# Profile

ENSSI NUTUM 2000

The magazine for all Trend Users

with the Nova System

Wide range of profiling options

Airshield respirator

A breath of fresh air

jointing jig
End to end dovetailing

Slotters their applications

**Surf** for Success
The aims of the Trend web site

trend















Recognised as the original pioneers of routing technology, the essence of our thinking has always been that tooling should be supreme in both quality and performance.

In order to meet this concept, we subject our router cutters to rigorous testing to comply with the Holz BG International standard for safety and engineering quality. A combination of the latest machining technology and high standards in quality control, ensure that Trend tools continue to be the leaders in routing performance.

Trend router cutters, machines and accessories are available through a network of stockists throughout the UK.

Freephone 0800 487363 for your free 2001 Routing Catalogue and details of your nearest stockist.



www.trend-uk.com 0800 487363





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Innovative ideas and products have always been a major factor in Trends continuing success as the UK's leading routing and power tool accessory suppliers.

Once again Trend have endorsed this concept by introducing several new products that are not only innovative but push the existing boundarys of routing technology even further forward. I hope that this fourth edition of INProfile again helps in informing all router users, professional or amateur, not only of the unique and extensive range of Trend products, but of many of the advantages and benefits that routing can offer to all woodworkers, both in industry and in the home.

John Perkins Editor





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It is not often that a completely new concept in router cutter technology is created. By launching the new Nova System, Trend have introduced an innovative product that is not only versatile and economical, but retains the tradition of quality and precision that is synonymous with the Trend router cutter range.

## **SUPERNOVA!**



by Neil McMillan

rend's Nova System offers a wide range of profiling options from just two router cutters simply by using alternative cutter body variations. Each cutter carries a pair of detachable blades that can be simply and easily exchanged for alternative blades allowing coves, ogee, ovolo and most other traditional moulding profiles to be cut with the router.

The difference between the two body options is that while one is self-guiding, the other is a plain cutter for use with the side-fence or other guide systems. While the plain cutter has five profile options including bevel, cove and a classic decor, the self-guiding range has twenty three profile options, ranging from chamfer, bevel and bead, through to ogee and ovolo.



#### Cutter body type A - Self-guiding Cutter

Type A self-guiding cutters are fitted with high quality ball races that guide the cutter accurately against both straight or curved workpieces or template edges. On assembly, the cutter body is fitted with one of two alternative cages, concave or convex, depending on the cutter profile to be used. The cage securely holds the blades into the cutter body. Each carbide blade is etched with the correct cage symbol, cutter body and blade reference, to ensure that the correct blade can be easily selected and safely fitted.

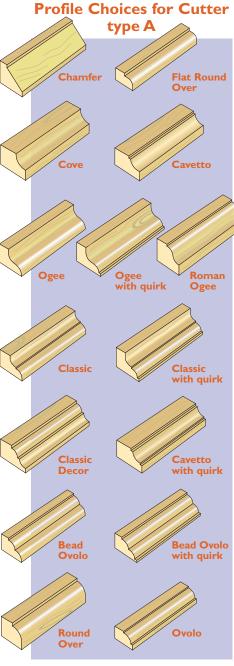
#### **Cutter body type B** - Plain Panel Cutter

Type B cutters are used for freehand routing or when the router is guided by a side-fence or guide bush.

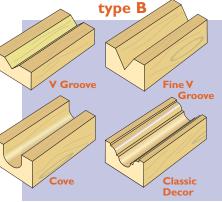
Again, each carbide blade is etched with the blade reference to ensure that the correct blade can be easily selected and safely fitted.







#### Profile Choices for Cutter



#### Why choose the Nova System?

The Nova Replaceable Blade System offers several advantages over traditional brazed tip cutters, these include:

■ An extended working life due to the use of more durable grades of carbide.

- Improved performance, finish and accuracy, in particular when routing highly abrasive materials, due to the combination of superior materials and quality engineering.
- A high degree of flexibility and versitility due to an extensive range of interchangeable blade profiles.
- Reductions in cutter replacement costs as well as time consuming and costly re-sharpening.
- Greater cost effectiveness in maintaining consistant cutter diameters and profiles, resulting in higher standards of production and quality control.











#### Assembly of Cutter A

- I. Holding the cutter securely (wear thin leather gloves to protect your fingers), loosen the nut with the spanner and remove it from the spindle. Remove the spring washer, ball bearing, safety cage and the blades from the cutter body.
- 2. Clean the slots of the cutter with a brush and clean the bearing and other parts with a soft cloth, removing resin deposits with a suitable solvent (do not soak the guide bearing in solvent).
- 3. Choose the appropriate profile blades and insert one into each slot on either side of the cutter body. Ensure that the blades register over the locating pins in each slot.
- 4. Choose the safety cage to match the blade profile. Fit the safety cage on the cutter body, ensuring that the blades slide into the slots in the cage base. Press against the chip limiter edge of each blade in turn to ensure that the cutting edges protrude equally from the cutter body.
- 5. Fit the ball bearing, spring washer and lock nut. Ensure that both blades are fully located before tightening fully.

- along the slot, tipping it to register over the locating pin.
- 4. Press against the chip limiter edge of each blade in turn to ensure that both cutting edges protrude equally from the cutter body. Partially tighten both grub screws before checking that both blades are correctly located and then fully tighten.









#### Assembly of Cutter B

- I. Holding the cutter securely, use the hex key provided to undo the two grub screws that lock the blades in place. As you feel the blades release, pull each out in turn from the side, tipping them to clear the locating pin.
- 2. Clean the slots of the cutter body with a brush. Clean the body and other parts with a soft cloth and remove resin deposits with a suitable solvent.
- 3. Choose the appropriate profile blades and insert one into each slot on either side of the cutter body (it is not possible to insert from the nose of the cutter). Slide the blade



#### Grooving using the T5 and NT/B

Nova type B cutters are for use when the sidefence, a guide bush or a straight edge is used to guide the router.



#### Edge Moulding with the CRT Router Table

Both type A or type B cutters can be used in table mounted routers and other fixed head machines or machining centres. (Guard removed for clarity)

#### **Nova Sets**





Nova type A self guiding cutters are fitted with quality guide bearings to ensure accuracy and reliability when running against the edge of the workpiece or a template.



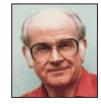
#### Safety First

Each replaceable carbide blade is etched with the part number for easy identification. The cutter type A blades are also marked with the relevant safety cage symbol in order that the correct cage is used with each blade.

For maximum safety both cutters are designed with chip limitation, the back edge of each blade acting as a chip limiter for the cutting edges. When handling blades take care not to cut your fingers. Ideally wear thin leather (gardening) gloves for protection.

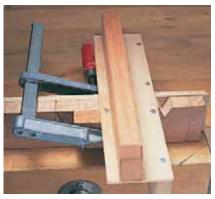
# Two traditional marble games to make with your router

# marble mania



by Gordon Warr

hese games are easy to make using cove cutters for the inclined ramp, arches and solitaire board. Both are ideally made from hardwood, beech is best, but here's a chance to use up some of those off-cuts. Each piece must be carefully cut to size and planed square before marking out the position of the arches and hollows. The marbles used for the two games are approximately 16mm diameter.



