Wake up to the D&M 24hr website
WWW.DM-TOOLS.CO.UK



The busier you are, the more you'll appreciate our 24 hour online ordering service. This is our online catalogue packed with extra features you won't find in the catalogue.

- Loyalty Points Scheme
- Weekly Star Buys
- Top Brand Names
- New Products
- Quick Order System
- Monthly Special Deals
- Secure Ordering
- Versatile Searching
- Various Payment Options
- Always Up-to-Date
- More Information
- Latest Prices!



VISIT OUR SHOWROOMS AT:
**73-81 HEATH ROAD
TWICKENHAM
MIDDLESEX TW1 4AW**
FAX: 020 8744 1004
EMAIL: sales@dm-tools.co.uk

CARRIAGE RATES UK MAINLAND

SPEND UP TO £99 - POSTAGE £7.95
SPEND OVER £99 - POSTAGE FREE
*Orders over £99 & under 25kg next day £5 (Mon-Fri only)
Single items over 25kg and Machine carriage P.O.A.

OPENING HOURS

Monday-Saturday
8.30am - 5.30pm
Customer Services & Showroom

TOP BRANDS INCLUDING...



...AND MORE

CONTACT US
NOW FOR OUR
NEW 352 PAGE
FULL COLOUR
FREE
MAIL ORDER
CATALOGUE



6TH ANNUAL KEMPTON PARK



INTERNATIONAL WOODWORKING EXHIBITION

**DON'T MISS THE 2006 SHOW
EVEN BIGGER & BETTER**

17-19 NOVEMBER 2006 • 10.00am - 5.00pm

MORE TOP BRANDS • MORE NEW PRODUCTS • MORE DISCOUNTS

REGISTER BY PHONE OR AT www.DM-TOOLS.CO.UK

CALL 020 8892 3813 (5 LINES)
TO ORDER, TO GET A QUOTE OR FOR INFORMATION



FREE DELIVERY
UK MAINLAND
ON ORDERS OVER £99
(EXCEPT AS MARKED SEE OUR RATES OF CARRIAGE FOR MORE DETAILS)



All offers subject to availability. Prices subject to change without prior notice, prices correct at time they went to press. We cannot be responsible for any mistakes. Illustrations are not binding in detail. We offer a full range of tools, these are just a few.

VISIT www.DM-TOOLS.CO.UK
TO ORDER OR CHECK OUR LATEST PRICES AND DEALS

Nest of tables

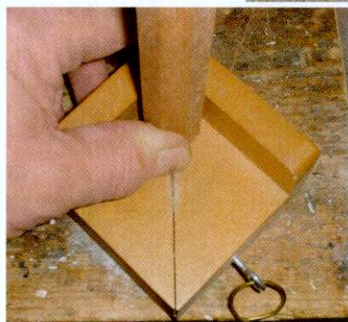
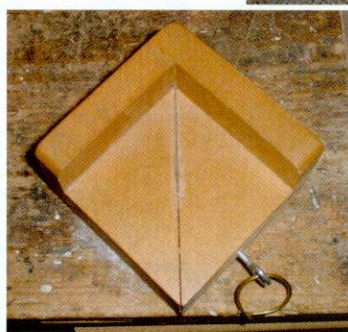
More challenging than it might look, **Bill Newton's** nest of tables combines some fine turning with veneering and angled work

This nest of tables has a simple, unfussy design and at first sight, it might appear to be simple to make, too. But it's a little more complex than meets the eye. Getting the two smaller tables to nestle within the top one is quite a challenge, because you have to get the heights and depths absolutely right.

The table in the photos is made in mahogany, but oak would also be a good choice of timber. Pine, though, would not be an option because of the slender sections used for the legs and stretcher rails: it is simply too weak and such thin pieces demand a strong wood. The tops are made from MDF, edged all round in material to match the table, then veneered over. The top face of the first table, the largest one, is quarter-veneered with a cross-banded edge and a contrasting inlay between the cross-banding and the quartered main surface.

One final note, before we start making the table, on clearance. If you are going to be using the table on a hard floor surface, when the three tables are assembled the two smaller tables should have a floor clearance of about 2mm on a hard floor so that they can slide out from under the largest table. If the tables are to be used on a carpeted floor, this clearance should be increased by a further 5mm, at the most, to ensure they don't rub against the carpet pile. The legs are all the same length, and the clearance is achieved by simply reducing the depth of the feet quite near the end of the project.

Another thing to note is that the legs on all three tables are exactly the same length. The difference in height is made up by the top rails being different widths. Notice in the main picture above how the stretchers at the back



are notched into the back of the feet on the two smaller tables (Pics2&3).

1 Marking out

Start by making a full-size setting-out rod to determine angles and measurements. Once the rod is made, select and mark the face side and face edge to all non-turned items.

Mark out and cut templates from 6mm MDF or ply for the feet and top rails of table one, which is the biggest of the three. These templates should contain all the information for all three tables, and it is important that they are accurately marked out for the drilling centres of the stretcher rails and the legs. Drill the centre marks through with a hole to suit

the diameter of a suitable transfer punch. Then, using the completed templates, mark out the feet (A) and top rails (B) to shape and for the drilling centres for the legs and for the dowels in the case of the top rails.

It is important here to remember to mark out in pairs. The feet are handed because of the stretcher at the back. To do this reverse the template for the feet and mark out the drilling centre for the bottom rail with the transfer punch from the opposite face.

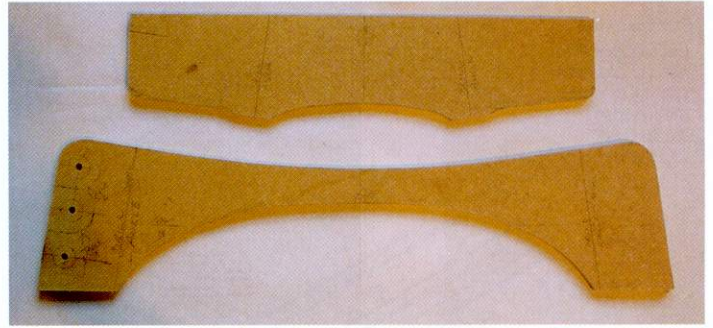
The top rails, which are not handed, must be marked for shape, drilling centres for the legs and also for the rebates that take the top rails of tables one and two. Clearly mark out the shoulder size on one leg (C) and each of the



◀ Pic.1&2 Bill has made himself a simple centre marking device, with a blade protruding from the base to make indents in the end of a piece to be turned between centres



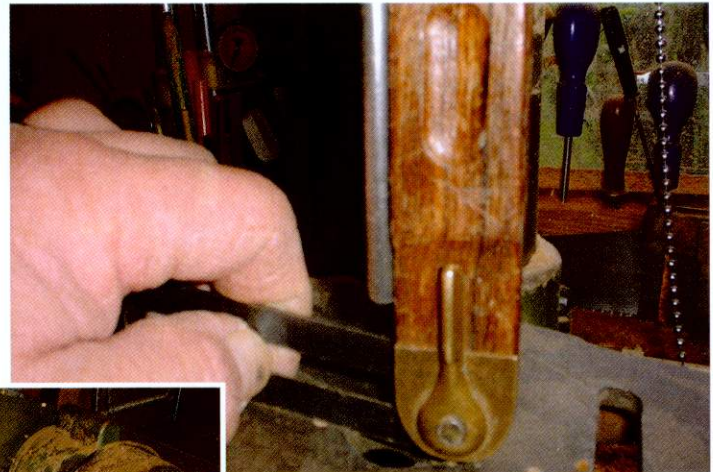
▲ Pic.3 Use callipers to size the tenons on the end of the legs and stretchers accurately



▲ Pic.4 It is vital to make up templates to act as full-size rods for the feet and top rails. This will help you position the holes accurately



▲ Pic.5 Sanding the notches in the feet with a bobbinsander to get a smooth curve



▲ Pic.8 Mount a piece of straight steel rod in the chuck to set the table angle at 97.5°



▲ Pic.6 Mark the legs from a template



▲ Pic.7 Turning the legs using a steady to stop any vibration. You may have to use your hand



▲ Pic.9 It is easiest to drill the holes in the feet before shaping them

three stretcher rails (D). You must be able to see these marks clearly on a rotating lathe.

Make sure the shoulder length of the legs are precisely the same length, but note that the shoulder lengths of the stretcher rails vary by 50mm between each table.

2 Drilling the feet

Start the process of making the feet by drilling the holes for the legs. These holes are 12mm in diameter and 25mm deep, perpendicular with the face side of the foot but 82.5° to the horizontal in the opposite elevation. I used a drill press with the table tilted to the correct

angle and a fence set square to the table and bolted into position. If a tilting table is not an option for you, the angle can be achieved by using a tilt block, attached to the table and fixed into position.

It is sensible to drill these holes at this stage, before any shaping work takes place, to avoid any complications that shaped pieces would

present. Similarly, before any shaping work, make the holes in the top rails that will receive the legs: use the same angle setting and the same drill but note that these holes are only 20mm deep.

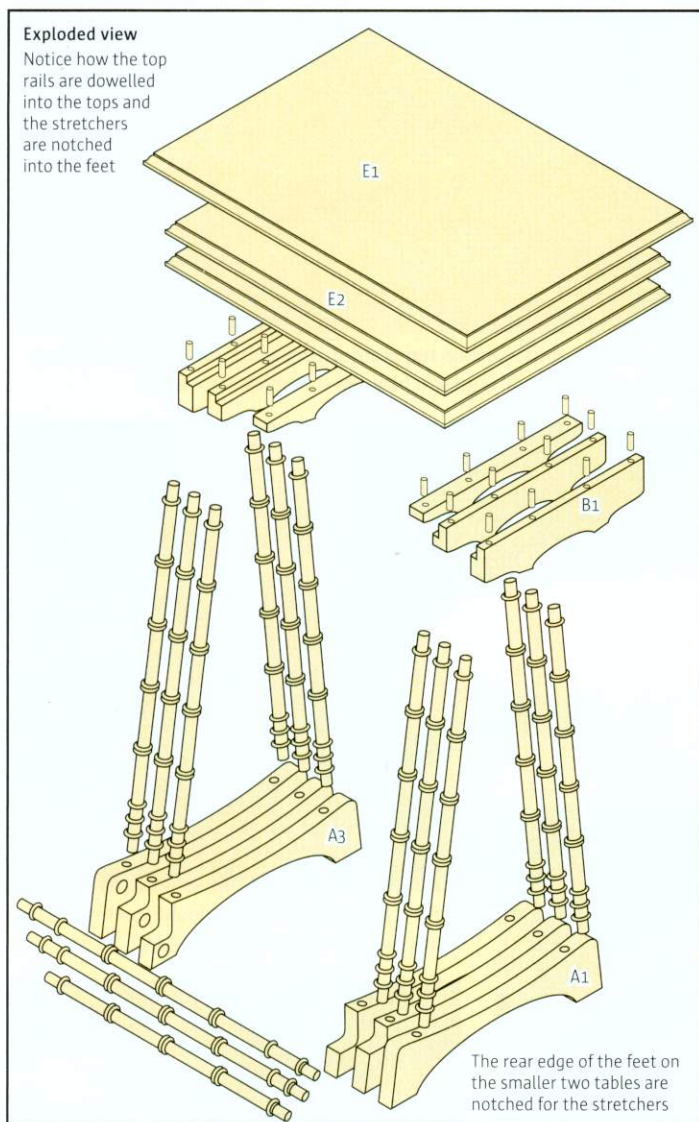
Use a 12mm drill to make 15mm-deep holes in the feet for the stretcher rails. This process will hand the feet, so be careful as you work and double-check that you have three pairs.

Next drill the top rails for the dowels to attach the tops (E). Note the position of these dowels. They should be 20mm deep to allow 10mm of the 30mm-long dowel to penetrate the top. The dowel positions on the two larger tables are identical, but on the smallest table the top rail is shallower and you need to move the dowel positions so as not to drill all the way ►



▲ Pic.10 Keep checking the diameters of the legs. Consistency is important

Advanced Project



Not So Clever...

Bill used glue film to fix the veneer, supplied by Craft Supplies (01433 622550, www.craft-supplies.co.uk). He had a bit of trouble with one balancing veneer, which he thinks was buckled. "I couldn't get it to stay down," he says. "So I lifted it and laid another sheet of glue, made sure there was no ingress of dust or shavings, then ironed it down." It worked perfectly.

through the rail. The screw fixing I used to attach the top rail to the top is optional, but if you decide to use it, now is the time to drill and counterbore for the pellets.

3 Shaping feet and rails

With the drilling complete, shape the feet and top rails. To ensure uniformity, lightly glue the feet and rails together in their respective pairs, using two small beads of hot-melt adhesive between each pair so they can carefully be separated after all shaping and cleaning up of the edges has been done. Carefully remove the

waste on the bandsaw, ignoring at this stage the cutouts at the rear of the feet for tables two and three. Leave about 1mm on for final removal with a bobbin sander or spokeshave. Finish the edges with a fine sandpaper.

Separate the pairs and do the cutouts to the rear of the feet for tables two and three. The easiest way is to drill a 25mm diameter hole to produce the radius section (Pic.11) and carefully cut out the remainder with the bandsaw. Finish with a bobbin sander (Pic.5) and fine sandpaper.

The stopped chamfers to the feet require careful marking out of the stop positions. Use a bearing-guided cutter with your router mounted in a table so the bearing is actually running on the workpiece. A good cutter for this would be Wealden's T916B (0800 328 4183, www.wealdentool.com) or equivalent. Make sure all guards are in position; the use of



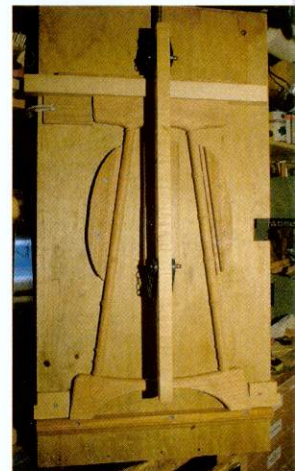
▲ Pic.11 If you drill 25mm diameter holes first, cutting the notches in the feet is much easier



▲ Pic.13 Drilling the top rail for dowels to fix to the table top



▲ Pic.12 Counter boring the top rail



▲ Pic.14 Bill's patented cramping jig for legs



▲ Pic.15 Notice the stopped chamfers. These have to be routed accurately

a substantial holding jig is essential because during this operation the pieces must be firmly held to avoid the risk of the piece being ejected from the jig and possible contact with the cutter. Use a sharp cutter and reduce the speed of the router to avoid any burn marks on entry or exit of the cutter because these will be difficult to remove later. Of course, it is possible to produce these chamfers using traditional methods, or omit them if that's your taste.

Finally, cut the rebates in the top rails of tables one and two.

4 The legs

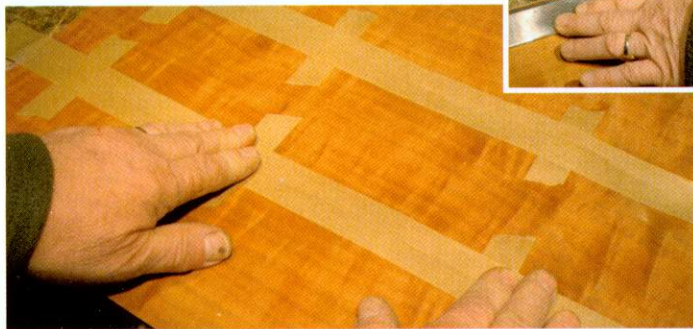
Mark out all turning centres to the ends of the legs and stretcher rails. Then, to help with the

Skill Build



▲ Pic.16 The mahogany veneer was book-matched

► Pic.17 Shooting the edges on the veneer



▲ Pic.18 Taping the edges of the book-matched veneer ready for gluing



▲ Pic.19 You have to allow greater clearance between tables for carpet



▲ Pic.20 Only the largest table has cross-banding and inlay

FOR BEGINNERS

When you're applying the veneer, if you're using mahogany or oak, remember to use an iron with an aluminium base and a veneer hammer with a non-ferrous insert. This will avoid black stains.

turning, remove the corners to make them octagonal. This can be done with a tablesaw or by passing them through a thicknesser on a jig.

Now turn the spigot to each end of all pieces. I find a simple tapered jam chuck invaluable for this sort of work. The spigots must be accurate to produce a strong joint, avoiding either a too-tight or a too-loose fit. Also, confirm the accuracy of shoulder lengths.

Prepare a marking-out rod for the legs and rails to guarantee uniformity, then remount each piece and turn to detail. You will need to use a centre support on the lathe to prevent any 'whipping' and to help with the turning.

Clean up using fine garnet paper on the lathe and avoid producing cross-sanding marks,

particularly if the unit is to be stained. It is possible to finish the items with a friction polish on the lathe, but I prefer to leave all the finishing until the three tables have been fully assembled.

4 Making the tops

The tabletops are made using 15mm MDF that is edged with a hardwood to match the table frame. The top face is veneered over the lippings but the bottom face is veneered before the lippings are applied: this avoids the possibility of the veneer being the bearing surface when the tables are slid together.

Obviously you need veneer on both surfaces as balance and to stop veneer on the top from

pulling the MDF out of shape. First, cut the MDF to size and lay up the veneers for all faces. Prepare the surface of the MDF by removing the shiny face with a coarse sandpaper to produce a 'key' for the glue film. Make sure all the dust is removed before applying the veneer.

After veneering the underside, trim the veneer back to the MDF edge (Pic.22, p24) and then groove the tops to receive the tongue of the edging. Apply the tongue to the edgings, aiming for a good fit with the grooves. Avoid either a tight or a loose fit because either of these will 'telegraph' the edging through the face veneer. The edgings are mitred at each corner and well glued to the top all round.

Once the adhesive has set, carefully flush down the edgings to the upper surface of the tops. If, like me, you have no press facilities, then use a glue film, although a good-quality animal glue using traditional methods would also be appropriate.

Veneering complete, remove any glue residues from around the edges and rout the moulding. You will see from the drawing that the top table (No.1) has a small radius applied to each corner. This is optional, but if required it should be applied before moulding the table edges to allow the edge moulding to continue around the corner.

Now do a preliminary clean-up of the three tops only removing a small amount of material so that further work can be carried out at a later stage. I always start with scrapers to get rid of the marks from the veneer knife. Then I use abrasive, starting with 180grit and working ►



▲ Pic.21 Use a cutting gauge to cut the edge for the inlay and banding



▲ Pic.24 Re-heat the glue to allow the removal of waste veneer



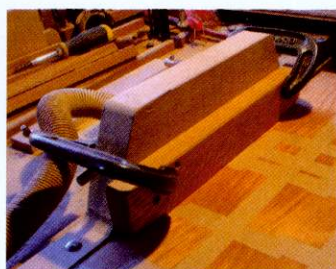
▲ Pic.26 Making the joints in the cross banding with a knife



▲ Pic.22 Edge the top after applying the balance veneer



▲ Pic.23 Fixing the lipping on the table top



▲ Pic.25 Grooving the tabletop edges for the lipping

TIP

During assembly, apply glue to all the mitres on the top edging. This avoids any speling of the edging at the mitre when the moulding is applied.



▲ Pic.27 Position one tabletop below its mate for fixing the top rail

down to 240, and sometimes 320. I tend not to use 320grit if I'm staining as it can glaze the surface. I never use mechanical sanders, unless I'm painting the piece, as they tend to destroy the surface with tiny rings. They are particularly bad if the piece is being stained. Instead I have a load of cork and rubber blocks, and a lot of hard work.

5 Assembly

Clean up all feet (A) and top rails (B) before assembly and reduce the depth of the feet to tables No.2 and No.3 to 85mm for clearance. Then assemble the legs with the feet and top rails. Ensure that the top rail and foot are in the appropriate plane to each other and the legs are all the right way up; it is possible to assemble them incorrectly, so beware.

To ensure that the frames are flat and square, I made a simple assembly jig using a piece of flat board (I used 25mm ply but 18mm MDF would suffice) and several blocks screwed into position. This allowed the use of a single sash clamp to apply gentle pressure until the glue had set.

Invert the top of table No.1 on the bench and, using the top of No.2, position the leg frames to mark out the dowel positions with



▲ Pic.27 Chisel back the plugs. Notice how Bill is working across the grain to reduce tearing

dowel centres to locate the legs. With the stretcher rail in place, make sure the legs are parallel, square to the end and central in the table's width (Pic.27). Take great care with this operation because mistakes will not be easy to rectify afterwards. The leg frames must not have any wind, and that's why I use the flat cramping frame (Pic.14, p22) to assemble the frames accurately.

Drill the holes 13mm deep using a drill suitable for the dowels and insert the dowels with glue into the top rails of the leg frames. Allow the glue to cure, then reassemble with the top dry and mark out the screw positions.

Drill these with a suitable pilot drill for the screws being used.

Give the underside of each tabletop a final clean-up and give the top surface and edges a further going-over, leaving only a final clean-up for after assembly.

Now assemble each table with adhesive, using the screws to pull the leg frames and tops together and a sash clamp, applied only lightly, to avoid distorting the leg frames as you assemble the stretcher rail into position. Check for square and leave aside to for the glue to set.

Assemble all three tables in a similar manner. After curing, place each table into its correct rebate position and check the fit.

7 Final finishing

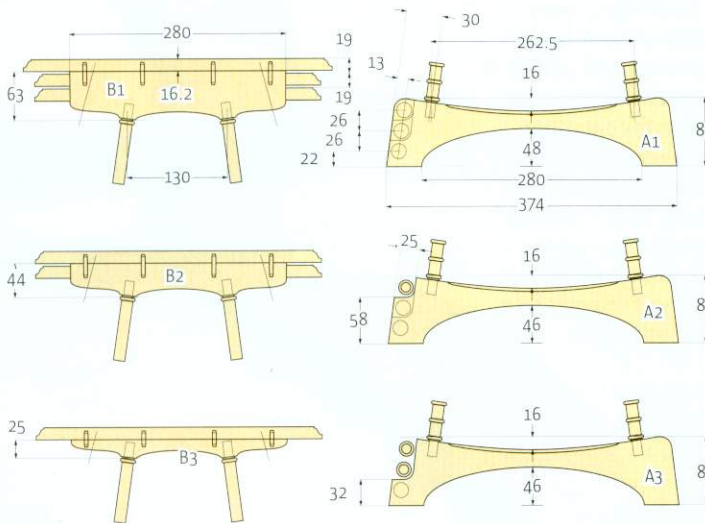
Clean up the whole set of tables, working down through the grades of paper to prepare the tables for their finish. I chose to use a natural finish produced by using a fortified French polish from Mylands. It has so much more glow than melamine.

Several coats are applied and each coat is allowed to dry thoroughly and then rubbed down with a fine paper. The final finish is achieved with wax applied with a fine abrasive pad and then buffed up.

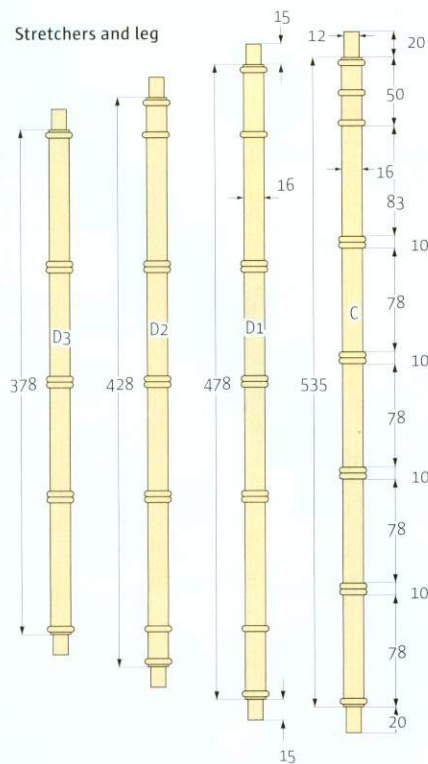
Plans

Elevations and details...

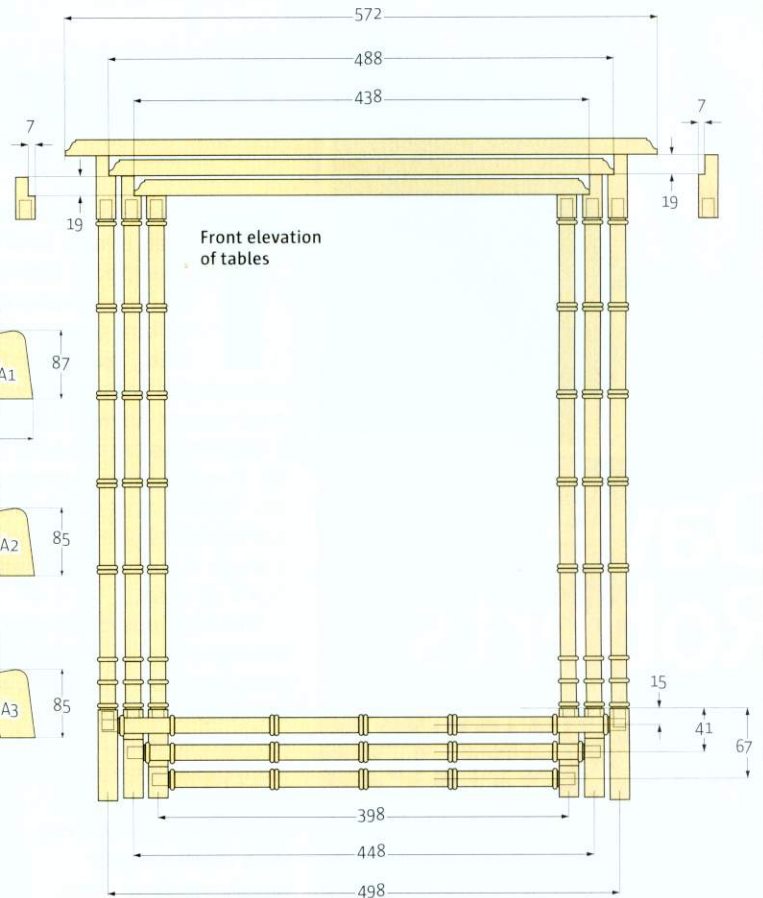
Detail of top rail and leg



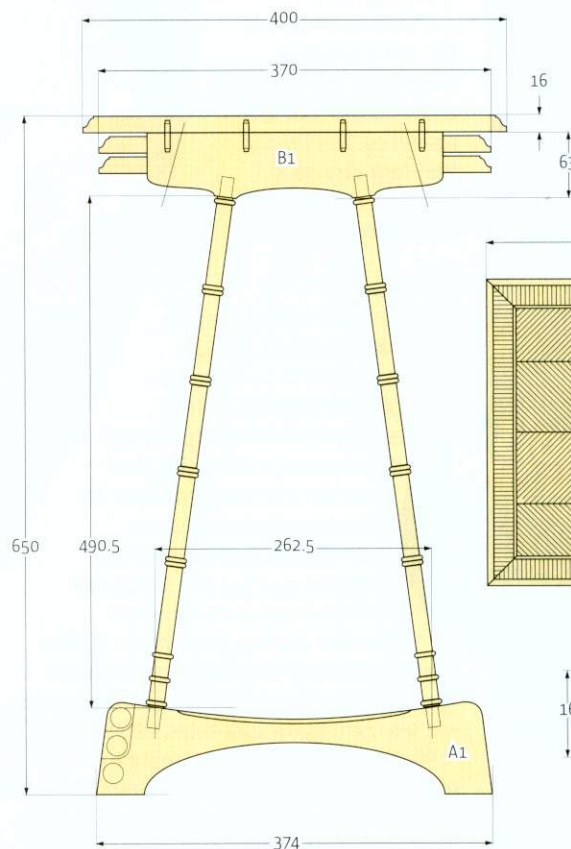
Stretchers and leg



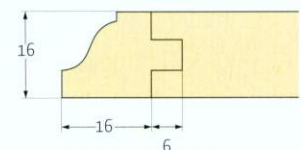
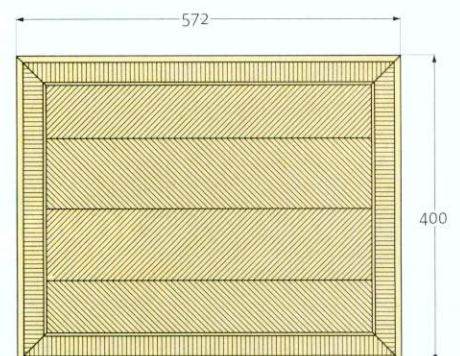
Front elevation of tables



End elevation
Notice the dowels
fixing the top rail



Plan of no.1 table



Section through lipping

Any Questions?

If you have questions about this project or want us to send you a cutting list, write to us at 30 Monmouth Street, Bath, BA1 2BW or email goodwood@futurenet.co.uk



Dave Roberts

THE ENGINEER'S WORKSHOP

Patience and perseverance are the keys to completing this impressive project, as *Dave Roberts* will show you here and in the next issue

Tools you'll need
6mm and 9mm gouges, thin parting tool, hollowing tools, standard parting tool, 28mm Forstner bit

This Month... The 1600-Piece Vessel

There's no illusion to this vase. Yes, it really is made up of many, many small pieces: 1597 of them, in fact! It's certainly not a quick-fix project. It took me three and a half weeks to make, from design to completion, although if I'd had a plan it would have been much quicker. Anyway, it was well worth it; it's a really impressive piece and there's nothing like the satisfaction of completing a job like this. Besides, most of the time it took was waiting for the glue to dry, so if you only have a couple of hours to spare each day, that'll do nicely.

When the project first went on the drawing board, there were going to be 1000 pieces. But as the design changed, so did the number of bits. With this many pieces, careful planning and cutting are essential: it only takes one sliver that isn't cut or glued correctly to throw the design out.

Choosing timbers of the same density is important. I went for pau amarello and sonokeling rosewood. Not only do they look very good together, but the density of each is about the same.

Density

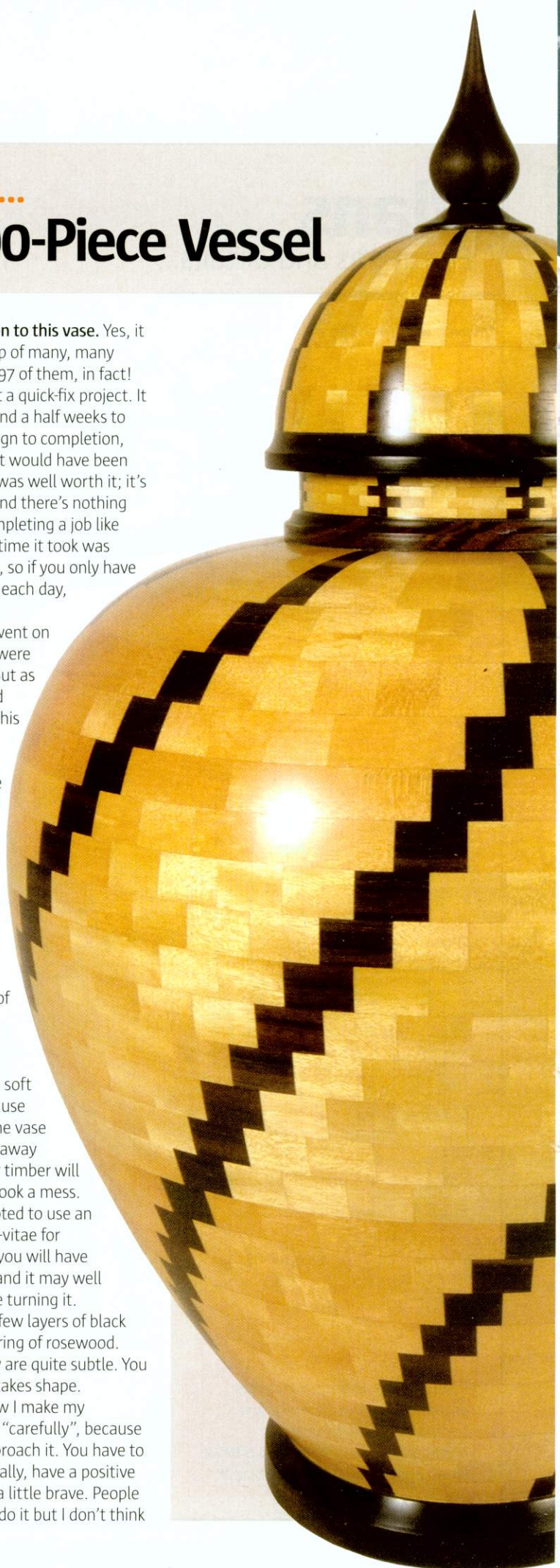
There's no point using one soft timber and one hard, because when you come to sand the vase the soft timber will wear away

quickly and the harder timber will stand proud; it will look a mess.

Also, don't be tempted to use an oily timber, *lignum-vitae* for example, because you will have problems gluing it and it may well explode while you're turning it.

My vase also has a few layers of black veneer attached to each ring of rosewood. They don't stand out; they are quite subtle. You will see them as the vase takes shape.

People often ask me how I make my segmented work and I say "carefully", because that is the only way to approach it. You have to work slowly and methodically, have a positive state of mind and also be a little brave. People also say to me: "I'd like to do it but I don't think





▲ Pic.1 My mate Bob Sawyer kindly steps in to cut up the planks into more manageable sizes



▲ Pic.2 Bandsawing the pau amarello into 22mm-thick strips ready to go through the planer thicknesser



▲ Pic.3 Me and David Mounstephen at Yandles



▲ Pic.4 My planer thicknesser came in very handy for making all the strips of pau amarello the same before I cut them up into small segments

I can...". Well, there's only one way of finding out, and that's to have a go! You will either do it right or mess it up. If you mess it up, at least you will have learned a lot. But if you take it slowly and carefully, you should be fine.

1 Preparing the wood

Selecting the timber is very important. I would rather select it myself then rely on someone else because I know exactly what I want. So

this meant a trip down to my local timber supplier, Yandles of Martock, to choose the timber and to have a good look around (01935 822207, www.yandleshobbycentre.com). I met David Mounstephen, the managing director, and we had a good chat about pau amarello.

As with any timber yard, it's definitely worth a look around. You never know what you'll find. The timber I bought was thick stock and I knew that meant a fair amount of work to get it into thin planks. But first it had to be checked over to make sure it was straight-grained with no shakes or knots. I was happy with my purchase so we trundled off home.

The planks had to be cut in half before they were put through the bandsaw. This is the time when you use a labour-saving device, such as getting someone else to do it... well, I couldn't do it, I was taking the photographs! Before I put the timber through the bandsaw I put in a new coarse blade and generally checked it over, knowing it had a lot of work to do.

The timber was sliced into 22mm-thick planks, each 1m long. I found this size was easy ▶

Choosing timbers

Laminated work has to be my favourite type of turning. The designs are endless and every piece I make is totally different. There are a few factors to consider: how big do I make each vase; how many pieces do I put in each ring and how big do I make the individual

pieces? That's not all. Once you've made a decision you will have to sort out what timbers you want to use.

Matching two timbers is not too difficult, but any more can be a problem. The trick is getting the colours to work together so they blend in without one timber standing out too much. If this happens it could spoil the whole look of the vase.



▲ Pic.5 Cutting the pieces: leave a gap for the segments to escape into



▲ Pic.6 De-nib the segments before gluing them together



▲ Pic.8 Put each ring into a chuck and face up both sides



▲ Pic.9 Put the glue on both sides then clamp the rings together

to manage when cutting the segments on the saw. If you have a planer thicknesser, all the better, because all the planks will then be the same thickness and smooth.

Put all the planks through; don't take off too much, just enough to clean them up. Remember, each finished disc will be 15mm thick, so plane them down now to about 18mm. This will leave enough timber for skimming off the faces.

2 Cutting the segments

The most important part of this project is getting the angles right. Only 100% accuracy will do. If you are one tenth of a degree out on each piece, by the time you get 48 pieces cut for each ring you'll have a big gap. So it's best to run some plywood or MDF through first to make sure the mitre fence is right.

The angle is 3.75° and this angle will stay the same throughout the making of the vase. The width of the pieces will change, though, depending on which ring you're cutting: from 25mm at the widest point, down to 12mm on the lid. The length of the segments gets longer, too, especially towards the top of the vase.

When I cut the segments I put a piece of wood against the fence, fixed to it with a

cramp, which leaves a gap so the segments don't get trapped (Pic.5). If you don't do this, they will get trapped and the blade will throw them out like bullets: believe me, they hurt!

I also sprayed silicone on the bed of the saw to help the mitre fence and wood slide easily.

Set the mitre fence for the first ring and cut 40 pieces of pau amarello and eight of rosewood. I found it best to cut one ring at a time and then glue it before moving onto the next ring. But before gluing, every piece will have to be de-burred; that is, use a piece of 120grit sandpaper and sand off the burr left by the blade (Pic.6). It's worth the effort and time; if you don't do this bit, the burr might get trapped in the joint.

Although you will, hopefully, have your mitre fence set spot on, it's still worth clamping the



▲ Pic.11 Face up the base and glue on the first ring

ring together before you glue it and holding it up to the light. Ideally, you won't be able to see any light through it.

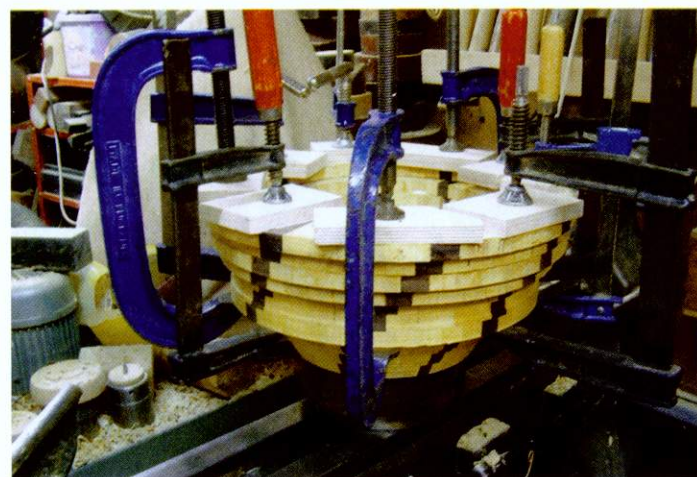
When gluing, put PVA glue on each surface and rub them together. Do this all the way round. You can't take your time because the glue will start to go off and that's not good news, so work quickly and get the thing clamped. I use large jubilee clips; you can join them together to get the size you want (Pic.7).



▲ Pic.7 Glue up the rings with PVA and clamp with a long jubilee clip



▲ Pic.10 Only clamp two rings at a time and don't forget the bits of ply



▲ Pic.12 Start building the vase up, checking everything is in line

Leave each ring in the clamps for 24 hours. Complete all the rings for the body before you start to face them up.

3 Facing up the rings

This is where planing and thicknessing the planks pays off, because the rings will be reasonably flat and will sit against the chuck without any wobbling. The chuck I'm using in Pic.8 is an Axminster four-jaw chuck with

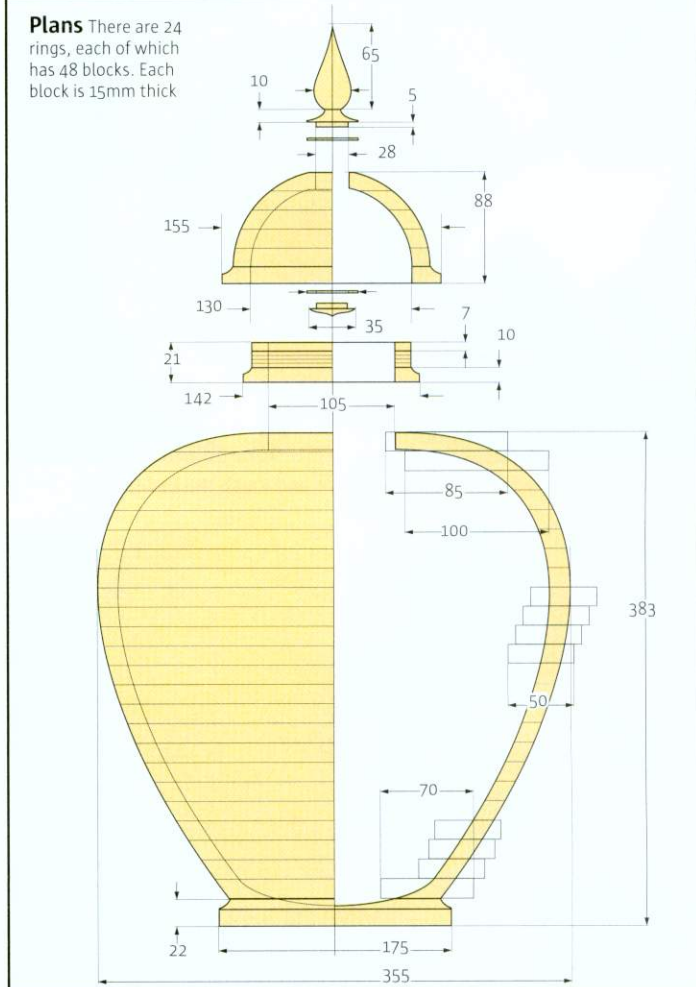
from time to time and place a steel rule across the disc to check if it is flat. All the rings must be flat before you glue them together.

When one side is done, switch it around and turn the other side. Check the measurement to make sure it is 15mm thick.

4 Preparing the base

As you can imagine, there is a lot of weight swinging around once the vase is all glued up,

Plans There are 24 rings, each of which has 48 blocks. Each block is 15mm thick



accessory jaw (Axminster 0800 371822, www.axminster.co.uk). To this I have attached my own, home-made jaws. Each segment has two rubber buttons; eight in all, which are moveable to give 10 positions.

Place the disc into the chuck and tighten it. Put the lathe on a low speed. Work slowly and take light cuts using a 9mm gouge. Stop the lathe

so it has to be well anchored to the lathe. I used a 150mm faceplate with loads of screws. Don't make them too long because you will be parting off the vase when it is done.

