

# Joined up routing

The Joinaboard jig, illustrated in **photo 1**, is basically a portable dovetail jig, specifically intended for on-site end-to-end jointing of boards, such as floorboards, skirting, panelling and cladding, used either on trestles or a portable workbench such as a Workmate. The dovetails themselves are quite large, requiring a 1/2in shank cutter, and a corresponding router. Site use on long boards also calls for the workpiece to be horizontal, which requires the router to also be used horizontally (**photo 2**). This put me in a rather interesting position in that although I have been a router user for many years, my experience is largely limited to 1/2in collet routers and I have never owned a larger model (the T9 is on loan from Trend). I've also never used a router horizontally - a task which I confess I approached initially with a little trepidation (but more of this later!) The jig can also be used with the router in the normal vertical mode, given that the workpiece isn't too long. In view of the fact that the jig and workpiece are necessarily clamped together in use, the workpiece itself may be clamped in a bench vice with the jig sitting on top. I would however suggest that this method does depend rather on whether the vice is capable of holding the work securely. I had one or two reservations about my own bench equipment in this respect, and would also have found photo-

Jack Cox joins forces with Trend's Joinaboard jig

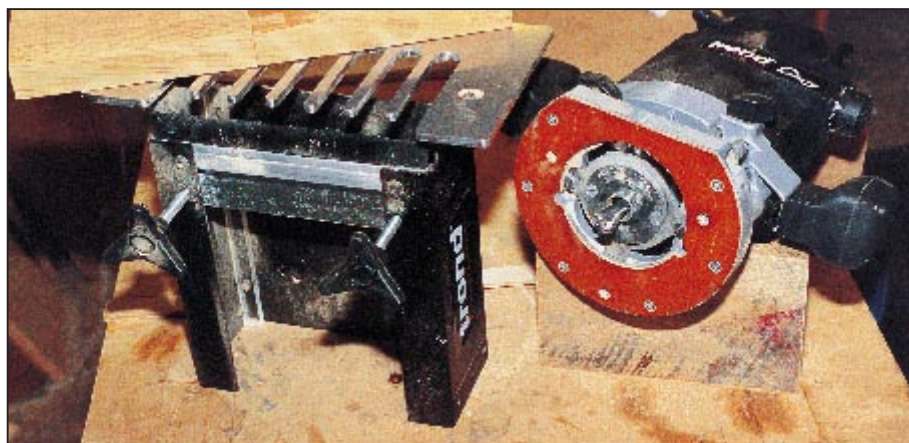


Photo 1 The portable dovetail jig, ideal for on-site work

graphing it all rather difficult. I therefore elected to add a couple of angle brackets to the base of the jig, and screw these to my Workmate. The setup is shown in **photo 3**.

## Comb as you are

As can be seen from the photograph, the jig has a fixed comb pitch, and

allows both mating workpieces to be machined in the same operation. This is achieved by offsetting one board laterally with respect to the other, with face or top sides together. The half-pitch offset is built into the jig by means of an acrylic strip. After machining, the two mating halves are then simply opened out, book fashion, with the joint at the hinge (**photo 4**). This arrangement requires (and indeed is normally designed around) a dovetail cutter of a specific maximum diameter, in this case the Trend Ref.L90. This cutter has a maximum diameter of 17.5mm. (or just a shade over 11/16in). The flank angle for the cutter is 8° which in turn determines the theoretical depth of cut 23.13mm (0.910in). The jig also features a brush mounted beneath the comb template which effectively stops the operator being sprayed with shavings. The capacity's generous, >



Photo 2 Horizontally on long boards



Photo 3 The set-up in vertical mode



Photo 4 After machining the two halves, simply open out, book fashion

> allowing for a maximum board width of 189mm (7<sup>5</sup>/<sub>16</sub>in) and a thickness of 30mm (1<sup>1</sup>/<sub>2</sub>in) for each of a pair of boards cut at the same time and 53mm (2<sup>1</sup>/<sub>16</sub>in) for boards cut singly (which they can be, if required).

## Breakout

My own test involved cutting pairs of oak boards, each of 25mm (1in) thickness at one operation, in both horizontal and vertical mode, after a number of softwood trials to determine the depth of cut. This is fairly near to the maximum thickness capacity of the jig, and the oak provided a fair load for the cutter and router.