To cut the marble run arches accurately, make up a simple jig to support the router and guide it at right angle across the timber.

Router guide

batten

Slide

#### **Marble Run Game**

Mark out the position and size of each arch on the rectangular block. Cut away as much waste as possible with a saw before securing the block in a vice and clamping the jig to it. Cut each arch in turn selecting different radius cove cutters for each size.

Cut the ramp to size and rout the

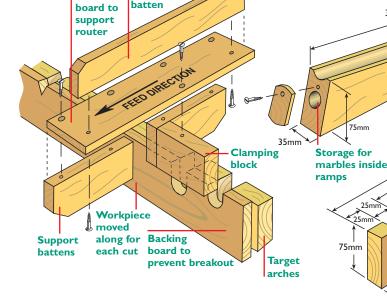
25mm 39mm

18mm

25mm

marble groove, using a 31.5mm radius cove cutter (ref 13/6), along the inclined face cutting to a depth of 10mm. For storing the marbles, drill an 18mm diameter hole into the back of the ramp using a long auger bit and fit a pivoted flap to cover the end.

330mm 30mr 25mm 25mm



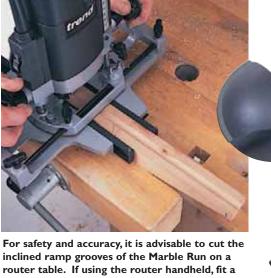
**Material required** 

Hardwood Blocks x I 330 x 75 x 35mm (Finished size)

Hardwood Blocks x 2 330 x 75 x 25mm (Finished size)



To reduce the wear on your cutters, saw out the waste from areas such as the scoring arches.



second side-fence to keep the groove centred.



#### Solitaire Game

4 x felt pads

An excellent method of holding the wood when routing the solitaire board, is to mount it on a square block of scrap timber using doublesided tape. It can then be securely held in a vice.

I95mm

150mm

5mm

5mm

#### **Routing the Hollows**

Starting at the centre of the square piece of timber, use a bradawl to mark each centre point at 20mm centres. As the router is to be positioned manually, it is best to start each hollow using a countersink bit, preferably mounted in a piller drill. This will help to locate the cove cutter accurately over each point. Each hollow is then plunge cut using a cove cutter mounted in the router (suggest cutter ref 13/2, C056 or Nova tool B and blade B53). Set the depth of cut to leave a hollow 5mm deep. Both the outer edge of the board and the marble retaining groove are cut using a suitable beam trammel fitted to the router. With the Trend T5 router a separate trammel point is provided for fitting to one of the side-fence rods.

Ensure that the centre point is located securely in the centre hollow.

The marble retaining groove is cut to an internal diameter of 150mm and a depth of 5mm, using the same cove cutter as used for the hollows.

#### Trimming the Board Edge

The outer edge of the board can be trimmed using a two flute straight cutter guided by the beam trammel. The cove around the bottom edge is cut using a bearing guided cove cutter (Suggest cutter ref 46/260, C060 or Nova tool A and blade AII).

#### Material required

Hardwood 16mm by 200mm square Self-adhesive felt pads x 4





he Health and Safety
Executive (HSE) classifies all
wood dusts as toxic and
possibly harmful, especially when a
person is exposed to it for long
periods. As well as the risk posed by
dust itself there is also the risk of
material being ejected under force

during any machining operation,

eye injuries.

possibly resulting in serious facial and

It is therefore essential to wear protection against these dangers, ideally in the form of a combined respiratory filter and full face visor. The new Trend Airshield battery powered respirator and visor offers both, incorporating a clear view polycarbonate visor for full eye and face protection from impact, together

with a fan powered respirator to filter harmful dust from the atmosphere.



Neil McMillan explains why the new Airshield respirator is an essential part of the woodworker's tool kit

#### **How it Works**

The Airshield works by circulating a constant flow of filtered clean air over the operators face, allowing them to breath normally without inhaling harmful particles. The respirator has a minimum air flow rate of 140 litres per minute, although when fully charged this is increased to as much as 180 litres per minute. To ensure that the respirator continues to perform to these safe levels, the air flow rate can be regularly checked using the airflow indicator supplied with the unit.

One other major benefit of using a fan assisted respirator rather than goggles, plain visors and dust masks (those of you who wear spectacles will know what I mean), is that it prevents the visor (or your glasses) from misting up.

The respirator is fitted with dual filtration, circulating the contaminated air through both a pre-filter and main filter to remove a high percentage of air-born particles. The air is drawn through the unit by a motor/fan designed specifically to ensure quiet running and power efficiency. Powered by a rechargeable four hour NiCad battery that can be detached for recharging, the unit is designed to accommodate an optional second four hour battery to upgrade the running time to eight hours continuous. Alternatively one battery can be removed and recharged, ready to be exchanged for the other to provide continuous



The Airshield is supplied in a draw string plastic bag to keep it clean when not in use.

One 4 hour battery and battery charger are also included.









running.

The polycarbonate visor is mounted on a fully adjustable headband to ensure a comfortable fit even when worn for long periods. A soft face seal ensures comfort as well as maintaining positive pressure to seal the visor and prevent debris or contaminated air entering the visor area. The clear visor can be flipped up when not required (i.e. having left the contaminated area) and is fitted with a disposable overlay to protect its surface from abrasion over a longer period.

#### **Approval**

The Airshield is type approved according to European Directive 89/686/EEC by Inspection Certification, notified body number 0194. The approvals being to BS EN166 and BS EN146. BS EN166:1995 - is the harmonised Standard for eye protection (low energy impact). This means that the visor and frame of the Airshield will withstand low energy impact by a high speed foreign object. BS EN146:1992 THP2 - is the harmonised Standard for respiratory protection to Class THP 2. The respiratory protection offered by a respirator is expressed as the Nominal Protection Factor (NPF). A value of NP20 allows no more than one particle in every 20 through.



An airflow indicator is supplied to allow testing of the airflow to ensure that the respirator meets the minimum airflow requirement of 140 litres per minute.



#### **Applications**

Providing both respiratory and eye protection, the Trend Airshield is ideal for professional and amateur woodworkers, for general woodworking as well as routing, turning, carving, sanding and finishing. It will also prove beneficial to many other industries, hobbies and activities where there is a constant risk of dust inhalation and facial injury. These include agriculture, engineering, pottery/ceramics, building (paint and wood sanding, brick dust, cement and insulation materials), dental laboratories and the aerospace industry.

#### **Airshield Features**

- Large pre-filter and main filter for greater particle retention and efficiency
- Wide visor/frame for good visibility and strength
- Fully adjustable head frame to suit most crown sizes
- Floating head-frame pivot assembly for user comfort
- Well balanced and light weight for ease of use and comfort
- Incorporates rear comfort pad and sweatband brow deflector
- Easily accessible switch and battery compartment(s)
- Flip-up visor for convenience
- Soft face seal
- Eight hours continuous use upgrade option
- Easily replaceable motor/fan assembly
- Contour fitting visor overlays



Circulating the air initially through a large pre-filter not only increases the protection and performance of the respirator but also increases the life of the main filter and therefore helps to reduce maintenance and running costs. The pre-filter is an open mesh static filter which attracts dust over a large area, preventing the main filter from clogging more frequently.