Fix the base to the faceplate and true the base up; make sure it is perfectly flat. Cut out a piece of black veneer and glue that to the base.

At the same time you can put on the first ring, using plenty of glue. It will only take what it needs and will squeeze out the rest. Then leave it for a couple of days.

5 Gluing up the body

It's advisable to glue only two rings at a time (Pic.10). If you try to glue any more they will slide all over the place when you put the cramps on. Spread PVA glue on both sides, rub both sides together, line them up and put the cramps on. Put some scrap pieces of plywood or MDF on both sides so the cramps don't damage the finished surfaces.

When you have two lots completed, you can glue them together, making sure the pattern lines up (Pic.12). Now you can start building up the vase; this will take several days because you have to let the glue dry. When you are gluing it up, keep double- and triple-checking that the pattern is correct. It would be a shame ►



▲ Pic.13 Glue up about 19 rings, then turn and finish the inside



▲ Pic.14 Check the wall thickness with figure-of-eight callipers



▲ Pic.15 A quick and efficient way of getting a good finish is to power-sand



▲ Pic.16 I've left a couple of rings proud to help when I clamp the top on

to make even a small mistake here, because you won't be able to fix it later on and it'll spoil the look of the whole thing.

6 Turning the inside

It'd be very difficult to get a perfect finish inside if you completely glued up the vase, because you only have a small entrance hole and it's a long way to the bottom. The best method is to glue up several rings first then turn the inside of those. I glued 19 rings, roughly turned it to shape on the outside then turned the inside (Pic.13).

I used the hollowing tool from Hamlet (0114 232 1338, www.hamlet-crafttools.com). This is big and strong and did a good job. Using a hollowing tool can be easier than gouges.

It's important to get a uniform wall thickness. Figure-of-eight callipers will make checking easy (Pic.14). Mine are made by Robert Sorby (0114 225 0700, www.robert-sorby.co.uk) and they are very good. In the past I have made my own from plywood. All you need is a bandsaw to cut them out: well worth thinking about.

7 Sanding the inside

Sand the inside before you glue the rest on. Power-sanding is the best way, starting with

120grit, then 180 and working up to 400 (Pic.15). This will leave the surface looking and feeling good.

When you're satisfied with the finish it's time to seal it with sanding sealer. I prefer to use shellac because it is more user-friendly than cellulose, which I find to have a strong, unpleasant smell.

Before you apply the sealer, wipe the dust away with a slightly damp cloth. Put the sealer on and leave it until it is dry; this will take about an hour. Then you can rub it back with 0000gauge wire wool, leaving the surface flat and smooth ready for you to put the polish on.

8 Gluing on the top

The thing that helped me to glue the top section securely was to leave two rings proud (Pics 16&17). These are the sixth and seventh



▲ Pic.17 After gluing the top on and clamping, it's left to dry

rings from the bottom. With these standing proud, I was able to get several cramps on. Put the glue on both surfaces, line up the top up and put the cramps on. Keep checking around the vase as you go, to make sure the pattern keeps in line. Then put the project aside and leave it for a couple of days.

Next Month: Dave finishes the vessel's body and makes the lid, finial and button

charnwood

MORTICERS ARE OUR BUSINESS

W308

With its twin pillar design, a design taken from our Radial Arm saws, this 1/2" morticer offers great potential for the woodworker who does not need the features of the W310

Max. timber height 110mm

Induction Motor
375 Watts

Sliding Fence

Free Chisels
1/4", 3/8", 1/2"

Free
Drilling
Conversion Kit



W308
1/2" Morticer
£129.99

W310

Our best selling, and the easiest to use 1/2" morticer, due to its clamping system and sliding table which moves in both the 'x' and 'y' axis.

Max. timber height 100mm

Induction Motor
375 Watts

Free Chisels
1/4", 3/8", 1/2"

Free
Drilling
Conversion Kit



W310
1/2" Morticer
£149.99

W340

Based on the design of morticers we produced in our UK factory.

It gives outstanding performance on a bench, or on our optional floorstands

Definitely for Trade use with its depth and horizontal production stops.

Choice of 2 floorstands, splayed legs or cabinet. Shown is our cabinet floorstand which presents the Morticer at the correct working height and is equipped with a shelf making it ideal for storing chisels and other tooling.



W340
1" Morticer
£359
inc 1/2" Chisel

Takes Chisels up to 1"

Max. timber size
203 h x 155 w

Supplied with 4 Chisel Bushes
3/4", 13/16",
1 1/8", 1 3/16"

Induction Motor
750 Watts

Splayed Leg Stand £39.99

Cabinet Floorstand £62.99

suitable for W308, W310, W340 and other machines.

Chisels & Bits

DIY TRADE

1/4"	£9.99	£14.99
3/8"	£9.99	£14.99
1/2"	£9.99	£14.99
5/8"	£12.99	£19.99
3/4"	£15.99	£29.99
1"	£21.99	£59.99

Call 01530 516 926

for details of your nearest stockist

charnwood

Walker Road, Bardon Hill, Leicestershire LE67 1TU

Tel: 01530 516 926 Fax: 01530 516 929 e-mail: sales@charnwood.net

schepach

ts2500ci Superior Sawbench

Economical Sawing Excellence with New **Cast Iron Table**

NEW!
Cast Iron Table Models

Anyone who wishes to produce quality woodwork must have total confidence before starting. That is where the stability, the accuracy, and the quite smooth running of the Scheppach ts2500ci sawbench forms the foundation of your peace of mind before you start. Being totally relaxed and confident, you can now work exactly to plan. You know before you start that the rip fence can be set with upmost precision. Sawblade angle settings to 45 degrees and rise and fall settings are easily adjusted by separate hand wheels. To enable the table size to be extended to suit your individual needs, both table width and table length extensions are available as optional attachments. If workshop space is a problem it is solved in an instant as the table width extension simply folds to the side of the sawbench when not in use. The sliding table carriage which runs on a triple set of ball bearings on a torsion resistant guide rail can also be removed when not in use. No tooling is required for

either. A choice of two guide rails are available. A 1400mm rail to give cutting capacity of 800mm and the 2000mm guide rail allows 1400mm in front of the sawblade. The standard crosscut/mitre fence can be adjusted up to 45 degrees in both directions. It automatically locks in the 90 degree setting.

MACHINE PACKAGE*

£1395.00

inc VAT £1187.24 ex VAT

Model	ts2500ci
Dimensions (LWH)	1100x680x1110mm
Table Size/height	800x 680/850mm
Sawblade/teeth	270 Ømm/24
Tilts	0-45°
Speed	3,800rpm
Extraction	100mmØ
Weight	120kgs
Cut Depth at 90°	87mm
Cut Depth at 45°	64mm
Max Cut width	405mm
Max Cut with Carriage	800-1400mm
Motor	2.6kw (3.5hp) 230v



Scheppach Guarantee

Everything offered by Scheppach has a guaranteed seal of approval. We work to the strictest safety and environmental conditions stipulated by regulating authorities. Stricter safety controls simply do not exist. In addition the Scheppach 2 Year guarantee on all our machines demonstrates the confidence we have in the products we offer.

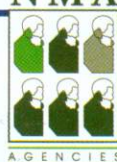
Table Width Extension (shown above) ONLY £249.00 inc VAT.

* Basic machine package includes - standard ts2500ci, 1.4m sliding table carriage and rear take off table.

Get the Economical Sawing Excellence you deserve with Scheppach.

Special offers available on other NMA machines - contact your local stockists for details.

NMA Comprehensive demonstrations available at NMA - book through your stockist.



NMA (Agencies) Ltd. Birds Royd Lane, Brighouse, West Yorkshire, HD6 1LQ.

Tel: 01484 400488 - Fax: 01484 711012

E-Mail: sales@nmauk.com - Website: www.nmauk.com

© NMA 2006 - NMA reserve the right to withdraw any promotional product or price and can not be held responsible for printing errors.

LIMITED SPECIAL OFFER



FREE Adjustable Slot Cutter

Groove dimensions 8mm to 15mm Wide x 50mm Deep.

worth over **£140.000** inc. VAT when purchasing

total machine package at **£1644.00** inc VAT

Required - Special Table insert & Lock Nut for Slot Cutter £32.90 inc VAT.

Available only while stocks last.

Solutions

TURNING

DESIGN

RESTORATION

HAND TOOLS

JOINERY

FINISHING



Welcome to
Solutions,
where

you'll find a host of
technical answers
on topics as diverse
as **joinery**, **turning**,
timber and **finishing**.
If you have any
questions or problems,
send them via email,
or **use the coupon**
below and post your
query to us. Thanks.

Nick Gibbs



Small piece jig

This is a handy little jig for holding small items. It costs next to nothing and works perfectly. Mine is screwed to the bench end, but it can be mounted on a board and clamped to the bench whenever you need it. The side pieces are tapered and then the stepped insert holds the workpiece. You can make it from odd bits of offcut, or produce something more permanent if need be. It's particularly useful for planing, drilling or shaping.

John Bee, Lancs



Send us your question

We can answer your technical questions, find you suppliers or help you resolve obstacles in the workshop.

Send a question by email to goodwood@futurenet.co.uk or fill in this coupon and post it to *Good Woodworking Solutions*, Future Publishing, 30 Monmouth Street, Bath, BA1 2BW. Please don't phone us, though: we're a tiny team and rarely have time to answer your questions on spec, much as we'd love to!

Feel free to photocopy the coupon if you want to save your pristine copy of *Good Wood*.

First name Surname

Address and phone number

Question.....

Cutting tails on lapped dovetails



In stage two of his masterclass on lapped dovetails, *Rod Cosman* talks you through cutting the tails



Having showed you last month how I mark out lapped (half-blind) dovetails, I'll look now at cutting the tails. Next month I'll go on to the pins.

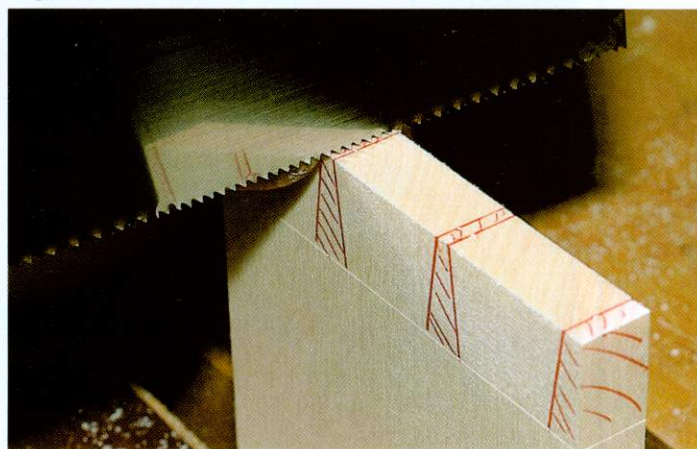
First I position the tailboard plumb in the vice, keeping it low to prevent vibration. Then I use my 'Five Ps of Sawing' to get accurate cuts that need no paring.

The first P is to pinch the end of the board with my opposite thumb and forefinger. Using the bottom third of each digit creates a bump to reference the saw against, high enough to avoid the set of the teeth. The second P is to press the saw laterally against this bump to prevent it skating across the endgrain as I begin the cut.

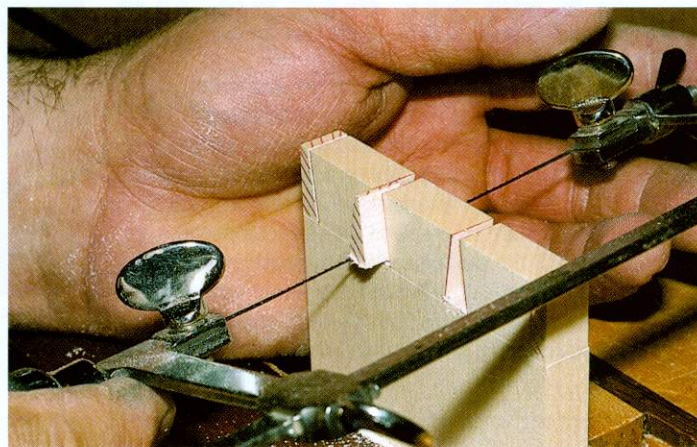
The third P is to position the saw next to the line: I don't want to remove the line, I want to saw next to it. The fourth P is to pull up on the saw to take 80% of its weight. This makes starting the cut easier and allows more accuracy. And the fifth P is to push the saw to begin instead of dragging it (Pic.1).

The two biggest tasks to dovetails are getting the saw to cut exactly where you want and sawing perfectly vertically. Once the kerf is established, I can let the weight of the saw do the work.

If you have difficulty sawing the angles properly, try this: once the kerf is established, pause, take a breath, aim the saw and then proceed. Rest the top part of the



▲ Pic.1 Push the saw to begin, instead of dragging it



▲ Pic.2 Fretsawing is the quickest way I know to eliminate the waste

saw against the side of your first knuckle to steady it while you aim.

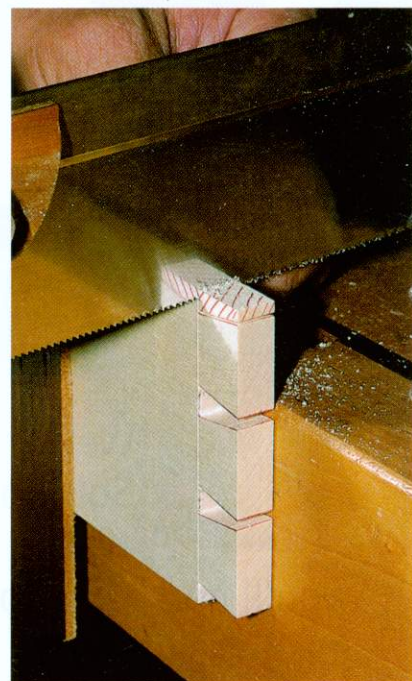
I saw right to the scribe front and back. This establishes the corner, which makes the chisel work easier. If you don't do this, you'll have to define the corners with a chisel, but I prefer to make each step 100% efficient.

Since I often use a bench lamp when sawing I find it convenient

and a little more accurate to cut all the same slopes before repositioning to cut the opposite slopes. I never worry whether the angles are perfect because I am creating the template at this stage. I will cut the pins to fit.

Fretsawing

When all the angled cuts are finished, I use my fretsaw to slip



▲ Pic.3 I cut the space for the half-pin with the workpiece horizontal



▲ Pic.4 When chiselling, have the scribe line facing away from you

down the kerf. The blade has to be thin enough to get down without damaging the side of the tail. It helps to reference the blade off the bottom of the kerf to get a feel for level. I raise the blade up about $\frac{1}{16}$ in and then start sawing as I turn to cut just above the mark. Fretsawing is the quickest way to eliminate the waste: my fretsaw cuts on the pull stroke and has a 12.5tpi skip tooth blade (Pic.2).

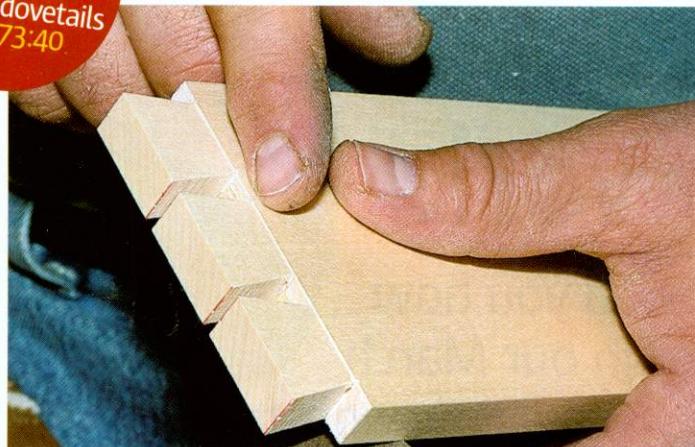
Sawing as close to the line as possible will ease the pressure on the bevel side of the chisel when it's time to chop in the scribe line.

With the waste removed I flip the tailboard over (Pic.3) to lay

**Marking
out**
Lapped dovetails
GW173:40



▲ Pic.5 Hold the chisel vertically as you start to chop



▲ Pic.6 The very shallow rebate helps you align the tails to mark the pins

any fibres between the blade and the waste side of the scribe will disintegrate as soon as the saw begins to move and the saw will slide over to the cut shoulder. This provides a perfect reference point for starting the cut.

I continue sawing perpendicular, slowing at the bottom of the cut so that I don't scar the side of the tail. Being able to do this requires a light and sensitive touch: grip the saw like you would hold the hand of a baby.

With all the sawing done I place the tailboard face down on the bench to chop out the waste. A sacrificial back-up block is a good idea to save your benchtop.

Chiselling

Chiselling is always a two-step process. The first half of the chop is made from the inside face, the final chop from the outside or show face. When I chisel I position the workpiece so the scribe line that I'm going to chop faces away from me. This way I can see that the chisel is held vertically (Pics 4&5).

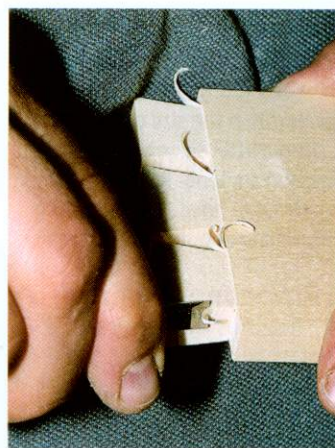
I never undercut this chop because doing so can lead to a couple of serious problems. With an undercut socket, excess finish planing can expose a gap that is impossible to disguise with any kind of patch. The other problem is more complicated. Chopping on a scribe line that has any amount of wood on the waste side produces pressure on the wedge side of the chisel. Too much pressure, and the chisel point can be pushed behind the scribe line.

The first defence against this is to remove as much of the waste as possible, the second is to keep the

chisel held perpendicular to the face of the board while chopping. Where undercutting leaves a small point of wood behind the chisel, holding perpendicular provides the maximum amount of wood.

If my saw kerfs were taken to the scribe lines front and back, then a quick chop between the kerfs is all that is needed to leave the space clean and with well defined corners. 

Next issue: The final stage, cutting the pins



▲ Pic.7 If you haven't kept perfectly to the lines, tidy up the tails like this

horizontally in the vice, and check to make sure it's level. Now I must cut to the scribe to remove the waste where the half-pin will come to rest. This cut calls for precise sawing. Leave too much and I have to pare with a chisel, cut into the scribe line and I will end up with a gap in my finished joint. Either mistake will cause extra work and slow the process, so it is worth taking the time to practise and develop this skill.

This is the only crosscut we make with the dovetail saw. I use much the same technique to start the cut, but there is a difference with the scribe line crossing the grain. If this has been cut deeply enough with the marking gauge,

Q&A Please can you recommend some copy turning tools?

I am an amateur furniture maker and I want to try my hand at turning, something I haven't done since my schooldays. I still remember the airborne chisels, which scared me off a bit!

I am interested in spindle work, making table legs and so on. The people at Axminster recommended the Perform CCL as a good entry-level lathe and I remember reading in *Good Wood* a few years ago about a copying jig of sorts that had a small cutting tool on it. Is it compatible with the Perform CCL?

Also, my local B&Q has a Performance Pro copy lathe on sale for £199: is this a good buy or a goodbye?

WJ Burns, via email

A I had a chuckle when you mentioned using airborne chisels when you were at school, I know the feeling very well!

The Perform CCL is as good as it gets for an entry level lathe and is certainly a good, solid machine for the money. Regarding turning tools, a lot of the time I buy Crown tools. I find them very good and reasonably priced.

Over the years I have tried one or two copying jigs and found that they tend to rip the timber to pieces and there's no definition on the fine detail such as fillets, and beads. You spend more time cleaning it up with chisels afterwards and the same goes for copy turning lathes.

You mention one costing £199; well, you're better off spending that money on turning lessons. You will get more satisfaction out of hand-crafting legs and other items by hand than from knocking them out with a cheap machine.

Best of luck!

Dave Roberts

Feedback

If you see any techniques in *Good Wood* you'd like explained in greater detail do get in touch.

Write to GW, 30 Monmouth Street, Bath BA1 2BW
Email goodwood@futurenet.co.uk

Please don't call us: we rarely have time to answer questions over the telephone.



Piercing turned work

Dave Roberts showed you how to turn little boxes in our March issue (GW172:38). Now he demonstrates how to make a box even fancier by including a decorative stone and open piercings



Little boxes are always popular as gifts or at craft shows. Sometimes I will make a special, one-off box that's a lot fancier, with added decoration. This one has an open piercing on its top that frames a semi-precious stone and this is quite a challenging decoration to make.

I've used an amethyst which is multi-faceted. To fit it into the finial is a delicate job but it is this finial that gives the box its character and makes it special.

Choosing the right timber is very important for pierced work; it must be dense and tight-grained. If you choose a soft timber it would be very difficult to produce this type of work. For this box I used African blackwood. The specific gravity of this timber is 1.2 and it will sink in water, a sign that it's dense. You may be surprised how many timbers will sink in water and these are generally good for piercings and twist work.

All boxes should have the grain running vertically so that when the lid is put on, the grain will match. With some timbers, such as black ebony, it can be difficult to match up the grain. African blackwood is not too bad; it has dark brown streaks in it and it will line up okay.

1 Turning the box

The box is made in the normal way. Use a 12mm scraper to turn the inside of the box and you will be able to get a very good finish. The final finish should be done

with a freshly sharpened scraper; that and a few passes with sandpaper will be sufficient.

2 Making the finial

The finial is turned separately from the lid and is a different ball game. You need a steady hand, a Dremel drill and cloth-backed sandpaper.

First put the timber between centres and turn it to a cylinder, then put one end into a Jacob's chuck. Now drill a hole in the end big enough to take the stone; in this case, 9mm. Drill the hole 2mm deeper than the size of the stone.

Turn a little spigot on the finial, about 2mm long. Remember, this is a delicate finial and so everything about it will be small.

3 Reversing the finial

The finial has four piercings so start by marking out four equal spacings. If you use a normal pencil it

will be difficult to see the lines, so use a pen that writes in white ink with a fine point.

Once the lines are marked out, you can start cutting holes in the finial. This is done with a Dremel drill and a 2mm rotating burr.

It is very difficult; one slip and it's all gone, so work slowly and don't force it. Once you have pierced all four holes, clean them up with cloth-backed paper.

The easiest way is to tear the paper into 3mm strips, thread it through the holes and work the sandpaper backwards and forwards. You will soon develop the required shape. Then you can seal and polish it.

Put the lid into a jam chuck and turn a recess for the finial. Then glue it into place, not forgetting to put the jewel in first, of course.



What wood is this?

Would you please try to

identify this sample of timber? A friend of mine brought it back from Scotland for me to turn, having been told it is laburnum, but I've turned lots of laburnum and never seen any this colour before.



Ken Hall, Hayling Island

A I quite understand why someone might consider it to be laburnum. It feels the sort of size and colour you might expect, but there's something not quite it.

The grain feels too coarse and too light in weight, and not quite dense enough. In fact the sapwood has the look and feel of elm, which makes me feel it might be zelkova, which is a rare cousin of the English variety (*Ulmus procera*) and which I've only found mentioned in a tree book.

But I carved a chair from a piece of something very similar, and was told on good authority that it might be zelkova, which smelled of bananas!

Nick Gibbs

Help Please

How do I stop Gorilla Glue going off in the bottle?

Rob Ranscombe, Monmouth

What glue should I use for making a teak gate?

Trevor Lewis, by email

Is there an eco-friendly way of heating a workshop?

David Watkins, by email

What's the best way to cover my concrete workshop floor?

Brian Halls, Lincs

If you can help, send answers to goodwood@futurenet.co.uk or the address on p5.

Repairing sprung joints

Sprung joints are a common problem in antique dining chairs. *Stephen Simmons* explains how to fix them



People will always insist on swinging back on chairs, or stretching out, full-length with

heels well planted. Both these actions exert tremendous strain on the rear seat joints and they tend to give way at the same time.

When this happens it is a simple job, assuming the chair isn't upholstered, to release the corner blocks, tap the back off, clean the old glue out from the joints, replace broken dowels or thicken worn tenons with veneer and re-assemble everything.

Surprisingly, on the oak chair I'm working with this month, just one of the joints on the front rail has sprung. I say 'surprisingly' because it's part of a set that belonged to my parents and I clearly remember all three of us children horribly abusing all four chairs.

When only one joint springs, rather than a pair, restoration is less straightforward and more risky. A single loose joint means two things, both of which involve the risk of damage to otherwise sound members. Firstly, you can't remove a complete section without forcing a sound joint apart: the risk is either broken dowels or tenons, a split leg top or



▲ Pic.1 Mark the screws with tape right after removal



▲ Pic.2 Tapping may be enough to open the joint

both. Secondly, and this is the problem I faced here, you can't open the loose joint without forcing the other sound joints out of true: the risk again is broken dowels or tenons.

The first thing to do is release all the corner blocks. One screw out of each is sufficient to allow the

TIP

If a chair has a drop-in seat, always clamp it up with the seat in situ as a precaution. Number-matched seats and chairs often have very little tolerance and the last thing you want is to strain your newly repaired joints if the fit is not perfect.

angle of the seat rails to flex a little as the loose joint is opened.

I always wax the screws for ease of replacement as soon as I've removed them, and if they're different lengths I mark them carefully with tape (Pic.1).

The loose joint can now be opened more freely. You have two options: tapping or gentle pressure with a cramp with heads reversed. Either way, be gentle to avoid breakage or bruising.

For tapping I use a hammer or mallet to strike a piece of end-grain beech, padded with newspaper and cork to avoid damage (Pic.2). In this case, nothing was going to happen without a dangerous amount of force, so I switched to the cramp because its pressure is

more subtle. Again the heads were well padded with cork. A few turns soon had the joint sliding apart.

Both dowels were intact and clean, so I decided to minimise the strain on the other joints, which were beginning to creak because the seat frame was forced out of true. I forced the joint apart just enough to get a hypodermic needle inside and inject a syringe full of hot animal glue (Pic.3).

Speed is of the essence with animal glue, so I removed the reverse-headed cramp and closed the joint with another cramp already set for the right length (Pic.4). The excess glue was wiped off with a damp cloth and the corner blocks fully re-secured.

Good restoration often involves doing the minimum necessary. If you think the risks involved are too great, and if the dowels or tenons are not actually broken, you can simply pull the joint back together with a cramp and make sure all the corner blocks are well secured. It will not collapse under a static downward pressure such as somebody sitting on it, which is what it is designed for.

If you have any queries about this article, contact the author directly: 00 33 (0)2 33 38 40 48

Next month: using animal glue



▲ Pic.3 Using a syringe to inject hot animal glue



▲ Pic.4 Cork and paper padding helps avoid damage

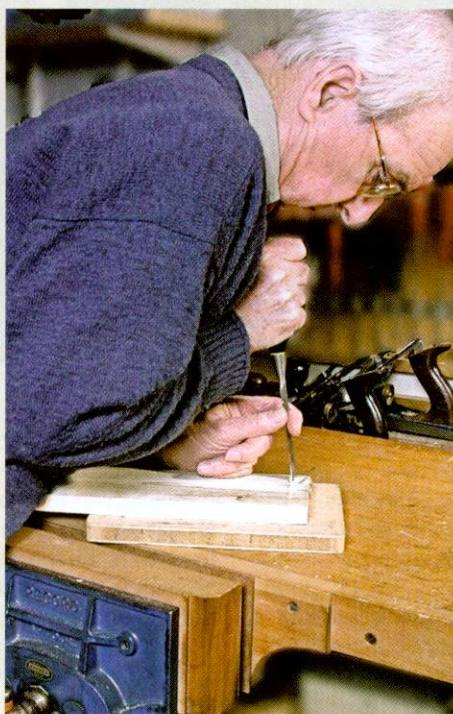
AT THE BENCH with Jeff Gorman

How you use a chisel depends on what you're doing. *Jeff Gorman* explains

Using a firmer chisel



▲ Pic.1 The first tap should be gentle



▲ Pic.2 Your thumb stops the hand slipping



▲ Pic.3 This viewpoint can be tricky

My former teacher used to line his workshop walls with 'how to hold the tools' drawings, which we students were required to study and copy. This month, I'm hoping my photos might serve a similar purpose as I demonstrate ways to manipulate and power a bench chisel, using some dovetailing processes as examples. Apologies to left-handers: I hope you can work out your own techniques from this guidance.

Vertical chopping

In Pic.1 I'm using a bevelled-edge firmer chisel to chop directly across the grain to remove the waste between sawcuts that outline the dovetail pins-to-be. I'm using a technique in which the backface faces the land layout line.

Before you reach the point shown in the photo, start with the left hand using a dagger-like grip on the handle. With the edge of the right hand on the wood, trap the mid-section of the blade between your left index and second finger. Put the cutting edge mid-way between the saw kerfs and some distance

away from the land layout line. This distance depends on the hardness of the timber, as I discussed in a previous issue (GW147:98).

Push with the left hand to slightly embed the edge, thus preventing it from wandering as you release your hold to pick up the mallet. Hinge the chisel to a vertical position.

Don't start with a hefty clout. An off-centre blow will wobble the chisel, so use a preliminary tap to locate the centre of the mallet's face on the dead centre of the handle's top. With practice, you can save time and effort by keeping hold of the mallet as you relocate the chisel for the next chop.

Work from both sides and aim to go no further than halfway through. When you reach the line, your viewpoint makes it difficult to be certain that the chisel is truly vertical. To play safe, some workers will undercut by inclining the chisel slightly beyond vertical.

Vertical paring

Pic.2 shows the half-power mode you might deploy when levelling dovetail lands, snipping

off corners, tickling up mortise sides or correcting an inaccurate tenon shoulder. Rest the edge of your left hand on the benchtop or on the workpiece while your index finger pulls the blade against the job. Some people turn their hand on its back and use a thumb instead.

Use your right thumb to prevent the hand from slipping down the handle. Firmly brace your forearm against the upper arm, using your shoulder to transmit your upper body weight.

Paring with more finesse

If you are a pins-first dovetailer, you have the advantage of being able to rectify errors (Pic.3) before marking the tails. Working this way, the chisel can flatten or straighten a pin's flank, but again the viewpoint makes angle judgement less than certain.

Even though you will use parallel-grained wood for dovetail joint components, you could find localised sloping grain. When paring, say, the right-hand flank of a pin, you could be paring with the grain, whereas working on its opposite flank inevitably involves working



▲ Pic.4 Working horizontally across the grain to avoid splits



▲ Pic.5 Use a coping saw to within 2-3mm of the line



▲ Pic.6 Keep the workpiece low in the vice as you chisel



▲ Pic.7 A small thump helps as you start to level the land



▲ Pic.8 Work towards the centre from each side



▲ Pic.9 A sideways shimmy may help the chisel to cut better

Safe chiselling

- Have the workpiece securely fixed in a way that allows both hands to be on the chisel and behind the cutting edge.
- A sharp chisel is safer than a blunt one; blunt chisels are more likely to jump unexpectedly.
- Narrow chisels with round handles are prone to rolling off the benchtop. Don't try to catch a falling chisel.
- Idle chisels make mischief. When you need to clear the bench of chippings, use a bench brush, never your hand.
- Chopping with a mallet can create percussive noises quite near to an ear. Consider using ear protection.

against the grain. This means, of course, a possible split leaving you feeling that you've done more harm than good.

To avoid splits, re-locate the workpiece as in Pic.4 and pare horizontally across the grain. This involves a new hazard: any overshoot of the chisel could break off the remote arris. A sideways slicing action will improve the chisel's effectiveness and increase your control. Sometimes you will need to pare halfway across and then turn the wood around to work from the opposite direction.

Chiselling horizontally

Taking an alternative dovetailing technique (Pic.5) as an example, Pics 6&7 illustrate horizontal chopping and paring after a coping saw has removed the bulk of the waste between the pins. Workshop lore says this half of the joint can be formed entirely with this kind of saw, an idea derived from an account of how rough packing cases were dovetailed.

Most ordinary mortals find this tool quite difficult to control, so I suggest sawing 2-3mm

above the line. With the workpiece low down in the vice, fit the chisel directly into the layout line and with mallet in hand and the chisel inclined upwards (Pic.6), cut from one side and then the other to form a V-shaped hump. In this mode you will be relying on the witness marks (see GW167:38), so the deeper you can knife or gouge your layout lines, the better.

When starting to level this hump you can apply a bit of vigour with a thump from the base of your thumb (Pic.7) until, guided by Pics 8&9 and working towards the centre from each face, you gradually level the land.

The chisel might cut better if you sideways-shimmy the handle as you press forwards. If

there is room, also sideways slice the edge as you go. Control the action by opposing the chisel's forward movement with a firm grip from the other hand.

In the final stages it can, depending on the quality of the wood, be prudent to apply a backing board to prevent the kind of breakout I wrote about in GW165:62.

By the way, each time that I work in this mode I bless the day when I replaced my old vice cheek with a thicker, 50mm version. Although this reduces the maximum vice opening, it does provide a comfortable base on which I can rest my wrist, as you can see, no doubt, in the pictures! 

Glossary

Arris a sharp edge formed when two surfaces meet, usually at or near right-angles

Backface the face opposite to the face bearing the grinding bevel
Chopping cutting by one or more quick heavy blows

Land the flat surface between the pins of a dovetail joint
Paring fine working with a shaving action

Undercutting forming a surface slightly less than 90° to the adjacent surface. See How to Undercut in GW172:46

Subscribe Today Get 3 Issues FREE!

- **Receive** 13 issues for the price of 10!
- **FREE** delivery (UK only) – direct to your door – never miss an issue!
- **Money-back guarantee** – we'll refund any unmailed issues if not entirely satisfied

3 Easy Ways To Subscribe

1 Online: www.myfavouritemagazines.co.uk/gww/P014

(To enjoy this special offer, please use the full web address shown above)

2 Call: 0870 837 4722 (please quote P014)
(Lines open Mon-Fri 8.00am-9.30pm and Sat 8.00am-4.00pm)

3 Post this form FREEPOST to:
Future Publishing Ltd, FREEPOST RLSC-SXSE-SKKT, Unit 4, Tower House, Sovereign Park, Market Harborough, Leicestershire, LE16 9EF



YES!

I'd like to subscribe to Good Woodworking and get 3 FREE issues!

UK RATES:

- ☐ £8.25 every 3 months by Direct Debit
- ☐ £33.00 by cheque/credit card

MY DETAILS:

Title First name Surname

Address

Postcode

Tel

If you'd like to receive emails and SMS from Good Woodworking magazine, Future Publishing and its group companies containing news, special offers and product and service information, please include your email address and mobile number below.

Email Mobile

Please tick here if you are happy for us to pass on your details to carefully selected companies so they can send you relevant information about their products or services by email ☐

METHOD OF PAYMENT:

- ☐ **Direct Debit** (UK only) I wish to pay £8.25 every three months. Please complete form.
- ☐ **Cheque** (made payable to Good Woodworking. Drawn on UK bank accounts only)
- ☐ **Mastercard** ☐ **Visa** ☐ **American Express**
- ☐ **Switch** issue no valid date /

Card no.

Expiry date Signed Date

Instruction to your Bank or Building Society to pay Direct Debits	
 Future Publishing Ltd Unit 4, Tower House, Sovereign Park, Market Harborough, Leicestershire, LE16 9EF	
Originator's Identification Number 7 6 8 1 9 5	
Please send this form to address shown	
To: The Manager	Bank/Building Society
Address	
Postcode	
2. Name(s) of account holder(s)	
3. Branch sort code (from the top right hand corner of your cheque)	
4. Bank or Building Society account number	
5. Instruction to your Bank or Building Society Please pay Future Publishing Direct Debits from the account detailed on this instruction subject to the safeguards assured by the Direct Debit Guarantee. I understand that this instruction may remain with Future Publishing and if so, details will be passed electronically to my bank or building society.	
Signature(s)	Date
Ref No (Office use only)	

Please tick here if you do NOT wish to receive relevant information about products or services from Good Woodworking, Future Publishing or any of its group companies by ☐ post or ☐ telephone. Please tick here if you do NOT wish us to pass on your details to other carefully selected companies to enable them to contact you about their products or services by ☐ post or ☐ telephone.

Terms and conditions: Your subscription will start with the next available issue. Details of the Direct Debit Guarantee are available on request.

ORDER CODE: P014

OFFER ENDS: 31/05/06

Good
Woodworking

Machine Mart

Competition

Worth
£1000!



☐ **Clarke
Scrollsaw CSS16v**
120w, 230v motor
with 400-1700rpm
variable speed
control. 400mm
throat depth with
cutting height up
to 50mm at 90°.
£70.44



☐ **Clarke CPT250
Portable
Thicknesser**
Accepts timber up
to 254mm wide and
125mm thick.
Planing depths
adjustable from
0-2.5mm. £176.19



☐ **Clarke Dust
Extractor CDE7B**
Connects to dust
outlet ports on
sanders, planers,
saws or combi
machines for
effective waste
collection. Huge bag
capacity. £117.44



☐ **Woodstar
Mitresaw**
Accurately cuts
hard and soft wood,
processed timbers,
plastic and light
alloys. £117.44



☐ **Clarke Bandsaw
CBS355**
375w, 230v motor.
Capable of bevel
cutting. Complete
with 155mm
diameter sanding
disc. £233.83



☐ **Clarke Bench
Grinder CBG6RWC**
Helps keep drill
bits, chisels and
shears etc in tip-top
conditions. £35.19



☐ **Clarke Biscuit
Jointer BJ600**
Ideal for creating
solid joints in soft
and hardwood, ply
board, MDF and
most processed
timbers. TCT blade
operating at up to
10,000rpm. £58.69



☐ **Dewalt Cordless
Drill DW907K2 12v**
Adjustable torque
control, variable
speed and reverse
action, electronic
motor brake and a
fan-cooled motor.
£93.94



☐ **Clarke Drill
Press CDP401B**
Chuck capacity
16mm. 16 speeds
from 210-2580rpm.
£187.94



☐ **Carving
Chisel Set CHT400**
12 piece set. £46.94



☐ **Freud FT3000**
Can use under a
router table.
Parallel guide.
30mm guide bush.
£234.95



☐ **Clarke Lathe
CWL20RV**
Includes a metal
stand, 305mm tool
rest, faceplate,
drive centre and
revolving centre.
£234.94



☐ **Clarke Tablesaw
CTS10D**
Powerful 1500w,
230v motor. 10in
long life TCT blade
for ripping and
cross cutting.
£99.92



☐ **Clarke CBS250
10in Bandsaw**
370w, 230v motor.
Cutting capacities
245x100mm.
£140.94



☐ **Hardwood
Workbench**
Finished with a
varnished surface.
Two vices, large
tool and accessory
storage drawer,
pegs and guide
holes included.
£117.44



☐ **Belt disc sander
CS4-6C**
Ideal for use with
woods, most
plastics and
non-ferrous metals.
440w, 230v motor.
£69.90



☐ **Ryobi Router
Table Kit**
A router and router
table. Three preset
depth stops, micro
depth adjustment,
spindle lock for easy
bit change and dust
extraction port.
£105.74



☐ **Clarke Bench
Mortiser CBM2B**
Fast, accurate and
easy to use. 370w,
230v, 1ph motor.
Morticing capacity
13x80mm. £110.39

Kit out your workshop!

To celebrate Machine Mart's biggest-ever catalogue, they're giving away £1000-worth of tools from their huge range!

With almost 500 prices slashed by up to 20% and an extra 450 NEW products, the latest Machine Mart catalogue is bigger than ever and packed with mouth-watering gear. One lucky reader will be celebrating its launch by winning £1000-worth* of tools and equipment in our 'virtual trolley dash' around a Machine Mart store. We've selected 18 of Machine Mart's most sought-after products; you choose which ones you'd like to have! Then follow the three steps below for your chance to win.

*including VAT

Three steps to WIN

- 1) Choose the products you'd like to win from the ones shown on this page, up to a maximum value of £1000. Indicate your choice by ticking in the boxes next to your chosen products. Add up the total and write the amount here £
- 2) Answer the question below by putting a circle around the letter A, B or C.
- 3) Fill in your details below and send the WHOLE PAGE to: **Machine Mart Comp.** Good Woodworking, 30 Monmouth Street, Bath, BA1 2BW to reach us no later than 12th May 2006. A photocopy is fine if you don't want to cut up your magazine.

QUESTION

Machine Mart have served 8270 customers a week for the past 10 years. How many customers is that in total?

A 5.3 million B 4.3 million C 3.3 million

MY DETAILS

Title First name Surname

Address

Postcode Tel

If you are happy to receive emails from Good Woodworking, Future Publishing, Machine Mart or their sister companies about special offers or new products and services, please enter your email below

Email

Please indicate if you do NOT wish to receive relevant information about special offers or products/services from Good Woodworking, Future Publishing, Machine Mart or any of their sister companies by ☐ post or ☐ phone. Please indicate if you do NOT wish us to pass on your details to other carefully selected companies to enable them to contact you about their products/services by ☐ post or ☐ phone.

Rules: Competition open to all UK residents except employees of Future Publishing Ltd, Machine Mart and associated companies, their families or agencies or anyone connected with the competition.