I experienced cutter breakout only on softwood when setting the jig up. Some of the oak I was obliged to use (to get the required thickness) was a little below par in terms of quality and, as a result, a few bits actually 'fell away' during bandsawing to thickness, let alone subsequent machining (a common-enough problem with oak). A better quality piece, cut singly, gave quite excellent results on both faces. The presence of the brush on the jig does give rise to a minor problem when machining close to the maximum thickness, in that the shavings are unable to drop away and tend to collect behind the brush and follow the cutter into the machined channel. If the cutter is withdrawn after the cut is completed whilst it is still revolving it chews up the shavings and spews them out at the back in the form of a dust cloud - no problem on-site in the open perhaps, but no fun at all in a workshop.

My solution was to stop the router after each operation and withdraw it with the cutter stationary and then vacuum the shavings out.

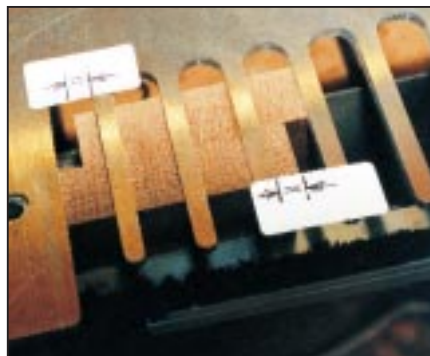


Photo 5 The result of additional spacers is shown here

## Horizontal action

I must admit I wasn't exactly looking forward to using the router in 'horizontal' mode. **photo 2**, which illustrates this was, in fact, a static shot but I found the operation remarkably easy after a little practice. The major problem is avoiding the horizontal equivalent of 'tipping' by keeping the router base pressed in firm contact with the comb template at all times. I managed this by a kind of 'knees-bend' type of vertical feed which, since this is only a couple of inches, my ancient legs coped with quite well. Unavoidably, there is not a great deal of clearance between the cutter and the bore of the guide bush and, due to the piling-up of shavings mentioned, the gap tends to become packed with dust, which needs regular clearing out.

Due to the presence of a pair of dome-head screws holding the offset spacer, it is necessary to fit packing beneath the jig when screwing to a worktop. Although sturdy, the back plate of the jig does tend to flex a little under the pressure applied by the clamp when working with boards of less than maximum width.

## Friends

With all fixed-pitch dovetail jigs, the problem of unfriendly board widths inevitably arises and the larger the cutter diameter, the worse the problem becomes. In fact, with a cutter of this size, certain board widths make it quite impossible to make a satisfactory symmetrical joint, i.e. one with equal half-tails at both ends of the same piece, since these can become very thin and weak at the roots and liable to break away altogether.

In such cases it is necessary to try to match a half-tail at one end with a

## Specifications

Priced at £159.95 + VAT the Joina-board is supplied with a 20mm guide bush, a 1/2in shank TCT dovetail cutter and full instructions as standard.

For more information and details of your nearest stockist contact Trend Machinery & Cutting Tools Limited, Unit 6, Odhams Trading Estate, Watford, Hertfordshire, WD2 5TR. Tel: 0800 4 TREND or 01923 224657. Fax 01923 236879, Email: wendyc.trendm.co.uk or [www.joina-board.html](http://www.joina-board.html)

half-gap at the other. The comb template does have a nominal 6mm (1/4in) lateral adjustment, but this is not sufficient to meet all possible cases. It may therefore be necessary to add a pair of equal-width 6mm (1/4in) spacers to each mating board. These, together with the adjustment provided, will allow an arrangement as illustrated in **photo 5** to be set up to give a neat asymmetrical result. The oak boards illustrated in **photo 6** were deliberately bandsawn prior to routing, to a width which demonstrates the asymmetrical effect, and also show the results obtained by horizontal and vertical machining. ■

## New experiences

The jig is easy to use, even in the horizontal mode, but it does need a little practice and some previous router experience: it is not a jig for the complete beginner. In view of the ease with which it allows large dovetails to be cut in hardwood, this would probably be of interest to boatbuilders as well as those working on houses. ■



Photo 6 Better results in vertical mode