The THP2 main filter snaps easily over the front of the motor housing and is retained by four press studs.

#### **Accessories**

Air wipes

cleaning wipes for respirator (AIR/WIPE)

4 hour battery (AIR/4)

Replacement 240V charger (AIR/5/UK) Replacement THP2 fine filter pack

pack of three (AIR/I)

Replacement pre-filter pack of three (AIR/2)

Replacement visor overlay clear - pack of ten (AIR/3C)

Replacement visor overlay green - pack of ten (AIR/3G)

Woodturner's spare pack I off THP2 filter 3 off pre-filters

10 off clear visor overlays I off face seal (AIR/WSP)







# furniture



by Tom Rogers

focus

# Tom Rogers suggests ways to enhance panel doors using inlays

ecorative inlaid bandings, strings or lines are traditionally used to enhance the appearance of veneered furniture, both as a form of decoration in their own right or as a means to break up flat plain surfaces such as table tops and door panels. For the latter they are commonly used to produce an edge margin or to define or disguise the joint line when changing the grain direction, pattern or type of panel veneer (i.e. cross grain edge veneers).



#### **Materials**

Bandings and strings can be cut from many different materials, although plain or composite timber strip is most often used. Composite bandings are made up by sandwiching slips of contrasting or coloured timbers between surface veneers. These are then crosscut to produce a chevron, rope, arrowhead, chequered or other face patterns. Strings or lines are simply cut as thin strips of timber or other material, or as composite strings cut from three thicknesses of veneer (i.e. light outer veneers with a contrasting dark inner veneer). Bandings and strings are available from leading veneer and woodworking suppliers, while thin



section plastic and metal strip (brass, copper and aluminium) can often be obtained from modelmaking material suppliers.

Inlaying involves cutting a shallow recess, the exact width of the string or banding, into the surface of the wood or surface veneers allowing it to lie flush. All bandings are generally of similar thickness to surface veneers, about 0.7mm - 0.9mm while strings may be a little thicker. However, both should be set fractionally proud of the surrounding surface to allow for

trimming flush after the glue has dried.

#### **Cutting the Recess**

Traditionally this recess would have been cut by hand using a scratch stock or plough plane. However, the router, fitted with a suitable diameter cutter is now more frequently used for this purpose. There are a number of cutters suitable for cutting inlay recesses in the Trend range. Both single and two flute cutters can be used for this purpose, but it is imperative that they are kept finely honed to ensure that the edge of the recess is cut sharp and clean.



Single flute
2/01 2/02 2/10 2/12
Two flute
3/10 3/11 3/03
Your selection will depend
on the width of the
banding or string, these
can vary from 1.5mm to
12mm or even wider.







Internal and external templates are used when repeating inlay recess patterns on a number of similar patterns.



Clamp Guide can be fitted quickly to guide the router accurately.



Use the side-fence when cutting recesses parallel to the edge of the workpiece.



Fitted with the sliding base plate the Pro Track ensures accuracy when routing long lengths.

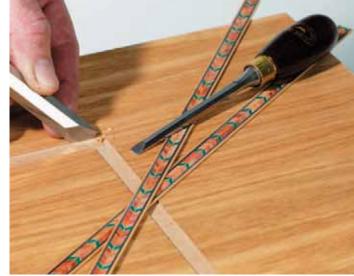
Always take into account the grain direction to ensure that it does not tear out along the edge of the recess. When cutting inlay recesses, the router can be guided by either an internal or external template, the side-fence or run against a straight edge clamped across the surface of the workpiece. Alternatively, the use of either the Trend Pro Track or Clamp Guide systems eliminate the problems of snagging and inaccuracy often experienced when using separate cramps to attach a straight edge or batten. For large projects, the Pro Track fitted with its router baseplate prevents the router running off line, while for smaller or more intricate work, the Clamp Guide can be fitted and repositioned quickly and accurately. Whichever method is used it will always be necessary to square the external corners of the cut recess with a sharp chisel to remove the radius left by the cutter.

#### **Balance and proportion**

When using inlays to break up a large panel or flush door, it is common practice to mirror the proportions of a traditional panelled door by making the top and vertical side margins of equal width, but increasing the width of the bottom and centre margins. This helps to produce a far more balanced and pleasing effect.

#### **Corner Designs**

As an alternative to simple square corners, a more decorative and interesting appearance can be gained by creating different designs or patterns at the corners. These can be achieved quite easily using pre-cut templates or by careful rearrangement of the straight edge or guide track, depending on the user's imagination and expertise.



Use a sharp chisel to remove the rounded corner left by the router cutter, taking care not to widen the recess.

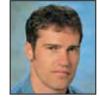
#### Fitting Bandings & Strings

Strings or banding are simply glued into the cut recess, making sure that they are flush or fractionally proud of the surrounding surface. PVA and other woodworking adhesives are suitable for most timber inlays, whereas plastics and metals may need to be fixed with impact or epoxy resin adhesives. While drying, place a layer of thin polythene over the work and clamp it beneath a flat surface to ensure that the banding or string lays flat and even. To finish your workpiece simply sand (or scrape) the surface flush and smooth before applying a suitable finish.

Carefully check the spacing and direction of the pattern before mitring or cutting the banding to length. Some patterns such as chevron may appear neater if layed in opposite directions into the corner.







by Miles Davey

# Miles Davey explains how to gain underfloor

access the easy way

hen it comes to cutting holes in floors - dead easy! An off-cut of ply or chipboard, a few short lengths of softwood, half a dozen two inch screws, maybe a few choice words, as I said, easy.

Of course that's forgetting the electric cable you cut through and the pierced water pipe that brought the kitchen ceiling down!

Now, how about the really easy way, the Trend Routabout. A truly unique product for gaining underfloor access. Easy and safe to use, does the job quickly and professionally and leaves you with a neat flush cover that provides instant access the next time you need it.

#### Old Way

Compared to the traditional method that is time and labour consuming and likely to squeak every time it's walked on, the Routabout is undoubtedly the modern answer to an age old







#### How does it Work?



I. The diameter of the finished access hole will be 250mm. Carefully mark the centre point of the circle, if possible positioning the access hatch between the floor joists. Screw the Routabout jig to the floor, using a single No 8 screw at the centre point to act as a pivot.

2. With the guide bush and cutter fitted to the router, place the router onto the jig, locating the guide bush in its seating. The Tungsten Carbide Tipped cutter is stepped to produce a groove within a wider groove. The depth is automatically set to either 18mm or 22mm by a guide bearing attached to the cutter body, this prevents the cutter from going any deeper (missing those pipes and cables!). Rotate the router around the centre screw in a clockwise direction, cutting to the full depth in a series of shallow steps until the cutter breaks through.





3. When cut, the waste piece is supported by the wings of the jig. The stepped cutter automatically cuts a rebated edge on the waste piece as well as around the edge of the hole. Fit the plastic insert ring into the access hole and turn the waste piece over. Drop it into the ring and it will lie flush with the floor surface. No nails, no screws, just a neat job with the minimum of fuss.