The winner will be the first correct entry opened after the closing date and will be announced in Good Woodworking. No purchase necessary. Should you wish to enter the competition without purchasing the magazine, please send an A4 SAE to: **Machine Mart Competition**, Good Woodworking, 30 Monmouth Street, Bath BA1 2BW. There is no cash alternative to the prize. The prize includes delivery anywhere within mainland UK. No multiple entries. **Competition closing date is 12th May 2006.**

COMPOUND MITRE SAWS

Clarke

makita

For wood, plastic and light alloys
All saws feature TCT blade

SLASHED
FROM ONLY **£27.95** EX VAT
£32.84 INC VAT
WAS £39.19 INC VAT



MODEL	BLADE	CUT DEPTH INC VAT	WAS	EX VAT	INC VAT
Clarke CMS200	205mm	50mm	£36.19	£27.95	£32.84
Clarke CMS251	250mm	70mm	-	£59.95	£70.44
Clarke CMS254Pro	254mm	76mm	£152.69	£119.95	£140.94
Makita LS1040	255mm	90.5mm	-	£159.95	£187.94

Clarke CAST IRON STOVES

BARREL

SLASHED
FROM ONLY **£59.95** EX VAT
£70.44 INC VAT
WAS £76.32 INC VAT

Full Range Available Including Flues & companion sets



Clarke BENCH MORTISERS

CBM2B

Powerful 370w motor
Range of chisels available

FROM ONLY **£93.95** EX VAT
£110.39 INC VAT



MODEL	MOTOR	MORTISE WIDTH (MM)	WORKPIECE DEPTH (MM)	EX VAT	INC VAT
CBM2B	370w	13mm	80mm	£93.95	£110.39
Metabo MB16	375w	85mm	135mm	£209.00	£245.58
Metabo MB19	750w	85mm	135mm	£419.00	£272.33

Clarke ROLLER BALL STAND

Allows feeding on from any direction
Rollers fitted with ball bearings for easy action
Large non-slip feet for stability
Heavy duty

Fast easy swivel head

ONLY **£24.95** EX VAT
£29.32 INC VAT

Foot pedal adjust height



Clarke GLUE GUNS

Including integral stand

SLASHED
FROM ONLY **£7.99** EX VAT
£9.39 INC VAT
WAS £10.52 INC VAT

Pack of 10 hot melt glue sticks
ONLY £2.29 EX VAT £2.69 INC VAT



Clarke AIRLESS SPRAY GUNS

Ideal for fast easy paint spraying on fences, sheds, garden ornaments etc.

ONLY **£12.95** EX VAT
£15.22 INC VAT



WOOD VAC

NIVD-751

Collects wood shavings and sawdust
Powerful 2000w motor
30 litre capacity
Super quiet 51db
Includes 4m x 100mm hose adaptor

ONLY **£219.95** EX VAT
£258.44 INC VAT



POCKET HOLE JIG

Fast accurate joining of timber and plywood giving strong instant joints. Uses square drive self tapping screws. No clamps required. Includes: 100 x dome head screws and HSS drill bit with collar.

ONLY **£44.95** EX VAT
£52.82 INC VAT



Machine Mart

49 SUPERSTORES NATIONWIDE

Where Quality Costs Less

ROUTERS

BOSCH Power Tools

FROM ONLY **£59.95** EX VAT
£70.44 INC VAT

DIY PRO

MODEL MOTOR PLUNGE WAS EX VAT INC VAT (W) (MM) INC VAT

Bosch 1100 0-55 - **£59.95** £70.44
POFI100AE

Freud 1900 0-67 - **£179.95** £211.44
FT220VCEK

Hitachi 1570-1850 0-62 - **£270.19** £199.95 £234.95
MT2V



Clarke ROUTER TABLE

Converts your router into a stationary router table
Suitable for most routers (upto 155mm dia. Base plate)

Router not included

FROM ONLY **£34.95** EX VAT
£41.07 INC VAT



Clarke HARDWOOD WORKBENCH

2 Heavy duty vices • 4 Pegs & guide holes
1530x630x860mm (LWH)

ONLY **£99.95** EX VAT
£117.44 INC VAT



Clarke BISCUIT JOINTERS

SKIL

Best on Test - Good Woodworking Magazine

FROM ONLY **£49.95** EX VAT
£58.69 INC VAT



Clarke CORDLESS DRILL / DRIVERS

HITACHI DEWALT RYOBI

1 hour charge time
Reverse action
Variable speed

FROM ONLY **£49.95** EX VAT
£58.69 INC VAT



Clarke HAND PLANES

STANLEY

1 hour charge time
Reverse action
Variable speed

FROM ONLY **£8.99** EX VAT
£10.56 INC VAT



Clarke CARVING CHISEL SET

Polished spring alloy steel chisel blades
Supplied in wooden storage case with handle

ONLY **£39.95** EX VAT
£46.94 INC VAT

12 Piece set

Quality Beech Handles



Clarke BANDSAWS

See catalogue or website for EVEN MORE Bandsaws

FROM ONLY **£69.95** EX VAT
£82.19 INC VAT

Includes sanding disc



MODEL	MOUNT	MOTOR	THROAT	EX VAT	INC VAT
Clarke CBS190	Bench	350w	190mm	£69.95	£82.19
Clarke CBS250	Floor	370w	245mm	£119.95	£140.94
Scheppach Bench	300w	195mm	-	£159.95	£187.94
Basato I	-	-	-	-	-
Clarke Bench	375w	360mm	-	£199.00	£233.83
CBS355#	-	-	-	-	-
DeWalt DW738 Bench	760w	310mm	-	£199.95	£234.94

Clarke NAIL/STAPLER AIR COMPRESSOR KIT

1.25Hp with pressure regulator
Air disp. 4.5cfm
Ideal for decking, flooring and panelling etc.
Includes starters pack of nails and staples

ONLY **£69.95** EX VAT
£82.19 INC VAT

Includes 2" nail/staple gun



TACWISE NAILER/STAPLER

Cordless
Narrow crown staples from 15-40mm
18 gauge brad nails from 10-40mm
Supplied with heavy duty case, 18v battery, charger and 500 fixings

ONLY **£179.95** EX VAT
£211.44 INC VAT

NEW



Clarke STAPLER NAILERS

DIY PRO

FROM ONLY **£19.95** EX VAT
£23.44 INC VAT



Clarke BENCH GRINDERS

6" & 8" available with light

FROM ONLY **£12.75** EX VAT
£14.98 INC VAT



Clarke ROTARY TOOL SYSTEM

Kit includes:
Rotary tool • 1m flexible drive • Height adjustable stand with clamp • 40x accessories/consumables

ONLY **£24.95** EX VAT
£29.32 INC VAT

WAS £29.95 INC VAT



Clarke DUST EXTRACTOR/CHIP COLLECTOR

Powerful 750w motor
57 litre bag capacity
Flow rate of 850M³/h

ONLY **£99.95** EX VAT
£117.44 INC VAT

Metabo also available



PLASPLUGS POWER SHARPENER

Multi-task sharpening system
Scissor knife and masonry sharpening
Supplied in durable storage box

ONLY **£25.49** EX VAT
£29.95 INC VAT

FANTASTIC VALUE



Clarke DRILL PRESSES

Tables tilt 0-45°
Left and right
Depth gauge
Chuck guards

FROM ONLY **£29.95** EX VAT
£35.19 INC VAT



Clarke HOT AIR GUNS

Ideal for stripping paint or varnish

FROM ONLY **£8.49** EX VAT
£9.98 INC VAT

WAS £10.59 INC VAT



Clarke BLACK & DECKER

FROM ONLY **£8.49** EX VAT
£9.98 INC VAT

WAS £10.59 INC VAT



Clarke TABLE SAWS

INCLUDES LEFT & RIGHT TABLE EXTENSIONS

FROM ONLY **£33.95** EX VAT
£39.19 INC VAT

Logos Kit for CTS100 Models Available. Only **£17.95** EX VAT
£21.09 INC VAT

* Features TCT Blade



Clarke WOODWORKING LATHE

CWL20RV

10 Speed reversible head lathe • Headstock rotates 360° & locks in 4 positions • 850mm between centres

ONLY **£199.95** EX VAT
£234.94 INC VAT

Complete with robust steel stand



Clarke WOODWORKING LATHES

FROM ONLY **£59.95** EX VAT
£70.44 INC VAT

SEE CATALOGUE FOR ACCESSORIES



MODEL	CENTRE TO TURNING CENTRE (MM)	TURNING CAP (MM)	EX VAT	INC VAT
CWL6B 20"	508	242	£59.95	£70.44
CWL12B 37"	940	305	£89.95	£105.69
Metabo TB1250	1250	2004	£499.00	£821.33

metabo MULTI FUNCTION

MAXI 16 PLUS

6 functions including: surface planer, thicknesser, precision circular saw, spindle moulder, tenon saw and mortiser. The precision construction of these machines assure unequalled quality of finish

ONLY **£1699.00** EX VAT
£1996.00 INC VAT

See catalogue or online for further ranges

3 YEAR GUARANTEE



scheppach SPINDLE MOULDERS

metabo

FROM ONLY **£589.00** EX VAT
£692.08 INC VAT

REDUCED!

HF3000ci was £1404.13 Inc. VAT
TF904 was £1820.08 Inc. VAT



MODEL	POWER	MAX TOOL DIA	SPINDLE SPEED	EX VAT	INC VAT
TF100	2200w	160mm	3	£89.00	£92.08
HF3000ci	2.8kw	200mm	3	£1145.00	£1345.38
TF904	3100w	200mm	4	£1495.00	£1756.63

KITTY MULTI FUNCTION COMBI WOODWORKERS

BESTCOMBI 2000

Available in 5 or 6 functions
Both including a spindle, saw, planer, thicknesser and tenoning carriage
6" function includes slot mortiser
Three silent running motors, overload protected

5 function ONLY **£1645.00** EX VAT **£1932.88** INC VAT
6 function ONLY **£1932.88** EX VAT **£2050.38** INC VAT



WOODSTAR MITRE SAW
SL104

FANTASTIC VALUE

- Dual sliding rails
- Fully enclosed blade guard
- 254mm diameter blade
- 1800w motor
- 230v

FROM ONLY **£99.95** EX VAT
£117.44 INC VAT

NEW

Clarke BELT/DISC SANDER

- Dust extraction facility
- 4" x 36" belt tilts & locks 0-90°
- 220mm x 155mm table, tilts 0-90°
- 440w, 230v motor
- Also 6" Belt, 9" Disc Sander including floor stand
- ONLY £149.95 ex VAT
- £176.19 inc VAT

ONLY **£59.49** EX VAT
£69.90 INC VAT

CS4-6C

WEBSITE
OVER 5000 PRODUCTS
SEE THE FULL RANGE
ORDER ONLINE
www.machinemart.co.uk

Machine Mart
Where Quality Costs Less

NEW
Spring/Summer Catalogue

GREAT NEW PRODUCTS
EVEN LOWER PRICES

ALMOST **500** PRICES **SLASHED**

ORDER ONLINE
www.machinemart.co.uk

NEW
Spring/Summer Catalogue

GREAT NEW PRODUCTS
EVEN LOWER PRICES

Clarke PLANERS & THICKENERS

FANTASTIC VALUE

FROM ONLY **£149.95** EX VAT
£176.19 INC VAT

- Compact
- Designed for portability
- Planing of 204mm timber

MODEL	MAX THICKNESS CAP.	FEED RATE	EX VAT	INC VAT
Clarke CP1250	130mm	8M/min	£149.95	£176.19
Woodstar PT185	120mm	6M/min	£169.95	£199.69
DeWalt DW733	152mm	8M/min	£319.00	£374.83

Clarke RECIPROCATING BOBBIN SANDER & STAND
VRS1

- 370w, 230v
- For finishing and shaping
- Reciprocating travel: 24mm
- 1:400rpm

ONLY **£129.95** EX VAT
£152.69 INC VAT

Clarke JIGSAWS
BLACK & DECKER

RYOBI

FROM ONLY **£10.95** EX VAT
£12.87 INC VAT

Includes 3 blades

*Professional #DIY

MODEL	POWER (W)	NO LOAD SPEED (strokes/min)	DEPTH OF CUT (mm)	EX VAT	INC VAT
Clarke CS2#	420	0-2700	55	£10.95	£12.87
Skill 160HJ#	400	2850	65	£14.99	£17.61
B&D KS400E#	450	80-3200	55	£22.95	£26.97
RYOBI EIS 6000E#	600	600-2600	80/6	£42.95	£50.47
Makita 4340FCT	720	800-2800	135/10	£109.95	£129.19
DeWalt DW331K	701	0-3100	130/10	£134.95	£158.57

REDUCED! DeWalt DW331K was £164.44 inc. VAT

RYOBI ONE+

18 VOLT

2 YEAR GUARANTEE

One Powerful Battery Powers Them All

1 HOUR RECHARGE

- With the ONE+ range a single 18v battery delivers all the power you need to drill, saw, cut, sand and screw
- The most affordable professional cordless system on the market
- Absolute convenience plus total flexibility

ONLY **£25.95** EX VAT
£30.49 INC VAT

WOODSTAR TABLE SAWS
ST10

FANTASTIC VALUE

- Wheeled stand
- Laser guide
- 2000w motor
- Speed 5700rpm
- Cutting height 75-50mm

ONLY **£179.95** EX VAT
£211.44 INC VAT

NEW

Clarke BELT SANDERS

Makita

All models complete with dust bag

FROM ONLY **£24.95** EX VAT
£29.32 INC VAT

Roller stands available

MODEL	WATT	M/MIN	EX VAT	INC VAT
Clarke BS1	900w	380	£24.95	£29.32
Bosch PBS7A	600w	300	£49.95	£58.69
Makita 9911	650w	75-270	£79.95	£93.94

Clarke CIRCULAR SAWS
SKIL

FROM ONLY **£24.95** EX VAT
£29.32 INC VAT

MODEL	DUTY MOTOR	WAS INC	EX VAT	INC VAT
Clarke CS1	DIY 1200W		£24.95	£29.32
Clarke CS2	PRO 1300W		£49.95	£58.69
Skill Orca	PRO 1200W	£105.69	£87.95	£103.34
Makita 570ARK	PRO 1750W		£89.95	£105.69

RYOBI DRILL DRIVER

CCD-181M

- 10mm keyless chuck
- Variable speed
- 24 torque settings

ONLY **£33.95** EX VAT
£39.89 INC VAT

RYOBI COMBI DRILL DRIVER

CDI-1803M

- 13mm keyless chuck
- 3 gear ranges
- Auxiliary handle

ONLY **£67.95** EX VAT
£79.84 INC VAT

DEWALT PRO RADIAL ARM SAWS

- Input power from 1450-4000w
- Free standing
- Pre-assembled
- 4 roller bearings ensure high accuracy and durability

FROM ONLY **£636.95** EX VAT
£751.94 INC VAT

MODEL	POWER (W)	BLADE BORE DIA.	MAX DEPTH CUT AT 90°	EX VAT	INC VAT
DW720K	1450	250/30	66mm	£636.95	£751.94
DW721K	2000	300/30	90mm	£999.00	£1173.83
DW728K	2200	350/30	110mm	£1595.00	£1874.13
DW729K	4000	350/30	110mm	£1595.00	£1874.13

Clarke POWER PLANERS
BOSCH

Makita

FROM ONLY **£15.95** EX VAT
£18.74 INC VAT

*DIY #Professional

MODEL	INPUT POWER (W)	NO LOAD SPEED (RPM)	WAS INC	EX VAT	INC VAT
Clarke CEP1	650w	15000rpm		£15.95	£18.74
Bosch PH20-82	680w	19500rpm		£44.95	£52.82
Makita 190Z	550w	16000rpm	£74.95	£88.07	
DeWalt 1050w	13500rpm		£211.44	£249.95	£199.69
D26500K	GB#				

Clarke 16" SCROLL SAW

FROM ONLY **£59.95** EX VAT
£70.44 INC VAT

- 50mm max cut thickness
- 400 - 1700rpm variable speed
- 120w, 230v motor
- Air-blower removes dust from cutting area

CS16V

RYOBI CIRCULAR SAW

CCS-1801/DM

- 45mm cutting depth at 90°, 32mm at 45°
- Includes ultra thin Kerf TCT blades
- Available with or without laser

FROM ONLY **£51.95** EX VAT
£61.04 INC VAT

without laser ONLY £51.95 EX VAT £61.04 INC VAT
with laser ONLY £59.95 EX VAT £70.44 INC VAT

RYOBI COMBI & ANGLE DRILL SET

Includes:

- CDI-1802M Combi Drill
- CAP-1801M Angle Drill
- 2x1.7Ah batteries
- 4 x double ended screwdriver bits
- Tool bag

ONLY **£129.95** EX VAT
£152.69 INC VAT

schepach CIRCULAR SAW
TS2010

Includes: Saw bench, base unit, sliding table carriage, table width and length extension

FROM ONLY **£649.95** EX VAT
£763.94 INC VAT

NEW

Clarke ORBITAL SANDERS
RYOBI

BOSCH metabo

FROM ONLY **£16.95** EX VAT
£19.92 INC VAT

- Variable speed
- 125mm base size
- Dust extraction (Bosch - with hose adaptor)

MODEL	POWER (W)	NO LOAD SPEED	EX VAT	INC VAT
Clarke CROS1#	420	4000-11000	£16.95	£19.92
Ryobi EKO-2412V	240	7000-12000	£34.95	£41.07
Bosch PEK400#	400	9000-26000	£49.95	£58.69
Metabo SK425ROS*	400	5000-12000	£74.95	£88.07

*Professional #DIY

Clarke VARIABLE SPEED 12" BANDSAW

- Max cutting depth 80mm
- Powerful 500w motor
- Max throat depth 305mm
- Blade speed 200-600m/min

ONLY **£89.95** EX VAT
£105.69 INC VAT

RYOBI NAILER STAPLER

CNS-1801M

- Holds up to 100 nails or 84 staples
- Fires staples up to 14mm
- Brad nails up to 32mm

ONLY **£59.95** EX VAT
£70.44 INC VAT

RYOBI RECIPRO SAW

CRP-1801/DM

- Toolless blade clamp
- Variable speed
- Length of stroke 22mm
- Includes 2 saw blades

ONLY **£38.95** EX VAT
£45.77 INC VAT

metabo 8" CIRCULAR SAW
PK200

ONLY **£639.00** EX VAT
£750.00 INC VAT

SPECIAL PACKAGE DEAL

- 8" Circular Saw
- Base Carrier System
- Sliding Carriage for Base Carrier System
- Table Side Extension
- Dust Extraction Kit

Clarke ORBITAL SANDERS
RYOBI

BOSCH metabo

FROM ONLY **£16.95** EX VAT
£19.92 INC VAT

- Variable speed
- 125mm base size
- Dust extraction (Bosch - with hose adaptor)

MODEL	POWER (W)	NO LOAD SPEED	EX VAT	INC VAT
Clarke CROS1#	420	4000-11000	£16.95	£19.92
Ryobi EKO-2412V	240	7000-12000	£34.95	£41.07
Bosch PEK400#	400	9000-26000	£49.95	£58.69
Metabo SK425ROS*	400	5000-12000	£74.95	£88.07

*Professional #DIY

Clarke VARIABLE SPEED 12" BANDSAW

- Max cutting depth 80mm
- Powerful 500w motor
- Max throat depth 305mm
- Blade speed 200-600m/min

ONLY **£89.95** EX VAT
£105.69 INC VAT

RYOBI 1 HOUR CHARGER PACKS

- 1 Hour Charger BC-181665
- £16.95 EX VAT £19.92 INC VAT
- 2x 18v Batteries
- & 1 Hour charger
- BPP-181725M
- £51.95 EX VAT
- £61.04 INC VAT

NEW

RYOBI ROUTER AND TABLE KIT

ERT-1150V ROUTER

- No load speeds 14,000-31,500
- 50mm plunge capacity
- 3 depth presets
- Dust port

ROUTER TABLE

- Die cast for accuracy
- Adjustable back fence
- Dust extraction nozzle
- Aluminium base
- Template guide

ONLY **£89.95** EX VAT
£105.74 INC VAT

VISIT YOUR LOCAL SUPERSTORE OPEN MON-FRI 8.30-6.00, SAT 8.30-5.30

BARNESLEY Pontefract Road, Barnsley 01226 732 297	DARLINGTON 214 Northgate DEAL (Kent) 182 - 186 High Street 0121 358 7977	LEICESTER 69 Melton Road LIVERPOOL 88 London Road 01325 380841	PLYMOUTH 58-64 Embankment Road POOLE 137-139 Bournemouth Road, Parkstone PORTSMOUTH 277-283 Copnor Road, Copnor PRESTON 53 Blackpool Road SHEFFIELD 453 London Road, Heeley SOUTHAMPTON 516-518 Portsmouth Road STOKE-ON-TRENT 1782 287321 382-396 Waterloo Road, Hanley SUNDERLAND 12-15 Rylands Road, Grange Road SWANSEA 7 Samlet Road, Llanmallet SWINDON 21 Victoria Road TWARKEHAM 83-85 Heath Road WOLVERHAMPTON Parkfield Road, Bilston WOLVERHAMPTON 40 Upper Lything
BIRMINGHAM B'HAM GREAT BARR 4 Birmingham Road, Great Barr B'HAM HAY MILLS 1152 Coventry Road, Hay Mills BOLTON 1 Thynne Street BRADFORD 105-107 Manningham Lane BRISTOL 1-3 Church Road, Lawrence Hill CARDIFF 44-46 City Road CARLISLE 85 London Road CHESTER 43-45 St. James Street COVENTRY Bishop St. COLCHESTER 4 North Station Road CROYDON 423-427 Brighton Road, South Croydon	DERBY Derwent Street DUNDEE 24-26 Trades Lane EDINBURGH 163-171 Piersfield Terrace GATESHEAD 50 Lobley Hill Road GLASGOW 280 Gt Western Rd GLoucester 221A Barton Street GRIMSBY Ellis Way HULL 8-10 Holderness Road ILFORD 746-748 Eastern Ave LEEDS 217-229 Kirkstall Road	MANCHESTER 503-507 Leas Bridge Road, Leyton, E10 MANCHESTER 100 The Highway, Docklands MAIDSTONE 57 Upper Stone Street MANCHESTER 71 Manchester Road, Altrincham MANCHESTER 169 Chesterfield Road, South MIDDLESBROUGH Mandale Triangle, Thornaby NORWICH Heigham Street NOTTINGHAM 211 Low Pavement Street PETERBOROUGH 417 Lincoln Road, Millfield	0116 261 0688 0151 709 4484 020 8803 0861 020 8558 8284 020 7488 2129 01622 769 572 0161 941 2666 01623 622160 01462 677881 01603 766402 0115 956 1811 01733 311770

24hr TELESales

4 SUPERSTORES
TELESales
WEBSITE
FAX
WAYS TO BUY

0845 450 1800
0845 450 1801
(Calls charged at local rates)

Machine Mart

Choosing a blade

Nick Gibbs explains how the right blade helps you get the best from your saw



From the recent Good Woodworking Workshop Survey (GW172:30) we were surprised to learn quite how many woodworkers have just one saw in the workshop, and that it's usually the bandsaw. But perhaps it's not so surprising: after all, John Brown, our erstwhile chairmaking columnist, famously had only one machine at all: a huge bandsaw with frighteningly few guards.

He used it for roughing and for cutting out pieces to be steamed. It was driven by his Fordson Major tractor, and he used a 1in or 1 1/4in blade.

We're often asked if we could test bandsaw blades, but without the resources to study the metallurgy scientifically we don't feel in much of a position to compare them in any useful way. An alternative solution, we decided, was to contact some of *Good Wood*'s contributors and resident experts to see what they've come to choose over the years by way of blade width, tooth configuration and supplier (see opposite to find out what they said).

Choosing a bandsaw blade confuses many woodworkers, especially because lots of us resist changing the blade because it takes time and can be fiddly. The blade you buy therefore depends, to a certain extent, upon the type of work you do and whether or not you are willing to change the blade for specific jobs.

I am lucky enough to have two bandsaws. I have a small Delta bandsaw near my bench, in my warm zone, fitted with a 1/4in 6tpi blade. I use it mainly for nibbling at small items and for general-purpose use. In my machine area there's an old, medium-sized DeWalt bandsaw that's really only used for the deep cutting that my Scheppach 2000 tablesaw can't manage. It has a 3/4in, 4tpi blade, but I don't use it much because it isn't strong enough to cope with all my ripping needs. I buy blades from whomever I happen to be calling, and wish I was wise enough to keep a stock.

I love bandsaws because they are quiet and relatively safe, just as Bill Irvine from Glasgow



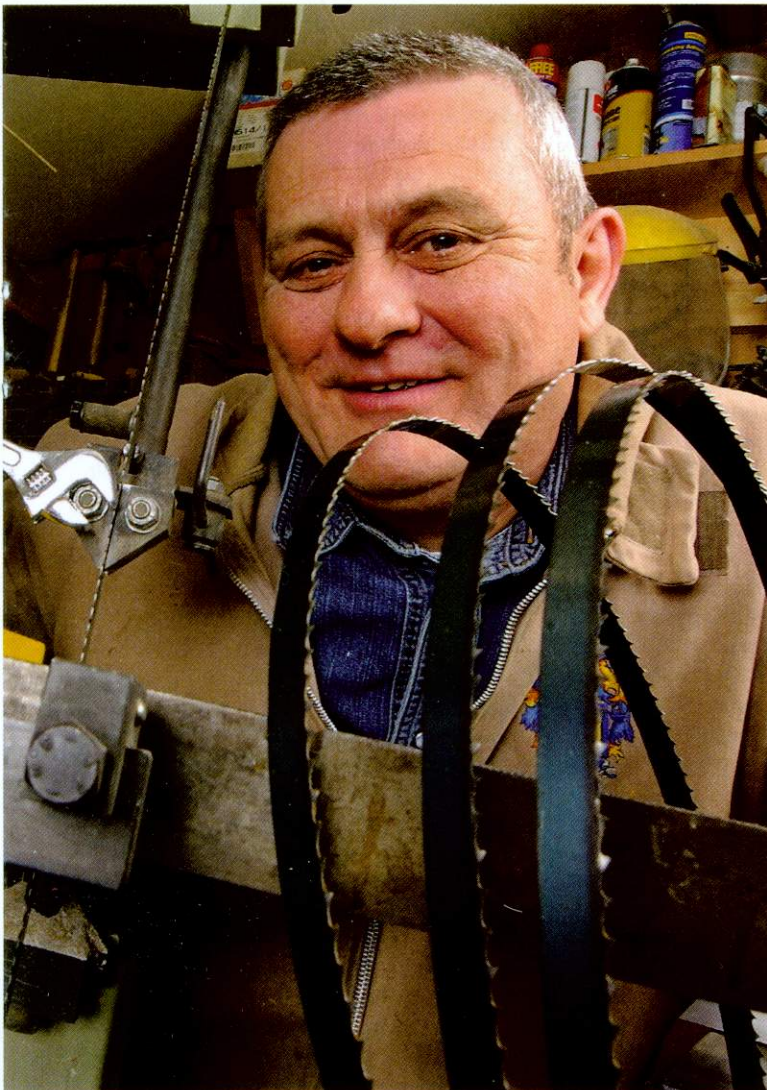
comments in our Letters pages this issue (p14). I want a larger, better one, but can't quite justify the extra expense and space.

According to Steve Hunt of blade supplier Trucut, most woodies' favourite blade is a 6tpi, for versatility, either 3/8in or 1/2in wide. "There are people who don't like putting new blades in, and for them 6tpi is versatile," he explains. "Some people buy five or 10 of the same size. Others will have a 1/4in 10tpi blade for fine work and a 3/4in or 1in, 4tpi blade for roughing."

The 56 1/8in long, 1/4in wide, 6tpi blade I ordered from Trucut the other day cost me £6.50 plus p&p. Rutlands (01629 815518, www.rutlands.co.uk) sell Dakin Flathers blades, and the same model would cost £8.95. The nearest Axminster (0800 371822, www.axminster.co.uk) have 56 1/2in, costing £5.84.

Build your own blade

The more economical approach may be to buy long lengths of bandsaw blade and weld up your own. I used to do this a lot, having bought a 100ft coil of 3/8in, 6tpi blade from Tewkesbury Saw (01684 293092, www.tewkesburysaw.co.uk), and a brazing kit from BriMarc (0845



The experts' choice

Bill Newton

Favourite blade:
 $\frac{3}{8}$ in, 6tpi, skip
Supplier: **ToolStation**
(0808 100 7211, www.toolstation.com) or
Axminster (0800
371822, www.axminster.co.uk)
"I also keep a $\frac{1}{4}$ in,
10tpi blade."

Richard Wightman

Favourite blade:
 $\frac{1}{2}$ in, 6tpi, skip
Supplier: **Axminster**
"I have an Axminster
JBS125 bandsaw,
which takes a
maximum blade
width of $\frac{1}{2}$ in, and
that's what I tend to
use most of the time.
For precise work I'll
use a 14tpi blade, and
I also have a $\frac{1}{4}$ in
blade for cutting
small curves, but I
rarely use it; I find a
hand-held jigsaw
easier. I'm a bit lazy
when it comes to
changing the blade,

tending to 'manage'
with whatever's
fitted at the time."

Terry Bee

Favourite blade:
 $\frac{1}{2}$ in, 6tpi, skip
Supplier: **Trucut**
(01989 769371)
"I keep three each of
 $\frac{1}{4}$ in, $\frac{1}{2}$ in and $\frac{3}{4}$ in. I
used to buy blades
from a local saw
doctor, but the welds
failed and they
blunted quickly. I get
an excellent mail
order service from
Trucut, the only
drawback being that
they have no internet
ordering facility."

Steve Maskery

Favourite blades:
 **$\frac{1}{2}$ in, 3tpi, skip and
 $\frac{3}{8}$ in, 6tpi, skip**
Suppliers: **Dure-Edge**
(0161 430 2647),
Hamilton Edge
(01633 838900, www.hamiltonedge.com)
"I use the $\frac{1}{2}$ in for
ripping and resawing.

You need the deep
gullet to carry away
all the sawdust
produced from thick
stock. The $\frac{3}{8}$ in blade
is good for general
work; I also have a
 $\frac{1}{8}$ in blade with lots
of teeth, which I use
for cutting dovetails.
It cuts slowly, but
gives a fine kerf.
Ideally I'd like a $\frac{1}{8}$ in
blade with fine kerf
but only a few teeth,
because cutting tails
is like ripping, but I've
never seen one."

Mike Ninham

Favourite blade:
12mm, 4tpi, skip
Supplier: **Local tool
sharpening company**
"I don't need different
sizes of blade, but I
would advise only
using quality blades
to get the best from
your machine."

330 9100, www.brimarc.com). I had one or two
failures, normally at the weld, but was able to
rejoin any that broke so long as they weren't
wrecked in the process.

Once you get in the swing, grinding the scarf
bevel and using silver solder and flux to join the
blade is pretty quick especially if you make a
few at a time. You can clean up the weld with a
Dremel when you need to use each blade. It
costs about half the price of a made-up blade,
and cuts your reliance upon suppliers.

Teeth choice

There are various types of tooth configuration
to consider, but more often than not there isn't
that much choice. Most blades with fewer than
10tpi are known as 'skip tooth', referring to the

Not So Clever...

Dave Roberts had to change blades
recently when he got a screwdriver
caught behind a block he was
cutting in half. "I couldn't work out
why it was cutting so poorly," he
told us when we visited his workshop.



shape of the gullet. Effectively a 6tpi skip tooth
blade is has the same shape of tooth as a 12tpi
blade, with a tooth removed and the gullet
extended. You can see the flatter base of the
gullets on a skip tooth blade.

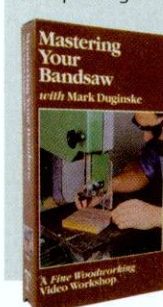
This means that the gullet is still quite
shallow, but has enough room to remove
plenty of waste, without weakening the blade.
A 'hook tooth' gives a more acute angle to the
leading edge, and is ideal for cutting harder
woods, but won't last so long.

The standard set of the teeth is called just
that, and has the teeth alternating left and
right to produce a wider kerf than the blade
and so reduce friction and permit easier curved
cutting. Most blades have a 'raker' set, with
teeth in threes, one set left, one set right and
the other unset. That third tooth
removes the waste
from the bottom of
the cut. A 'wavy' set
has three going one
way, three the other
and one unset, and it's
used largely for
cutting thin boards.

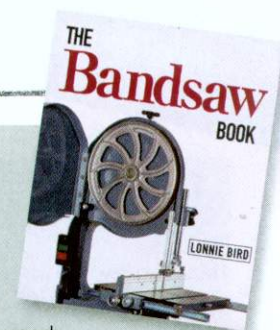
Setting up the blade

Lonnie Bird's *The
Bandsaw Book*
(Taunton Press, ISBN

1-56158-289-1) has a superb
section on blade options, and
recommends a carbide tipped $\frac{1}{2}$ in, 3tpi
blade, saying that it will keep going 25
times longer than a normal blade. Bird
recommends a bimetal, 3tpi, $\frac{1}{2}$ in hook
tooth blade for most work. Taunton Press
also produce Mark Duginske's video,
Mastering Your Bandsaw, which features
an opening section on setting up the saw.



Duginske uses a folded
dollar note to set the gap
between the guides,
thrust bearing and the
blade. He accepts that
blades will wander, and
shows that sometimes
you have to adjust the
fence to match angle.



Bandsaw Blades



The experts' choice

Nick Chandler Furniture-maker

Favourite blade:
30mm, 3tpi, skip
"Most of the time it's used for serious ripping duties, to augment my tablesaw's lack of diameter (it's only 250mm). So for anything thicker than 60mm the bandsaw has to be the man for the job. A skip tooth is best for clearance of waste. I tend to carry 30mm, 15mm, 10mm and 6mm blades. Those for cutting plastics and metal are rarely used, but invaluable when you need them."

**Trevor Cottell
Furniture-maker**
Favourite blade:
3/4in, 3tpi, hook tooth with hardened tip
Supplier: *Leitz* (01256 397209, www.leitz.org)
"I also have a few 1/4in and 1/2in blades of the same design for intricate work. It's

worth spending slightly more on a good blade because it'll last longer."

Dave Long, Cabinetmaker

Favourite blade:
1/2in, 4tpi, skip
Supplier: *Trucut or Screwfix* (0500 414141, www.screwfix.com)
"On my Elektra Beckum 315 I use the 4tpi most of the time for its fast cut, but with care and a good feed rate it still needs very little finishing. I rarely change unless a lot of work is expected, but do use a 3/8in 6tpi or 10tpi for woodturning."

**Andy Brough
Cabinetmaker**
Favourite blade: **3/8in, 4tpi for most jobs; 3/4in, 3tpi for ripping**
"I'm about to buy a new Hammer bandsaw for ripping timber and resawing thin sections and

TIP

We're not sure we should trust Dave Roberts on bandsaws after he tried cutting a screwdriver in half (p45), but he has a tip for unfolding blades, which can otherwise catch your fingers. He simply cuts the tie and throws the blade across the lawn outside his workshop!



veneers, using a 3/4in 3tpi or 4tpi blade. But I'll keep a 1/4in 3tpi blade for cutting turning blanks."

John Marshall

Favourite blade:
3/4in, 4tpi, skip
Supplier: *Axminster*
"This blade gives me all the options I need. But I do have to make relief cuts if I'm cutting contours out. The best advice I can give anyone with a bandsaw is to let the blade do the cutting at 'its own' speed, not yours. Also, many woodies believe that if the blade's not cutting right they

should crank up the tension, but the fault may lie with the belt drive, so check that."

Phil Edwards

Favourite blade:
12mm or 19mm, 4tpi, skip
Supplier: *Record* (0870 770 1777, www.recordpower.co.uk)
"I use the 19mm blade for resawing and 12mm for curves. I find changing blades really tedious, so I tend to keep a blade on for as long as possible. I use the bandsaw as a 'rough' tool, so I don't expect the results to be super-smooth."

"I'm a one-blade man," says *Good Wood* reader

In 2004, my Christmas present to myself was a King Resaw blade, writes *Michael Watson*. It cost about £50 including delivery from Cutting Edge (01993 824259). It's 3/4in, 19mm, with tungsten carbide-tipped teeth, regular set, at 2tpi (that's seven teeth per 100mm). The kerf is 1mm. It runs beautifully in my Axminster 1990 BS350 bandsaw, and I haven't yet found where the join is.

The only downside is that I miss the noise made by 'normal' blades: a 'de-dah, de-dah' like the old railway trains before they introduced continuous rails. It cuts wood the thickness of veneer beautifully and anything thicker very well indeed. It's not the fastest for ripping oak, but it can cut up to 193mm-thick oak with patience. Most of my work is in oak, ash, or iroko.

I also have an old 3/4in blade for cutting firewood, not wishing to risk hitting a nail with my King. I also have a 4mm blade in

case I need to cut small radiuses, but after two years it's still in its packet. For small radiuses I use my Perform scrollsaw; it's quicker than changing a bandsaw blade, and so what if I break the scrollsaw blade? For larger radiuses I take off slices, then round over on a 12in disc sander and/or a drum sander in the pillar drill.

As wide as possible

So I really am a one-blade man. I can see no value in 1/2in blades, for if it's straight it's straight, and if it is curved then 1/2in is too wide. So I use one as wide as possible all the time. My previous experience was of Axminster blades, and they weren't bad. They lasted about a year before they lost their sharpness. One blade broke at the weld after nine months and the company replaced it free without even inspecting it! The thing about King blades is that one

never coils them like ordinary blades, in case it distorts them. Nip them into an eight, then bring two loops side by side and tie these together. Folding saw blades is one of the secret arts of woodworkers: just as the top loop is about to flop over, turn the thumbs in slightly, and hey presto, you've done it!

With a tungsten-tipped blade, the cut is vastly better than an ordinary blade and there is absolutely no tendency to 'track'. But one must get used to cutting nearer the line, so there's less waste to plane off.

When preparing my pieces from a cutting list I often get more pieces per plank than I used to. I often now only hand-plane a sawn edge, rather than use my Kity planer thicknesser to make the sawn edge flat, before finishing with a hand-plane. With its thinner kerf, my £50 blade soon paid for itself by allowing me to use less wood.

Bandsawn dovetails

Yes, you can cut dovetails on a bandsaw. **Steve Maskery** explains how

In theory, dovetail joints are not difficult: all you have to be able to do is to mark accurately, cut straight, and pare vertically. Well, the wide range of dovetail jigs available is testament to the fact that many people find them far from easy and certainly not quick.

My method here uses a bandsaw, and I think it is a good compromise between cutting them by hand and having them all done automatically. It is flexible and quick. I admit, it has some limitations (the dovetails are symmetrical, the pins are not as fine as the finest handwork can produce) but it's much better than cheap jigs where the pins and tails are always the same size. I learned about the basics of this technique from Mark Duginske's excellent book *The Bandsaw Handbook*. But I've added a couple of extras to make the job easier and safer.

How it works

To understand the technique I recommend you have a quick glance at the drawings and pictures overleaf. They show how a set of spacer blocks is used for both the tails and pins, and how you need three jigs. You will be cutting the tails first, with a jig using the mitre guide slot, cutting at an angle (Fig.1a-c, Pic.3).

A jig for a tablesaw (Fig.2, Pic.4) produces an access notch so you can use a $\frac{1}{8}$ in blade on the bandsaw to cut the base of the sockets against the rip fence (Fig.3, Pic.5). Then you mark pins from the tails (Pic.6), and cut the pins on the bandsaw with the table tilted (Pic.7&8), using the spacers to position the pins.

The jig for the tablesaw (Fig.2) produces the access notches again, and finally you remove the waste on an angled jig (Fig.4, Pic.10) on the bandsaw. You need a well set-up bandsaw, fitted with the finest blade you can get. Make sure your blade tracks properly; any drift will affect the angle of your dovetails.

1 The tail jig

The tailboard jig is a skewed fence that rides in the bandsaw's mitre slot or slots. The fence is

set to your desired dovetail angle. Traditionally this is 1:8 for hardwoods and 1:6 for softwoods. Mine is a compromise, set at about 1:7 or 8°.

There is also an adjustable fence, which is perpendicular to this and locked down by wingnuts and bolts that run in slots parallel to the fixed fence. The size of the whole thing will depend on your bandsaw and the size of the jobs you intend to handle, but if it's much bigger than your machine's table, the job will be a bit unwieldy.

2 The pin jig

The pinboard jig (Fig.4) is used in conjunction with the machine's own rip fence to saw the bottoms of the sockets that receive the tails, nice and flat. This method also prevents that nasty crushed grain you so often get with chisel-chopped pins in softer woods. When Mark Duginske is cutting

TIP

The runners on the tail-cutting jig (Pic.3) have to run smoothly. Fix one runner in place, under the baseboard. Drill the other for three screws, one in the centre and one towards each end. Slide the jig into the blade on the single runner until just the last few inches of the board are yet to cover the table. Now slide the second runner into the mitre slot under the board and screw it in place through the hole nearest to you. It is kept parallel to the first by the machine itself. Pull it all back towards you until you can fix the centre screw, then back further to fix the last one. It should now slide smoothly, with little or no fettling.



▲ Pic.1 I wouldn't even dream of doing all this lot entirely by hand

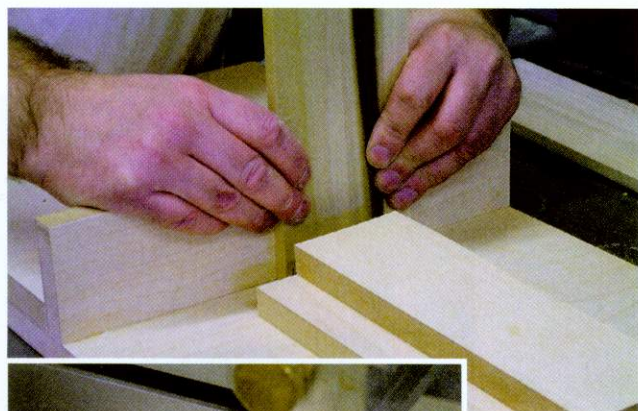


◀ Pic.2 The drawer components must be dead square, so a good shooting board is essential



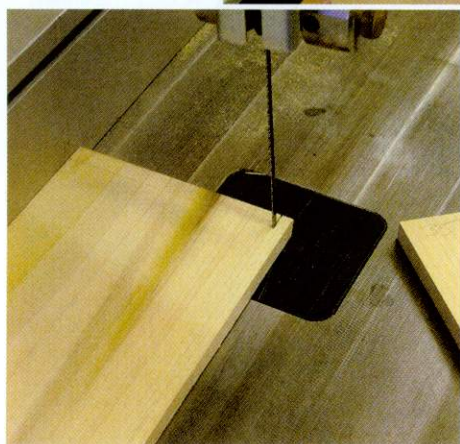
▲ Pic.3 The tails are cut first, then spacers are removed one by one, flipping the board to make the other dovetails

Joint Cutting



▲ Pic.4 (top) The ends are notched so that the bandsaw blade can enter between the tails
Pic.5 (above) Use the bandsaw's own rip fence to bottom out the sockets

► Pic.6 The pins are carefully marked out and shaded with a pencil



▲ Pic.7 The table is tilted 8° to the right, and the first side of the pin is cut. All the cuts are done outside face down

Next Month

Next month Steve Maskery will be looking at special cases when this technique can or cannot be used. Do contact us if you have any questions at goodwood@futurenet.co.uk.

the waste between the pins he just runs the endgrain against the rip fence and just lifts the board at the end of each cut to get into the corners. I prefer to have my stock properly supported at all times, so have made the jig (Fig.4) which I think is much safer. It consists of two tilted faces, like a flattened 'A', with a ledge for the workpiece and

extended feet that let the blade to get into work without eating up the jig. The angle of the jig faces matches your dovetails.

3 The tablesaw notch jig

The tablesaw notch jig (Fig.2) moves the board vertically over the tablesaw blade to notch the end to the depth of the tails or pins. This means removing the crown guard, but don't worry, the jig has an in-built tunnel-guard fore and aft to ensure that the blade is safely covered at all times.

There is just a small gap immediately in front of the workpiece so you can see where you are cutting, but you would have to shove your fingers deliberately in there to damage them.

Again, the size will depend on your machine, but don't make it bigger than it needs to be, or it will be too heavy to move back and forth. If you don't have a tablesaw you could do the same job on the router table.

4 Stock preparation

Your stock must be prepared accurately. If the parts are different widths, even by a small amount, it will affect the fit, and errors here are cumulative.

I'm using a 75mm-high drawer as an example, with a 5mm pin and two dovetails. For this you need two spacers of 35mm each $((75-5) \div 2)$. These should be accurately the same, parallel and not bent, even a tiny bit.

You will have problems if one is 34.7mm and the other 35.2mm, for example, so run a strip through the thicknesser and cut off two pieces from it. Label them 35mm. This is particularly important if you are doing a set of graduated drawers, where you have several sets of spacers of similar, but not the same, size.

The width of these spacers determines the distance between the corner of one dovetail and the same corner on the next dovetail along. The dovetails can be variably spaced as you can see from some of my photos, but the

same principle applies, the spacers determine the pitch, and the total width of spacers, plus one pin, equals the height of the drawer.

With our stock and spacers accurately prepared, we then use a cutting gauge to scribe the depth of the dovetails, in the traditional manner, as if we were doing them by hand.

5 The tails

Lay the tailboard on the bench and put the two spacers on top of it, flush with the right-hand end and flush with the back edge (Fig.5). Mark the workpiece where the blocks come to. In our case this is 5mm from the edge, but do it from the spacers, not by measuring.

Now, moving over to the dovetail jig on the bandsaw, and with the blade set exactly square to the table, put the workpiece against the front fixed fence so that the blade will cut just to the right of the pencil line. Put the two spacer blocks up against it, then bring the adjustable fence up to the spacers. Remember, we are cutting tails here, so the blade should be cutting to the right of our pencil line, into the waste side.

Slowly push the whole set-up into the blade, and the first side of the first dovetails is cut. Stop when you reach the scribed line and withdraw the jig. If you have a stop fixed to your bandsaw table, so much the better.

Now turn the workpiece over and do the same on the other edge (Fig.1a). Do the same thing on the other end of the board (Fig.1b), and in a similar way, do all the ends of all the tailboards in your batch.

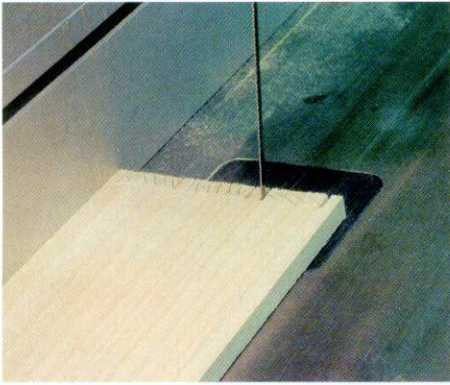
Next, remove one of the spacers and repeat the process (Fig.1c). As soon as you turn the piece over, you will see the dovetail shape of the cuts (Fig.1d).

You'll notice we've actually only removed one of the spacer blocks but use both, even though the second is redundant once you've marked the position of the first cut. It will make more sense when you do more complex layouts using, for example, variable pitch.

Now we have to cut out the sockets where the pins will go, and this is where the tablesaw jig comes in. Use a test piece to establish the right depth of cut for the blade. You want it to cut to the scribe line, but not over it. When your saw is set correctly, hold your workpiece vertically against the fence and make a pass.

You'll know you have left too big a gap between the workpiece and the tunnel guard if you cut your finger off. The cut must be made in the gap between the tails, but this is not difficult as we can see where the blade will cut by the slot in the jig itself.

Back at the bandsaw, adjust the rip fence so you can saw off the waste, leaving the tails. The $\frac{1}{8}$ in bandsaw blade should just go into the $\frac{1}{8}$ in notch cut by the tablesaw. The waste is cut out, turning the workpiece over as necessary, and we are left with perfect tails.



▲ Pic.8 The other side of the pins is cut in the same way, but with the table tilted to the left. If yours doesn't tilt this way you will have to make a tilted sub-table out of MDF

6 The pins

Using a dovetail marking bracket (GW168:45), clamp the pinboard to the front and the tailboard to the top, with the edges properly lined up, and mark the position of the pins from the tails. Remove the top tailboard, remove the pinboard and turn it round so that the inside face is towards you, and re-clamp it in place on the bracket. With a small try-square, mark the positions of the saw-cuts on the face of the board, then hatch out the areas to be removed with a pencil.

Set a sliding bevel to the angle of the dovetails you have cut. Yes, I know it should be the same as the fence of your jig, but if your blade did drift at all, the actual angle will be off by that amount. But let us say that it is 8°.

Tilt the table of your bandsaw to 8° and adjust the rip fence so that you are cutting just shy of the halfpin. We are trying to split the line, just as if we were doing it by hand. The workpiece must be outside face down and will stay this way for all the cuts.

Make the cut, insert the spacer block again and cut the same side of the next pin along.

Because we are using the same spacers with which we cut the tails, the spacing of the pins will exactly match the spacing of the tails. When all the ends are done, tilt the table to 8° the other way. If you can't do this with your saw, make a tilted sub-table out of MDF.

For the next set of cuts, we are cutting the other side of the pin, and this will determine how tight the joint is. We are going to start by erring on the side of caution, so adjust your fence so you're cutting shy of the pin. Make the cuts, without and then with the spacer as before, and then stop before cutting the rest.

Using a coping saw, saw out the waste roughly and try the fit of the joint. It should be too tight, but you should have an idea of how much more you need to remove. Using the fine adjuster on your bandsaw, advance the fence a bit and shave a bit more off the pins. Try the fit again.

Continue until you have a fit that's not too tight, not too sloppy, but just right. You can now cut all the other ends on this same setting and they will all be the same.

Back to the tablesaw and notch the ends of all the pin-boards as before, but this time we are cutting away the sockets for the tails, and leaving the pins on.

Reset the bandsaw table to horizontal and, using the 'A' jig for support, saw the waste from between the pins. One side of the jig for



Pic.9 After this last cut, I notch the ends on the tablesaw like I did for the tails



◀ Pic.10 This angled sled lets me get right into the corners without nicking the pin



▲ Pic.11 Go on then, tell me yours are better!

one side of the pins, the other for the other. In this way you can prevent accidentally cutting into the side of the pins. The depth is determined by the rip fence, of course.

You should find now that all the joints go together beautifully and all parts are interchangeable. ↗

The jigs

Fig.1 Tailboard jig
The fixed fence is at 8° to the slot batten

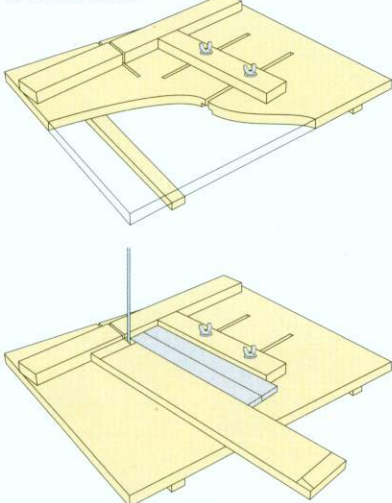


Fig.1 Tailboard jig
The first cuts

Fig.1a

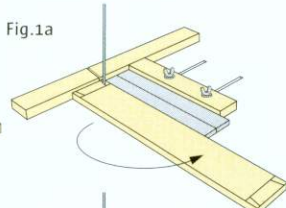


Fig.1b

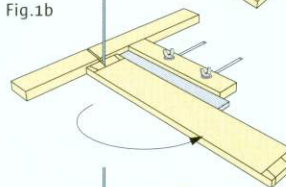


Fig.1c

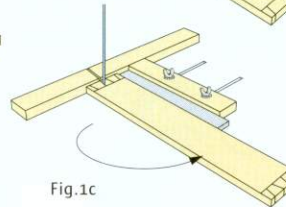


Fig.4 Pin socket jig
For removing the waste between the pins

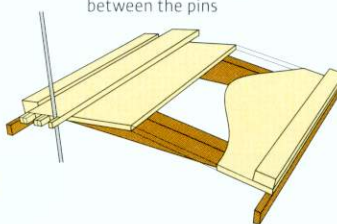


Fig.2 Tablesaw notch jig
To cut access notches so you can use the bandsaw to remove sockets

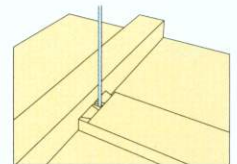
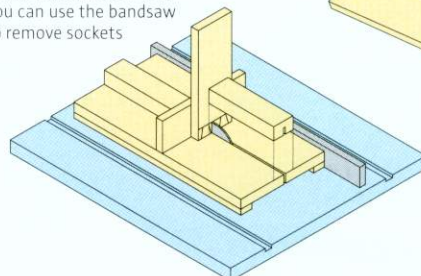


Fig.3 Removing tail sockets
Use the rip fence to guide the saw as you cut the waste between the tails

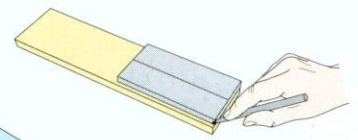


Fig.5 Marking up
Using the spacers to mark up the drawer side to cut the tails

Rutlands Summer 2006 Woodworking Catalogue!

196 full colour pages packed with
woodworking tools and machinery!



Get Your **FREE** Copy

Phone 01629 815 518

Visit rutlands.co.uk



Pax Saws by Thomas Flinn & Co

Finest Quality Saws Handmade in Sheffield

'A truly beautiful woodworking tool' – Jeff Loader



Mail Order Catalogue Available.
Also includes the **Lynx** range...

114 Harvest Lane, Sheffield S3 8EG

Tel: 0114 272 5387 Fax: 0114 272 5389

Website: www.flinn-garlick-saws.co.uk

Email: thomasflinn@flinn-garlick-saws.co.uk

All major credit cards accepted





GREAT LITTLE IDEAS

Top projects you can make in a few hours

Mysterious ringed cube

Confound your friends with this 'impossible' hollow cube designed by **John Hilton**



At first sight, the grain of the wood on this cube seems to indicate that the concentric rings have been

turned into its faces. But how? How can the rings be supported, and how can the cube be hollow? I could tell you immediately how it's done, but that would spoil the mystery. You'll have to read on.

It's all an illusion, of course, but one that you can create yourself with nothing but standard woodworking equipment and a holesaw set of the solid cup type. I recommend the one from Tilgear (01707 873434) which comes boxed, in eight cutter sizes for £7 (part number 1088).

You will also need a straight 3mm router cutter: Tilgear's solid carbide one (£13.50, part number 43) is perfect.

A quality hardwood with a pronounced grain should be used to make the puzzle, because it is the grain that creates the illusion of the cube having no joints.

The most important thing about this project is attention to procedure. Each component is specific, and can't be replaced, so any mistake will wreck the whole exercise. Practise in scrap first and check all your machine and tool settings are accurate before you start.

To display the cube, turn a pedestal as in the photo, with an inverted cone at the top.

Making

1 Number your eight cutters from one to eight. Tipp-Ex or similar corrective fluid is ideal for doing this.



2 Cut a perfect cube, 100x100x100mm. Mark all the sides (Fig.1). These are not cutting lines but need to be roughly followed to avoid confusion and must be replaced when removed by saw or sander. Also number the top right-hand corner of each face 1-6, with a marker pen.

3 The safest way to cut off the slices is on a bandsaw. Cut a slice from scrap to check the setting of the fence, then cut side number one from your hardwood cube (Fig.2). Sand the cut surfaces as necessary and write the number in the identical top right-hand corner of the cube.

Use a T-square and a marker pen to draw a line from the centre of the slice to the top edge and repeat on the cube. Repeat this step on the remaining five sides of the cube, taking care that every cut roughly follows a pencil line and that the numbers are legible after each cut.

4 The central cube will now have been released. Check it for equal sides and sand as necessary, replacing the number after each sanding.

5 Mark two inner screw holes and one opposing outer screw hole on your faceplate. Use them to mount a 150mm-diameter disc in 16mm MDF on the plate. This way centrality can be maintained when remounting at a later stage (Fig.3). Mount on the lathe and scribe a circle with a diameter equal to the diagonal of a slice (Fig.4).

6 Place a slice on the disc so the corners are exactly in line with the circle and pin it to the disc through two corners (Fig.4). Pre-drill the slice before pinning to avoid splitting. Mount the assembly on the lathe, set at a medium speed.

Mark the No.1 holesaw blade with Tipp-Ex at a distance from the teeth of slightly more than half the thickness of the slice as a depth gauge.

Fix the Jacobs chuck to the tailstock of the lathe and the holesaw in the chuck, then cut a circle in the slice as deep as the Tipp-Ex mark (Fig.5). Ease the saw very gently into place to avoid scorching and check the depth of the cut before moving on.

Replace the blade with the No.4 blade and repeat; then repeat again with the No.6

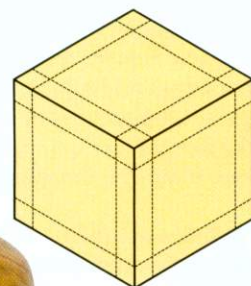


Fig.1 Marking the primary cube

Fig.2 Cutting the slices

Slice thickness is 10mm approx.

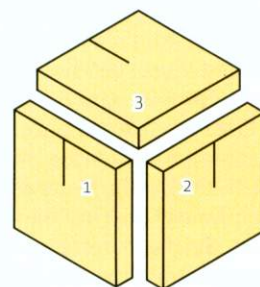


Fig.3 Setting up the slice

150mm diameter disc in 16mm MDF. Screw holes employed in faceplate

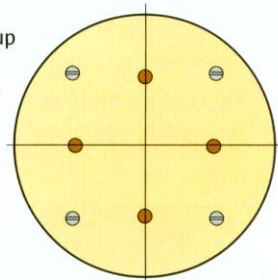
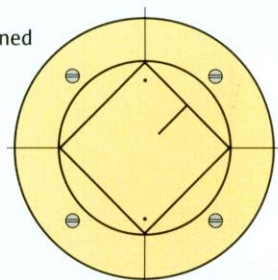
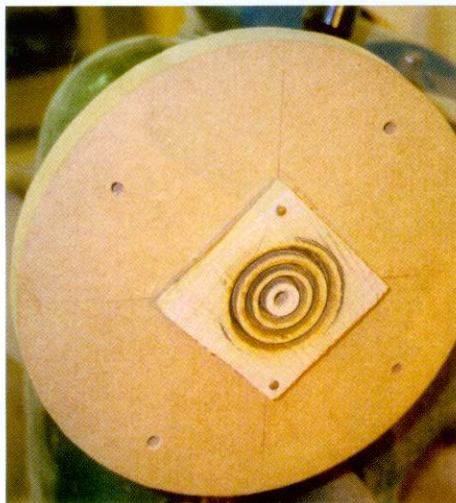


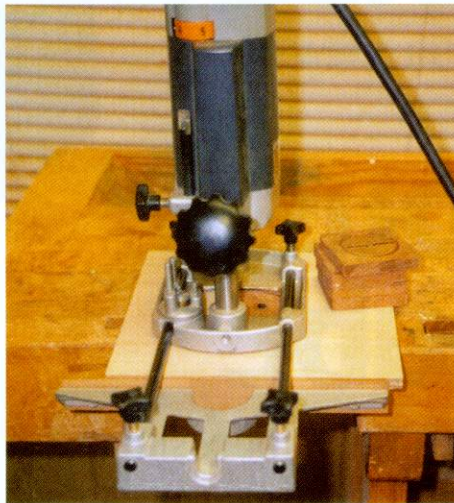
Fig.4 Slice pinned to disc

The corners of the slice must line up with the circle

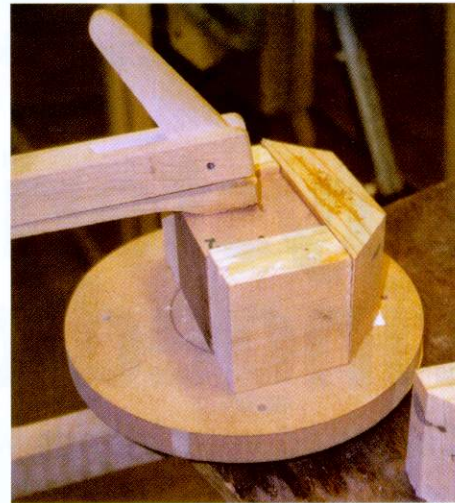




▲ Pic.1 Ring cutting completed, with the slice pinned to the faceplate lining on the lathe



▲ Pic.2 With a slice held in the ply jig you can rout the grooves in the back of the slice



▲ Pic.3 The cube chuck is glued and screwed from below, with variable bit fixed from the side

blade. While still on the lathe, prise off the slice and reverse it on the drill bit. Bring the saw up to the slice to hold it firm and re-pin it to the disc. Use the blade to mark a circle on the back of the slice but don't go any deeper.

Repeat with the remaining five slices.

7 Rout a square hole in the centre of a 90x90x10mm piece of ply, parallel to the edges, to create a jam fit for the slices. Check that the slice fits flush with the ply and is reasonably firm.

Glue a strip of ply to the underside of the square to seat the slice and to provide a holdfast in your bench vice. Drill a 15mm hole in the centre to assist removal.

Reverse a slice and place it in the jig so the number is under the top left-hand corner. Put a 3mm cutter in the router and fix the depth at slightly more than half the thickness of the slices. Set the router fence so that the cutter is in the centre of the slice. Rout a slot within the marked circle, making sure that the cut doesn't stray across the line (Fig.7, Pic.2). Remove the

slice, clean up the slot and check the depth. Repeat with the remaining five slices. Replace the first slice and reset the fence to cut a slot 4mm from the first but be careful that the cut is sufficiently clear of the central hole so as not to weaken the slice. Turn the slice around and repeat on the other side of the centre hole.

Cut the slots in each of the remaining slices. Cut the last two slots, again 4mm removed, to complete the routing.

8 Prepare a special chuck to hold the cube on the lathe (Fig.8, Pics3-5). Screw a 200mm disc to your faceplate through the three marked holes and mount on the lathe to scribe a circle equal to the diameter of the cube. Cut four blocks in hardwood to fit snugly around the cube. Countersink the two screw holes as shown. Note that the two small pieces are 2mm shorter than the cube.

Dismount the faceplate from the lathe and remove the disc from the plate. Place the cube on it, lining the corners up with the pencilled circle, and clamp the two together. Discarding

the countersunk piece, glue the remaining three pieces to the disc). Remove the cube and allow the glue to cure.

Reinforce the fixing with countersunk screws. Screw the discarded piece to the assembly through the countersunk holes and the jig should hold the cube firmly when back on the lathe.

9 Re-mount the jig on the lathe (Pic.5). Find the centre of a face of the cube by marking four lines in the central area with a mortice gauge and fix the cube firmly in the jig with these lines showing.

Revolve the jig to make a check on the cube's centrality. Extend the marker pen line on the cube onto the jig to ensure correct repositioning when replaced at a later stage.

With the No.6 blade still in position on the tailstock, cut a circle to a depth slightly less than the full thickness of the slices on the face of the cube. Mark the blade with Tipp-Ex to assist but check the depth before continuing (Pic.5). Repeat with the other five faces.

Fig.5 Cutting the rings

Use Tipp-Ex to mark the depth of cut when you use a holesaw for the grooves

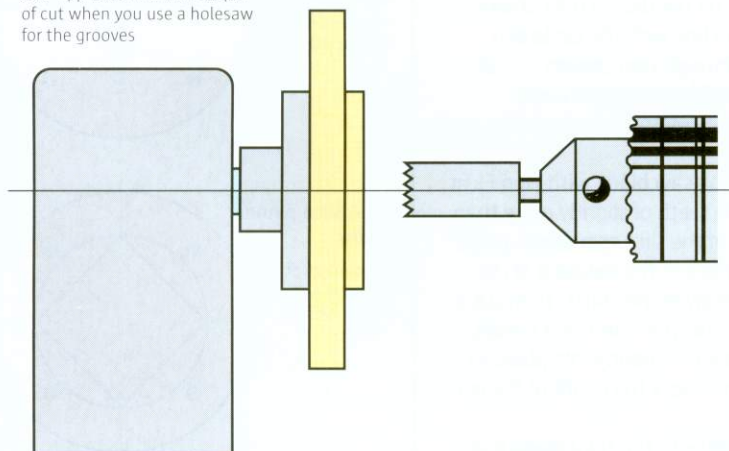
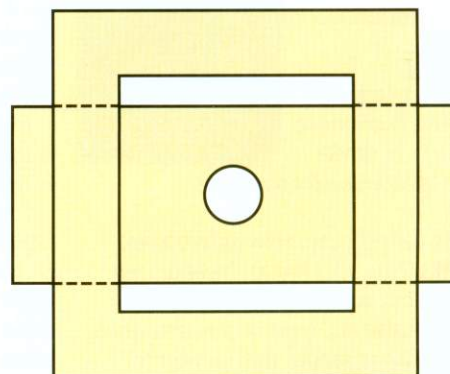
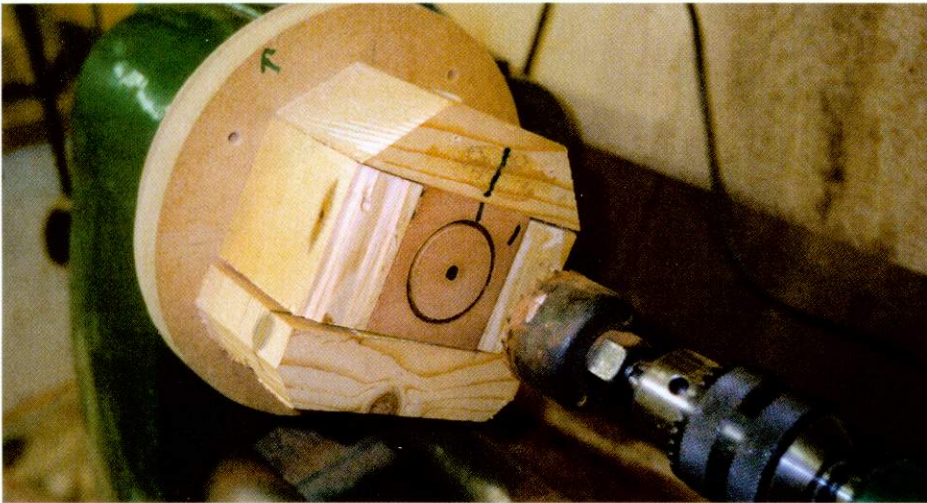


Fig.6 Routing Jig in 10mm ply

Square hole to hold slice. Holdfast glued underneath. Removal hole in holdfast





▲ Pic.5 Cutting the rebate on the No.1 face of the cube with the No.6 holesaw blade



▲ Pic.4 Sanding the rings flush with the cube

Replace the holesaw blade with the No.5 blade and cut a deeper circle. Follow this cut to hollow out the cube through to the centre with a turning chisel. Tidy up the first holesaw cut with the chisel to leave a clean rebate round the edge of the hole and check the depth. Reverse the cube in the cube chuck and repeat the process until the cube's fully pierced. Repeat on the remaining four sides of the cube.

10 Return the 150mm disc to the faceplate using the same screwholes and mount

on the lathe. Set the No.7 blade in the holesaw. Fit the No.1 slice, rings facing out, onto the drill bit and bring up the holesaw to hold the slice firmly against the disc and pin it in the corners.

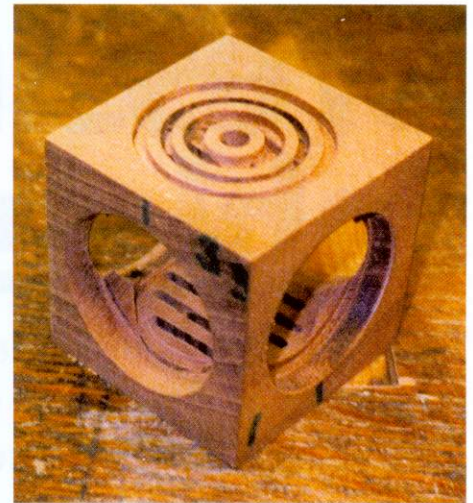
Cut a circle in the slice through to the disc.

Ease out the piece from the holesaw and fit it to the first face of the cube. Very probably a little attention from the disc sander will be required.

Place your finger on the central hole and gently revolve it against the sander. Keep the piece moving to avoid scratching. When you have achieved a firm fit, glue in position slightly proud of the face, checking that the marks are in alignment.

Use the point of a knife, covered with a damp cloth, to remove all traces of glue from the rings. Repeat with the opposing face of the cube.

When the glue has cured, sand the rings down to the face of the cube on the disc sander with the 90° fence in position. Keep the cube moving to avoid scratching the face. Repeat



▲ Pic.6 Cube with the first two faces completed. Notice the rebate in the holes for other slices

with the remaining four slices but again in opposing pairs to avoid fouling the sander fence. Delay gluing up the fifth slice until you have fettled No.6 in order to retain internal access to the cube, but take care not to mix the two up.

11 Finish with polyurethane varnish, going down into the rings with a fine brush to conceal the joint and preserve the illusion.

Send us...

Have you designed a puzzle, game or toy recently? If so, tell us about it! Send the whole story with pictures to us at

Good Woodworking, 30 Monmouth Street, Bath BA1 2BW or email goodwood@futurenet.co.uk



Fig.7 Routing the grooves

The groove should not cut through the circular line

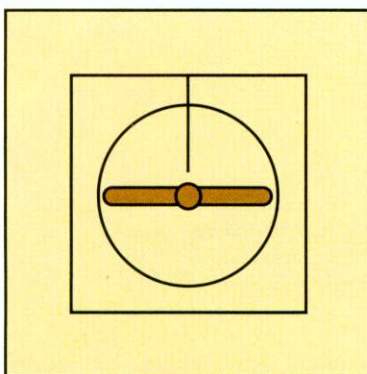
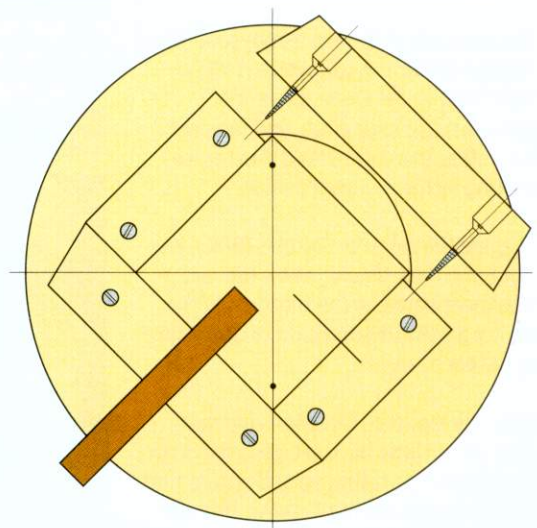


Fig.8 Cube chuck

Three sides of the cube chuck are screwed to the faceplate liner, while the fourth side is variable and is screwed to two of the others





GREAT LITTLE IDEAS

Dressing table stool

The trick with cabriole legs is to use strengthening braces, as **Bryan Blow** illustrates with this upholstered stool



This stool is designed to complement the dressing table I made in GW106.

Like the table, it is traditional in appearance and has slender, cabriole legs that suit a fine-grained timber like walnut or cherry.

The construction is pretty simple, just mitred tenons on the rails, but like many chairs and stools there are corner blocks to strengthen the construction and 'ears' to widen the legs.

There is also a trick to this design in that the top, morticed section of the legs, is actually separate from the the shaped part. Effectively you end up producing a frame for the upholstered seat, to which you fix the legs with screws up through the ears.

Making

1 Make yourself a ply template of the cabriole shape and use it to mark up the leg blanks. Cut out the legs (A) on a bandsaw, using the offcuts to support the board while you make the third and fourth cuts. Hold the legs in a sash cramp while you shape them with a spokeshave and files.

2 Cut mortices in the top 25mm-square section of the legs (B), which is 75mm long. You might find it easier to cut the mortices in a single long piece, and then cut it into four, rather than try to hold short pieces for morticing by hand or by machine.

3 Prepare the stock for the rails (B&C), and cut 6mm-thick tenons. Mitre the rail tenons to meet between the mortices in the legs and cut an 18x18mm rebate on the inside top edge of each rail.

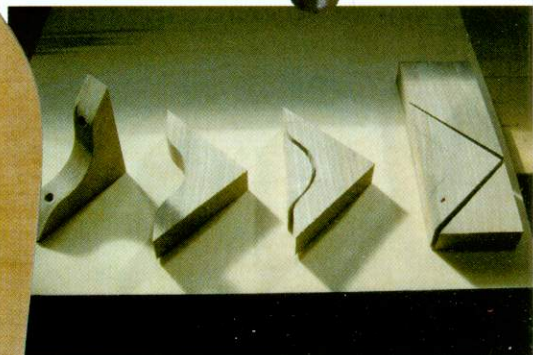
4 Glue the legs tops (B) to the side rails first. After these have set, glue the other two rails to the legs, cramp up and ensure that the frame is square and not in twist. This can be set aside while you work on the legs.



◀ Pic.1 The ply template of the leg



▲ Pic.2 Hold the cabriole leg in a sash cramp while you shape it with a spokeshave



▲ Pic.5 Four stages of a corner brace. With such short mortices, these are essential



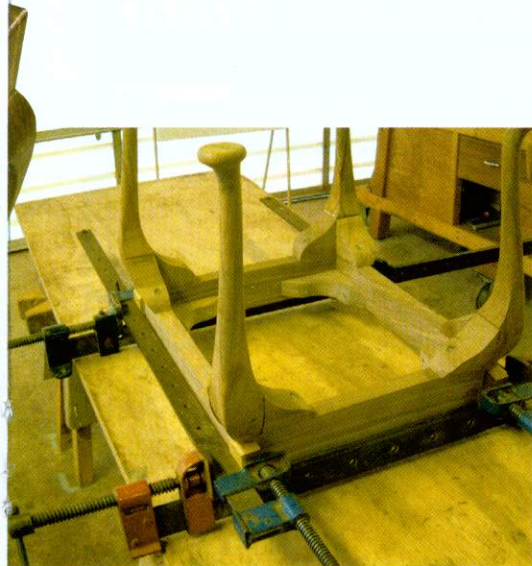
▲ Pic.3 Files and Microplanes are excellent for finishing the cabriole leg shape



▲ Pic.4 The ears or cheeks need to be a perfect fit and blend in nicely with the legs



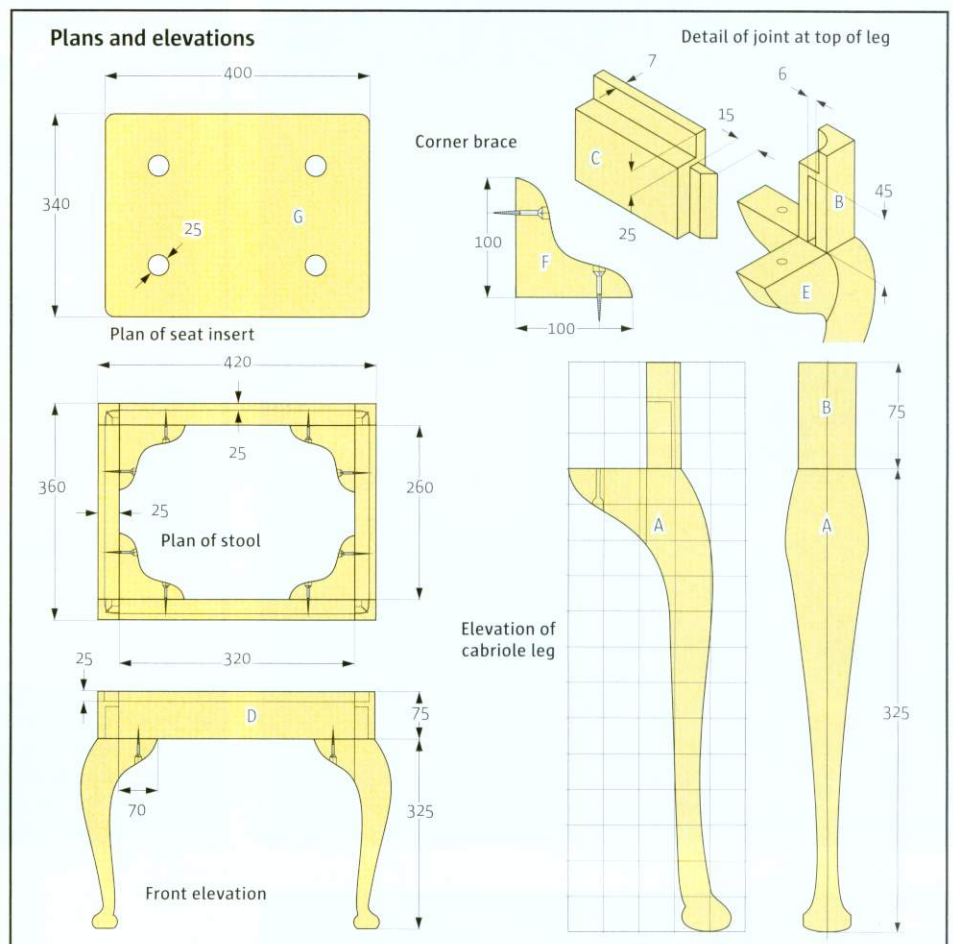
▲ Pic.6 Blend the cheeks in with the legs using a Make sure you always wear a dust mask or respirator



▲ Pic.7 The top frame held in cramps so that you can position and fix the legs with screws



▲ Pic.8 Sand the inside of the legs with a drum sander. A drillstand will do for this job



drum sander. This is a foam-filled drum, when doing this sort of sanding

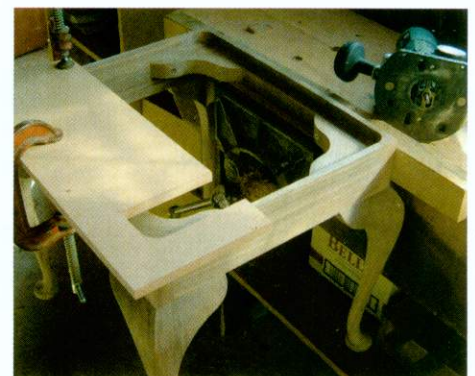
5 Glue and screw the inner corner braces (F) to the seat frame. These are needed to take the strain and are essential when using cabriole legs on seats because of the very small size of the mortice and tenon joints.

Fixing the cheeks (or ears, E) to the legs is tricky because you want to do as much shaping as possible before gluing but need to apply pressure with a clamp. One option is to screw the cheeks to the legs. Glue and screw into place the side cheeks, and after the glue has set, trim to the leg shape with a shoulder plane and finish with sand paper. True the inner curve with a drum sander and finish by hand.

6 To cut the inner curve on the top of the legs for the seat, make an L-shaped pattern with a 100mm overhang, to support the router. Use a 12mm guide bush with a 6mm cutter in the router. Cramp the pattern to the side rail 3mm in from the inside edge and carefully rout the waste away until the guide bush contacts the pattern round the curve.

7 Round off the top outer edge of the rails and legs with a 9mm radius cutter. Clean up the whole frame and sand it smooth.

8 Allow a 2mm gap for the material in the seat and drill four 25mm holes in the ply to allow the seat to breathe. The foam is 50mm



▲ Pic.9 The template for routing the curved corners to the top of the legs must have plenty of excess to support the router

thick with the bottom face trimmed back to a slope cut 80mm in from the outer edge, to 10mm thick at the top edge; this is easily cut with an electric bread knife.

A strong white cotton cover is pulled tight to mould the foam to shape and stapled to the ply. The top cover is then placed over and carefully smoothed out, then stapled to the ply, taking particular care to fold the corners neatly before fixing them down.

WOODTURNING & WOODWORKING

In the beautiful Peak District

Learn to turn at Craft Supplies Ltd. With over 20 years experience running residential courses and approximately 7,000 students having enjoyed the hospitality of the Mill, combine a short break in the Peak District with a woodturning/woodworking course at The Mill.

Woodturning
Woodcarving
Routing
French Polishing

Veneering
Pyrography
Cabinet & Furniture Making
Guitar Making

Courses run throughout the year. Each with a limited number of students to ensure everyone gets plenty of individual attention from our fully experienced tutors.

COMBINED PAINTING & TURNING COURSES IN FRANCE

We now have a location in the French Pyrenees. Instead of our usual 2 and 3 day concentrated



tuition we offer 5 half days of tuition giving you the opportunity to enjoy the wonderful surroundings with your partner. Le Moulin de la Matarette, our French location is just over 1 hour south of Toulouse and Carcassonne. Tutors teaching at our French location in 2005 include Ken Allen, Mick Hanbury, Ray Key & Jamie Wallwin.



Craft
SUPPLIES

For further details send for our full colour catalogue:
The Mill, Millers Dale, Nr Buxton, Derbyshire SK17 8SN
Tel: 01433 622550 Fax: 01433 622552
e-mail: sales@craft-supplies.co.uk www.craft-supplies.co.uk

For Pleasure and Profit

You can make it with

metalcraft™



Extend your design options and create new opportunities

Metalcraft is a comprehensive range of equipment, materials and accessories that enables you to expand your woodworking design options by making ornamental as well as functional metalwork.

Safe and easy to use, Metalcraft requires no prior metalworking experience and is backed by step-by-step instructions, design projects and countless ideas including:

Gates & Fencing

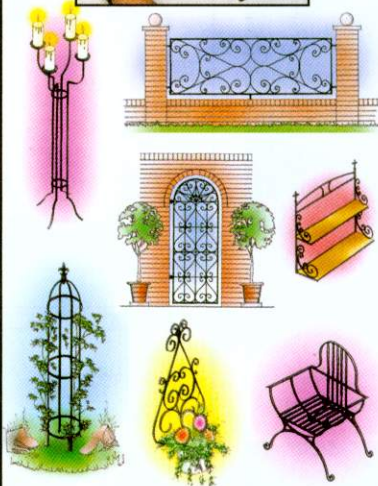
Indoor & Outdoor Furniture

Garden Arches, Obelisks & Gazebos

Candle Holders & Lighting projects

Planters, Hanging Baskets & Window Boxes

Shelving, Storage & Wine racks plus many, many more ideas.



Contact us today for your Free Literature Pack or send £5 for our Demonstration Video (refundable on its return or on the purchase of one of our Workshop packages).

Find out how others have turned a practical and pleasurable hobby into a money-making venture with Metalcraft - THE BUSINESS IN A BOX!

J&CR Wood Dept. MGW06
66 Clough Road, Hull HU5 1SR
Telephone: 01482 345067
Fax: 01482 441141
www.metal-craft.co.uk

SPECIAL WORKSHOP DEALS AVAILABLE FOR PROFESSIONALS AND BEGINNERS ALIKE.