#### What will I Need?

You will need a Routabout jig, cutter and a stepped insert ring. These are all in the Routabout kit, all you have to do is select the kit to suit the floor thickness, either 18mm or 22mm.

You will need a router of at least 750 watts that will take a 1/4 inch or 1/2 inch shank cutter (Routabout kits are available with 1/4 or 1/2 inch shank cutters).

You will also need a 30mm diameter guide bush. If you cannot buy one to fit your router you can use the Trend UNIBASE fitted with a Trend guide bush.

What you won't need is a piece of spare flooring as the Routabout uses the off-cut removed when cutting the hole.





#### **ROUTABOUT KITS:**

I x ROUTABOUT Template

3 x Spacer Rings

I x Special TC Router Cutter

#### for 18mm THICK FLOORS

with 1/4" shank cutter RBT/1 with 1/2" shank cutter RBT/2

#### for 22mm THICK FLOORS

with 1/4" shank cutter RBT/3 with 1/2" shank cutter RBT/4

#### REPLACEMENT RINGS:

for 18mm THICK FLOORS
PACK of 10 RBTRNG18/10
PACK of 250 RBTRNG18/250

#### for 22mm THICK FLOORS

PACK of 10 RBTRNG22/10 PACK of 100 RBTRNG22/100 PACK of 250 RBTRNG22/250

#### REPLACEMENT CUTTERS:

for 18mm THICK FLOORS with 1/4" shank RBT/CUT/1 with 1/2" shank RBT/CUT/2

#### for 22mm THICK FLOORS

with 1/4" shank RBT/CUT/3 with 1/2" shank RBT/CUT/4

REPLACEMENT TEMPLATE
RBT/PLATE



# on the edge

John Perkins takes you through the range of grooving and slotting cutters available

hen jointing, recessing, inlaying or profiling straight or curved edges, slotting cutters offer a flexible alternative to vertical flute cutters. Mounted on a separate arbor, they can be used singularly to cut very precise slots or grooves, or stacked to produce customised cutting widths and profiles. Interspersed with bearings, spacers and shims, both the depth and width of the assembled cutter can be adjusted to produce clean and defined profiles to very precise tolerances.

#### **Square Tip Slotters**

Slotting cutters consist of a flat steel disc or blade tipped with two or more tungsten carbide teeth. Each tooth is ground to an exact width and precise cutting and clearance angles to ensure that waste material clears quickly and freely. Slotting cutters are available in diameters of 16, 36, 40 and 50 mm for use on 6.3 mm (1/4 inch) arbors and 40, 50, 86 and 100 mm diameters for use on 12mm arbors.

#### **Arbors**

Standard and heavy duty arbors to suit cutter bore diameters of 6.3 and 12mm respectively are available, each supplied with a set of spacers of various widths. Fine adjustment on both arbors is achieved by the use of shims, available in a range of 6 thicknesses, 0.1, 0.3, 0.4, 0.6, 0.8 and 1mm. Extra spacers to fit 12mm diameter arbors are available in sets of 1, 2, 3, 4, 6.3 and 10mm thicknesses. Both arbors are available with 3/8 and 1/2 inch shanks, while the standard 6.3mm arbor is also available with a 1/4 inch or 8mm shank.

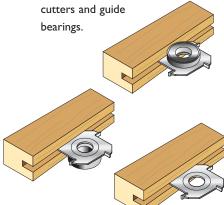






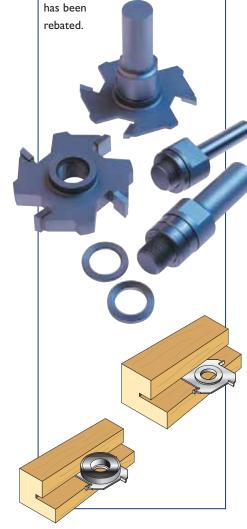
#### Trend 12mm Stack system

The I2mm Stack system (Trend ref. 33/I) consists of a 45mm long arbor with either a 3/8 or I/2 inch shank. The arbor is complete with four spacers and a locknut. These arbors can be used to make up heavy duty cutter assemblies using I2mm bore cutters and guide bearings.



#### MI2Threaded arbor system

These arbors and threaded bore cutters (Trend refs. 33/10 & 33/20) are designed for flush recessing to produce capillary slots and weather seal grooves when making door and window frames. The cutter is used with a suitable diameter guide bush after the frame







#### **Guide bearings**

Guide bearings are used to set the depth of the cut and to guide the cutter against the edge of the workpiece. Changing a bearing for one of a different diameter will change the depth of cut, the smaller the bearing diameter the deeper the cut. When fitting bearings always check that shims or spacers are fitted correctly to provide clearance between the outer rim of the bearing and the adjacent cutter, allowing the bearing to turn freely.

Remember that guide bearings cannot be re-lubricated. Avoid washing them in solvent or other solution that may dissolve the grease. Once the grease is removed, it cannot be replaced. Guide bearings should be checked frequently and replaced if indication of seizing or excessive play is apparent.

#### tips

Always assemble cutters with care, first checking that the arbor is free of burrs or scratches and the lock nut threads are clean and undamaged. Check that each cutter is facing the correct way, against the rotation of the router. To reduce the risk of flexing, always fit the cutters as close to the shank end of the arbor as possible and when stacking cutters always offset each cutter (i.e. two cutters on arbor set at 90° to each other) to reduce the impact force of the cut.

Take care not to cross thread the locknut before tightening it firmly to prevent the arbor turning in the cutter bore. When fitting guide bearings always use spacers or shims to prevent the tips of small diameter cutter from touching either the bearing case or adjacent cutters.

#### **Using slotting cutters**

Rather than plunge cutting, slotting and grooving cutters are fed horizontally into the edge of the work. Not only does this produce a very precise depth and line of cut, but allows the router to be supported and balanced on the face of the work rather than the narrow edge.

Slotting cutter assemblies can be guided by a side fence, running against the straight edge of the work, however the ability to fit a guide bearing in any position on the arbor, allows far more flexibility.

Generally when using slotting cutters, the cut is taken to its full depth in a single pass. However when using large assemblies of three or more wide cutters, the cut can be made in several passes, using either the side fence or alternative size bearings to limit the depth of cut for each pass.

Smaller slotting cutters and cutter assemblies can be used in either hand-held or fixed table routers, but for both accuracy and safety, assemblies with four or more cutters are more suitable for table routing or other fixed head routing systems (i.e. machining centres).

Cutter assemblies up to 50mm can

Cutter assemblies up to 50mm can be run at full router speed while larger diameter cutter speeds should not exceed those recommended by the manufacturer (i.e. 86mm and 100mm run at maximum of 12000rpm).









(Trend ref 342) The use of biscuit dowels made of compressed timber, are regularly used to form joints in both natural timbers and man-made materials. This method of jointing can easily be carried out using the router fitted with a suitable width slotting cutter (4mm) and arbor. Alternative diameter bearings allow recesses of different depths to be cut to suit the three common biscuit sizes of 0, 10 and 20. All three biscuits sizes

#### **V-Joint Matchlining Cutters** (Trend ref 338 & 339)

require a groove width of 4mm.