John Boddy's Fine Wood & Tool Store Ltd

Everything for the Woodworker



Self Selection Timber Store



Self Selection Store

- Mail Order Service
- Expert Advice
- Easy Access from AIM Jct.48
- Free Parking
- PEFC & FSC Certified Timber available

OPENING TIMES
Mon - Fri 8am - 5pm
Sat 8am - 4pm
CLOSED
Sun & Bank Holidays

Woodworking Courses & Demonstrations



FREE
Demonstrations
2005/6 programme available
Woodturning • Woodcarving
Finishing • Gilding • Routing
Veneering • Caning

Riverside Sawmills Boroughbridge N. Yorkshire YO51 9LJ
Tel: 01423 322370 ext 257 Fax: 01423 323810/324334
email: info@john-boddys-fwts.co.uk www.john-boddys-fwts.co.uk

KWO®
H.O. Schumacher & Sohn
PRÄZISIONSMASCHINENWERKZEUGE

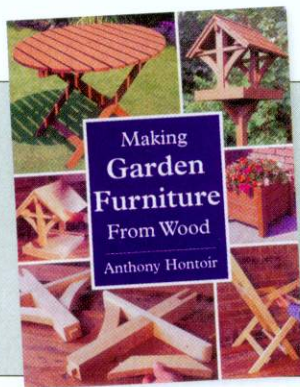
KWO Tools (UK) Ltd.
4, Strawberry Vale
Vale Road
Tonbridge Kent, TN9 1SJ
Phone: 01732 364444
Fax: 01732 361144
sales@kwo.co.uk
www.kwo.co.uk



Please contact sales to request a catalogue

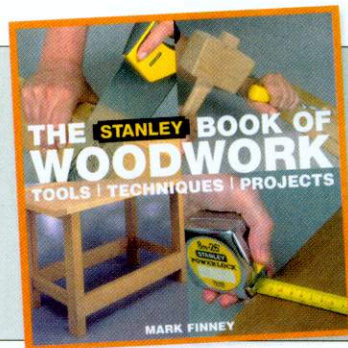
Good Woodworking Books

Reviewed by Andy King



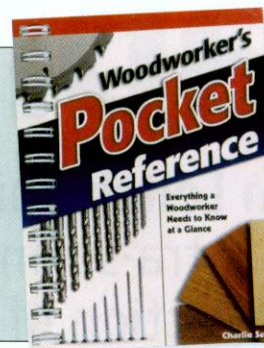
Making Garden Furniture from Wood

Anthony Hontoir
Crowood, £14.99
Size: 9½x7½in
Pages: 128
ISBN: 1-86126-599-9



The Stanley Book of Woodwork

Mark Finney
Batsford, £15.99
Size: 10x10in
Pages: 160
ISBN: 0-7134-9003-9



Woodworker's Pocket Reference

Charlie Self
Fox Chapel Publishing, £9.95
Size: 6½x5in
Pages: 176
ISBN: 1-56523-239-9

So, is it sunny yet where you live? Apparently, spring is here, and that means only one thing: it's time for the garden projects. This book has 13 in all, each one not particularly taxing and all achievable with basic hand tools, a jigsaw, drill and router. It's ideal for the amateur with limited kit.

Garden items don't have to be too elaborate, so the planters, bird houses and furniture in the book are all quite easy to make, and mostly are done in stock timber. Some are very simple in design, such as the batten frame plant holder and the picket fence, but others are quite pleasing to the eye.

The front of the book has a summary of joints, but only the ones relevant to the projects within, so you don't get snowed under with too much detail if all you want to do is make simple stuff.

Once you get past the basic softwood stage, there are two slightly more complex projects, a patio food trolley and a traditional garden bench. But again, these aren't so taxing that you won't prefer to spend a sunny afternoon making them than mowing the lawn, and if you work your way through, you shouldn't have too many problems.

Special offer for Good Wood readers: get 20% off this book by calling 01672 520320

★★★★★

I expected this to be a glorified advertisement, full of Stanley tools with a cursory look at woodwork alongside. But

I was pleasantly surprised. It's actually a very good book. Of course, the tools in the photos are predominantly made by Stanley, but the information imparted doesn't require their exclusive use! Mark Finney puts across a lot of good, solid information.

There's an opening chapter covering the basics, and then you are taken logically through the tools and how to use them correctly, woodworking techniques including jointing, gluing and finishing and then a few simple projects. The projects even refer you back to specific pages in the book for a particular technique needed for the job in hand.

Best of all, the whole book has superb little tips throughout. It covers all the little snags and pitfalls that the novice woodworker can encounter, which more experienced ones often take for granted.

While not delving deep enough for the accomplished woodie to consider buying it, first-timers will gain a lot.

Special offer for Good Wood readers: to buy this book for only £13.99 call 0870 787 1613,

★★★★★

Book
of the
Month
May

To me, a woodworking reference book should be just that: a device to refer back to when you can't quite remember a technique or method. Here, though, you have a collection of what seems to be common knowledge, with very little hard information of any use.

I mean, do we really need to be told that "Pencils are useful for marking measurements"? (After all, belts are useful for holding your trousers up, but you wouldn't buy a book to find out!)

Being American, some of it might be useful if you watch Norm on the *New Yankee Workshop*, I suppose: for example, the chart telling you what size a particular penny nail is. But the information on hand tools, power tools, finishing and sharpening is little, more a description of a particular tool rather than how to get the best from it.

The 'Shop Math' section in particular could have been so much more. There's plenty of geometry and equations, but it lacks substance of any use.

Out of the 10 sections, the only one I found useful was the one dealing with timber. The Janka chart to determine how hard a timber is would be handy in some situations: if it's to be used as flooring, for example. Other than this, the book fails to deliver what its title suggests.

★★★★★

Whisky cabinet

Adam Leitch builds a sturdy cabinet with extra-strong joints to house his collection of fine beverages

Recently I visited a Scottish island with a whisky reputation and afterwards found myself with more bottles than I had space. Clearly, I needed a cabinet in which to keep my new booze, and space for the glasses would be welcome, too. I put pen to paper and saw to timber, and what you see here was the result.

I found a space on a wall, and used that to determine the width and depth of the unit. I made a guess at the height, basing it roughly on my plan to have larger bottles in a lower section, wine glasses in a medium-height section and a top shelf for smaller shot glasses and tumblers.

Where you position the shelves in your cabinet depends on the height of the things you wish to keep in it. I'd recommend at least 20-40mm higher than the tallest bottle you're likely to buy. If you are storing smaller bottles,

they could be placed in the middle shelf, so ensure you have sufficient space there also.

The doors are glass, which you can buy cut to size from a glazier (see opposite page). Don't assume the recess in each door will be the same size; double-check each measurement.

I made the cabinet in pine, which I bought from my local timber merchants, Champion Timber in Dorking (020 8949 1621, www.championtimber.com). The warehouse staff seemed happy to let me sift through the boards myself, and it's always well worth spending some time, if you can, ensuring the boards aren't warped, twisted or cupped.

The pine is only sold in set lengths so you have to be prepared for some offcuts. A free cutting service is provided at Champions, which I find ideal for making the pieces more manageable so I can fit them in the car.

The warehouse there is covered but of course the moisture content of the timber



can't be guaranteed. So once I got it home it spent a month in my workshop and then a month behind the sofa, getting acclimatised to its new home.

1 The cabinet

To minimise any risk of ill-fitting doors, I set to work on the cabinet first. The basic cabinet construction requires four shelves (A). These can be constructed from planks the same as the edges but I used some 'pine board' left over from a previous project. Pine board is made from strips of pine glued together to form a wider plank. Because of the reversing grain, they don't suffer any warping or twist.

I had decided flat sides on the cabinet would look too dull, so I decided to put a profile on the edge. A thicker piece of wood would form a 'pillar' in each corner, only visible from the side. So the next stage was creating a tenon on each shelf to fit in each of the thicker pillars.

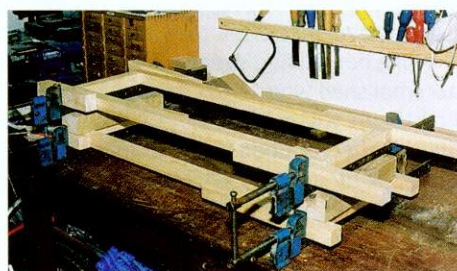
2 The shelves

The shelves were marked up and I hand cut the tenons using a tenon saw. I left some excess on the tenons so I could trim it off later. Because it's much simpler to finish items while still in the flat, I then sanded and oiled the shelves with Danish oil. Being a very soft wood, the

◀ Pic.1 Scrap pieces prevent damage from the cramps

▶ Pic. 2 Adam had to rout the rebates in the doors after assembly, and then tidy up the corners

▼ Pic.3 Cramping up the door frames, with horns still on





◀ Pic.4 Double-check the angles as you clamp because it's easy to push a large carcass out of shape

▼ Pic.5 An offcut of tongue and groove made the perfect back to the cabinet



▲ Pic.6 The wedged joints are made with walnut to add a nice little detail to each one



▲ Pic.7 Cramping on the base and lid. By this stage the carcass should be pretty secure, but still check the diagonals

surface of pine is easy to damage, and I always like to add a finish to the surface as soon as possible to give the grain the strength. I have no idea if this works, but if not, I won't be changing because it's so convenient to sand them when they're all flat. Before oiling, it's important to mask off the tenons because the glue needs an unoiled surface to form a strong bond. Low-tack masking tape is best for this, and is available from any DIY store.

The final stage of the shelves was to make a saw cut through each tenon to allow wedges to be inserted (Pic.6). I simply marked a line and cut to just short of the shoulders with a tenon saw.

3 The sides and mortices

The next stage was to make the sides. These were formed from a central plank (B), butt-jointed to the two outer pillars (C). I used a biscuit joiner to cut some slots, so I could use biscuits to help align all the pieces for gluing.

After determining the position of the mortices, I marked them carefully using a square and a marking knife. I marked both sides, and then cut the mortice using a chisel.

The process could be slightly faster if you have access to a router, or morticer, but it's easy work to cut through pine and this cabinet

involves a limited number of joints so it probably takes less time to chisel them by hand than it does to set up a machine. I don't own any mortice chisels so I used a bevel-edge.

4 Adding extra strength

The strength of the unit relies on the joints between the shelves and the sides. I was concerned that the wedged tenons may not be enough, so I planned to cut a wide tenon between the two 'prongs' that form the main through tenons into the pillars. This sounds a little complicated but in reality it didn't require any extra work. I had already decided that the wide area of the tenon would be formed from the full thickness of the plank.

I wanted to progress quickly with the project so I decided to cut the wide mortices using a router. This needed to be accurate because the rebate would hold the shelf square.

It's not possible to use the fence because this works parallel rather than perpendicular to the reference edge. You could form a temporary fence using a straightedge and a couple of clamps, but because I have a WoodRat I opted to cut them using that. This is very quick and easy. I used a straight router bit and a simply clamped the sides in position before taking a series of cuts to form the channel.

Raise your glasses...

I purchased the glass for the cabinet's doors from a local glazier. Small panes of glass, especially those above a certain height, don't need to be safety glass. But, being a little hazy on the exact regulations, and preferring to err on the side of caution, I opted for safety glass in my unit.

I called in on the company on my way to work, and requested the panels be ready for collection on my way home. When I returned, they hadn't yet started on them, but did the work while I was there, so I had the opportunity to see how they did it.

Safety glass is made from two sheets that are sandwiched around a thin sheet of plastic. This makes it slightly more difficult to cut than the traditional method of scoring and snapping a pane of glass. The technique I saw involved scoring the glass along the cut line, then carefully turning it upside down and scoring a matching line on the opposite side. The glass is then lifted and a quick jerk provides sufficient force to cause a break along the cut line. Being safety glass, however, the inner plastic remains intact, so a scalpel blade is used to cut along the break and separate the pieces.

The final stage is to etch the glass with a kitemark. I wasn't too keen on this because I thought it would spoil the look on the cabinet but I put each of the corners that has the etch to the bottom of the cabinet. There it is less noticeable because there is less light and the darker part of the bottles completely disguises it.



Not So Clever...



The wedged tenons are visible, so it's worth accurately marking the cuts. I didn't pay sufficient attention and a few of my cuts were at a slight angle. Still, the mistakes I can see clearly have yet to be noticed by anyone else!

5 The wedges

I chose walnut for the wedges to contrast with the light-coloured pine (Pic.6, previous page). Well, if you're going to bother making wedged joints you might as well show them off!

I cut the walnut into strips that correspond to the width of the tenon. They were still quite thick: several millimeters. I was reluctant to pare them all down with a chisel so I set up my belt sander upside down on the bench and held the walnut strips against it at an acute angle, removing material to form a thin wedge. It's a bit of a waste of walnut, but very fast!

6 Gluing up the carcase

The glue-up of the main carcase is easy enough. I used scraps to ensure that the main

surfaces weren't damaged by the clamps (Pic.1, previous page). As you add each pair of clamps, check for squareness: it's very easy to pull a large item out of square. I found considerable pressure was needed because the grain on the tenons swelled from the moisture content of the PVA glue I was using.

As soon as I was happy with the carcase, I hammered the wedges in. I find a claw hammer much better than a mallet, and although significant damage can occur to the tops of the wedge, this will be cut off later.

7 Adding a back

The unit will be hung on a wall, so some form of back (D) is essential. This could easily be formed from sheet ply but I had a length of pine tongue and groove that proved ideal.

I used brass screws to attach the back to each shelf and left some slack between each board to allow for any movement of the wood caused by changes in moisture or atmosphere.

8 The base and lid

The next stage was to create a base (E) and lid (F). I cut an angle on each edge to add some interest. By protruding around the whole unit, the bottom board provides a solid base for the cabinet to stand on, should I ever decide to build a base unit.

This is attached to the sides using dowels. I bought some dowel points from Axminster (0800 371822, www.axminster.co.uk; a four-pack of 8mm points costs £1.59). After drilling holes in the top of the pillars I inserted the dowel points and, after aligning the top, used

some pressure to transfer the dowel positions to the top. After drilling the reciprocal holes in each piece, I glued both sides of the dowel and clamped along the vertical axis using scraps to protect the wood.

9 The doors

At this stage, the unit is finally starting to take shape. The next stage is to make the doors. Because they will be carrying glass, ensure the wood you use is completely free of knots.

The doors are produced with mortices and tenons. I'd forgotten to cut the rebate for the



FOR BEGINNERS

Through tenons provide greater strength, and an opportunity to insert contrasting wedges, but you must be careful that you don't damage the outside face when it comes to the morticing stage. Pine tears quite easily, but is soft to use and cheap-ish.

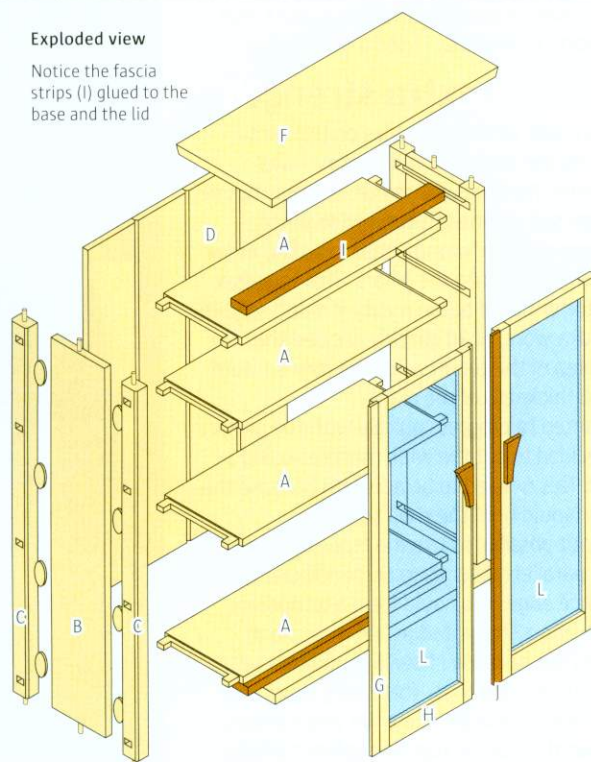
Plans

Elevations and details

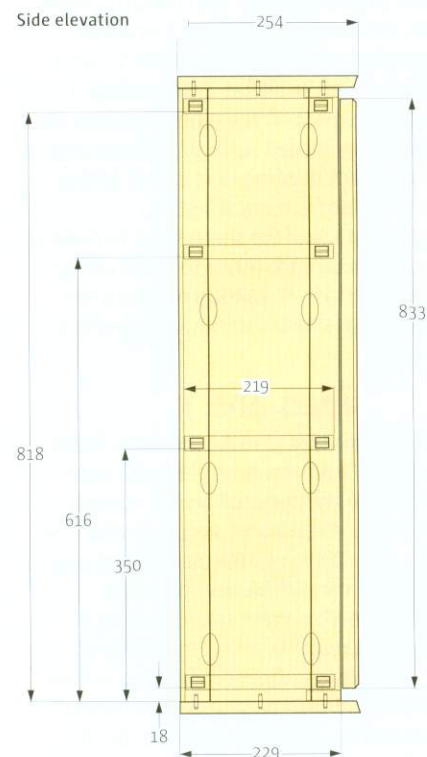


Exploded view

Notice the fascia strips (I) glued to the base and the lid



Side elevation



Whisky Cabinet in Pine

Skill Build



▲ Pic.8 A strip of walnut masks the gap between the two doors



▲ Pic.9 Adam made handles to his own design

glass, but it was reasonably easy to do it now by setting up a fence on the router and making a cut along each side. The router leaves a rounded corner so I had to chisel out the remainder to ensure the glass pane will fit in.

The glass is held in position with some quarter-round mouldings. I purchased these from a DIY store, because it's cheap and easy to obtain such items in pine. I screwed them into position with some small brass screws, in case



▲ Pic.10 The T&G back looks better than ply

the glass should ever need to be replaced.

To add some visual interest to the doors, I decided to mount a vertical strip of walnut onto them. Not only does it make a change to the overall visual appearance, it masks the gap between the two doors (Pic.8).

I used a router to remove a strip from each door, and then glued a strip of walnut into one side. Being right-handed, I decided to mount the strip on the right hand door because this

would be the one I opened first. The next step was the handles. Initially I bought some round knobs, again from my local DIY store, but once I got them home I decided they just didn't look right. I would have to make my own.

I spent some time sketching a few shapes on paper before coming up with the final 'wings' shape. They are made from a single piece of walnut, which is then sliced in half. I used some round chisels to pare away a recess to allow space for the fingers (Pic.9).

I drilled some holes through the doors to mount the handles with the handles clamped in place. This provided a reference hole into the handles which I then unclamped and drilled out the remainder of a pilot hole. I used a couple of temporary screws in the handles to hold them while I sanded and oiled them.

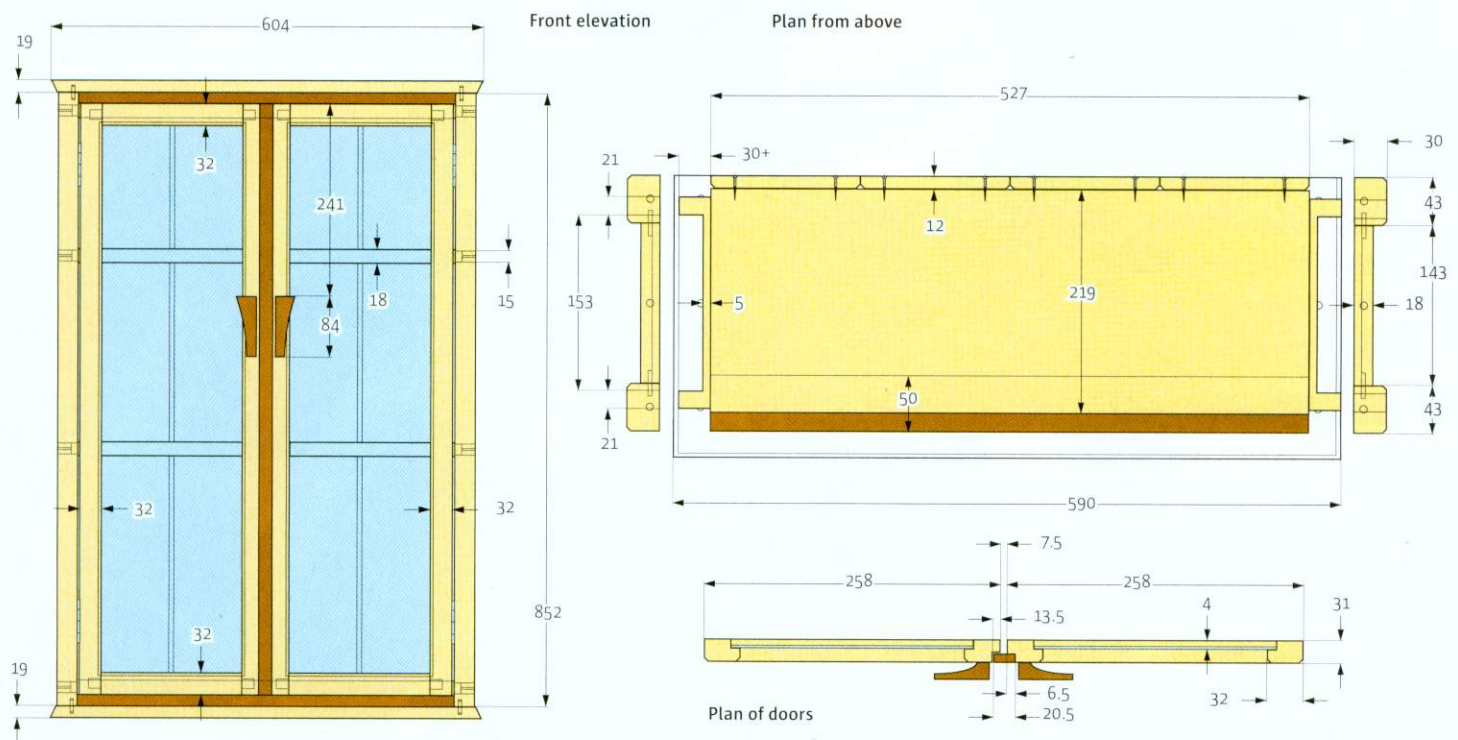
Putting the doors on the unit was then a simple case of adding some hinges and mounting them in position.

10 Hanging the cabinet

Having a substantial back simplifies mounting the unit. I just drilled four holes, just above each shelf where they wouldn't be seen, countersunk and then screwed it to the wall. Last but not least, I filled the unit with whisky and glasses and settled down for a tipple. 🍷

Any Questions?

If you have questions about this project or want us to send you a cutting list, write to us at 30 Monmouth Street, Bath, BA1 2BW or email goodwood@futurenet.co.uk



CLASSICS

MONTHLY

**Buy it, restore it,
drive it, love it...**

**Britain's most exciting
classic car magazine**

**This month
includes:**

8 page Jaguar XK special
Datsun Fairlady v MGB
Buying a Talbot Sunbeam Lotus
BMW 850 - Live the dream
BMW Isetta restoration
Volvo 142 Enduro rally car
Braking tech

And much more...

ON SALE
Wed 12th
April
Don't miss it!



Around the House

with Phil Davy

Late Spring
Five pages of stuff to do on the house



Easter is upon us, the time of year when we get stuck

into the decorating and start to clear up the garden. In my cottage you can certainly tell that **spring is here**, as my projects start to migrate from inside the house to the outside. There's nothing better than setting up the workbench in the garden for a spot of woodwork **while the sun shines!** Talking of which, on p67 I'm trying out a new bench from Black & Decker that's also handy for carting timber to and from the workshop...

Phil Davy

Phil Davy, Contributing Editor
goodwood@futurenet.co.uk

A new skylight

Q&A

Your Question...
Our Answer

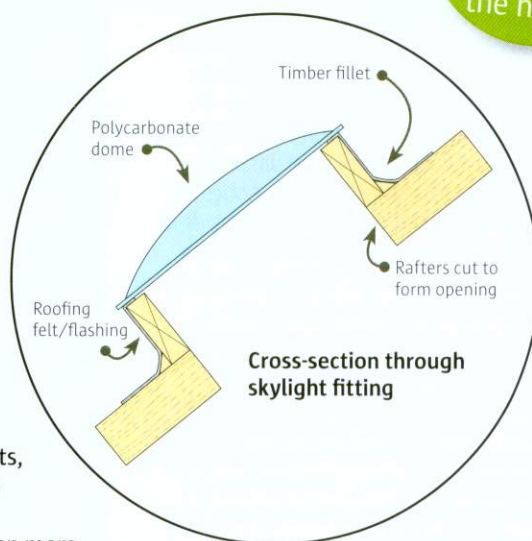
I use my garage as a workshop. There are no windows, and the only natural light comes from one small skylight. I intend to fit more skylights, but I can only find the opening type from builders' merchants or on the internet. A fixed skylight would mean more glass and thus more light for a given size of aperture. Can you direct me to a supplier or, better still, show me how to make and install fixed skylights?

Keith Twine, Somerset

First, is your roof flat or pitched? A tiled, pitched roof is arguably easier to work with than a flat one, because there is no felt covering or plywood to cut through. With a tiled roof you simply remove the necessary tiles, although these may need to be cut later with an angle grinder.

Having said that, whatever the type of roof, the actual construction of a fixed skylight will be much the same (see diagram, above). Rafters are usually spaced at 400mm, 450mm or 600mm intervals. So you may have to cut at least one rafter and insert a couple of 'trimmers'. These are short pieces of sawn timber running perpendicular to the rafters. They support the ends of the sawn rafters and create the opening. Make them the same size as the rafters, typically 100x50mm. Butt joints are sufficient here, and trimmers should be nailed in place.

To comply with Building Regulations, the glazed light must sit above the surface of the roof by at least 150mm, so you'll need to build a simple curb or upstand from 50mm-thick sawn softwood. Again, nailed butt joints are okay for this structure. All you're doing is making a frame to sit over the opening, which



is then nailed to the rafters. Once you've fixed the curb in place, it's important to weatherproof it before attaching the skylight. Apply roofing felt up the sides and over the top edge, preferably using hot bitumen. It's probably safer to get a roofing contractor to do this. Lead flashing (or a cheaper equivalent) is best for a tiled roof.

National Domelight Company (01276 450609, www.nationaldomelightcompany.co.uk) sell fixed polycarbonate skylights in a variety of sizes, which are much stronger than normal glass. To give you some idea, a single skin, 3mm thick Astofade skylight with an overall size of 500x500mm (for a roof opening of 300x300mm) costs about £140.

There's a choice of dome (clear) or pyramid (opal) designs, and security fixings and a foam strip are included. For better insulation, a double-skin dome to fit a roof opening of 600x600mm costs about £260.

Don't even think about using toughened glass. It is far more expensive than polycarbonate. Plus, polycarbonate is about half the weight of normal glass and up to 200 times stronger.

If you want to try making your own skylight entirely, you can buy clear acrylic or polycarbonate in thicknesses of 2-6mm from Screwfix Direct (0500 414141, www.screwfix.com). Two 1220x610mm sheets of 4mm-thick polycarbonate cost £54.99.

Jobs in Late Spring

Takes: 2 hours

How to... Fit a letter plate

Using a router

 Fitting a letter plate to a door is not exactly difficult, but it's one of those jobs that's easy to mess up if you don't take a bit of care. The thing is, whether the plate is metal or plastic, it will have a flange around it that conceals the edges of the aperture when fitted, so it's easy to get everything looking neat from the front. But round the back it's a different story. How many times have you noticed a badly cut letter box opening on the inside of somebody's door? It may not have been a DIYer responsible, either. Many professional chippies cut the aperture quickly with a cordless drill and jigsaw, but with a lack of finesse that leads to poor workmanship.

You can conceal the evidence by fitting a draught excluder brush or a flap to the inside of the door, but it's better to make it look tidy from the start. And, although using a jigsaw may be the fastest method (see p64), you can't beat a router for neatness.

Whichever tool you use, it's easiest to remove the door from the frame first. Working with the door lying horizontal is much safer, too. Vertical routing with a heavy router and a big cutter is certainly not recommended. I took the opportunity to sand the door while it was out of the frame. The oak was looking rather tired and needed refinishing. Again, using a belt sander is far less tiring when working horizontally, because you don't have the weight of the tool to support.

Tools you'll need
Router, straight cutter, guide bush, template, tape measure, square, drill and bits

DIY jig

Although I used Trend's Letterbox Jig (see opposite), it's not too difficult to make your own routing jig from MDF or ply. You'll still need to get the edges of the cut-out in the jig straight and square in the first place, but they're easier to clean up with a rasp or file than a door four times the thickness. The neatest solution when making your own jig would be to rout out the opening, running the base of the tool against a guide batten or using the router fence.

Whether making a jig or using Trend's one, you'll need to fit a guide bush to the base of the router. This runs around the edge of the jig and guides the router as it cuts. A 30mm guide bush is provided with the Trend

STEP-BY-STEP

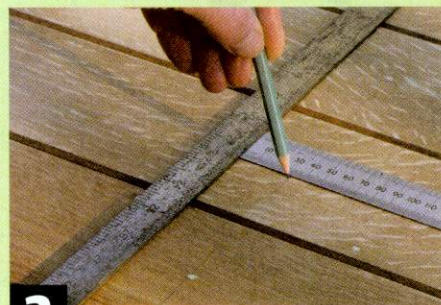
Fitting a letter plate to an external, wooden door



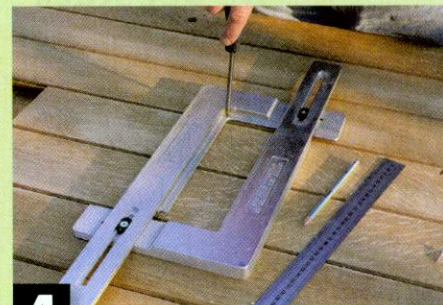
1 It would be neater for the letter plate to be positioned in the bottom rail of the door, but I had to consider the state of the poor postman's back, bending down each morning



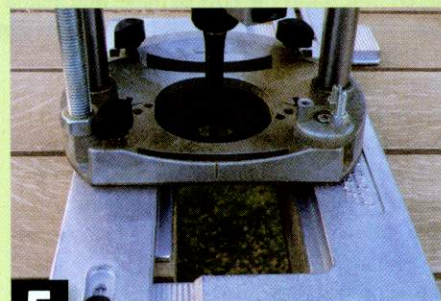
2 The mid rail is the only alternative spot to mount the letter plate, because the tongue and groove boards on the outside are only 15mm thick. The total door thickness is 42mm



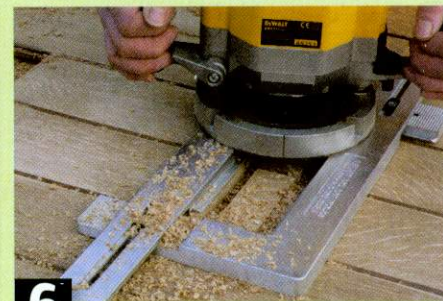
3 Careful marking out on the door is essential for a neat job. Measure the overall size of the letter plate, mark the centre of the door and then work outwards from there



4 Once you've adjusted the Trend template to fit the letter plate, position the jig carefully on the door. Drill pilot holes, then screw the template in place with the screws



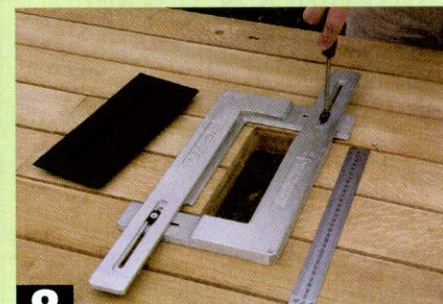
5 You'll need a heavy duty, 1/2in router with a 50mm, straight cutter for this template. A guide bush is supplied with the jig, but it may not fit your machine



6 Rout out the opening, making a series of plunge cuts about 8mm deep each time and moving the router around the inside of the template in a clockwise direction



7 The completed aperture will have smooth edges and radiused corners, and should not need further cleaning up. It would be hard to get so neat a finish using a jigsaw



8 To accept the spring and rod on the back of the letter plate, you must rout a rebate above the aperture. To do this, open out the template to suit, and refix on the door

template, and suits a 12.7mm-diameter cutter. It doesn't matter what the actual diameter of the cutter is, as long as there's clearance inside the guide bush and you compensate for this when marking out. Make sure you buy the letter plate first and then design your jig to suit, allowing for the guide bush diameter. Always do a practice run on scrap material first, then check the routed opening fits the letter plate.

Because most external doors are at least 40mm thick, you must use a 50mm-long cutter in your router. One way around this would be to use a shorter bit, plunge-cutting from each face of the door. But the chances of both cuts aligning precisely in the middle are slim. You'll need a big router with a $\frac{1}{2}$ in collet, because you can't buy $\frac{1}{4}$ in cutters that long; they'd snap. A two-flute, 50mm cutter from Trend's CraftPro range costs £21.15 (0800 487363, www.trendmachinery.co.uk).

You'll be limited as to where you can position a letter plate, depending on the door's construction. It will either need to be sited in the middle or bottom rail if you want a horizontal opening, or in the stile below the door handle if it's to be vertically mounted. On an elegant door a letter plate can be obtrusive visually, but there's not much you can do about that, unfortunately. If you're not sure, get someone to hold the letter plate against the door while you decide.

STEP-BY-STEP

Fitting a letter plate (continued)



9 I adjusted the template to create a 5x10mm rebate when routed. It's a good idea to rout a trial cut-out in an offcut before cutting the one the door itself



10 Mark positions for the two fixing bolts on the door. Counterbore the holes to accept the collars on the letter plate, then drill clearance 7mm holes for the bolts



11 Insert the bolts into the back of the letter plate and position it over the door aperture. Check the flap opens without binding, then fit nuts onto the bolts and tighten



12 Once the letter plate fits properly, remove it from the door before applying a finish. If using an oil outdoors, you'll need a new coat every six months

Useful Kit

Product Trend LB/JIG Letterbox Jig

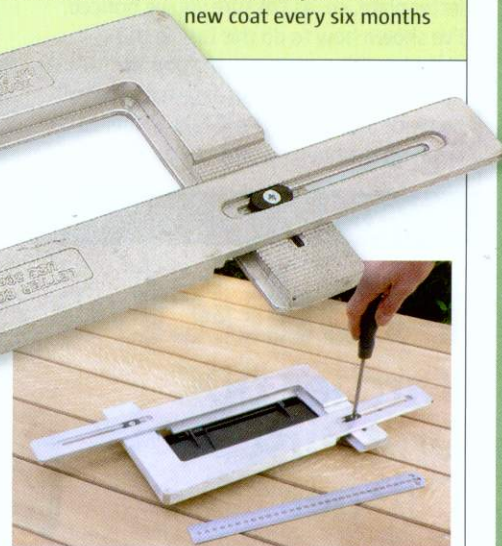
 The Trend Letterbox Jig is a sturdy piece of kit. Made from cast aluminium, it consists of two 16mm-thick, L-shaped sections, which are screwed together to form an opening. The shorter leg of each section is ribbed on its face, the longer leg is ribbed on the back. This enables them to locate positively against each other, so that opposite edges remain parallel. Elongated slots house Pozi adjustment screws, with nylon retaining nuts that seat neatly in the recesses.

Setting up the jig is a piece of cake. With the letter plate upside down, slacken off the two locking screws and adjust the jig to sit just outside the area of the opening flap, but within the bolt fixings. Then tighten the screws and you're ready to position the jig on the outside face of the door. There's a screw

hole in the inside corner of each leg, which is all you need to fix the jig for routing.

Trend include a 30mm guide bush and state that you need to use a 12mm, straight bit (50mm cutting length) in the router. This creates a maximum aperture of about 312x85mm and it's unlikely you'll come across a letter plate any larger than this. The smallest opening you can rout is approximately 210x46mm. If you use your own guide bush, the spigot must be no deeper than 10mm or it will foul on the inner flange of the jig.

Routing only takes a few minutes, making plunge cuts in steps of about 8mm at a time. The result is a very clean aperture precisely cut to fit your letter plate. You may need to rout a



rebate along the top edge of the opening to accommodate the hinge mechanism. To do this you adjust the upper leg of the jig, reposition and rout again.

I found my router wouldn't move smoothly across the jig at first, because some flashing protruded from the edges of the screw slots. This was easy to rectify with a file, though.

★★★★★

Typical price £78.73

Trend 0800 487363

www.trendmachinery.co.uk

Jobs in Late Spring

Takes: 2 hours

How to... Fit a letter plate

Using a jigsaw

 You may not have time to make a router jig or want to spend cash on a tool that may only get used once. If so, it makes sense to cut the aperture in the door with a jigsaw.

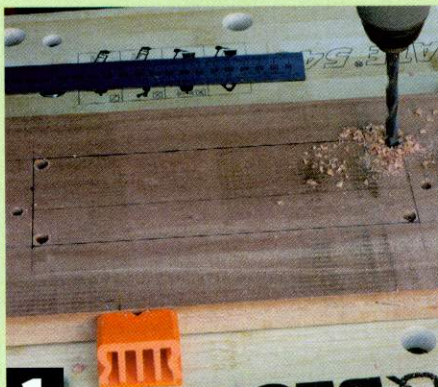
Make sure you fit a new blade, because there's less chance of it cutting out of square if the teeth are really sharp. To get as true a cut as possible, pin a batten or piece of MDF to the door to act as guide for the jigsaw base to run against. Check the guide is straight with a steel rule or similar.

Decide where the letter plate should be mounted, then mark out its position on the door. It's probably easier to drill the two holes for the fixing bolts first, then you can draw the opening needed to clear the flap. Cramp a piece of MDF or ply behind the door when drilling out the clearance holes for the blade in the corners of the aperture. If you're not careful, it's easy for the wood to split out underneath as the drill bit breaks through.

I didn't have a second door that needed a letter plate, so, as I'm sure you've noticed, I've shown how to do this task in the pictures with a spare piece of 20mm hardwood. Obviously, an external door will be twice as thick, so it will take longer to clean up the opening afterwards.

STEP-BY-STEP

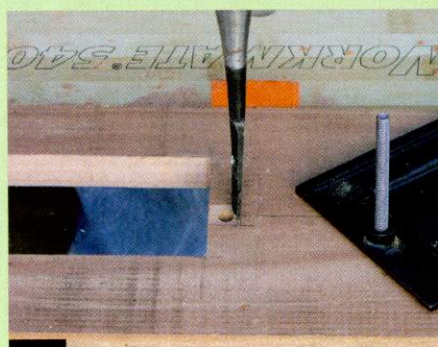
Fitting a letter plate using a jigsaw



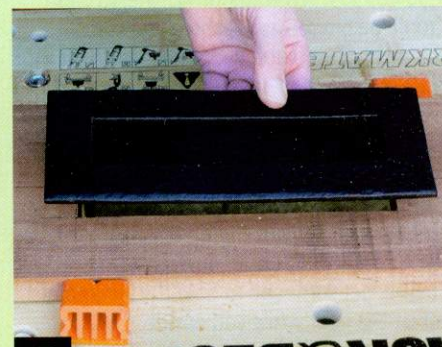
1 Mark the letter plate bolt holes on the door. Drill these with a bit slightly bigger than the bolt diameter. Then mark out the opening and drill a hole in each corner



2 The corner holes should be about 8mm diameter to enable the blade to pass through easily. Cut away from each hole, then reverse the saw and cut in towards each corner



3 You can either bore clearance holes for the bolt housings on the back of the plate, or chisel out recesses. You may also need to cut a recess for the hinge pin



4 Check the plate fits the opening and the flap opens properly. Clean up the inside of the aperture if necessary with a sanding block or rasp, then tighten the nuts

Useful Kit

Product Kärcher DDC Drill Dust Catcher

 Dust collection as you drill into masonry is not a new concept. Bosch have a system built into some of their green tools, and then of course there's products such as the DustBubble, given away free with issue 165 of *Good Wood* or available from the makers (01442 384925, www.dustbubble.com).

This new products is from German company Kärcher, who are most famous for pressure washers and vacuum extractors, so they know a thing or two about waste



collection. The DDC 50 Dust Catcher can be used with drillbits up to 10mm in diameter.

Once you've marked the wall, you insert the bit through a hole in the DDC 50 and place the drill tip on the pencil mark. Press the unit firmly against the wall, flip the rocker switch and start drilling. The foam seal means that when

you switch the motor off, the Dust Catcher sticks to the wall like a limpet. It can't be removed until you press the ventilation key to allow air to enter. If you don't do this, the unit will fall off the wall after about 90 seconds. If the surface is very rough, you can hold the DDC 50 in place. To empty the dust you remove the upper cover and shake it out.

Powered by two AA batteries, which are supplied with the gadget, it buzzes like an angry bee when the motor is running, but this is a small price to pay for such efficiency.

★★★★★

Typical price £19.99.

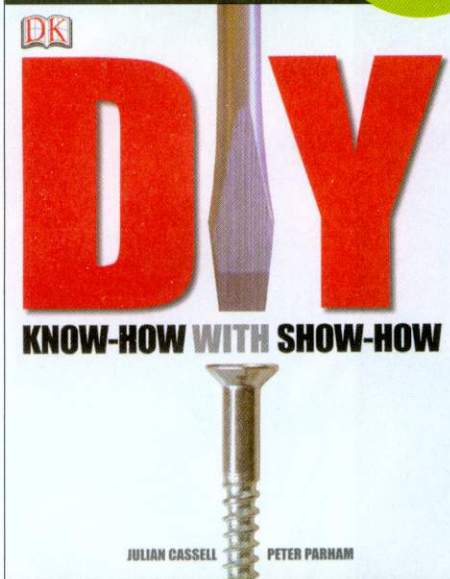
Kärcher 01295 752200

www.karcher.co.uk

**Turn
to page 75**
For more tests
and information
about new
products

Turn
to page 57
For more
book reviews

Book Review



DIY Know-How with Show-How

Julian Cassell and Peter Parham
Published By Dorling Kindersley
Pages: 512 Size: 8³/₄X11in Price: £25
ISBN: 1405306092

Dorling Kindersley are famous for their travel guides, which are packed with gorgeous photos and drawings. And there's plenty of excellent photography in this new book, too, although the diagrams are a bit clinical.

There are chapters covering Tools, Equipment and Materials, Alterations and Repairs, Kitchens and Bathrooms, Decorating, Improving Home Performance, Plumbing, Electrics, Heating and Outdoor work. In the woodwork department, there's all sorts, from

laying timber floors, fitting worktops and panelling, replacing windows, to applying finishes. All is explained in depth. For example, there are 18 pages devoted to doors, from the various types to hanging and repairing them.

The chapter on power tools is impressive, although it's amusing to see a cement mixer included in this category! And it's good to see that the hand tool section covers laser levels and digital measuring devices, as well as more familiar kit. There seems to be a love of plastic here, probably because of the brightly-coloured handles, so don't expect too many traditional tools. In true Tonka Toy style, kids will even find certain pages catch their eyes, with some great photos of ride-on rollers and earth movers in the Equipment Hire pages...

This is a comprehensive DIY guide and one of the best I've seen.

Useful Kit

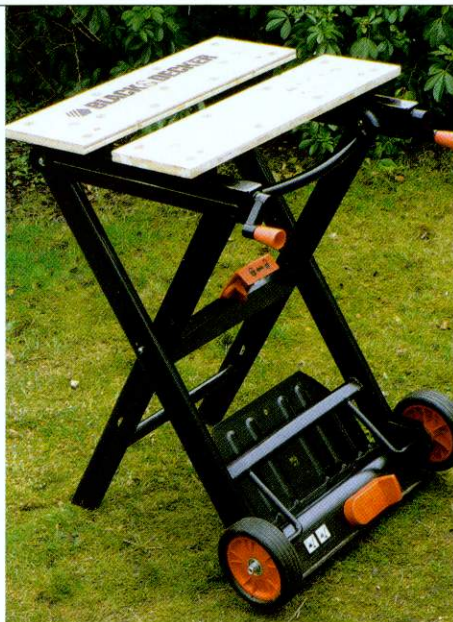
Product

Black & Decker WM540 Handtruck Workmate

Regular *Good Wood* readers will know I'm a big fan of Black & Decker's famous Workmate workbench. Now they've launched this clever variation that can also be used as a sack truck. Fitted with two 150mm-diameter, rubber-tyred wheels, you can load it with anything from timber to tools, with a maximum weight of 90kg.

Unlike a sack truck that has two handles, the Workmate has a curved, tubular steel bar to grip. It's not quite so manoeuvrable, but it works. It's not so easy to carry as a traditional Workmate, and getting it upstairs is slightly awkward. Also, because the overall height in truck mode is 1308mm, it's not quite so easy to put in the car as a conventional Workmate.

To open out the hinged steel flap at the bottom, you slide an orange plastic lever sideways and it then flips down. The flap locks automatically in position when you raise it again. To convert to a bench, you slide the upper lever sideways. Both levers are hefty and should withstand plenty of abuse.



◀ You use a simple system of two sliding levers to change the Workmate from bench (above left) to truck (above right)

their inner edges and a series of 20mm holes bored in them to accept the four interchangeable plastic stops supplied. With a total of 19 holes, clamping possibilities are endless by winding the two cranked handles at the front. Between the timber jaws, maximum cramping capacity is 125mm.

I suspect this Workmate will probably appeal more if you're a keen gardener. You can't doubt its versatility, but I prefer the dual working height offered by more traditional models.

★★★★★

Typical price £69.99.

Black & Decker 01753 511234

www.blackanddecker.co.uk

You need to assemble it, but this will only take half an hour or so. A plastic wrench and steel spanner are provided for tightening the bolts.

Construction is welded steel, which makes the WM540 a sturdy chap. Its jaws are 16mm thick and appear to be strips of rubberwood laminated together. They're flat and strong.

Working height is 756mm and the bench should take loads of up to 160kg. Like all Workmates, the jaws have V grooves along



▲ Student Rob Johnsey working on a scarf joint to repair a garboard plank on a 1960ft motor fishing boat built from larch planking on steam-bent oak frames

The ocean ways

Nick Gibbs visits Falmouth Marine School to see how they're keeping timber boatbuilding tradition alive

Most of us woodies battle to keep our stock dry, to ensure the timber won't move once it's moved into the home as furniture. We aim for pieces to leave the workshop at roughly 10% moisture content so they can cope with life alongside central heating, and we recognise the benefits of kiln-dried wood.

Not so at Falmouth Marine School. There, boats are built or renovated by

students wanting a career working with wood and vessels, so the conditions must be regulated with a different precision if their work is to survive at sea.

Timber has a special place in the heart of the boatbuilder and Falmouth college is renowned for its maritime education programme. Last year, the traditional boatbuilding and traditional renovation courses were combined. Dave Martin, Curriculum Area Manager for

Boatbuilding, explains: "Students on the restoration course thought they were missing out on the traditional boatbuilding, and the boatbuilders felt the renovation guys were doing things they could do.

"Now they are going for the same qualification, a City & Guilds Level 3 certificate at the end of their third year. They all do a bit of each module, and work as one group, changing

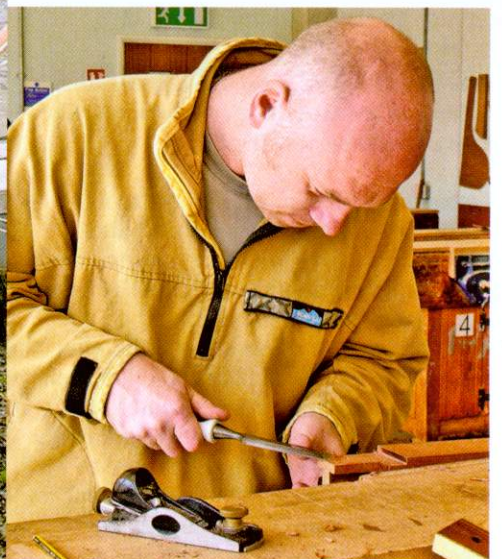
▼ Peter Barker, the college's Shipwright-in-charge, with a boat built by students based on a 1902 design of a pilchard fishing vessel



▲ Peter Barker using an adze he bought as a trainee in 1958 for 50 shillings



▲ A scarf joint on clinker planking, glued and copper rivetted as part of the restoration course



▲ Student David Hart working on a mortice joint ►



Traditional Boatbuilding



▲ Students Dan Scully (left) and Giuliano Aloisio sand a boat before varnishing it



▲ A simple marking tool used in shaping oar blades, which are made from pine



▲ Student Ira Jones sands back varnish on an old boat to clear lands ready for a new plank

between the disciplines. They learn aspects of building from scratch and renovation as well, all under one roof."

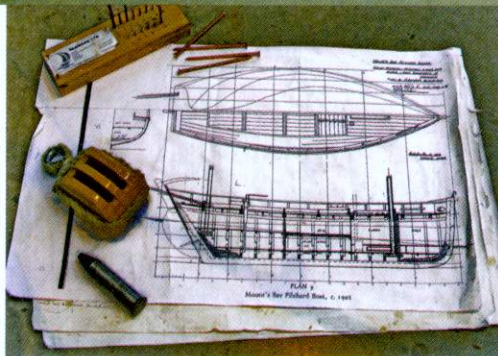
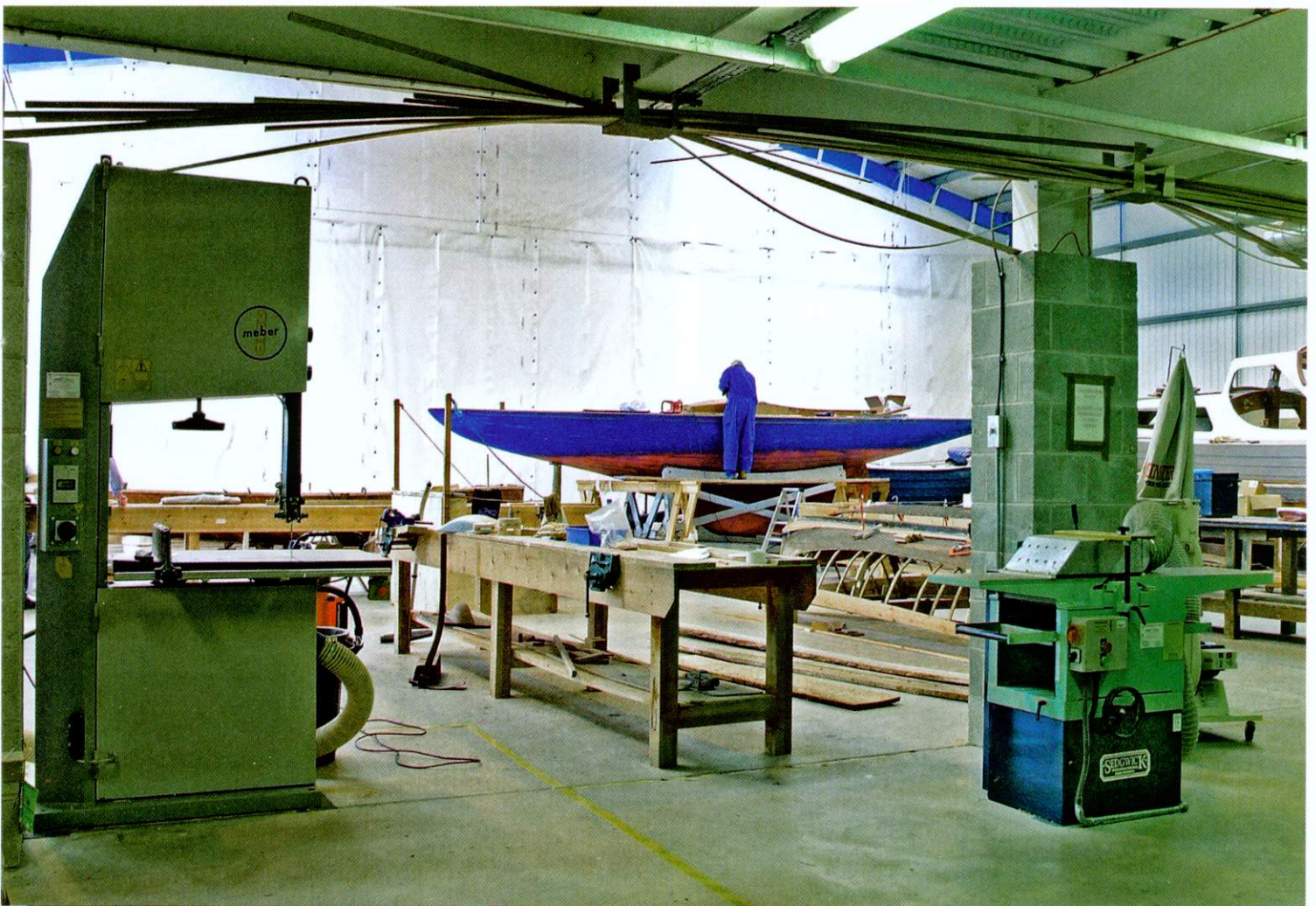
Students certainly appreciate the more integrated approach and the opportunities to widen their skills. One man, Giuliano Aloisio, has travelled from his home country of Switzerland to do the course in Falmouth. He also wanted to be near the sea while he learned to be a boatbuilder, "to combine wood with the ocean," as he says. Back home he was a mechanical engineer, working in plastics, metal and electronics, but now

he wants to make small clinker-built boats and, later, perhaps a larger yacht.

Most of the restoration work at Falmouth is done by hand, working on old, dilapidated dinghies that have been donated. "To build a lugger we can use a thicknesser and bandsaw," says Giuliano. "But for restoring a clinker dinghy we have to use a home-made clamp to hold the planks together until they're fixed in place." He uses a special marking device for setting out the taper on the mast, and will make one himself later in the course as part of his assessment.

Boats at the college are usually made using clinking construction techniques with overlapping boards or carvel, in which case the boards butt up to one another, with caulking cotton to fill the gaps. "You work in a different way," says student Ben Scully. "There is copper rivetting on the clinker construction and you have to produce templates to shape the boards to fit.

"We use a sheet of ply cut roughly to the shape of the plank, then use a block and pencil to scribe the line onto the template and then onto the board. When



▲ This drawing of a 1902 pilchard fishing boat is used by students to build a replica (see p69)



▲ Drilling into a larch plank to put a brass screw in the rebate of a partly repaired boat's oak stem



▲ Dave Martin (right) teaches student Martin Bowker about making a yacht's grating

the plank's ready you trim it to fit with a block plane." On a new carvel boat you work from the bottom up, rather than from the top down, and only have to to splice [scribe] to the last board.

The two 22ft Cornish luggers that the students are making this year each have nine frames and 11 planks, and are slightly scaled-down versions of a traditional boat to speed up the build and cut down on materials.

"You measure at each frame and cut the planks with a circular saw," explains Ben. "I find the carvel easier, but I'll

probably end up doing restoration, although I'd like to do a new-build. I finish this summer and plan to move back to Essex to a boatyard."

Like many others on the course Ben did Levels 1 and 2 across two years as a foundation. The Level 3 course is located in its own building, away from the main campus but close to the sea. In fact, there is a Park & Float water taxi service from near the Ponsharden site to the centre of Falmouth or to the National Maritime Museum Cornwall and the Renovation course used to be housed in

the museum, where visitors could watch students at work. "There's nothing to stop visitors coming here for a look when they use the Park & Float," says Dave Martin. "The only problem is that we aren't here during the summer."

The high-ceilinged building in which the Level 3 students now work is ideal for both boatbuilding and renovation. The atmosphere can be controlled to keep it warm, but not too dry.

This helps maintain the timber at an even moisture content. "We are looking at 15-18%," says Dave. "It's all air-dried" ▶

Traditional Boatbuilding



▲ Marking positions for screwing new material into place



▲ Student Angel Gomez planes boat planks in the college's workshop



▲ Transom template for fishing boat 'Daisy Belle' in the workshop



▲ Supervisor Richard Barnett and student Richard Lawson rivet new planks

because that's the environment boats are going to be in when they leave." Timber is stored in stick outside, but under cover to maintain this moisture level.

The luggers, which are used largely for mackerel and pilchard fishing, are built of larch on oak frames, but getting hold of good timber is very difficult, says Dave. "We can't just go to a local farmer as a boatbuilder might." Mostly they buy their timber milled through-and-through from merchants, although there is a resawing facility at the main college.

Combining the two courses has been a great success, both for staff and

students. Dave says: "We feel it is now a more rounded qualification because the processes of new-build and renovation are different types of skill that involve different thinking processes."

He believes the building tends to help the renovation, in that you have to cut the shape of the timber to the style of boat you're building, rather than fitting one onto an existing boat.

The restoration jobs are a challenge, and are usually ruined dinghies given to the college as gifts. "They can be in a terrible state," says Dave. "The worst thing is dry rot, which is much worse

than wet rot because it tends to spread throughout the boat." Students doing a restoration project start by evaluating what needs to be done, and study what materials and techniques have been used. Then they have to set the boat up fair and true, and replace any damaged or missing parts without losing the shape of the vessel.

Of course, as with all woodwork, the satisfaction is in seeing the project grow into the finished article. "The course is nice," says Giuliano, "because you see the boat taking shape. In the end it isn't as complicated as you expect."

WOOD FINISHES • SPECIALIST PAINTS • FLOOR COATINGS

www.rustins.co.uk



Visit the new Rustins website and find out about the finest range of wood finishes, specialist paints and floor coatings for the professional and DIY enthusiast.

You'll also find plenty of advice and tips to help you achieve that perfect finish.

Rustins, manufacturers of the finest decorating products for over 80 years.

Available from good hardware stores.

Rustins

Rustins Ltd, Waterloo Road, London NW2 7TX Tel: 0208 450 4666 email: rustins@rustins.co.uk

Woodworking Centre

Visit our
OPEN WEEKEND

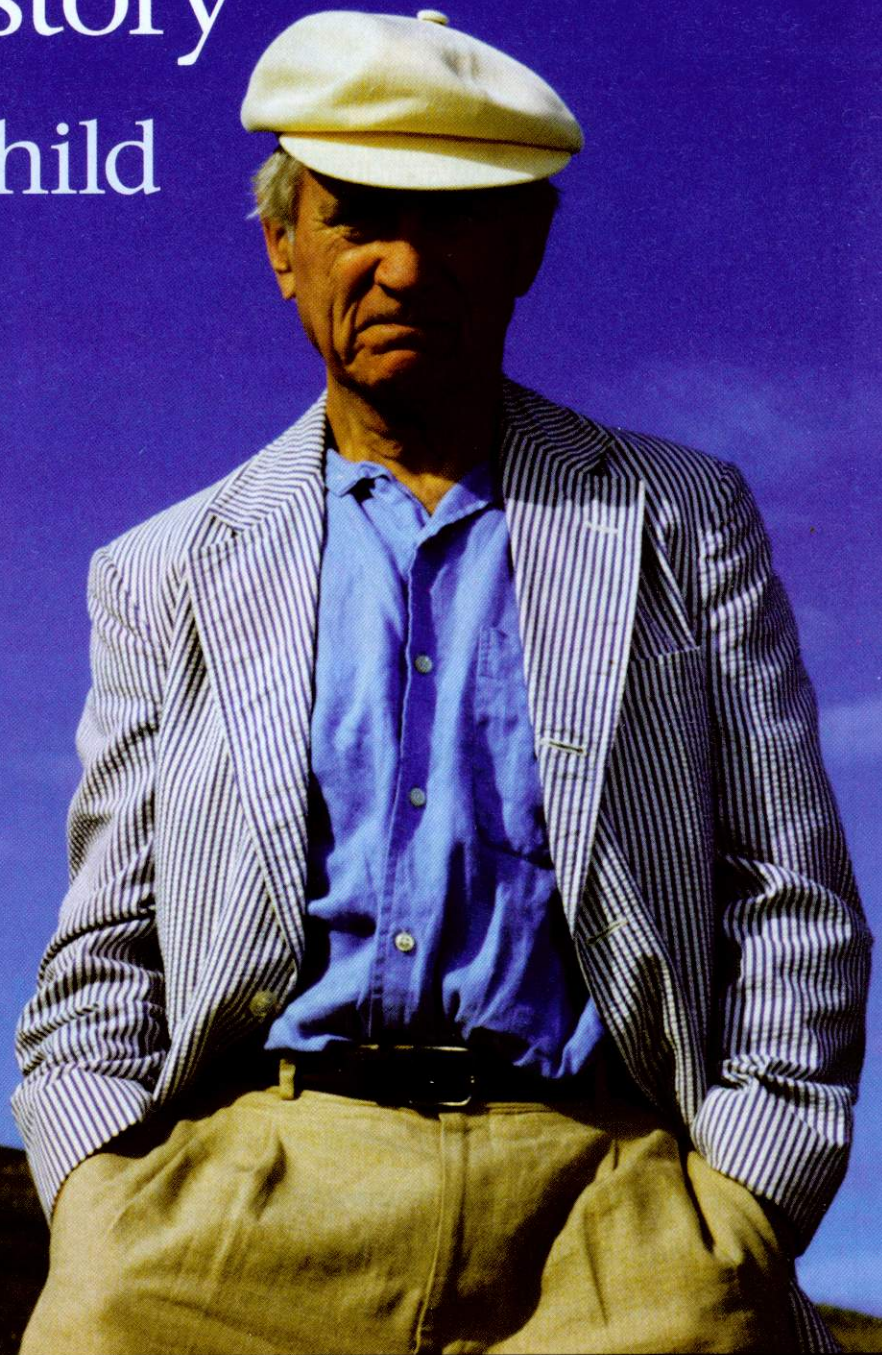
10 am – 4 pm **13TH – 14TH MAY**

- Free parking, free entry, free demonstrations
- Many reductions and special show offers
- Sell your 2nd hand tools free in our **Tool Bazaar**
- Live demonstrations by manufacturers' staff
- 1000's of products on sale
- New hardwood timber ranges on display
- Further details www.woodworkingcentre.com

Woodworking Centre Ltd Tel 01604 494549
Unit 4 Wellingborough Road Fax 01604 499140
Sywell, Northampton NN6 0BN E-mail david@sharpend-uk.com

To advertise
in **Good**
Woodworking
please call
the sales
team on
01225
442244.

"I started looking into the
family's history
when my
first grandchild
was born"



GET THE BEST MAGAZINE FOR FAMILY HISTORY

Find & use old documents • Tips for beginners
Practical projects • Researching on the web
Trace overseas roots • How your ancestors lived
Genealogy software • Real life stories

latest issue on sale **NOW!**

Find it in the family history section in WH Smiths and all good newsagents

Kit & Tools

May 06

New products, tools and tests



This month I've been learning all about how

router cutters are made. If you've ever wondered why professional bits cost so much money, read my report on p80. The **machinery, materials and expertise** involved in creating them makes them seem like a bargain. On the testing front, I've had my first experience of using **lithium-ion battery technology** in a tool other than a drill or screwdriver. Was I impressed? Find out on page 77...

Andy King

Andy King, Technical Editor
goodwood@futurenet.co.uk



Flexiguide

Templating curves can take up a lot of your time. Not only do they have to show a 'fair line' with no flats, they have to be clean and smooth because any blemishes will be replicated in the final work.

This neat gadget eliminates all those problems. You simply screw the flexible shape down to your templating material, then drag it and screw it until it makes the curve you want.

You can then rout along the curve using a flush cutting trimmer. It's great, quick solution for 'one off' shapes and if you want to make sets of templates for arched top door panels, for example, it's perfect.

Typical Price: £60 + VAT per metre
Contact: Southgate Supplies
0800 818 5532

Prices

Our pricing reflects typical prices available as we go to press. We cannot guarantee these prices and so we thoroughly recommend that you shop around.

Our awards



Awarded to a superb product that offers great value for money.



Awarded to an item that stands out as a top performer in its field.

How we rate...



Don't expect this product to perform adequately
Has significant deficiencies, needs improvement
Performs reasonably, but you will find better
A fabulous performer, but just short of perfect
As near perfection as we can hope for now!

First Impressions



Lockmate

Here's a lock jig we didn't feature in our recent test (GW170:84), but it's still worth checking out. An imposing, solid aluminium device, it will work on standard 2½in and 3in locks with adjustable faceplate settings to cope with differing dimensions. It clamps directly to the door so apart from your router, you don't need additional gear to use it.

Typical price: £225

Tel 0845 165 9244

www.woodworkersworkshop.co.uk



Pro GraBit

Have you ever used the X-Out damaged screw remover? Well, this takes the system one step further. The bits are double-ended: first you use one end to ream a worn screw head, then you switch around and run the left-hand-threaded, tapered end into the reamed head. As it tightens, the screw is extracted. The kit has two cutters, to cope with screws from No.6 to No.14 gauge.

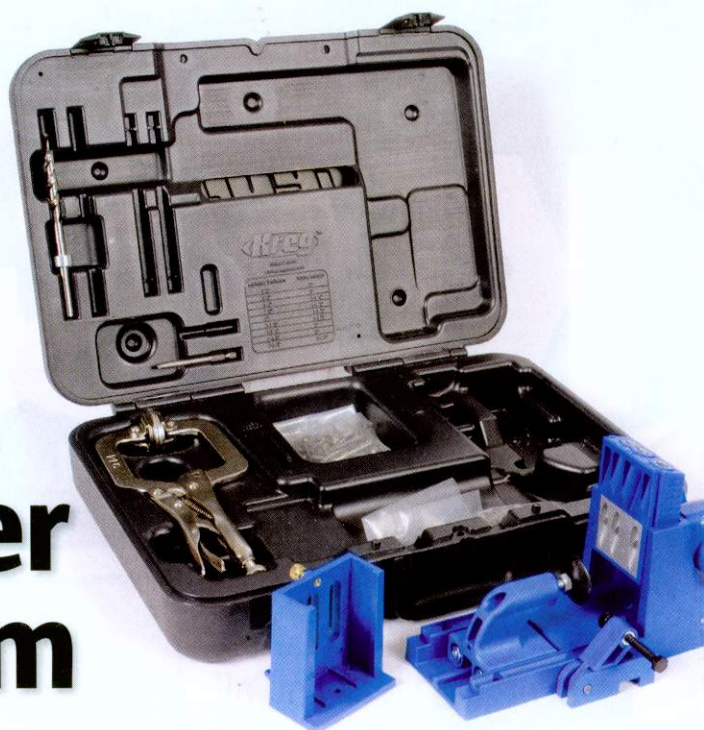
Typical price: £14.10

Trend 0800 487363

www.trendmachinery.co.uk

New Product

Kreg Jig K3 Master System



A cut above its rivals for convenience

Pocket hole joinery may not be every woodie's cup of tea, especially those who are more technically competent.

But it does have its uses, and if you are a fan, this kit is simple to use with great features.

It comes in a blow-moulded case, complete with screws, a drill and the jig components.

The main jig is designed to be screwed to a baseboard or bench, making it easier to use. But there is also an additional portable shoe, into which the drill part of the jig will fit, either for taking it to site or working on longer components. A Molegrip-type clamp is supplied to hold it in position. There is also a small, adjustable flipstop supplied for repetition work.

The jig itself is pretty much like many others you'll find on the market: hardened bushings in the plastic body set the drill at the correct angle. The neat part of this one, though, is the graduated scale on the jig.

Sliding the bushing part of the jig up or down, it has registration marks at every 1/8in from 1/2in to 1½in, indexing with a screw-in brass thumbscrew.

This makes it idiot-proof for the thickness of stock you use, ensuring that the depth you drill is spot-on. The drill collar is set using the grooves in the jig body to match the timber thickness you use.

Although a pocket hole won't generate the same amount of dust as a router or sander, the dust port is useful, more so because it helps clear the drill flutes as you drill to minimise the need to keep withdrawing the drill. The only problem with this is that the clip-on dust port does make it more awkward to set the indent screw for adjusting to the timber thickness.

All in all, this pocket hole jig does exactly what it's meant to do. But with the adjustments made easier than other models, and the added convenience of the dust extractor port, it's very user-friendly and definitely one to consider if you envisage using the method regularly.



▲ The jig can be used separately for working on longer or wider boards



▲ Dust is minimised with the extraction port, but this makes setting the indent screw awkward

Good The Woodworking Verdict

- + Comprehensive kit for all options
- Thickness-setting screw is awkward with dust kit in place

Rating ★★★★★

Typical Price: £99.81

Made in: USA

Max capacity: 1/2in-1½in thick

Tel: 0845 330 9100

Web: www.brimarc.com

New Product

Metabo KSAP 18 Circular Saw

So good, you'll never guess where it's made

If ever there was a reason why you shouldn't judge tools by their country of manufacture, here it is. The Metabo KSAP 18 is made in China, a factor that would make some woodies suspect its quality. But in fact its build is impeccable; it looks and feels like the top-notch tool that it is.

It has a well-finished, plastic clamshell construction and a fine, blemish-free satin finish on the metal and alloy components. No cheap adjusters or locking knobs here, either.

The saw is part of Metabo's new Li-Power cordless lithium-ion range (see full list on p82). However, these tools seem to be simply the firm's latest Air Cooled Family range, which originally used standard NiCd or NiMH batteries, now supplied with lithium-ion batteries instead. This means that if you already own tools in the Air Cooled Family the lithium-ion batteries are compatible and can be swapped from tool to tool.

Even better, the KSAP is supplied with an AC30 Plus charger that will charge any type of cell, whether lithium-ion, NiMH or NiCd, from 4.8v to 20.4v, so you only need one charger whichever cell you use. The charger is air-cooled to keep the battery in top condition as it charges and will get the 2.2Ah battery that comes with the saw up to full whack in 50 minutes.

A neat inclusion on the batteries is the status lights. A set of four red LEDs illuminate once the button is pressed to give you an idea of the battery power before you start work. Oddly, though, these lights are shrouded by the saw casing when it's fitted, so you have to remove it to check what they say.

The saw itself has a standard configuration, a coated, pressed steel base with a simple notch for 90° and 45° settings when following a line. It has a single locking point through the front protractor scale. This goes up to 50°, which is unusual in the UK market, but that's useful for some compound jack rafter-type cuts. However, with a maximum blade projection of 44mm at 45°, it's not going to cope with standard roofing timber stock.

A side-mounted knob controls the depth of projection, and although there is a riving knife as standard, it has a hole to access the hex screw to remove it for plunge cuts if needed.

The design of the saw is such that it sits on its battery, allowing you to make easy adjustments to the ripping widths without the juggling performance of many models. There's the usual token rip fence in the box.

Of course, lighter weight and enhanced performance is what lithium-ion is all about, so I took my KSAP off to the 30mm worktop to see how it operates.

It's good news. The saw sounds very sweet, and cuts like a dream. It also has the usual finer-kerfed blade to minimise strain for longer run times. In my test the KSAP cut 24m, averaging about 6m more than the standard NiCd and NiMH 18v models I tested a few years ago (GW125:48).

Is this enough to sell it to the end user? The pro market demands performance, and this



▲ Battery power can be checked quickly and simply by pressing this button

saw does it, so I would say it's certainly one to take very seriously. It's aimed directly at the trade, and more so the shopfitter or kitchen fitter, but with the compatible battery system, this is an excellent saw that will fit in perfectly with the owners of the newer Metabo range.

It's a shining example of how, when the big names go out to the Far East and use their own designs and workshops controlled to their own high standards, the resulting products can be well worth buying, whatever it says on the 'Made in' label. In fact, if I hadn't seen the label, I might very well not have known that this was a Far Eastern machine.

Good The Woodworking Verdict

- + Excellent build quality and good stamina
- Poor rip fence

Rating ★★★★★

Typical Price: £280

Made in: China

Speed: 2500rpm

Blade: 165mm diameter 18tooth TCT

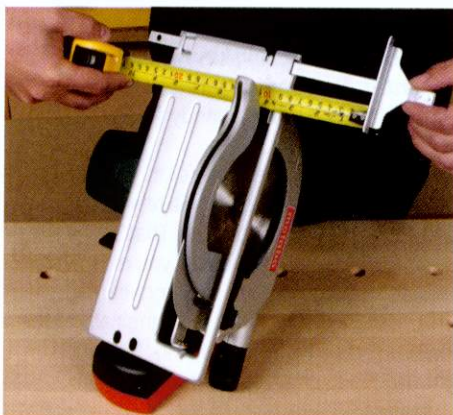
Max cut at 90°: 57mm

Max cut at 45°: 44mm

Batteries: 2x 2.2Ah lithium-ion

Tel: 023 8073 2000

Web: www.metabo.co.uk



▲ The saw sits on its battery for easy adjustment



▲ The KSAP 18 cut an impressive 24m of worktop

Kit & Tools

New Product

DeWalt D26453

Easy to use, removes stock quickly

This new 125mm random orbit sander from DeWalt brings their range bang up to date, sitting alongside standard orbitals and a 150mm random orbit model.

The D26453 is slightly bigger than a standard quarter-sheet palm sander, so it's very easy to control. Plus you have the faster stock removal and 'fuzzy' scratch pattern softening and disguising the abrasive marks.

The smaller disc size doesn't mean less capability. I found this sander cleaned up a big panel of veneered board good and fast, and on joint intersections I found it very easy to use. The 2.4mm orbit seems to be a good average for both speed and finish.

It has two gripping options, either directly on top of the housing or lower down, around the skirt above the pad. The top grip is good for

all-round use; the skirt grip gives you more manoeuvrability on curvy surfaces. Both have rubber softeners to keep vibration transfer down, but the sander runs very smoothly anyway. Noise levels aren't excessive either, peaking at 82dB without load.

The variable speed control is positioned at the rear left of the teardrop-shaped top grip, so it can be operated with the thumb while the sander's on. For polishing, this is very useful.

The dust port is oval, and comes with an adaptor for the small, round, cloth bag. This seems efficient enough, picking up most of the dust generated. The adaptor is well designed, allowing three different sizes of hose to connect if you don't use the bag supplied.



▲ The dust port will fit different hose sizes if you don't use the supplied bag

Of course, a round base means hook-and-loop abrasives, which cost a little more than a paper system. But the efficiency and longer life of the system balances this out, and swapping from grit to grit is quick as a blink.

No matter how many tools you have, you tend to reach for an old favourite more often than not, and this one looks like it'll end up being one of those. I'm a fan of palm sanders because they are so easy to control, but the random orbit tends to be my tool of choice because of its speed of stock removal. This seems a perfect compromise between the two. 

Veritas Right Angle Saw Guide

Simple and helpful

Cutting squarely is one of the skills you have

to master if you are to progress in woodworking, and this little fellow is designed to help.

It's a simple device: a section of extruded aluminium with a couple of rare earth magnets inside it that pull the supplied Japanese pattern saw tightly to the extrusion. There's a low-friction plastic coating over each magnet to keep the blade running smoothly when you make a cut.

A large brass screw on the removable clamping bracket holds the guide tightly to the work. It can take up to 25mm-thick stock, but you can use a clamp instead. I tried it on some 22mm cherry and the cuts were spot-on. The saw has a flexible blade with no back, so

the depth of cut isn't limited, but once past the magnet, the 50mm-deep blade is down to your own control, so if you struggle to hold a line normally, now is when it will start to wander.

In truth, however, although this guide will help you make precise cuts on smaller stock, it'll never replace a decent, rigid-backed saw and plenty of practice. 

The Woodworking Verdict

- + Helps if you struggle to hold a line
- Not the solution in the long term

Rating ★★★★★

Typical price: **£23.45**

Made in: Canada

Max timber capacity: 1in/25mm

Tel: Brimarc 0845 330 9100

Web: www.brimarc.com

Flexcut Starter Set

A good investment

This set comprises a selection of five carving blades, two differently sized handles, a chip carving/whittling knife and a basic sharpening kit, writes Andy Pickard. It all comes in a nice box to keep everything neat, with a handy section for storing extra blades.

When you get a beginner's kit, you don't get many gouges apart from a few basics and you soon find you need more. That's why it's great that this set is modular: you only need to buy the blades so you save money.

At first, I found the flex or springiness of the Flexcut tools a bit disconcerting. But when I got used to it, they were surprisingly fast.

They may have a flex to them but they're razor-sharp, and in this kit you get the gear to





New Product



AEG BBS 14 KX Drill Driver

A solid, powerful performer

Walking around the Totally Tools and DIY

show recently, I was surprised to see AEG exhibiting. The brand seemed to disappear off the face of the earth a few years ago.

The company was recently sold, so they're now part of the GMC Company and stablemates of Ryobi and the top-end Milwaukee brand. It's good to see them again. AEG has

always been a no-nonsense brand designed to give great value and robust build. This drill is a fine example. It's a solid design and made to last.

The battery slides on and clicks positively into place. The battery is reversible, a feature retained from AEG's days as part of Atlas Copco. That can help you get the drill into tighter spots or alter the balance for more comfort in certain drilling and driving applications.

Two gears are available, both variable-speed and controlled with the trigger. Top whack is a very decent pace of 1400rpm.

Normally, 12-14.4v is what I class as about right for a drill driver, because at that size they're not too heavy for longer periods of use. This one is an exception to that rule. It weighs just under 2.5kg but it's not too tough on the arms, especially with the reversible battery.

The all-metal Rohm chuck is single-sleeved, so you can swap bits single-handed, but the clever bit is the quick-release function: pulling the red collar forward removes the chuck. This exposes a standard 1/4in hex shank for fitting screwdriver bits or any compatible accessory.

It also keeps the length of the drill to a minimum for access into tighter areas.

The drill is 240mm with the chuck in place and just 190mm with it removed, which will please anyone looking to fit the doors on 300mm carcasses where it's often tricky to get a battery drill inside the carcass.

For controlled screwdriving there are 20 torque settings, using the standard configuration of collar behind the chuck.



▲ The all-metal Rohm chuck has a quick-release system

Drilling capacities are practically equal, and in some cases, better than the 18v models I tested in issue 151 (GW151:38). It will drill up to 34mm in timber, so the standard cylinder lock is well within its capabilities. This is a powerful performer without whistles and bells; a great all-round drill driver.



▲ The drill has a built-in hex shaft for screwdriver bits

The Woodworking Verdict

- + Quick release for screwdriving attachments
- A little heavy for a 14v drill

Rating ★★★★★

Typical Price: **£160**

Made in: Germany

Batteries: 2x 14.4v 2.0Ah NiCd

Speed: 0-400 0-1400rpm

Number of torque settings: 20

Chuck: 13mm capacity

Tel: 01442 258346

Web: www.aeg-pt.com

The Woodworking Verdict

- + Small and easy to control
- Abrasives can be expensive

Rating ★★★★★

Typical price: **£93.83**

Made in: Germany

Orbits: 7000-12,000opm

Power: 280w

Pad diameter: 125mm

Orbit diameter: 2.4mm

Weight: 1.6kg

Tel: 0700 433 9258

Web: www.dewalt.co.uk



▲ The eight-hole plate takes standard hook-and-loop abrasives, meaning quick swaps



maintain that edge. I was soon happily carving away, getting the kind of finish only a truly sharp tool will give.

The knife is a beauty. In fact, I have had one of these in my own toolkit for many years and it has given sterling service.

The rest of this beginner's set is similar quality, making it a good investment that will be an ideal start to your carving toolkit.

The Woodworking Verdict

- + Good quality, razor-sharp tools
- Springiness can feel odd at first

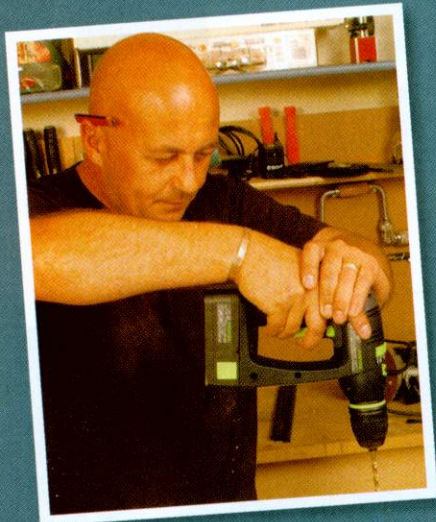
Rating ★★★★★

Typical price: **£67.46**

Made in: USA

Tel: Axminster 0800 371822

Web: www.axminster.co.uk



Welcome to **Kit & Tools Extra**. Over the next four pages, we show you the **exciting technology** used to make router cutters and bring you our regular dose of **news and advice** on buying and maintaining tools...

First Impressions

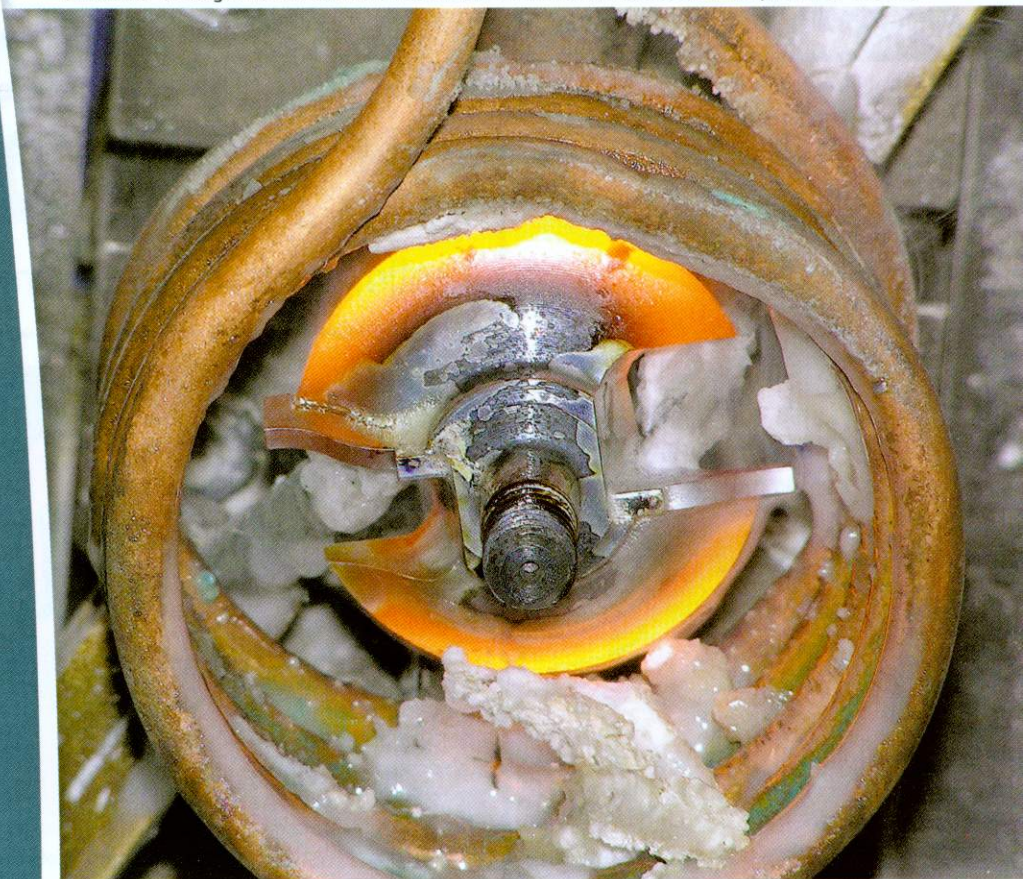


'Wooden' Clock

What more can the woodworker ask for than a lump of lumber that tells you when it's tea break time? This plastic clock looks like a piece of 4x2 until you plug it in, then the numbers appear as if by magic. It keeps time in 12 and 24-hour modes, and also has an alarm.

Typical price: £99.95
Firebox 0870 241 4289
www.firebox.com

▼ A cutter-to-be glows red-hot as it's heated in an induction coil to attach a profile to its body



The complexity of cutters

Andy King finds out how router cutters are made and why they cost so much

You might think it would be simple to test router cutters, but actually it's really complex. Sure, it's easy enough to determine when a cutter isn't as sharp as it once was, but doing like-for-like tests to determine whether one brand's better than another is a very scientific process.

You have to walk a router through a set amount of cuts, and that can't be done consistently by hand. It must be done on a powerfeed to ensure every cut is made at exactly the same rate.

Then you must look at the edge after it's done the work using a high-powered microscope, and have a good knowledge of metallurgy to interpret what you see.

If you've ever wondered why we don't test router cutters in this magazine, that's why: we don't have this equipment and we certainly don't have the scientific expertise



▲ A bit after brazing and ready to get its PTFE coating

to do justice to products from top brands such as Trend, Wealden, Titman and Freud, that are truly pieces of precision engineering.

To show you just how complex and scientific is the process of making a quality cutter, I'm reporting

this month from high-end brand CMT's manufacturing plant. Each CMT cutter actually passes through three factories at different stages of its life.