Using a square tipped cutter to

produce the groove, matchlining cutters have a second chamfered edge cutter to cut the v-joint profile. To cut both interlocking profiles, the slotting cutter is exchanged for one of a different diameter and the guide bearing is re-positioned on the arbor. Suitable for material between 10 to 17mm using a 4mm grooving cutter and 15 to 23mm using a 6.3mm grooving cutter.



#### **Bearing Guided Tongue and Groove Cutter Set**

(Trend ref 337)

Consisting of two slotting cutters (6.35mm and 10mm kerf), fitted on either an 8mm or 1/2 inch arbor, these cutters can be used to cut both the tongue and groove profiles of the joint on timber up to 22mm thick. A 22mm diameter bearing is supplied to produce a depth of cut of 9.5mm.

#### **Quadriset Groover Set**

(Trend ref QUADx1/2)

The Quad groover offers the facility to cut infinitely variable groove widths up to 18.35mm. Consisting of a 12mm arbor and four grooving cutters of 3.2, 4, 4.8 and 6.35mm widths, it comes complete with a 22mm diameter guide bearing and a set of nine shims.

#### Finger Joint Cutter Set

(Trend ref 866)

This cutter is used for joining timber either end to end or edge to edge, leaving both faces absolutely flush. The set consists of five tapered tooth slotting cutters, allowing timber up to 36mm to be jointed. These cutters are mounted on a 1/2 inch shank arbor

along with a tapered tooth butting

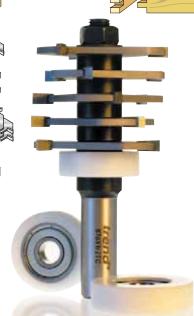


#### **Comb Joint Cutter Set**

(Trend ref 876)

Ideal for small box work, the set comprises five square tooth slotting cutters mounted on a 1/2 inch shank arbor with shims and spacers. Three guide bearings are supplied with 28, 29 and 34mm diameters. This cutter should only be used in a table mounted router and is suitable for timber widths up to



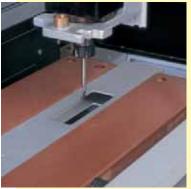




Signwriting in natural timbers



3D Shaping of foam materials



Machining aluminium apertures



**Cutting perspex shapes** 



**Drilling circuit boards** 

John Tigg, Technical Manager at Trend, introduces the latest version of their Computer Aided **Machining Centre** the CNC SMART.

ne of the major advancements in workshop technology is the introduction of Computer Aided Machinery at a cost that is affordable to even the smallest woodworking and engineering (plastics, foam and non-ferrous metal) workshop.

Fitted with a 2 horse power High Frequency routing head, the CNC SMART conforms to European Regulations for the safety and control of CNC machines. For operational simplicity, the CNC SMART uses standard ISO G Code language to control the movement of the routing head. Programming versatility is achieved using Trend Draw and Engrave Pro and Draw and Engrave Standard or one of the many other 3rd party CAD/CAM software programs. (Please note: Third party programs may require modification to their standard output drivers, please contact Trend Technical Department for further assistance).

The Trend CNC SMART has been developed to handle a wide range of applications and materials. These include routing natural timbers and man-made boards, plastics, high density foam and aluminium. With a positional accuracy of 0.01mm it is equally at home drilling and machining printed circuit boards for the electronics industry.



trend

**CNC SMART** 

by Jim Phillips

### routing workshop ig making lim Phillips explains how

to make and use three simple routing jigs

aking Jigs and guides to accurately align and hold the workpiece or control the precise path of the router, is an essential part of routing. They can considerably reduce the time involved in carrying out any operation and the chances of making mistakes. However any jig, template or guide must be made accurately as any unwarranted movement or inaccuracy will replicate itself on the finished

workpiece.

Jigs should always be made from hard wearing materials that can be cut and machined (routed) cleanly. Ideally, dense plastics and resin based materials such as Perspex, ABS, Tufnol and polycarbonate sheet are easy to work, are wear resistant and can be drilled and threaded. Plastic laminate faced boards (MDF, plywood etc.) allow the router to slide easily, and again are hard wearing. Off-cuts of aluminium channel, tube and angle are also ideal for use as guide edges, tracks and slides.

> Threaded inserts, tee-nuts, star knobs and locking levers as well as toggle, pivot and end socket clamps can be incorporated into jigs to make them easy to use and to ensure that the work is held securely. A range of these components is available from Trend.

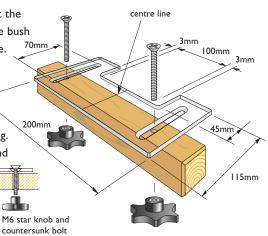
#### Hinge Jig

Hinge recesses can be cut quickly and precisely using the router fitted with a guide bush and a straight flute cutter. The jig consists of a template fitted to a hardwood batten. The template is cut to suit specific hinge lengths, allowing for the guide bush margin. This margin is the difference between the cutter diameter and the outside diameter of the guide bush.

To calculate the margin deduct the cutter diameter from the guide bush diameter and divide by two (i.e.  $24 \text{ mm} - 18 \text{mm} \div 2 = 3 \text{mm}$ ). Cut the template from Perspex allowing adequate width and length to prevent the router from tipping. Rout a slot across each end and countersink these to take the mounting bolt heads. Cut the template opening

equal to the hinge length and add the guide bush margin (3mm) to each end. At the centre of the opening, score a line across the back of the template (centre line).

Cut a 40 x 45mm hardwood batten to length and drill two holes equal to the spacing between the mounting bolt slots on the template. Secure the template to the batten using M6 star knobs.





Mark the recess position and centre line of the hinge across the door edge. Clamp the jig to the edge and align the hinge and jig centre lines. Adjust the width of the recess, allowing for the guide bush margin, by slackening the star knobs and sliding the template across.



Fit the guide bush and cutter to the router and set the depth of cut to suit the thickness of the hinge. Cut the recess by making a fine pass along the front edge to reduce breakout, before removing the rest of the waste. Check the fit of the hinge before squaring the recess corners with a sharp chisel.

**IN**Profile



#### **Trimming Jig**

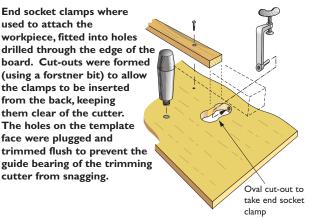
Common sense as much as regulations is the keynote to safe routing, so when it comes to using the router table, the best thing is to comply with both and use a jig rather than your fingers when presenting the work to the cutter.

The jig for trimming the seat slats for the chair illustrated, consisted of a simple template with the edge cut to the slat profile.

Extra length was allowed at both ends of the template to provide leadin and lead-out sections and a batten was screwed to the face to stop the workpiece being forced backwards.



cutter from snagging.



When trimming curved edges always ensure that a lead-in or copy pin is fitted to the table to prevent the workpiece snatching and being dragged behind the cutter. Cut away most of the waste from the edge prior to trimming flush, leaving no more than 3mm.

When trimming on a router table ensure that you cut in the correct feed direction, that is from right to left, against the rotation of the cutter.