The first is set in the hills just outside Pesaro, a town on the north-eastern coast of Italy. In this plant, the raw steel is worked into the basic profiles and the carbide tips are brazed



▲ The steel as it arrives: this is R48 stock, the same as Ferrari and Porsche use in their engines

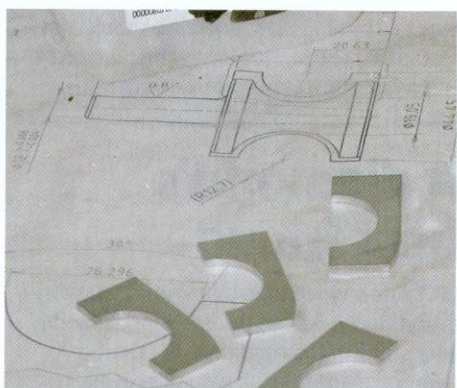


▲ Cutter blanks are automatically loaded into a machine to be ground before brazing



▲ A batch of freshly baked cutters!

◀ Basic blanks awaiting the addition of their profiles



▲ The bits arrive like this and are checked against the original profile design



▲ The spraying booth, where the orange PTFE coating is applied



▲ One of many quality control checks that the cutters must undergo at the end of the process

corresponding bond can be prone to failure.

Once past the brazing stage, the bits go into ovens to relieve localised stress from the heat build-up in the brazing process, then they're thoroughly cleaned before moving to the plant that applies the PTFE coating. Once the cutters have been sprayed, they're baked again, at 300°C for 7-8 minutes.

Then it's down into town to the main CMT factory for the final treatment. This factory is even more high-tech with specialist machines for turning the final shank diameters and grinding the final carbide profile to perfection. There's also a three-dimensional magnifying

camera that can trace the profile of any cutter placed in it so special designs can be mimicked. It also checks that profiles are uniform and that wear on the tooling for the carbide grinding process is not affecting the profile.

Traditional methods are used for checking matched sets such as rail and stile bits. Every 50th sets cuts a timber profile to check for fit.

It was in the third factory that I was

introduced to the company President, Marcello Tommassini. He's a very personable chap with a great sense of humour. While we were looking at the recycling equipment that filters the oils and cutting fluids, I asked him what happens to the grinding swarf from the carbide, and whether it was recycled. Quick as a flash, he responded: "Yes, we collect it and sell it to one of our rivals for their cutters!"

I've always realised that quality has a price, but I left the factory with a new appreciation. Then there's the question of what happens should a cutter fail and someone get injured.

The major brands will have insurance that allows them to compensate their customers in such eventualities, but could the same be said of Far Eastern brands? Should such a failure occur, could you successfully make a claim against the manufacturer or importer?

Plus cutter manufacturers, like other users of carbides, are currently experiencing high price increases for the raw material.

The ore is found all over the world, but cheap labour costs in China have allowed the mines there to undercut those in other countries until they went out of business. Now the Chinese have cornered the market, the cost per tonne has gone up by more than 300% in the past six months. Let's hope the power tool market does not eventually suffer the same fate. 

into place. Like other top-quality cutters, CMT's are made from micro-grain carbides. Many companies making budget cutters will use inferior materials.

Robots

I was expecting the factory to be drab and dingy with sparks flying everywhere. But that couldn't have been further from the truth! It's more like the Citroen advert on the telly with the robotic arms that spray the car in seconds.

In a cutter factory, similar robots do much of the work. CMT sales manager Max Ricci told me that this is not only to speed up the process, but also to reduce contamination from the human touch. Preventing natural oils from the skin from coming into contact with brazes

and fluxes ensures the bond between the steel bodies and the carbide tips is clinically clean for perfect amalgamation.

I watched one machine put cutter bodies in position, add the ribbon of brazing (silver sandwiched between two layers of copper) and apply a precise amount of flux before induction-heating the whole thing to 'weld' on the profile. This machine alone cost 700,000 euros, so you can start to see why well-made cutters cost a lot of money.

The heating process is fascinating. I was amazed to see a 50mm-diameter ogee bit being heated to a red-hot 370°C in less than three seconds! Budget brands will often use oxy-acetylene rather than induction to heat the bits, which is cheaper, but the

Q&A

Your Question...
Our Answer

How long should my table be?

I am in the process of upgrading from my old little Kity planer thicknesser. How do you decide which length of table is suitable? Obviously a longer table is better for longer boards, but is there a rule of thumb for this?

Henrie van Rooij, via email

A There doesn't seem to be any logical reason behind lengths of tables.

In combination planer thicknessers, the standard 250x150mm entry-level type seem to come in around the 1000mm mark. This might be a compromise to get capacity without taking up too much room, or it might be to do with the amount of strengthening needed to keep them aligned. But I would imagine it's also down to gaining access to the thicknessing bed.

On a classic 'over/under' design, a longer bed makes it more difficult to feed the stock in. The removable or flip-up bed types get over this, but I find it's a right pain to have to remove fences or strip down a machine to move from one function to another. Even the high-end combis seem to favour a shortish bed, so these aspects could be the determining factors.

It's only when you buy a dedicated jointer that the extended beds become evident, so it may be that the lack of the thicknessing option allows this.

The budget jointers are tabletop models so can be discounted in the equation.

Personally, I love the jointer as a standalone. They seem to be far more stable in running terms than a small combi and are a lot quieter. The only downfall on the smaller ones is the width of the block, but you do have an increase in bed length as the block width increases. The only thing I would recommend is to go for the longest bed you can get in your workshop!  **Andy King**



More makers 'cell' lithium-ion products

Lithium-ion technology continues its march towards world domination this month with the launch of more products that use the new type of battery.

First is a range of 18v tools from Makita that all take advantage of li-ion cells' raised efficiency, increased power and reduced weight.

The range includes the BSS610 cordless circular saw. Its 165mm diameter blade will run at up to 3700rpm and cut 57mm deep in timber, yet the tool weighs only 3.2kg including its battery. It costs £386.

There are also two combi drills: the three-speed BHP451SFE and the two-speed BHP450SFE. The former costs £346 and delivers 80Nm of torque through a three-speed, all-metal gearbox. Its three speed ranges are 0-300rpm, 0-600rpm and 0-1700rpm and it delivers 25,500 blows per minute in hammer mode. The latter is a compact model at just 188mm long, but still manages 41Nm of torque. It costs £307.

The 18v range also includes the BTD140SFE impact driver, which gives 145Nm of torque with up to 3200 blows per minute. It will set you back £346. Makita have also added four more tools to their 14.4v li-ion range.

These are the BHP441SFE, a three-speed combi (£346), the BDF441SFE three-speed drill driver (£323) and two compact tools: the BHP440SFE two-speed combi (£307) and the BDF440SFE drill driver (£284).

Meanwhile, Metabo have launched a range of cordless li-ion tools called Li-Power. It comprises three drill drivers, an impact driver, a circular saw, a recip saw and a torch.

A 12v drill driver costs £170; the 14.4v drill driver costs £193 and an 18v version will set you back £229. The 12v impact driver is priced at £245, the 18v circular saw at £297 and the 18v recip saw at £299. The torch costs £34.

You can buy a four-piece kit comprising the three 18v tools and the torch for a total of £562.

Meanwhile, the latest Screwfix catalogue includes a variety of li-ion power tools including a 28v Milwaukee combi drill at only £399 and a 10.8v Bosch screwdriver for £79.99.

Makita 01908 211678, www.makita.co.uk
Metabo 023 8074 7500, www.metabo.co.uk
Screwfix 0500 414141, www.screwfix.com



Free footie shirt from Dremel



Unless you've been living under a stone for the past six months, you can't fail to have noticed that there's a World Cup this year.

And, thanks to Dremel, you can join in the football fever without having to leave your workshop!

They're giving away a free retro football shirt with every Dremel toolkit you buy between now and

June. You can choose from 22 classic shirts including the one above and get as many as you want, limited only by the number of kits you buy. Kits start at £24.99 and generally include a Dremel tool and a selection of accessories in a carrying case.

Dremel 01895 838782
www.dremel.co.uk

A diamond's best friend

DMT's new whetstone cleaning kit contains everything you need to keep your diamond whetstone in top condition. The Oxy Scrub cleanser, made from all natural ingredients, restores the diamond sharpeners and contains no harmful phosphates or chlorine bleach.

The kit also contains a brush with brass bristles to remove swarf from the whetstone's surface, and a polymer rubbing block for routine dry cleaning of whetstones, steels and ceramic sharpeners.

Typical price £22.90

Chesterman Marketing 01785 250341
www.chestermanmarketing.com

Demonstrations

John Boddy's will continue its woodworking demonstrations with events throughout April, May and June at the firm's North Yorkshire premises. Topics to be covered include turning, carving, routing, marquetry, chair caning and gilding. For further information call 01423 322370.

Machine Mart's biggest ever

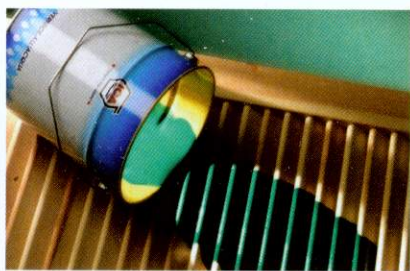
Machine Mart's massive new spring/summer catalogue is their biggest yet. It includes almost 500 new products and savings of up to 20% on power tools, hand tools, woodworking equipment and



garage and workshop tools. If you didn't get a free copy with last month's *Good Wood*, pop into any Machine Mart store, call 0845 450 1855 or go to www.machinemart.co.uk. **Competition, p43**

This is one of three new water-based exterior coatings from ICA. The range includes coloured finishes in 12 shades and a matt top coat. They are designed to reduce swelling of the grain and are ready to use on sanded timber.

For stockists and prices call 01236 759904



Paint that's child's play

If you love making furniture and toys for your kids or grandchildren, why not brighten them up with these child-friendly, durable Japlac paints? There are 14 cheerful colours to choose from with glossy or metallic enamel finishes, plus a clear high gloss finish, a primer, an undercoat and a special blackboard paint that can be used on metal or wood.

Prices are £3.49 for the finishes in 125ml pots, £4.79 for 250ml of the blackboard paint and £5.99 for 250ml of the primer or undercoat. International Paints 01480 484284 www.international-paints.co.uk

Metabo cleans up

The new burnishing and finishing machine from Metabo, the SE12-115, is really versatile. It's great for removing old colours from wooden surfaces, cleaning timber, creating rustic surface effects, smoothing stripped boards and polishing stained wooden surfaces. It comes in a sheet steel case with a set of accessories.

Typical price: £363
Metabo 023 8074 7500
www.metabo.co.uk



Q&A

Your Question...
Our Answer

Should I pay more?

I am looking to buy a belt sander. I've been considering the

Professional Bosch GBS75AE but I'm wondering what benefits you get from a machine that costs so much more than others on the market? I do think it worth buying the best you can afford, but last year I bought quite an expensive sander and had a number of problems with it getting very hot. I have also been looking at dust extractors and vacuums for use mainly with hand power tools, but find it difficult to know which machine would do the best work.

Martin Evans, via email

A Because of the amount of friction generated during sanding, the heat will eventually get back into the machine.

The choice of a budget sander against a pro model is based on factors such as this.

Pro models have motors and parts designed to cope with extended periods of use, so although they will get hot, they should carry on.

A budget one may remove stock just as efficiently, but whether it could cope with 30-minute stints is questionable; plus the quality of the components, such as bearings, is likely to be lower.

If the sander's going to be used infrequently a budget one may suffice. But personally, if I was likely to be using one more often, I'd go for a more expensive model and the Bosch GBS75AE would certainly be at the top of my list. It came out top when I looked at 3in sanders in January last year (GW156:40).

Collecting dust from a belt sander is a bit hit and miss. With pine or other resinous timbers, the dust is sticky and will adhere to the walls of the dust outlet and reduce its efficiency, so it either gets very little in the bag or clogs quickly. Extraction is the best option if you can.

When choosing an extractor, the most important factor if you're using it for hand tools is the ability to filter out the really fine dust generated by sanders and routers. The Trend one has fine filtration, down to 0.5microns, so I'd have a serious look at that. DeWalt ones have fine filtration, too.

Some models may be much cheaper, but probably because they aren't as efficient. The ability to pick up the stuff you can't see is important. It that invisible stuff that does the most damage! **Andy King**

When you invest in a good router, you want one that's versatile.

Andy King tells you what to look for and which he recommends

A cut above

Whoever it was who first thought of locking a shaped cutter into a rotating spindle to mould a piece of timber should be congratulated. But I doubt they could have realised the consequences.

The speed and ease with which a router can run a moulding onto an edge, or plough grooving within a piece, must be responsible for seeing off more planes than the RAF in the Battle of Britain! The router has not only put paid to the classic wooden moulders, but also the more elaborate multi planes from the likes of Stanley and Record.

The router is now a must-have tool in any woodworker's arsenal, whether you're an amateur or a professional. The small, handheld, plunge variety is the one most people choose first, and as a router for coping with a wide variety of work, it's a good place to start. The three things that will make or break this kind of tool for user-friendliness in handheld mode are plunge, depth stop adjustment and the fence.

But what about when you want to go further than this? If you are upgrading from your first router or just want to invest in something more versatile, you need to know what to look for. Over the next six pages I'm going to run through the most important features and

why you should take them into account, and I'll also look at some of my favourite routers and the accessories I recommend for use with them.

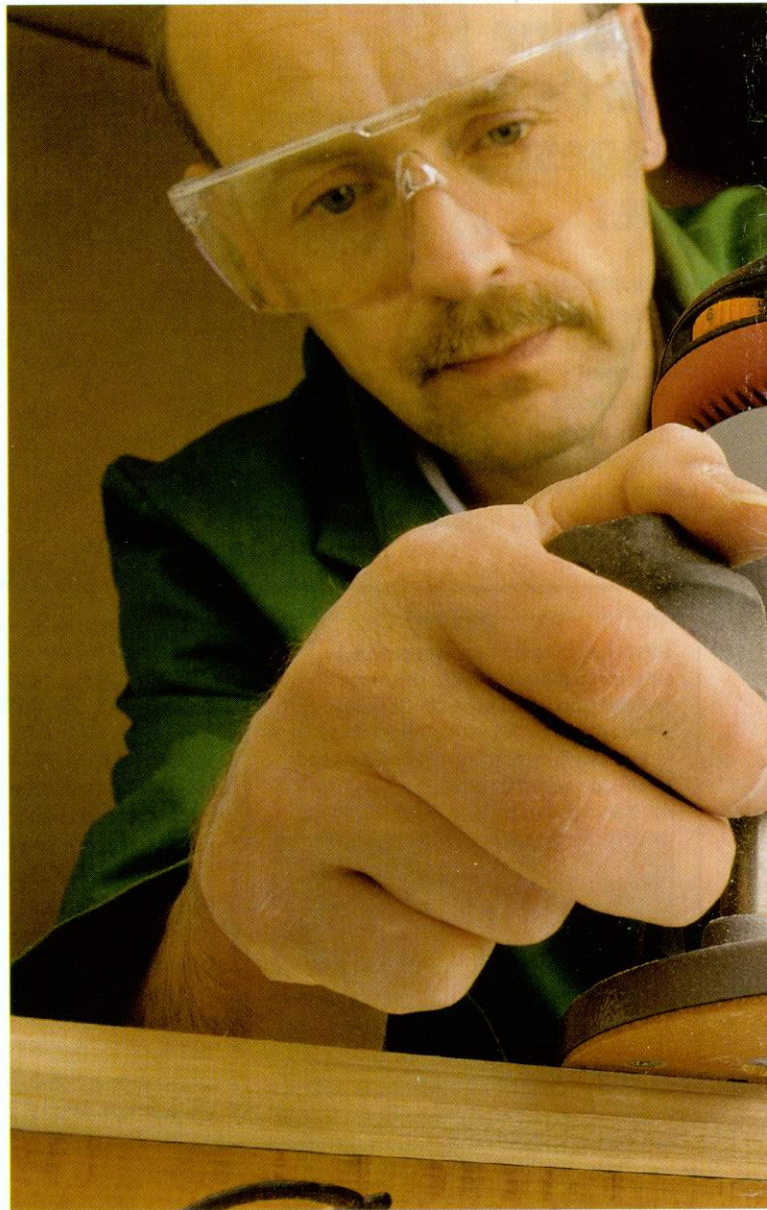
Base configuration

If you're going to use a router to its full potential, the base design (the configuration of fence bar spacings and guide bush apertures) is the most important factor. To explain why, let me give you a little history lesson.

In the very early days of routing, the Elu brand quickly became established as the industry standard. The robust, no-frills design of the Elu MOF96 and its electronic, variable-speed brother, the MOF96E, became the template for a huge number of router designs from the major manufacturers. Trend spotted the possibilities early on and



▲ The one that started it all: the classic Elu MOF96



developed a range of accessories with the Elu MOF96 in mind.

And nowadays this is still the standard configuration to which most accessories are designed, so if you want a wide choice of add-ons, look for this design. Most routers on the market have this configuration for that very reason.

Some manufacturers, such as Bosch, design different bases, which means you have to remain brand loyal in terms of accessories. They do make a lot of add-ons, though, so this isn't as limiting as it may sound, and their quick-lock system is a great advantage if you swap the bushes regularly.

If you buy a new router later on, though, you won't be able to use your existing accessories. This is a particular issue when it comes to

guide bushes. Makita, for example, do a couple of lovely little routers in the RP1100C and RP0910, but with their non-standard configuration there's little in the way of guide bush accessories available to fit them. The set of guide bushes that DeWalt stock for their DW621 are compatible with the Makita bases, however.

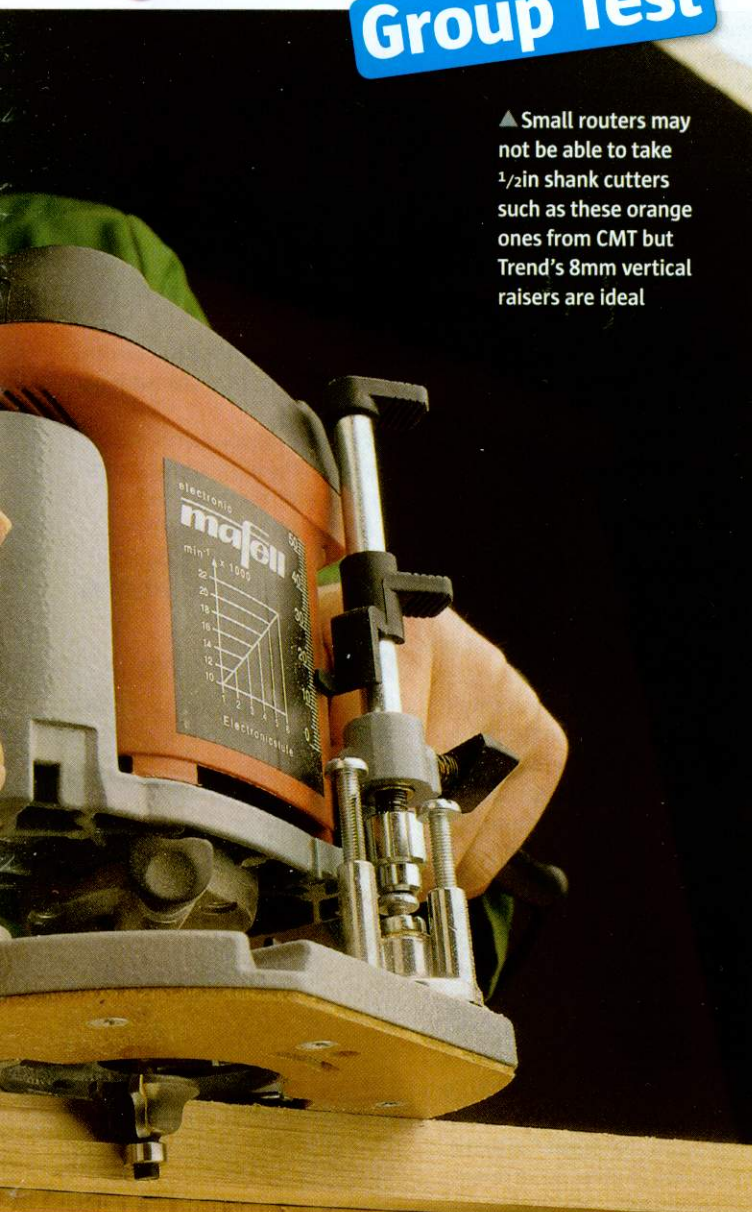
If you want to dabble in inlaying and templating, a full set of guide bushes and a small selection of straight cutters is far more cost-effective than a few bushes and a large selection of cutters (see 'Step-by-step', above right).

A good example is Steve Maskery's technique for routing veneer inlays (GW172:48). Here, the ellipses need individual templates for each size, but if

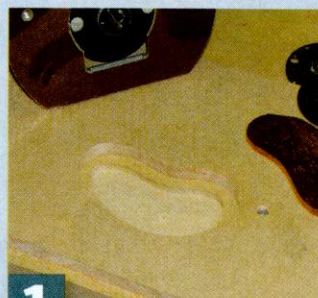


Group Test

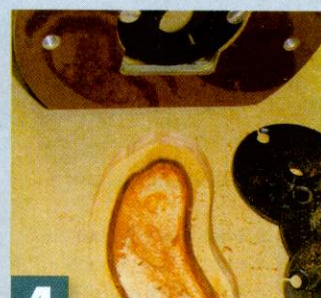
▲ Small routers may not be able to take 1/2in shank cutters such as these orange ones from CMT but Trend's 8mm vertical raisers are ideal



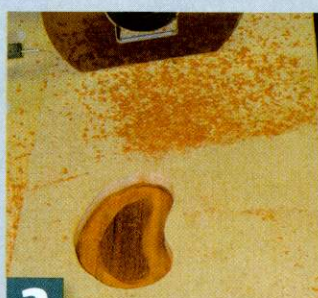
Step-by-step: basic template inlaying



1 Shapes without sharp corners are easiest to inlay



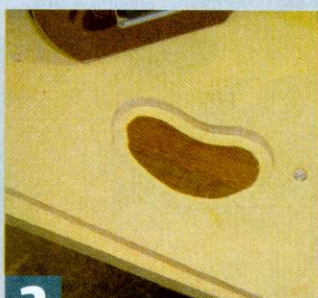
4 Alter the bushing again to leave a band of contrasting colour



2 Swap bushes to rout the inlay but leave the centre portion



5 It's easy to rout the inlay from deep stock and cut at a bandsaw



3 Glue the inlay in place: it will be a perfect fit



6 Glue this one in position to show a stringing line



▲ Makita's fine adjuster uses a fine-pitched, threaded rod



▲ This budget model from Silverline has a rack and pinion dial adjuster



▲ Milwaukee's industrial-rated model uses a similar system

you're working an oval, it's very simple to reduce the size of the inlay each time by swapping the guide bushes, or actually cut individual reducing templates

from one master by applying the same principle.

Trend have tried to get manufacturers making compatible accessories with their Trend Base

Configuration or 'TBC', which incorporates the standard Elu design. They also make the UniBase (see p89), a multi-holed sub-base that's designed to fit

pretty well any small router on the market and make it compatible with the original Elu bushes.

The downside of it is that you lose 8mm of plunge because of the thickness of the extra base. If you're using a router that's already limited to 50-55mm maximum or, in the case of many Far Eastern models, 35-40mm, this will mean some bit profiles lose part of the shape because they can't project far enough.

Fine adjusters

Despite setting the standard for base configuration, the Elu MOF96 and the models based upon it are quite basic in terms of actual adjustments. The standard flag post, drop-down post and turret are okay for most things, but

DeWalt DW621 Router

Here we have the old Elu 97, but in yellow and black, which goes to show that an old design can still cut it with the newer stuff on the market if it's good enough.

The DW621 has some brilliant features that make it a model to consider if you want a small, handheld router.

It has a different base aperture to the majority of routers, so the standard guide bushes made to be compatible with them won't fit the DeWalt. But a full set of 12 bushes are available specifically for this machine, so it has plenty of scope for variety.

The three-position rotating turret has a quick-release, drop-down turret above it with both rack and pinion and fine adjustment incorporated within it. That enables fine tuning to 0.1mm increments.

And a twist-lock plunge grip is part of the design. That's my favourite type, because I find it easy to control, especially if I have to make a plunge cut in the middle of a large board.

But it's the DW621's dust control method that I particularly like. It draws the dust up through the plunge post and away through the angled adaptor.

It's efficient in use, especially on cuts in from the edge, the clear plastic shroud in the base opening directing the dust towards the aperture in the casting.

And with the hose at the top, it affords you a great view of the cutter area, unlike models where the hose sits down on a base adaptor and can get in the way.

The trigger is built into the right-hand grip, has a double action for safety, and will also lock in for inverted use, but is a little tricky to



▲ Rack and pinion and a screw adjust makes fine setting a cinch



▲ The dual trigger locks in when necessary

engage in this mode. A fine fence is included, not such good quality as the original fence I got with my Elu 96E, but with all the functions to perform well. It all adds up to a recommended choice for a small handheld router. **Good**

The Woodworking Verdict

- + Excellent dust control method
- Trigger a little difficult when inverted

Rating ★★★★★

Typical Price: £220

Made in: Italy

Speeds: 8000-24000rpm

Weight: 3.85kg

Max plunge: 54mm

Power: 1100W

Tel: DeWalt 0700 433 9258

Web: www.dewalt.co.uk

when you need to finely tweak a cut, such as when you're using a dovetail jig, you need a fine adjuster.

On the original Elu and its clones, the flag post swaps out for a threaded adjuster linking the base to the turret. This works well, especially on the dovetail jig, because it stops you inadvertently releasing the plunge, thus ruining the jig, the work, or both.

But it's not always ideal. Releasing the plunge at the end of a trenching cut prevents the cutter from accidentally damaging the cut if you pull it back, and allows you to plunge into a cut in the centre of a board.

Here, the models which have a fine adjuster that keep the link between the base and the body separate are at an advantage.

Makita's routers have a good system, with a fast-release button for quick rough-setting and a fine adjuster for final setting. Others such as the Milwaukee OFSE 1000 have a dial system that lifts the post on a rack and pinion, again with fine, sub-millimetre adjustment. Silverline's Hi-Spec 282397 router sells for about £40 and has a similar dial adjustment on the post, but is inferior to the Milwaukee in other departments.

Some models, the DW621 among them, have their fine adjustment on the post itself, using rack and pinion for fast rough setting before using the dial on top for sub-millimetre adjustment.

But the best of the bunch has to be the Metabo OFE 1229. Here, the adjustment is made in much the same way, but the fine adjustment is registered on a needle dial so you can see exactly what alterations you've made.

Fences

The fence is equally as important for setting inlays, stringing, accurate rebating and the like, yet some manufacturers seem to see it as an afterthought.

In the case of the Chinese market, often all that's included are a piece of fabricated steel and a couple of rods. For a budget

More about router cutters See p80



▲ Trend's T5 (about £175) and the £40 Silverline are a good example of bush/base compatibility

price, that's all you can expect, but when the big manufacturers do the same, it's disappointing.

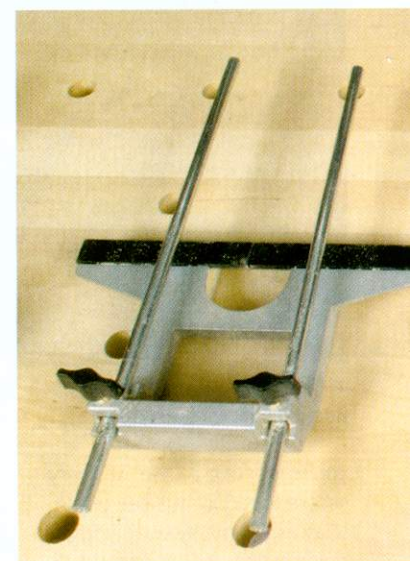
Makita are guilty with their RP1100C and RP0910 models: super little routers for everything but fence work.

Plunge and grip

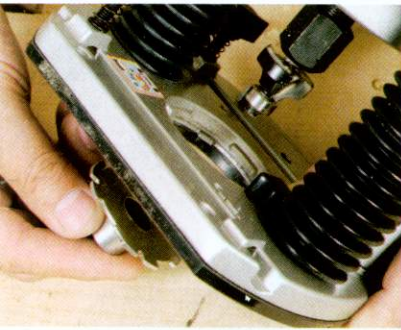
Plunge adjustment is an important factor when the router is inverted.



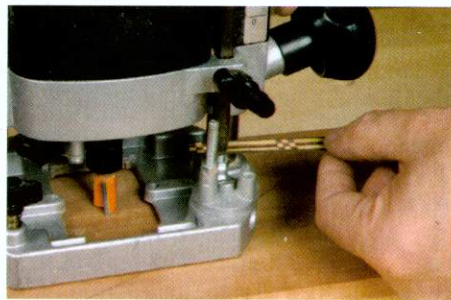
▲ A lever plunge is tricky to operate in some positions



▲ Fine adjuster fences (right) are best,



▲ Bosch use a superb quick-release guide bush system



▲ Setting depth with a basic drop-down flag post

The plunge needs to be smooth, slick and easy to control, both going into a cut and out of it. My favourite is the type incorporated into the grip, where you twist the handle to release and engage.

Levers positioned behind the grip are more difficult to operate and lock off on a plunging cut.

There are a couple of striking-looking routers from Festool and Mafell that eschew normal routing designs for operating methods similar to a sander. With these, you tend to work with your hands one in front of the other rather than side by side. The same

could be said for the Milwaukee model when it has the fence fitted because the rod configuration is forward rather than side facing. These methods work well for routing edges, but using them in the centre of large workpieces can be awkward.

With budget machines, the plunge is both limited in travel, and also in smoothness. This may mean that when you're using

longer bits, the cutter can protrude beyond the base.

Collets

Collet design will not directly affect routing performance, but it does have implications on the way the shank is gripped. Cheap routers usually have a single-slit sleeve, or

cone type, whereas the high-end models will have multi-slit types.

The multi-slit collet will grip the shank all the way around, exerting equal pressure; the sleeves and cones tend to localise the grip.

In the long run, this can lead to slippage, causing the cutters to lose their grip in the collet under load. But the multi-slit type tend to be safer because they usually have a double locking action.

The introduction of 8mm collets has allowed the smaller router to compete with the $\frac{1}{2}$ in types in a lot of areas. But whereas a small router will cope with a couple of



Metabo OfE 1229 Single Router

The Metabo has a base configuration pretty well identical to the old Elu 96, with the same bar spacing and base aperture for the standard Trend guide bushes.

The same three-position rotating turret is there, and also my favourite plunging method, the rotating lock handle, operated with the right hand grip.

The plunge is very smooth, with enough resistance to give you good control, but still easy enough to operate without excessive pressure.

The similarity with the Elu types ends there, though. The basic plunge post adjustments of the old Elu and its ilk are replaced by a superb dial gauge linked to the depth setting post.

A locking lever alongside the dial releases the post for fast setting before making micro-adjustments with the knurled knob on the post.

The dial has 0.1mm increments, so very fine setting is simple, quick and easy. Other routers have similar fine adjustments, but the dial is far easier to set and understand over an adjuster that lines up to a cursor.

The power switch is alongside the left-hand knob and engages with the thumb, locking on so that

▼ This dial adjuster is very easy to read and control



you invert the router in a table you don't need clamps or tapes to hold the switch on.

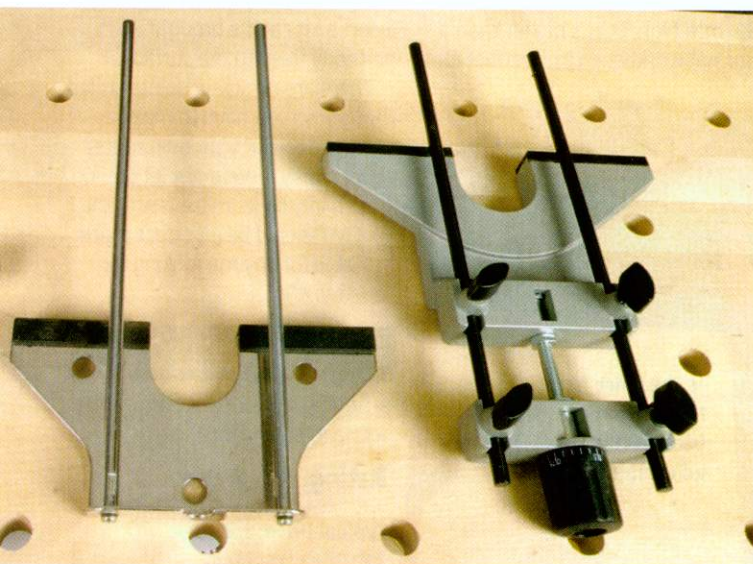
There's an LED on top of the router that goes out once it reaches your selected speed. Dust is controlled with a clear plastic spout that clips into the base and sits up at the back of the router.

The inclusion of a fine adjusting fence completes the package making this one of the most user friendly routers on the market.

Like most routers, though, the OfE is more effective when working inboard, running a groove for example, rather than an edge where the dust falls away.



▲ Plunge locking handles are easy to control



but alloy (left) and pressed steel types offer only very basic adjustment

The Woodworking Verdict

- + Dial setting fine adjuster
- Dust extraction is low down, so it can obscure vision

Rating ★★★★★

Typical Price: £260

Made in: Germany

Speeds: 5000-25500rpm

Weight: 3.6kg

Max plunge: 50mm

Power: 1200W

Tel: Metabo 023 8073 2000

Web: www.metabo.co.uk

Kit & Tools

stair stringing and worktop jiggling jobs, you can easily strain the motor so the bigger router is the best choice for day-to-day work.

Inverting a little router for smaller spindle work is still quite limiting with 1/4in shanks, but the additional support the 8mm shank affords will enable you to introduce some quite meaty profiles, including small scribe and profile jointing and panel raising.

Both of these operations are still not going to be as heavy-duty as with a 1/2in router, they will do smaller work but some heavier rail and stile cutting profiles are beyond their capabilities because of the torques involved.

Panel raising is a little different. Horizontal panel raisers are too big, but vertical panel-raising cutters reduce the torque. You have to run the timber through on edge rather than flat, but you can achieve the same result.

The real downside is that you're limited to square or straight-edged panels, because the work has to be held on the table as well as the fence. So you can't do, for example, an arch-topped panel



▲ With a fine adjuster like this, fast adjustment isn't easy on this Trend

because this shape would need to be routed off a lead pin without a fence.

Switch positions

The position of a router's on/off switch and the ability to lock it on easily are not always taken into account, but the ease of operating the switch is vital. It's very frustrating if you've lined up the



▲ Dust extraction low down can obscure vision and the hose can drag

router for a stopped cut, only to have to fumble around for the switch and then have to re-check.

Sliding switches are fine when using the router handheld, but can be fiddly for inverted use.

The integral grip switches on the DeWalt DW621 and the Makitas are excellent, especially because they can be locked on for inversion work. The latest MKII version of the Trend T5 has a

pull-out switch operated with the thumb and this is superb for easy control, especially if you have to finely align the router before switching on. It also has a trigger lock supplied for inversion.

Dust extraction

Routers generate huge amounts of dust, and dealing with it will involve attaching an extraction hose. So if you're planning to use

CMT Professional Router Table



▲ A good featherboard is standard

CMT don't manufacture this table themselves, but it has the same high standards they put into their cutters. The excellent 680x520x25mm laminated MDF top has a dedicated 3/4in slot for the mitre fence which could easily take a good quality accessory.

But sadly, for reasons best known to CMT, the table has a plastic mitre fence. It's better than the ones you get with Far Eastern budget saws, but certainly doesn't match the rest of the table.

Apart from that negative point, the table is very stable once assembled and features a wind-up foot to cope with irregular floors. The main fence is aluminium; an L-shaped backer that bolts to the table with the front facings from extrusions. T-slot openings in the face can be used for the supplied plastic featherboard, or for your own accessories.

There's no outfeed fence adjustment for normal spindle moulding-type operations, but there's no reason why you can't use longer bolts and shims to make rudimentary changes.



The area where this table really impresses, though, is its registration. It was absolutely smack-on when I checked it with an engineer's square, so your work will come out perfect.

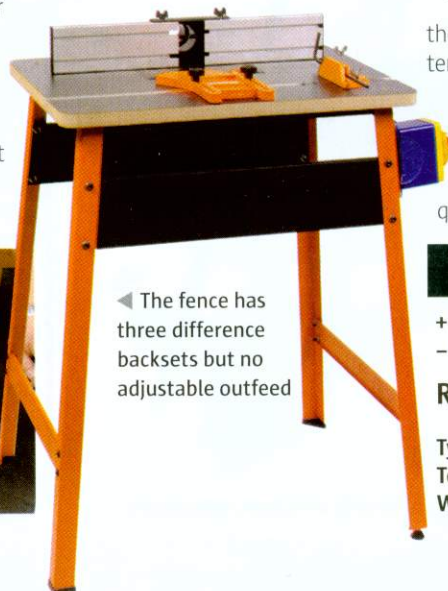
It also has the table surface at 895mm high; that's higher than a normal workbench but perfect for

running stock through without having to stoop.

The 240x200mm plate is made of 8mm-thick aluminium, with a single reducing insert to give you either a 45 or 93mm cutter aperture. It screws directly to the table into threaded inserts and has jacking points not only on the corners but also on the reducing insert so it can be brought up perfectly flush to the surface.

There are no screw points drilled though, so you have to make a template to suit your own router.

So, if only it were not let down so badly by its mitre fence, the CMT would be a perfect router table for anyone looking for quality.



◀ The fence has three difference backsets but no adjustable outfeed

The Good Woodworking Verdict

- + Good solid construction
- Cheap mitre fence

Rating ★★★★★

Typical Price: £200

Tel: 0845 604 0064

Web: www.cmtutensili.com



▲ Pulling waste up through the leg keeps the hose out of the way

Makita's RP1100C and RPO910 have an adaptor supplied that pulls the waste through a tube up to the top of the router, and DeWalt's DW621 extracts directly through the plunge post, leaving the area around the cutter unobstructed.

Cheap or dear?

In real terms, any router can cope with standard moulding operations on edges and running grooves. So if this is all you plan to do, a basic model will probably suffice. However, as with most things, the more

adept you become, the more you start to want from your equipment and the more demands you will place on it.

You can't discount budget routers entirely: they often look at the good bits of all the routers and try and get them into one tool. But often the overall quality and lack of capacity is the failing, making them a false economy in

the longer run. If all you want is a router to invert, a budget one with flaws may be enough, but limited plunge is a more serious downfall. Bear in mind that you'll lose even more by the time the table insert is taken into consideration.

Ideally, you need to look at a higher-specified model to get the maximum capacities, but if you tend to do most of your routing inverted, a $\frac{1}{2}$ in model would be a better bet. That's not only for the capacity of bits and the plunge, but also because the overall strain on a weaker router could shorten its lifespan.

In truth, where a smaller router wins out is the ability to cope with a wide range of tasks well, whether it's inlaying, trenching, moulding, panel raising or jointing, it can do them all well.

The $\frac{1}{2}$ in models will do the same, but when you need to do the intricate stuff, the cumbersome, bigger models become more of a bind.

Getting the ultimate small router is seemingly impossible. Mind you, if an amalgamation of a dial type fine adjuster, twist-grip plunge with built in lockable trigger, dust extraction through the plunge post, that takes standard guide bushes, has a superb fence and smooth easy operation came on the market, I'd be at the front of the queue!



▲ Trend's UniBase attachment (£15.28)

The nearest in my mind to truly great small routers are the DeWalt DW621 and the Metabo OfE 1229 (see p86-87). Both come close to top marks and, interestingly, both have been around a fair while, which is testimony to their good, solid design. 

DeWalt DE6900 Router Table

They say size isn't everything and the DeWalt DE6900 is a perfect example. With a

surface of 215x240mm and standing just 280mm high this is a table that you would think is only for smaller routing. And yes, as a table it is limited to smaller pieces.

It's when you see what else it's capable of that you really start to appreciate how adaptable it is.

Unlike normal tables where the router is fixed and the fence moves, here the 135mm-high fence stays in the same spot with the router suspended underneath the table by its fence rods.

This limits the table to routers with 8mm rod diameters and 84mm centres, but any Elu-type configured base should be okay.

The router moves along the rods to set the cutter projection beyond the fence, locking it with the rod screws. Plunge is set as usual with the router itself.

The table comes as a complete

kit with a trammel rod for circle cutting without the table, a spring fence and lead-on finger for the table, plus a fine height adjuster for Elu-conforming routers such as the DW615 or Trend T5.

Another clever feature is this table's ability to drop it on its side and fix it to the bench with the supplied clamps. This is ideal where you have components that are difficult to hold in the air, and for panel raising with a vertical cutter, it works a treat when you cut them horizontally as you normally would.

The fun's not over yet, though. If you have big areas to rout, such as a large panel, the table can be used freehand as a large edge following fence for perfect results.

Yes, you are limited to cutters that will sit in the 35mm opening, plus you are limited to a maximum of 25mm projection, but for cuts within this range, the table is superb. If you have a compatible



▲ The table will work on its side



▲ Here the table is used as an oversized fence to push the router over the work

router, this table is great. It's so small it will sit in a cupboard or corner until you need it, but the likelihood is that it might not get a chance! 