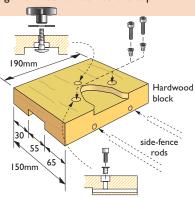


#### 3 Clamp Guide Slide Block

Designed for use with Trend Clamp Guides, this captive slide prevents the router from running away from the guide edge.

Cut and finish the hardwood block square before using the router's side-fence and a large diameter cutter to rout a 55mm wide by 16.5mm deep groove across one face. A recess is cut into the top face to provide a clearance for the side handle of the router.

Two 8mm holes are drilled in the side of the block to accept the router's side-fence rods. Two M6 hex bolts, screwed into threaded inserts are fitted to retain the 





The Clamp guide is fitted on the work, parallel to the line of the cut, allowing for the width of the block and router. Final positioning of the cutter on the line can be carried out by sliding the router along the rods. In use the router is guided by one side handle of the router and the slide block knob.

# Simply Simply

aving previously reviewed the Trend Snappy system for a popular woodworking magazine, I concluded that all items in the range proved to be of high quality, quick and easy to use and more than accomplished the tasks for which they were intended. Of course, since then the range has grown considerably, but each addition still appears to conform to my original findings adding to it's versatility and adaptability. This extended range now benefits an even wider circle of tradesmen, woodworkers and DIYers.

#### **Quick Chucks**

At the core of the system remains the patented Quick Chuck that all the Snappy range of screwdriver bits, drills and other items simply snap into. This has been supplemented by several additional chucks, including an extended chuck for getting into deep recesses, one with SDS compatibility (great for the construction industry) and a magnetic chuck that comes complete with a set

> of six short screwdriver bits. Of course it will also accept your old 1/4 inch hex screwdriver bits that are probably still lurking at the bottom of the toolbox!

by Bill Cain



applications

#### **Square Drive Adaptors**

Vehicle mechanics and DIY motorists alike will undoubtedly find a place for the Snappy system following the introduction of square drive adaptors to take I/4 and 3/8 inch hex sockets. And don't forget that snappy chucks are ideal for driving your Torx bits.



New chucks join the Snappy range.



and 3/8 inch hex drive sockets to be used in a cordless drill.

#### **Hole Boring**

For drilling large diameter holes, the Snappy range includes a set of five Forstner bits for boring neat square sided holes, Flat bits to allow large diameter holes to be bored quickly and economically and Augers for drilling deep holes or removing waste from mortises and pockets.











#### **Taps**

Taps are available in six metric sizes for cutting threads in metals and plastics. These are ideal for use in a slow speed cordless drill. Snappy Stepped Reamers are also available to drill the pilot holes for the taps.

#### Countersinking and Recessing

Of particular interest to furniture makers, modelmakers and other craftspeople working with wood, metals and plastics are two forms of stepped drill, de-burring countersinks and for extended life, Tungsten Carbide counter-boring drills.





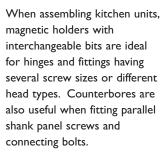
Two types of Counterbore, one with carbide cutting edges, have been introduced for sinking and plugging screws, bolts and other fastenings (ideal for jigmaking).



A combination of boring and drilling bits ensure that fittings are fitted neatly and securely.

#### Kitchen Fitting

For the kitchen fitter, always trying to get into tight corners (or out of them), there are several sizes of extended length cross head screwdriver bits and chucks which allow you to drive screws straight in line rather than at an awkward angle.











#### Something for Everyone

Both the original Snappy range and its additions are ideal for tackling a wide range of repair, maintenance and construction tasks and in most cases, make such tasks so much faster and easier to complete. Snappy Quick Chucks are also a boon to anyone who suffers from aching wrists, Carpal tunnel syndrome or Arthritis, particularly if drilling and screwdriving is an essential element in their work. The continuing success of Trend's 'Snappy system' is founded on its simplicity, ease of use and ability to do the job with out letting you down. IP

# simply Snappy® Snappy 2

Following on from Bill's preview of new Snappy products, INProfile highlights six extra newcomers to the

Snapp

range.



This wall or bench mounting metal rack holds up to 28 Snappy fitting tools and up to 9 screwdriver bits (tools not included). Supplied with fixing screws (SNAP/RACK/I).

#### Magnetic Screwdriver Holder

This telescopic holder securely holds both the screwdriver bit and the screw itself, preventing the tip from slipping off the screw head. Supplied with No.2 pozi® insert bit (SNAP/MSH).

#### Magnetic Screwdriver Bit Set - 31 piece

Snappy

Containing a magnetic screwdriver and 30 assorted bits, the strong plastic case is fitted with a secure belt clip (SNAP/SB2/SET).



#### **Tool Holders**

These heavy duty fabric tool holders are available in 30 and 60 piece sizes, either with an assorted range of Snappy tools or empty. See the latest Trend Routing Catalogue for full details of contents (SNAP/TH1/SET - 30pce SNAP/TH2/SET - 60pce) (SNAP/TH/1 & SNAP/TH/2 - Empty tool holders).

#### **Masonry Drills**

Available separately or as a 4 piece set, Tungsten Carbide Tipped masonry drills of 5, 6, 7 and 8mm diameter are now available to suit most popular sizes of wall plugs (SNAP/MD/5 etc, SNAP/MD1/SET).

#### **Rubber Grips**

Two rubber grip chucks, one with a standard Snappy shank and the other replaces existing drill chucks with 3/8" x 24 UNF spindle thread (SNAP/QCR and SNAP/QCRD).



Tool holders have a belt strap and are Velcro® fastening.

# new cutters

New cutters for Trend's Professional and Craft ranges



#### **Craft Range Template Profilers**

Two further bearing guided, straight fluted cutters are now available for trimming and template profiling.

One has a 19.1mm diameter and 19mm cutting length, while the other has a 19.1mm diameter with a cutting length of 50mm. Both are supplied on a 1/2 inch shank.

Both are two flute Tungsten Carbide Tipped cutters, the shorter one having a plunge cut facility in the form of a TCT tip brazed into the bottom of the cutter (C165X1/2TC and C166X1/2TC).

Craft Range 90° Designed for trimming intricate shapes and details, these cutters are ideal for signmaking, toymaking and dolls house construction. Both cutters have a diameter of 6.3mm and are available with cutting lengths of 12.7mm and 25.4mm. For use on laminates, veneers, fibre and particle board as well as natural timbers (C167X1/4TC and C168X1/4TC).



#### **Craft Range Dovetail Cutters**

A range of two flute Tungsten Carbide Tipped cutters have been introduced for use with Elu, DeWalt, NuTool and Titan dovetail jigs. Four are mounted on 1/4 inch shanks for use with the appropriate guide bush, while the fifth cutter is fitted with a shank mounted bearing. The four unguided cutters have spurs ground on each tip to allow for the dispersal of excess glue when the joint is assembled (C159X1/4TC - C163X1/4TC).

#### Professional Range Guided V-Groove Panel Cutters

Two new bearing guided V-groove cutters have been added to the Trend Professional cutter range. One is a 60° x 12.7mm diameter cutter, mounted on a 1/4 inch shank. The other is a 45° x 19.1mm diameter on a 1/2 inch shank. Both cutters are two flute Tungsten Carbide Tipped with shank mounted guide bearings for use with internal or external templates (11/20X1/4TC and 11/41x1/2TC).



## end to end

by Adam Black

Cutting elegant, end to end dovetail joints, just got a whole lot easier!

he Joinaboard jointing jig not only provides a quick and easy method of joining wood end to end, but in doing so produces a strong mechanical joint that does not rely solely on the strength of the glue. When assembled, the neat, flush dovetail joint produced by the jig offers a very practical solution to this problem as well as a highly decorative one.

For practical purposes the Joinaboard can be used simply for joining short lengths of board together to make longer boards. Any job that would normally leave you with a pile of offcuts may certainly benefit from its use, both in savings in the cost of materials as well as in the time it takes to complete it. Panelling, cladding, decking or extending any wooden structure can be now carried out in a very professional manner using strong reliable joints and with the absolute minimum of waste timber. Precision jointing with the Joinaboard jig is very quick to achieve because both halves of the joint are cut at the same time.

The Joinaboard can also play a major role in the area of decorative jointing. Often a somewhat contentious area, where the two camps, one expressing the view that all joints must be hidden while the other is for exposing them, the neat dovetail joint produced by the Joinaboard offers an attractive compromise between the two.

By carefully planning the position of joints when installing decorative flooring or panelling, it is often possible to emphasise the joint either subtly or, by using timbers of different colours or grain patterns, more strikingly. In furniture design the joint can be proudly shown off as part of the delight of the object, while end to end dovetails of the quality produced by the Joinaboard jig, sit perfectly at home within panels or table tops, adding to the interest and attraction of the piece itself.

The Joinaboard jig has several well thought out features. The usual problem of breakout is avoided by cutting both pieces of timber with their 'face' sides pressed together. In use the Joinaboard jig is clamped to the workpiece rather than a fixed bench (although this can be done for some applications). Therefore the jig can be taken to the job rather than bringing each

piece of timber to the

workshop or bench.

Supplied with the Joinaboard jig are all the necessary parts that you require including a 1/2 inch shank TCT dovetail cutter, guide bush and a comprehensive instruction book. All you need to supply is a suitable 1/2 inch collet capacity router (if you cannot fit a suitable guide bush, use the Trend Unibase. This allows the guide bush supplied with the jig to be fitted to any router).

Using the Joinaboard jig couldn't be simpler, clamp the jig in position on the wood, position the template to suit the width and cut the joints.

The cutter tip is set to a height of 30mm above the router base.





When they are clamped in the jig, the two pieces of timber are automatically offset by an integral stop.



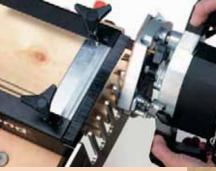
The timber must be clamped flush to the underside of the finger template.



When cutting the dovetails, ensure that the cutters passes through the full thickness of both pieces of timber.







When end jointing long lengths of timber, the jig can be used vertically. The brush prevents the shavings being thrown upwards.

#### **Warning**

The diameter of the dovetail cutter supplied with the jig is larger than the inside diameter of the guide bush. Therefore take great care not to accidentally release the router's plunge lock, allowing the cutter to hit the guide bush as this will damage the cutting edges. For safety it is advisable to fit a fine height adjuster to the router to avoid this problem.



A guide to the main areas of our web site

#### **Products**

Complete information and specifications. Includes links to manuals to download free.

#### **Books & Videos**

Order routing books, videos and the new Trend Gift Vouchers on-line.

#### **UK Stockists**

Locate your nearest Trend Routing Centre or retailer using your postcode. Includes maps and links to retailers' web sites.

Surf

John Harrington explains how the latest Trend web site aims to offer much more than just an on-line catalogue.



Stockist Name Distance 0.7 miles MAP M P MORAN (KENNINGTON PK) LTD 0.9 miles TRAVIS PERKINS LTD (VAUXHALL) 1.6 miles MAP HERNE HILL TIMBER CO MAP 2.1 miles <u>CUSDENS LTD (VICTORIA)</u> 2.5 miles clbN

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#### Show Dates

Woodworking exhibitions and open days where you can meet our knowledgeable demonstration team.

#### **FAQs**

A database you can search containing answers to questions about Trend products.

#### **Getting Started**

All the information you need on routing products, techniques and tips to get you started. Includes an on-line guide to safe routing.

ike most topics, if you use a search engine to find information about woodworking on the internet, you'll be presented with a virtual tidal wave of information.

For major manufacturers like Trend the challenge of having a presence on the web is not only to attract visitors to our site by offering catalogue information on-line, but also extra 'added-value' content thanks to web technology.

The most significant advantage of the web over printed media is the immediate availability of information worldwide, 24 hours a day. This provides a cost-effective means of keeping woodworkers up to date on new products or promotions. If product specifications change they too can be updated immediately on-line, so for example you can find out which

> accessories are compatible with your router.

If you're making a major purchase, the first place many people look to are the independent test reviews from magazines. We've made obtaining this information easy by publishing the reviews for many of our major products, such as our routers, on our web site.

#### TEST REVIEWS

from leading woodworking magazines

Extracts and highlights from independent test reviews for major Trend products are available on our web site.

A better understanding of a powertool can be gained from reading the manual, but traditionally you needed to buy the product to get a copy, or you might even have lost it. On the Trend web site

you can simply click on a web link and view a copy of the manual online or print it out to keep.





Successful woodworking is clearly not just about tools alone. It's also about becoming familiar with the best methods for carrying out basic tasks. With this in mind our site has our popular booklets featuring routing tips and techniques to download free.

Many queries that our technical engineers face from router users can be characterised as frequently asked questions or FAQs. The knowledge built up is available using our on-line FAQ database. You can search using keywords like 'collet' to see the answer to your question and perhaps solutions to problems you haven't yet encountered!

The web also allows this concept of selfhelp to be extended with facilities such as our on-line Discussion Forum. This enables users of Trend products to exchange questions, answers and information with other woodworkers.

The future for our web site will almost certainly involve new kinds of content like full-motion video and animated instruction manuals to download to your PC or even view on your mobile phone.

#### Get Acrobat Reader

Most of the manuals and booklets to download from our web site are in Adobe PDF format, designed for fast download times. To view a PDF file offline you'll need Adobe Acrobat Reader, a free program which you may already have on your PC or you can download a copy from www.adobe.com. You can often get a copy of Acrobat Reader on a PC magazine cover disk too.

PDF



One of our routing booklets to download from the web.

For now however, there is still much that progressive organisations can do with internet technology to give some real benefit to customers. In the long term, every manufacturer could sink or swim on the strength of their web content for woodworking web surfers. IP

#### WOODWORKING **DISCUSSION AREA**

The Discussion Area is a feature of our web site which is like an on-line message board. It enables users of Trend products and all woodworkers to interact with each other and leave questions, answers, hints and tips for visitors to read and respond to.

	Forum
Q	Routers Choosing and using your Trend T-series router ar
Qui	Router Cutters With over 3,000 cutters in our range, this is a for cutter to use for an application.
Q	Joining Timber Biscuit jointing, finger jointing, profile scribing, an together.
Q	Drilling Tools Discussion about counter-sinking, counter-boring drilling.
Q	Sawing Using Trend Waveform sawblades plus other saw
Q	Router Tables A forum for Trend router tables like the Craftsmar
Õ	Routing Jigs and Accessories Post questions and answers about using Trend ji

There are separate categories (forums) for messages about routing, sawing, woodturning, finishing and an area to feature details about your woodworking projects. Within each forum are topics. A topic might be a single message or a group of messages and replies all about the topic, sometimes referred to as a thread.