The Woodworking Verdict

- + Very versatile functions
- Limited to specific routers

Rating ★★★★★

Typical Price: £125

Tel: DeWalt 0700 433 9258

Web: www.dewalt.co.uk



sponsored by

BEHLEN

Wood Care, Repair, Staining,
Colouring & Finishing Products.

www.behlen.co.uk



Good Woodworking Classifieds

To advertise in Britain's BIGGEST selling woodworking magazine call Mike on 01225 788204 or e-mail Michael.pyatt@futurenet.co.uk

Advertiser Index

Advertiser Index

Bandsaws & Blades:	Tru-Cut	Page 3	W. Hobby	Page 2	
Clocks:	Chris Milner	This Page	Inspired Ideals:	Original Marquetry	Page 2
	Martin H Dunn	Page 3	Machinery:	WP Machinery	Page 2
	Timecraft	This Page	Musical Instruments:	Tonewood	This Page
	Yorkshire Clock	This Page	Power Fasteners:	CNC Power Fasteners	Page 5
Courses:	Bob Lambert	Page 2	Power Tools:	UK Tool Trader	Page 3
	Brian Hannam	Page 2	Regional Directory		Page 4
	Bruce Luckhurst	Page 2	Rocking Horses:	Margaret Spencer & Co	Page 5
	Chris Arnold	Page 2	Stoves:	The Hot Spot	Page 2
	Windsor Workshop	Page 2	Timber:	WRAP Technology	Page 2
	The Chair Designer	Page 2	Timber Supplies:	Interesting Timbers	This Page
	Trend	Page 2		Lincolnshire Woodcraft	This Page
Dowelling:	Plug IT Decorative	Page 3		Martin Osborne	This Page
Furniture:	Tom Campbell	This Page		SL Hardwoods	Page 4
Handtools:	Classic Handtools	Page 4	Web Directory		Page 4
Hobbies:	Hobbies (Dereham)	Page 2	Wood Repair & Finishing:	Behlen	Page 3
	Real Life Toys Ltd	This Page	Woodturning:	Snainton Woodturning	Page 2
			Workshop Solutions:	Garden Affairs	Page 3

INTERESTING TIMBERS

Wide selection of locally grown timber. Air and kiln dried
Available as boards or prepared to size or as turnery blanks.
Send for details (S.A.E. please) or come and see us (please ring first).

We'll ensure a helpful personal service.

**David and Catherine Simmonds, Wells Road,
Emborough (6), Bath BA3 4SP Tel: 01761 241333
www.interestingtimbers.co.uk
Mail order available - No order too large or too small.**

Lincolnshire Woodcraft Supplies

New Website: www.lincolnshirewoodcraft.co.uk

English Walnut now in stock

Open 9.00am-4.30pm except Saturday 9.00am-4pm
Send six first class stamps for a new catalogue or call for more information.

For a fast and efficient Mail Order Service with expert advice contact:

**Robin Storey,
The Old Saw Mill, Burghley Park, London Road,
Stamford, Lincs PE9 3JS**

Tel: 01780 757825

Now you can email us: robin@woodsupsupplies.f2s.com

Easy to find - Easy to park - Only 2 mins from A1
Ideal for the cabinet maker, turning and carving

English Oak

**Kiln dried English Oak
£26 per cubic foot**

AIR DRY, FRESH SAWN
AND BEAMS AVAILABLE

*Machining service and
delivery possible*

**AFRICAN MAHOGANY
AND AFRORMOSIA
ALSO FOR SALE**

Tel: 01380 830128

or 07749 399937

(Wiltshire) for details

BEHLEN

www.behlen.co.uk

**Honing Guides
- 3 Versions**



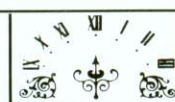
01670 815 922

www.richardkell.co.uk



BEHLEN

www.behlen.co.uk



Timecraft

Grandfather clocks, Vienna regulators, wall and bracket clocks. We have all the plans, all the dials, all the movements and all the brassware. Send for our colour catalogue illustrating our complete range including HERMLE and URGOS mechanical movements and JUNGHEANS quartz movements. Send £1 in stamps deductible from first order to:

**TIMECRAFT, Dept G.W., Unit 19,
Sefton Lane Industrial Estate, Maghull,
Liverpool L31 8BX**

ONEWOOD for guitar and violin makers. Send a large S.A.E. for catalogue - K. Walton, 136 Durham Road, Spennymoor, Co. Durham DL16 6SL. Tel/Fax: 01388 815216.

Christopher Milner Woodworking Supplies

1,000+ product lines in stock
Clock & Accessories (Quartz & Mechanical),
Barometers, Thermometers, Cabinet Furniture,
Screws, Plans, Kits, Polishes, Adhesives,
Abrasives etc.

FREE catalogue available
(Dept GWW), Beresford Lane, Woolley Moor,
Nr. Alfreton, Derbys DE55 6FH
Tel/Fax: 01246 590062
milnerwoodwork@aol.com

Tom Campbell

Craftsman & Furniture Maker

Tel: (028) 816 584 58

From R.o.I. 0044 28 816 584 58

Mobile: 07753 437 435

**33 Peacock Road, Sion Mills,
Co. Tyrone, N.I. BT82 9NW**

Tools and Timber - Friendly Service

CLOCKMAKERS!!

www.ycbbclocks.co.uk

YES! Believe it or not -

Pack of 50 Quartz movements including
metal hands and second fingers

£74 inc VAT, delivered

Pendulum, melody, striking and chiming movements.

Dials: card, metal, brass, ceramics. Kits. Plans.

Mechanical movements, etc.

Send 4 x 1st Class stamps for brochures,

refundable on order.

**To: Yorkshire Clock Builders
Dept. G.W., 654 Chesterfield Road
Woodseats, Sheffield S8 0SB**

REAL LIFE TOYS Ltd

Wooden Body Project

Wooden body, Electric drive,
Steel wheels and real tyres, DIY parts.

Please call for free details.

01767 319080

www.realifetoy.com





H. BEHLEN

Wood Care, Repair, Staining, Colouring & Finishing Products.

www.behlen.co.uk



SNAINTON WOODTURNING CENTRE

BARKERS LANE, SNAINTON,
Nr SCARBOROUGH YO13 9BG.
Tel/Fax: 01723 859545
Open Mon-Sat 9.00am-5.00pm
Sun 10.00am-4.00pm
Tues late night 7.00pm-9.00pm
E-mail: mike@saintonwoodturning.fsnet.co.uk
www.saintonwoodturning.co.uk
Demonstration day at our showroom
SIP Woodworking 13th + 14th May
10am-4pm
Visit our showroom see our large stocks of
woodworking machinery, tools and woodstock
H.P.W.M.F.D.T.M.O.A.BS.

EX DEMO MACHINES MAKERS 2 YEAR WARRANTY

SAWS, PLANERS, EXTRACTORS, MOULDERS, ETC.
ALSO LATHES, BANDSAWS & CORONET SPARES
BARGAIN PRICES - Personal Attention at WP Machinery
CALL 01902 791656 ANYTIME
www.coronetwoodworking.co.uk / wendypyratt@btinternet.com



H. BEHLEN

Wood Care, Repair, Staining,
Colouring & Finishing Products.

www.behlen.co.uk



Wood Technology Information

www.wraptech.co.uk



H. BEHLEN

Wood Care, Repair, Staining,
Colouring & Finishing Products.



www.behlen.co.uk

COURSES

TREND COURSES & ROUTING DEMONSTRATIONS

ROUTING COURSES

For details of our one or two day sponsored
routing courses with full instruction on a
wide range of routing applications visit...

www.trendmachinery.co.uk/courses

ROUTING DEMONSTRATIONS

For details of our routing
demonstrations around the UK visit...

www.trendmachinery.co.uk/shows

trend
routing technology

or call: 0800 487363
email: enquiry@trendm.co.uk

the hot spot .co.uk

WORKSHOP STOVES

FROM £115 inc VAT
WOODBURNING STOVES 4 - 20 KW

- Burn Sawdust
- Shavings
- Off-Cuts etc

Also suppliers of
a full range of Domestic stoves

Nationwide Delivery.

www.thehotspot.co.uk

0845 2 606 404

53-55 High Street, Uptoneter, STAFFS ST14 7JQ

The Yearbook for Modelmakers - Issue 36

HOBBY'S
ANNUAL 2006 + November 2005
292 pages showing
everything ...
NEW
Model Kits
Articles
Matchitecture®
1/12th Scale Items
and Unimat®
Metal Line

FREE PLAN
1/12th Scale FOUR
POSTER BED

W.Hobby Ltd. (Dept GW)
Knight's Hill Square,
London SE27 0HH
tel: 020 8761 4244
web: www.hobbyuk.com

Available from WH Smith, and
leading newsagents or direct



A NEW CAREER FOR YOU

Properly structured, professional training by qualified tutors
in cabinet making, antique furniture conservation and restoration,
timber technology, the art of finishing
(Much more than just a French polishing course)
and furniture design.

Visit our large, informative website at: www.bruceluckhurst.co.uk
or telephone for course details:

The Little Surrenden Workshop, Bethersden, Kent TN26 3BG

Tel: 01233 820589 Established 1976

Make your own Windsor Chair with James Mursell in just 5 days



THE
Windsor
WORKSHOP

www.the-windsor-workshop.co.uk

Courses to suit all levels • Individual tuition

Please call 01798 815925 for further information

CABINETMAKING & FURNITURE RESTORATION

3/5 day and 4 week courses in professional workshop.
Maximum of 2 students to assure you of close personal tuition.
Experienced or a beginner, these courses, which have been running
18 years, are tailored to your individual needs.

Full Details from:

Chris Arnold Woodworking,
Barn House, Linton, Ross-On-Wye,
Herefordshire HR9 7RS
Tel: (01989) 720378

GW

HAMPSHIRE

1 to 1 woodturning tuition by Worshipful
Company of Turners Registered
Professional Turner. 20 years experience,
qualified adult education tutor.

Plus: tools/materials including
the SUPERSKEW, the easy skew.

Phone or write (SAE please)

Brian Hannam, Unit 7

Viabes Craft Centre

Harrow Way, Basingstoke

RG22 4BJ Tel: (01256) 811911

H. BEHLEN

www.behlen.co.uk



Tuition In Woodworking & Routing

Whether you are an absolute beginner or
want to brush up on existing skills we can
design a course of tuition just for you.
Gain confidence and learn new skills with
an expert.

Bob Lamberts Woodworking Academy
Offers tuition in basic woodworking,
routing, cabinet making, furniture making,
woodturning and power tool woodworking.

We offer 1 to 1, Home Tuition and group
bookings of up to four



Contact us by calling
01623 408343
Email us at
Skills.development@ntlworld.com
Find out more at
www.woodworkingacademy.co.uk
or www.routingacademy.co.uk



H. BEHLEN



www.behlen.co.uk

Hobbies

Handbook 2006, £2.75

(Refundable on first order over £50)

Plans and accessories for:

Dolls Houses,
Toys, Boats and
Garden Projects.
Tools and Books and much more
in our 131 page handbook.



34-36 Swaffham Road, Dereham
Norfolk NR19 2QZ. Tel: 01362 692985

www.alwayshobbies.com



NICHOLAS CHANDLER
MUEBLES DE DISEÑO / FURNITURE DESIGN

"Furniture making courses in Spain -
learning in a commercial environment
is the finest way of starting
a seriously pleasurable career"

Nicholas Chandler, Seville, Spain

www.thechairdesigner.com

0034,954,190,936 evenings.


H. BEHLEN

 Wood Care, Repair, Staining,
Colouring & Finishing Products.

www.behlen.co.uk

 ON THIS PAGE: Bandsaw & Blades, Clocks, Sharpening, Planes, Power Tools,
Timber, Tools & Equipment, Wood Repair & Finishing, Workspaces, Dowelling

TRUCUT - CARBON STEEL NARROW BANDSAW BLADES

WELDED TO ANY LENGTH FOR ALL MAKES OF MACHINE FLEXBACK • HARDENED TEETH • INDUSTRIAL QUALITY

Width Teeth per inch	1/8" (3mm) 14	1/4" (6mm) 6-10-14-24-32	3/8" (10mm) 6-10-14-24	1/2" (12mm) 4-6-14	10% DISCOUNT ON ORDERS OF 5 OR MORE ALSO M42 BIMETAL BLADES TCT CIRCULARS		
UP TO 60" (1524)	ALL		£6.50				
71" (1803)	£9.75		£7.00				
Width Teeth per inch	1/8 14-18	1/4" (6mm) 4-6-10-14	3/8" (10mm) 3-4-6-8-10-14-24	1/2" (12mm) 3-4-6-8-10-14-18-24	5/8" (16mm) 3-4-6-8-10-14	3/4" (20mm) 3-4-6-8-10-14	1" (25mm) 2-3-4-6
UP TO 76" (1930)	£8.25	£7.00	£7.25	£7.50	£8.75		
84" (2133)	£8.80	£7.50	£7.75	£8.00	£9.50	£10.00	
96" (2438)	£10.25	£8.50	£8.75	£9.00	£11.00	£11.50	£14.00
108" (2743)	£10.80	£9.00	£9.25	£9.50	£11.50	£12.00	£14.50
120" (3048)	£11.60	£9.50	£9.75	£10.00	£12.25	£12.50	£15.50
144" (3657)	£12.00	£10.00	£10.25	£10.50	£12.50	£13.00	£16.00

BLADES OVER 144" (3657) available by quotation - up to 2" Rippers. Prices include VAT & P&P (UK) All other destinations + P&P

TRUCUT, Spurside Saw Works, The Downs, Ross-on-Wye, Herefordshire HR9 7TJ
Tel: 01989 769371 • Fax: 01989 567360

Performance Power
B&G
Delta
Burgess
Dewalt/B&D
Coronet
Nutool
Rexon
Inca
Dewalt
Record
Startrite
Elektra
Minimax
Jet
SIP
Draper
Clarke
Naerok
Poolwood
Scheppach
Wadkin
...and many others

CALL MIKE on 01225 788204 or e-mail:
michael.pyatt@futurenet.co.uk for further info on advertising

U.K. TOOL TRADER Freefone: 0800 389 25 51
www.uktooltrader.co.uk

Full range of accessories for
MultiMaster & SuperCut online

**NEW SuperCut FSC
2.0 Construction**

NEW RUBI range now in stock
UK Tool Trader Limited, Registered in England and Wales, Company Number: 5328537

ORIGINAL MARQUETRY
"THE ANTIQUE TRADITION OF INLAID WOOD WORKS"
FRET SAW CUTTING SPECIALISTS®

Over 130 Marquetry Panels, 60 Veneers,
150 Lines & Bandings, 25 Brass Inlay Strips,
Ebony, Mother of Pearl, Chess Boards & Pieces.
Marquetry Panel Manufacturers & Fine Brass
Box Components, Restoration, Reproduction,
FRET WORK & ONE OFF Made to Your Designs.
World Wide Mail Order Service.
Send Or Phone For A Free Catalogue.
143 Bishopthorpe Road, Westbury On Trym,
Bristol BS10 5AF.
Tel/Fax: 0117 9442640
www.originalmarquetry.co.uk
Email: info@originalmarquetry.co.uk

PLUG IT
DECORATIVE WOOD PRODUCTS

**HARDWOOD
DOWELLING**

We now supply dowelling to complement our wood screw covers.
We stock dowelling in Oak, Cherry, Maple,
Walnut, Mahogany sizes from 6.5mm to 25mm Dia.
Supplied in 915mm length. We also stock 1/8 Raman dowelling
For information and free samples contact:
PLUG IT DECORATIVE WOOD PRODUCTS
SEQUOIA, ARGYLL ROAD, KILCREGGAN, SCOTLAND G84 0JW
PHONE/FAX 01436 842669 EMAIL: mdnplugit@aol.com

H. BEHLEN

Wood Care, Repair, Staining,
Colouring & Finishing Products.
www.behlen.co.uk

H. BEHLEN

Behlen SOLAR-LUX™
A highly FADE and
U.V. RESISTANT dye
based Non-Grain
Raising stain. The
deep penetration
and colourful
transparency brings
out the natural
beauty of the wood.
The range of over
20 colours may be
intermixed to
achieve customised
shades.

www.behlen.co.uk

GARDEN AFFAIRS
QUALITY GARDEN BUILDINGS

Timber workshops and
garages - self assembly
or fully fitted
to call for a brochure
tel: 01225 470372
www.gardenaffairs.co.uk

CLOCK BUILDING SUPPLIES
JEWELLER LONG-CASE MOVEMENTS
WE HAVE IN STOCK THE WIDEST RANGE OF MECHANICAL &
QUARTZ MOVEMENTS, KITS & CASE PARTS.
KEEN PRICES, FAST DELIVERY & PERSONAL SERVICE.
MARTIN H. DUNN, THE CLOCK GALLERY,
NORTH KILLINGHOLME,
NORTH LINCOLNSHIRE, DN40 3JQ
Web: www.clocksbits.co.uk
FREE PRINTED CATALOGUE
Showroom open Monday to Friday 10am - 5pm
Saturday 10am - 4pm
Tel: (01469) 540901

CALL MIKE on 01225 788204 or e-mail:
michael.pyatt@futurenet.co.uk for
further info on advertising



BEHLEN

Wood Care, Repair, Staining,
Colouring & Finishing Products.

www.behlen.co.uk



WEB DIRECTORY

For The Best Pepper Mill Components, Go To
www.peppergrinders.co.uk or Tel. 01206 299400
CrushGrind, Cole & Mason or Bisetti



For cost effective ways of heating.
Woodburning Stoves and Infra-Red Heaters
www.thehotspot.co.uk 0845 2 606 404



S.L. Hardwoods Ltd



Factory shop



Mail order & National delivery



Rhino Bond - The Ultimate Woodworking Adhesive



FREE

Polyurethane Wood Adhesive.
The Ultimate Woodworking Adhesive.
Free 250ml bottle with every order over £100.

- Cutting lists prepared
- Sawn & P.A.R board
- Veneered sheet materials
- Turning & carving blanks
- Crown tools
- Veneers
- Books & videos
- Oak
- Ash
- Mahogany
- Maple
- Iroko
- Cherry
- Beech tulipwood
- & many more!
- NEW colour catalogue

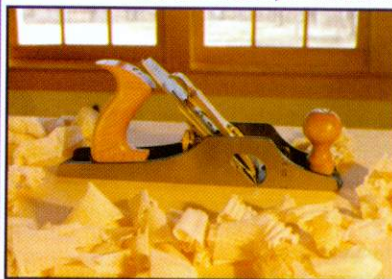
T 0845 004 6912 F 020 8683 0404 E info@slhardwoods.co.uk 390 Sydenham Road, Croydon CR0 2EA
www.slhardwoods.co.uk

Wood Care, Repair, Staining,
Colouring & Finishing Products.

Behlen.co.uk

Classic Hand Tools®

LIE NIELSEN, VERITAS & CLIFTON, JAPANESE CHISELS & SAWS
CLENTON, WOODJOY, HNT GORDON, ADRIA & PAX SAWS,
SORBY, ASHLEY ILES, AURIQU RASPS, BRUSSO CABINET WARE,
HOCK IRONS, SHARPENING STONES & MUCH MORE



Mail Order Sales at:
www.classichandtools.com

New shop open at

77 HIGH STREET
NEEDHAM MARKET
NR. IPSWICH
SUFFOLK
IP6 8AN

TEL: 01449 721327

FAX: 01449 723479

email: sales@classichandtools.com

GOOD WOODWORKING

REGIONAL DIRECTORY

Aberdeenshire

The Wood-Shop

Tools, equipment, kits and courses

Lethenty Mill, INVERLURIE AB51 0HQ, Scotland

Tel: (01467) 622489

Email: info@wood-shop.co.uk Website: www.wood-shop.co.uk

Bedfordshire

BEDFORD SAW AND TOOL COMPANY

AMPTHILL ROAD, BEDFORD MK42 9JP

Tel: 01234 359808 01234 217417

Open: Mon-Fri 8.30am-5.00pm

Sat 9.00am-12.00pm

H. P. A. W. T. CS. BS. MF.

Berkshire

Wokingham Tool Company Ltd

SHOWDAY May 20th 2006

97-99 Wokingham Road

READING, Berkshire RG6 1LH

Tel: 0118 966 1511

www.wokinghamtools.co.uk

H P W CS BS A D MO

Buckinghamshire

isaac lord

Hardware & Tools since 1892

185 Desborough Road,

High Wycombe, HP11 2QN

Tel: 01494 835200 BOSCH

Fax: 01494 835254 H.P.W.CS.BS.MF.A.D.T.MO

web: www.isaaclord.com email: info@isaaclord.co.uk

Devon

TOOLS UK Approved Rexon Supa Centre

UNIT 1, ALEXANDRIA IND ESTATE

CULLOMPTON, DEVON EX15 1BW

Tel/Fax: 01884 34415

www.discounttoolwarehouse.co.uk

Open: Mon-Fri 8.30-5.30, Sat 8.30-4.30

5000sq ft of hand/power and air tools

100 yards off M5 J28

H. P. W. CS. BS. MF. A. MO.

Yorkshire

D.B. KEIGHLEY MACHINERY LTD

VICKERS PLACE, STANNINGLEY,

LEEDS LS28 6LZ

Tel: (0113) 257 4736

Fax: (0113) 257 4293

Open: Mon-Fri 9am-5pm Sat 9am-1pm

www.dbkeighley.co.uk

P. A. W. CS. BS. MO.

Ryobi Dewalt

Cambridgeshire

TOOLFIX SERVICES

12 NEWARK ROAD, EASTERN INDUSTRY,

PETERBOROUGH PE1 5UA

Tel: 01733 347348

Open Monday - Friday

7:45am - 5pm.

H. P. W. MF. A. D. CS.



Gloucestershire

TOOLITE

THE MEWS, MITCHELDEAN, GL17 0SL

Tel: (01594) 544521

Fax: (01594) 542552

Open: Mon-Fri 8.30am-5.15pm Sat 9.00am-4.00pm

H. P. W. A. D. CS. BS. MO. MF

Dewalt

BOSCH

ELEKTRA BECKUM

Record

Stanley

VISA

MasterCard

Amex

Discover

Delta

Novus

Plus

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank

Card

Bank



H. BEHLEN

Wood Care, Repair, Staining,
Colouring & Finishing Products.

www.behlen.co.uk

ON THIS PAGE: COURSES & SHOWS, Woodworking
Supplies & Wood Repair and Finishing

H. BEHLEN

**Wood Care, Repair, Staining, Colouring
& Finishing Products.**Behlen's extensive range of products are available
online for purchase.**Glues & Adhesives**See our web site for our full range of products and
information on use including a reference chart to help
you select the most appropriate adhesive products.**Epoxy 5 Minute**Retains all of the physical strengths of epoxy
adhesives while offering the added advantage of
quick setting even in thin films at low
temperatures. It will bond wood, and nearly all
other types of materials including concrete. It
achieves its terrific strength as a result of a
chemical reaction when mixed with the
Hardening agent. Non shrinking.**'Hot Stuff' kit**Positively the finest gluing system
developed to date! Incredible strength...
easy to use... dries instantly with
accelerator solvent. Three different
viscosities to handle a multitude of
repair jobs, from wobbly chairs to
China or glass.**Sure Grip™ Resin Glue**Cream coloured, liquid, dries colourless. A ready-
to-use, heavy duty, aliphatic resin adhesive of
outstanding strength. Solvent resistant, heat
resistant and impact resistant. Unharmful by
repeated freezing and thawing. SUPER-GRIP™
glue will glue a wide variety of materials. Not
waterproof.**Excel One Glue**A high tech, professional strength, liquid
polyurethane adhesive. It expands as it dries and
is waterproof and stainable. Even bonds oily
woods! Readily accepts stain or paint. Requires no
mixing. Doesn't leave glue stains. User friendly.
Suitable for interior or exterior use.**Ground Hide Glue**A finely ground powder that is mixed approximately
50/50 with hot water, and kept warm during use.
Although this glue has a quick grab, it still allows
you to reposition the piece for an extended period
prior to setting. Ground Hide Glue is used
extensively in wood veneering and the cabinet
making industry.

www.behlen.co.uk

YOU CAN MAKE A ROCKING HORSE

IT'S EASIER THAN YOU THINK!

Contact us for a free
catalogue of plans
and accessories

MARGARET SPENCER & Co.

01621 828234

sales@margaret-spencer.co.uk
Chapel Cottage, Howe Green Road
Purleigh, Essex, CM3 6PZ**CNC POWER FASTENERS**

tel.01332 864422 fax.01332 865573

email.acampbell@quillplc.com

**SUPPLIERS OF - AIR NAILERS & STAPLERS + FIXINGS
TO SUIT. WOODSCREWS/PVA GLUE/POLYURETHANE
GLUE/IRONMONGERY/POWER TOOLS/HAND TOOLS.****THIS MONTHS SPECIAL OFFERS!!**

5 MINUTE SETTING PVA WOOD GLUE 1KG BOTTLE £5.10 each

FAST SET POLYURETHANE GLUE 1KG BOTTLE £7.00 each

15mm to 50mm 18 gauge AIR NAILER (3YR GUARANTEE)

£35.00 prices include vat

PLEASE CONTACT ANDY FOR FURTHER DETAILS**ON OUR LIST OF PRODUCTS****FREE DELIVERY ON ORDERS OVER £100**

Advertise in the
biggest selling
Woodworking
magazine in the
UK. For further
information call
Mike Pyatt on
01225 788204
or e-mail

michael.pyatt@futurenet.co.uk

Free Reader Ads

Selling your old router or want to buy a bargain biscuit jointer? Then look no further...

Tools
and
machines
for sale and
wanted

Hand tools

Woodworkers' cabinet with many pieces including 14 planes, Record No.042, No.073, No.071, Rabit 79, 92, 71, Stanley No.7, Record No.5, No.4¹/₂, Acorn No.4, handsaws, plough plane, spokeshaves, apron planes, callipers etc. £475 the lot.
L Sayers, Derby
☎ 01332 701654

Stanley 50 combination hand plane, 16 cutters, never been used. £50.
J Liles, Wolverhampton
☎ 01902 780080

Machinery

Radial arm saw, 10in blade, 1.25hp motor, crosscut 18in and spare blade. £300. **Floor-standing wet stone grinder**, 4x24in wheel, runs in water trough. Offers.
Hilma Strudwick, Surrey
☎ 07733 025265

Shopsmith Mk5 multipurpose. With castors for mobility. Includes extension table, extra saw blades and accessories, planer thicknesser, turning chisels, manuals etc. Cost today in excess of £4000. Will accept £1800.
H Woodcock, S Yorks
☎ 01226 281455

Kity 26 universal. Circular saw, planer thicknesser, spindle moulder and morticer. KWO head with assorted profile cutters. Single phase. Auto feed. All instruction manuals. £500.
Sid Kingsbury, Glasgow
☎ 07759 760660

Kity 1619 240v tablesaw and side table, 18 months old, £750. **Rexon 580w dust collector**, two years old, £100. **Elektra Beckum 315 panel saw** and side table, two years old, 240v, £250. All in good condition.
M Clarkson, Lancs
☎ 01772 434753

Record Power C310S combination woodworking machine. 20 hours' hobby use only. Powered by three 2.5hp motors, sliding table, wheel set and jockey handle. New boxed set of **Freud moulding cutters** (12 pairs of cutters and 12 pairs of limiter) plus blanks and 4in cutter

head. **Record Power DX4000 twin motor dust extractor**. Total cost new £4360; bargain at £2750. **Record Power router table** with sliding table and 1/2in router, both new, cost £350, bargain at £200. Genuine reason for sale.
W Kemeys, W Glam
☎ 01639 722010

Multico 5-in-1 tool: tablesaw, bandsaw, pillar drill, horizontal drill, 12in disc sander, lathe 32in long 16in bowl, variable speed. Very similar to Shopsmith. £150.
G Parr, Bucks
☎ 01494 716666

Bosch ADV82 thicknessing/planing attachment for Bosch PH025-82, GH031-82 or GH040-82 power planers, 80x70mm capacity. Complete with instructions. Postage £5 if required.
David Halton, Falkirk
☎ 01324 557161

Dust extractors: Sealy SM46, Record Power MDE2, Startrite Dustrite 2, Axminster WV1000. £30 each or all four for £100. Buyer to collect.
P Francis, Bucks
☎ 01296 713385

Scheppach HMS260 planer thicknesser in perfect working order, very little use, new blades, with manual. Reason for sale upgrade. £485
Keith Hambridge
☎ 01827 715335/01675 464074

Full workshop equipment including Sedgewick, DeWalt, Startrite and Record machines, benches, power tools plus many other items. Too many to mention. Fair prices. All very good condition. For sale due to immigration.
Richard Swift, Lancashire
☎ 01704 840912

Sign/copy carving machine complete with copy and TCT cutters and Trend router plus reducing pantograph.
Ken Chappell, W Yorks
☎ 01274 598616

Turning

30in Graduate woodturning lathe in excellent condition. Electronic variable speed, long and short tool

rests, faceplates, drive centre and live tail centre. Must be seen. Sorry to sell. Workshop relocation forces sale. £1250 ono. **Lathe chuck** multistar duplex 1¹/₂x6tpi thread, complete with numerous jaws and accessories. £100 ono. **Axminster Carlton lathe chuck**, 3/4inx16tpi thread, two sets of O'Donnell jaws and button jaws. £150 ono. **Coronet woodturning screw chucks** 1¹/₂in and 2¹/₂in both 3/4x16tpi thread. £30 ono for the pair.
Mark Taylor, W Mids
☎ 01384 296759

Faithful five-speed 36in lathe, comes with chisels and stand, excellent condition but no longer used, will consider swap for clamps, sash or other.
Mark Daly, Surrey
☎ 01372 817780

Apollo Woodpecker swivel-head lathe. Variable speed 0-4000rpm, 32in between centres, 11in over bed and 16in front position. Good condition, including faceplates, drive and revolving centre. Cost new £1345 in 1998; will sell for £395 ovno.
Bill Crocombe, Northampton
☎ 01604 45416

Miscellaneous

Three Hobbies treadle fretsaws. 2xA1. 1 GEM. One needs a new belt. Offers.
Eric Dodds, Northumberland
☎ 01670 790524

Wanted

Details, plans or information on the making of wooden cameras/bellows.
Brian Daly, Reigate
☎ 01737 221838

Hegner or diamond scrollsaw, variable speed.
F Holmes, Cheshire
☎ 0161 962 5923

Single-phase Sedgwick MB planer thicknesser wanted.
J Cain, Hampshire
☎ 01256 324015

DeWalt 240v radial arm saw 240v. Will consider alternative saws with similar capabilities.
Keith Holton, Worcs
☎ 01386 55339

How to book your ad

Simply write to us at Reader Ads, Good Woodworking, 30 Monmouth Street, Bath BA1 2BW

Please tell us:

- Your name, address and postcode
- A telephone number that we can publish with the ad
- The heading that you would like your ad to appear under
- The wording of your ad including the name of what you are selling and the price you would like

If the total value of the item or items you are selling is greater than £500, please enclose a cheque for £10 made payable to 'Future Publishing'.

Alternatively, if your advertisement is for goods worth less than £500, you can email the details to goodwood@futurenet.co.uk

Issues
not shown
are also
available

Good Woodworking Back Issues

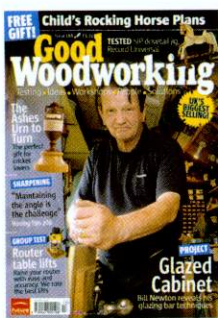
Call
0870
837
4722

Missed an issue?

To order a back issue, fill in the form or call our hotline



◀ GW167
Pool table; Arts and Crafts table; longcase clock; cheats; French polishing and more... plus pocket hole jigs on test



◀ GW168
Ashes urn; doll's bed; glazed cabinet; pushsticks; honing; Duncan Fearnley interview and more... plus router raisers on test



◀ GW171
The right joint for the job; flip-top table; blanket box; the art of bodge; pumice powder and more... plus lock jigs on test

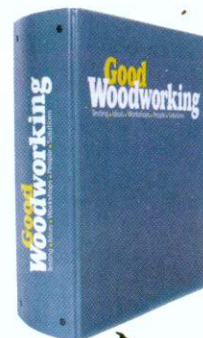
▶ GW172
Improve your workshop; drinks cabinet; offcuts table; template routing inlays and more... plus orbital sanders on test



▶ GW173
Sawtables; copy turning; quick TV cabinet; using CAD; wheeled morticer stand and more... plus sawtable accessories on test



▶ GW BINDER
Keep all your copies of *Good Wood* tidy and in the right order by storing them in these convenient binders



Order form: photocopy it or call us if you don't want to cut up your magazine

Issue	Price	Quantity	Total
GW167 Autumn 2005	£3.20		£
GW168 November 2005	£3.20		£
GW171 February 2006	£3.30		£ Out of stock
GW172 March 2006	£3.30		£
GW173 April 2006	£3.30		£
GW Binder (subscribers)	£5.95		£
GW Binder (non-subscribers)	£6.95		£

- Other issues are also available: please call for details
- Make cheques payable to **Good Woodworking**. Allow 28 days for delivery. For overseas orders please add: £3 for Europe, £5 for the rest of the world
- Please return completed order form to **Good Woodworking, Future, FREEPOST RLSC-SXSE-SKKT, Unit 4, Tower House, Sovereign Park, Market Harborough, Leicestershire LE16 9EF**
- Overseas readers** send your form to Good Woodworking, Future, Unit 4, Tower House, Sovereign Park, Market Harborough, Leicestershire LE16 9EF.
- Alternatively, why not call the credit card hotline: **0870 837 4722** for **UK readers** or **(+44) 1858 438794** if you're overseas
- EC registered for VAT – please quote number when ordering

MY DETAILS:

Title First name Surname

Address

Postcode

Tel.

If you'd like to receive emails and SMS from Good Woodworking magazine, Future Publishing and its group companies containing news, special offers and product and service information, please include your email address and mobile number below.

Email Mobile

METHOD OF PAYMENT:

☐ **Cheque** (made payable to *Good Woodworking*. Drawn on UK bank accounts only)

☐ **Mastercard** ☐ **Visa** ☐ **American Express**

☐ **Switch** issue no / valid date /

Card no.

Expiry date Signed Date

Total payment

Please indicate if you do NOT wish to receive relevant information about special offers or products/services from *Good Woodworking*, Future Publishing or any of its sister companies by ☐ post or ☐ telephone. Please indicate if you do NOT wish us to pass on your details to other carefully selected companies to enable them to contact you about their products/services by ☐ post or ☐ telephone.



Can our expert mimic Nakashima?

David Cockburn sets out to build a kitchen table in the style of the world-famous George Nakashima. PLUS Nakashima profile

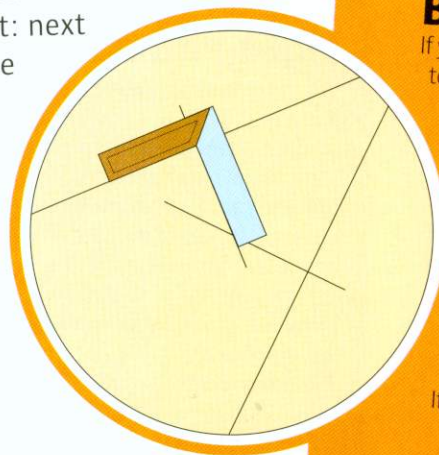


Plus Professional furniture-maker Trevor Cottell on how to design your own dining table

On Test Jigs and gadgets for getting more from your hand-held router

Sorry! We promised to bring you tips on setting up a bandsaw this issue, but got so excited with blades that we didn't have room. Fear not: next month we'll show you how and there'll be yet more jigs and ideas for getting more of that most versatile machine

**NEXT MONTH IN
GOOD WOOD
ON SALE 12 May**



Bonus Tip! Bigger middle

If you want to find the centre of something too big for your centre square, this is a simple way. It's suitable for things as large as an oil drum or even a circular flower bed, now that the weather's warming. Draw a line across as near to the estimated centre as your largest try-square can be expected to reach. Mark the centre of the line, then put your try square on this and draw a line. Do the same at another planes and the lines will cross at the centre of the circle. If you want to make sure, do it a third time.

Reader Tips

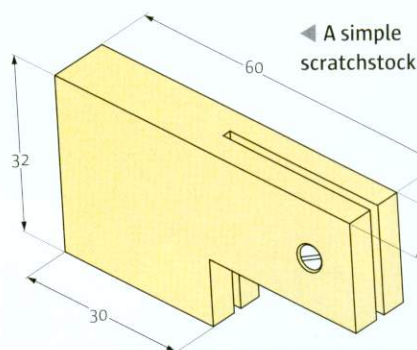
The solutions and nifty ideas that woodworkers love

Write to GW, 30 Monmouth Street, Bath, BA1 2BW
Email goodwood@futurenet.co.uk

The prizes

Every tip published on this page wins the reader a £25 voucher for Veritas gadgets and equipment. The Tip of the Month winner receives a voucher for £35. The Veritas range, which is distributed in Britain by BriMarc Associates, combines beautifully-made hand tools and neat little devices. For more details of the Veritas range contact BriMarc on 0845 330 9100 or visit the website at www.brimarc.com

veritas®



◀ A simple scratchstock

Simple scratchstock

Despite the versatility of the plunge router, simple tools have their uses. I recently made a wooden frame that needed a groove around the four sides for brass inlay. I couldn't find a 1.2mm router cutter and, anyway, the bog oak splintered badly.

So I made up a scratchstock from cherry. Any close-grained hardwood will do, though. I used an old dinner knife for the blade, shaping it with a diamond tipped wheel and an emery wheel in a drill. I sharpened the edge in a Stanley honing guide, honing it on a ceramic stone. I'd recommend this little tool for anyone needing to cut shallow, narrow grooves.

Alan Jackson, Lancs

Make your own veneer

You can make your own veneer, perhaps for a restoration project, with a router running on 'skis'. All you need to do is stick a piece of timber down on a perfectly flat surface, planed side down, using double-sided sticky tape or a few blobs of hot melt glue around the edges of your workpiece.

The 'skis' for the router are 250x60x30mm wide and are drilled to take the fence bars of the router to hold the router a fixed height above the work surface (say 50mm). My own have centres at 50mm and 65mm. You need to be able to lock the skis onto the bars, perhaps using a bolt in a tapped hole.

Using a 18mm or 25mm straight bit, take light cuts up and down the timber, gradually lowering the cutter with the fine adjuster. Check the thickness either with the depth gauge or with callipers.

Accuracy of the skis is essential, and the bar holes must be drilled on a drill press against a fence. In the past I have made them from one piece of wood which I cut in half after drilling for an exact match.

The surface must be flat: an offcut of kitchen worktop is ideal, but the laminate must be smooth not bobbly.

Mike Prendagrast, Bucks



◀ Making the scratchstock using an old dinner knife as the blade

Light and dark

When working with very dark woods it can be difficult to see your marking out lines. Hard pencils for precise work do not show up clearly. The problem can be overcome by using white chalk rubbed over the area to be marked. Then set out in the normal way, and pencil lines will stand out sharply, making it easier to work accurately.

Ray Willis, Berks

Longer life

Most woodworkers use cyanoacrylate or similar instant adhesive at some time. To stop it going off after use, keep it in the bottom of the fridge; this will extend the shelf life.

Barry Jackson, Notts

Hammer[®] ... the obvious choice

Its HAMMER time!

With Hammer's "basic" series you get the build quality, engineering excellence and results of a high performance professional woodworking machine for just a little more than a conventional hobby woodworking machine. Hammer, serious machines for serious woodworkers!



Milton Keynes: **01908 635 000**

Leeds: **08450 712 224**

Scotland: **08450 712 225**

for your free DVD



Special offer
£ 1,555.-
incl. VAT*

A3³¹

- Motor 4.0 HP, 1x 230 V
- Solid cast iron tables and units
- Planing width 310 mm
- Surface planer table length
- 3 knife quick-change, self-setting cutterblock system
- Planer fence tilting from 90°-45°
- Digital dial for thickness height (optional)

N4400

- Motor 4.0 HP, 1x 230 V
- Solid table made of cast iron
- Cutting height 300 mm
- Cutting width 420 mm
- Table size 420 x 575 mm
- Saw blade speed 850 rpm
- Table may be tilted
- Large wheels (Ø 440 mm)
- Upper and lower bandsaw guides
- Saw blade tension indicator
- Handy accessories: mitre fence, table extensions, rolling carriage



Special offer
£ 850.-
incl. VAT*



Precision sliding table



Double mitre fence



Sturdy rip fence

K3^{basic}

- Motor 4.0 HP, 1x 230 V
- Solid cast iron tables and units
- Saw blade can be tilted from 90°-45°
- Format sliding table 800 mm (1250 mm)
- Rip capacity 0-700 mm
- Double mitre fence system 900 mm

quality and precision
made in
AUSTRIA



Special offer
£ 1,935.-
incl. VAT*

HAMMER UK www.ukhammer.co.uk

Headquarters/Showroom: Unit 2, Sovereign Business Park Joplin Court · Crownhill · Milton Keynes · MK8 OJP · Fax 01908 307000

Northern Showroom: Allerton Bywater · Near Leeds WF10 2DB · Office Scotland: East Lilbride · Lanarkshire G75 0QD

Perform

...at home in the workshop

CCBB Bandsaw

- Made from heavy gauge steel sheet with a cast iron table
- 500mm x 435mm table
- Tilting work table, mitre fence and quality rip fence with fast action handle
- Max cutting depth 160mm
- 88" blades
- Blade speeds of either 360 or 720m/min
- Hobby rated

£199.75

inc. VAT

Order No:
CCBB

For further information or to view the complete range of Perform machinery visit:

www.perform-tools.co.uk

Offers valid until 29th May 2006

CCDE2 Extractor

**SAVE
£10!**

£106.33

inc. VAT

Order No:
200089

**NORMALLY
£116.33**

CCTS10 Saw Bench

c/w leg stand

£115.15

inc. VAT

Order No:
CCTS10

CCNPT Planer/ Thicknesser

**SAVE
£30!**

*Planer c/w
cabinet base*

£386.95

inc. VAT

Order No:
100063

**NORMALLY
£417.13**

CCMS10 250mm Compound Mitre Saw

Laser fitted

£59.91

inc. VAT

Order No:
108004

**NORMALLY
£69.91**

To order: Call 0800 371822
or visit **www.axminster.co.uk**

AXMINSTER[®]
POWER TOOL CENTRE

Axminster, Devon EX13 5PH