- also user-made jigs.

Your message can contain a web link (URL). So if for example you have your own web site with details of your routing projects you can insert a link to

your site within your message.			
Author	Topic: grain pellets		
tony andrews Junior Member	posted 08-04-2000 10:12 PM		
	A quick tip for you chippys out there, if y small router or laminate trimmer to flush with a chisel, and with carefull setting or this methord on door linings/skirting bo		

Anyone can read messages. To create your own topic or post a message you need to register on-line for the discussion forum. Registration is free and takes only a few seconds. If you've never used an online discussion area or bulletin board on the web then help is at hand.



## A tale of two cities

#### Edinbra Telford College

St. Albans Oaklands College

INProfile sent **Tom Rogers** along to assess the highest and the oldest of routing courses!

took the high road to Edinburgh, home of our most northerly routing course, and to Telford College where promising router enthusiasts can find the course of their choice: Basic, Advanced or Tradesman.

I was booked on the one day advanced course along with five others all of whom had some routing experience or had attended the basic

course.



As with all routing courses we started with a brief talk on the safety aspects before commencing with our project, a small occasional

The production of the table introduced the use of some of the more popular jigs

available for the router:

- CRT MK2 router table on which we were dovetailing, slotting and template profiling
- Routerlathe for turning and fluting
- Router carver for producing the decorative feature.

All the students were suitably impressed with the versatility of the equipment and quickly became proficient in using it.

> The course is full hands-on from start to finish and the lecturers Gregor Allan and Keith Swann skillfully promoted the use of the equipment to encourage the students to work effectively and with pleasing confidence.

#### **Course Details:**

One day basic, advanced and tradesman courses, between them consolidating many routing techniques and including the use of many jigs and templates.

#### **Course Prices:**

One Day All types

Edinburgh's Telford College Crewe Toll Edinburgh EH4 2NZ Tel: 0131 332 2491 ext. 7336

ne of the longest running routing courses in the UK is held at Oaklands College, St Albans, who boast excellent attendance throughout their nine year reign for the one day basic and two day advanced courses. This case study follows the one day basic course, custom designed for the absolute routing beginner.

A brief, concise introduction covering the functions of light and heavy duty routers was followed by a discussion on cutters and their uses, router safety and safe routing.



is as all beginners

courses should be, concentrating on the basic use and functions of the router, gradually and effectively building up the confidence of the students in order that they can adopt certain techniques to suit their own particular tasks.

> The last section of the day was taken up with the production of a bread board, incorporating some of the methods used previously during the day. This is an ideal course for those new to

#### Course Details:

One day basic and two day advanced courses, primarily based on routers, cutters and techniques.

#### **Course Prices:**

One Day Basic \_\_ £95 Two Day Advanced \_\_\_

Oaklands College St Peters Road St Albans Herts ALI 3RZ Tel: 01727 737213







Trend sponsor a number of one and two day routing courses around the UK.

For your nearest course centre please refer to the map below.

#### **EDINBURGH'S TELFORD COLLEGE**

Crewe Toll Edinburgh EH4 2NZ Tel: 0131 332 2491 ext. 7336 Contact: Gregor Allen

#### **JOE GREENERS WOODWORKING CENTRE**

Valley Street North Darlington Co. Durham DLI IPZ **Tel:** Freephone 0800 7312145 Contacts: Joe Greener

#### **TURNERS RETREAT**

Brunel Industrial Estate Harworth South Yorkshire DNII 8QA Tel: 01302 744344 Contact: lan Gibson

#### **CRAFT SUPPLIES ACADEMY**

The Mill Millers Dale Nr Buxton Derbyshire SK17 8SN Tel: 01298 871636 Contact: Eve Middleton

#### **WOODCRAFT TRAINING**

50 West Street Isleham Nr Ely Cambridgeshire CB7 5SB **Tel:** 01638 780978 Contact: Mike Humphrey

#### **WOODCRAFT TRAINING** in association with **ROY SUTTON**

St Georges Avenue Herne Bay Kent CT6 8JU Tel: 01638 780978 Contact: Mike Humphrey

Get the latest update on routing courses from our web site.

trend ELECTRONIC

#### **OAKLANDS COLLEGE**

St Peters Road St Albans Herts ALI 3RX Tel: 01727 737213

#### SPEEDWELL TOOL CO

62-70 Meadow Street Preston PRI ISU Tel: 01772 252951 Contact: Monica Parker

#### THE ROUTING CENTRE

Bluebell Industrial Estate Dublin 12 Republic of Ireland **Tel:** 00 3531 4566604

Contacts: Jim or Eamonn O'Neill

#### **AUSTIN EAMES** ·

Plas Acton Precinct Pandy Lane Wrexham Clwyd LLII 2UB **Tel:** 01978 261095

Contacts: Peter or Richard Eames

#### **NEATH PORT TALBOT COLLEGE**

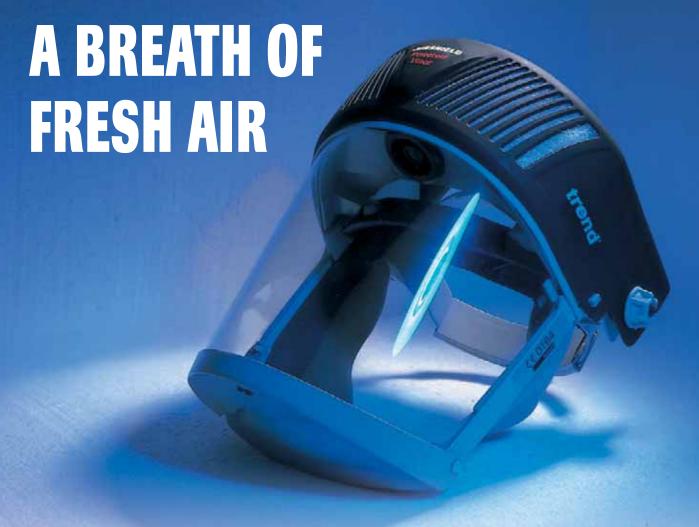
Dwr-y-felin Road Neath Wales SAI0 7RF Tel: 01639 648038 Contact: Clive Ball



#### YANDLES OF MARTOCK

Hurst Works Martock Somerset TA12 6JU Tel: 01935 822207

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## THE NEW AIRSHIELD



The AIRSHIELD is a battery powered respirator for use with all woodworking applications, especially routing and woodturning.

Providing excellent protection from the inhalation of harmful dust with a pre-filter and fine dust filter. The polycarbonate flip-up visor also protects eyes and face against the impact from flying debris.

Includes a rechargeable 4 hour NiCad battery which drives a quiet fan to keep a constant flow of filtered air flowing across the face.

The AIRSHIELD and routing accessories are available through a network of stockists around the UK.

Freephone 0800 487363 for your free 2001 Routing Catalogue and details of your nearest stockist.



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