

Router

Router Test

Jeremy Broun
gets stuck on
the limpet-like
Minimach



Hold me tight

Holding work securely is a vital prerequisite to successful wood-working, but often the securing device hinders the task. For example, a G-clamp can foul the router's path when edge profiling – wasting time and effort in re-positioning the clamp. This is frustrating. For many years now the mass-production furniture industry has beaten this holding problem by using a vacuum clamping method, especially when used on overhead routers. Now this fast and efficient method for holding work is available to the small-scale workshop in the form of the Trend Minimach. All that's needed is a vacuum cleaner or workshop extractor of 500W minimum.

The Minimach is a simple, portable device which kills two birds with one stone

with its vacuum action. It secures itself to the benchtop while gripping the workpiece at the same time. A simple gate lever tap controls the vacuum pressure for instant grip or release. The only requirement is that both workpiece and benchtop must be flat to ensure a perfect vacuum seal. The Minimach uses foam-rubber gaskets on both operating surfaces which gives some scope for minor irregularities, but what it doesn't like is rough-sawn or bowed wood. The business end of the device is made up of several vacuum cells, each with a spring-loaded ball-bearing valve. When the workpiece is pushed down onto the device it depresses the ball valves and thus activates the vacuum pressure within each cell.

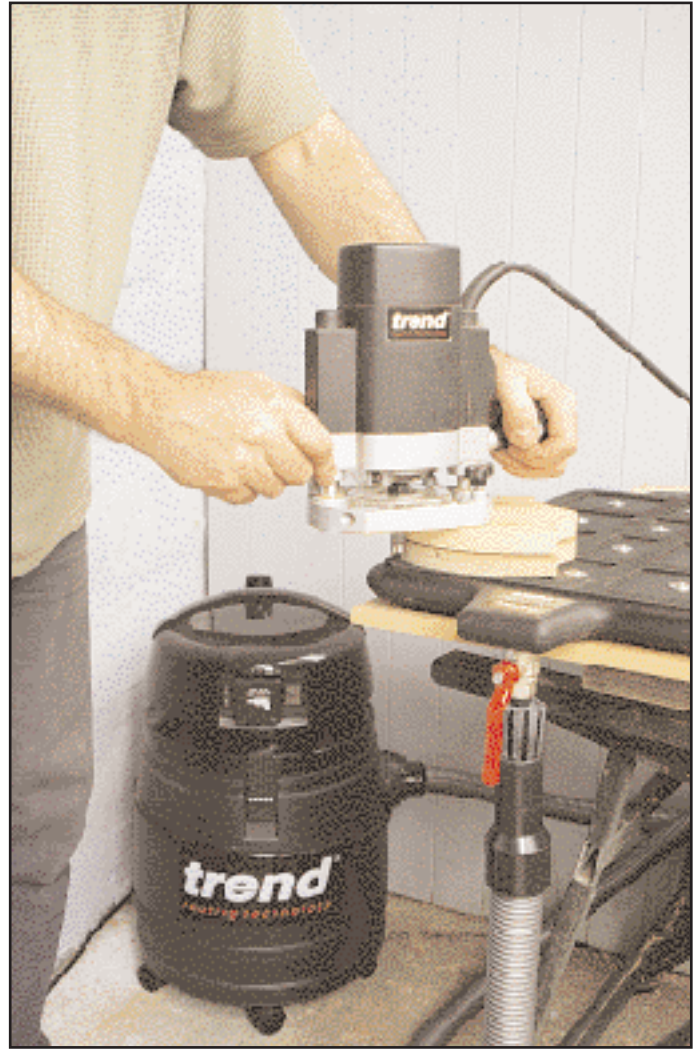
The Minimach scores highly since it isn't too big and heavy to lug about the work-

shop. It vaguely resembles a briefcase and is not too small to grip a half 8 x 4 sheet of MDF (1220 x 1220mm for the woodworkingly correct). Its versatility is excellent because not only will it hold large panels (you may need a supporting block at the other end) but it will also take work as small as 95 x 95mm. This is a good plus point since any woodworker knows that the smaller the workpiece, the more difficult it is to secure without causing an obstruction. The work can be of any shape, providing the contact surface is flat. For maximum grip the workpiece needs to cover an entire cell so that the necessary vacuum seal functions. If possible, avoid placing work diagonally and try to completely cover as many cells as possible.

There's very little setting-up. Just attach



Clamp-free sanding has never been so easy



Looks dicey – but on the Minimach it couldn't be safer

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the screw-in tapered hose adaptor, which is fluted to maintain some continuous air passage to prevent your extractor overheating when the vacuum tap is closed. A wall fixing hook is also supplied. The unit should be operated with an extractor or vacuum cleaner for a maximum period of 30 minutes, with 10 minute intervals for the extractor motor to cool down. I didn't use the synchronising switch (which turns the extractor on and off with the power tool) as I wanted independent control of the vacuum action especially when initially securing the workpiece.

I tried the Minimach out on a variety of woodworking tasks such as routing, sanding, planing and sawing, using varying dimension stock. The thinnest material I could safely vacuum clamp was about

4mm. Useful, for instance, should you need to grip a thin veneered panel for sanding. When template routing you can vacuum grip the template to the workpiece using the 2.5m length of adhesive foam strip which is supplied with the device. Normally you would use double-sided tape to attach this to the workpiece. That all takes time, but with this method you simply stick the foam strip around the perimeter of the template to form a looped gasket. It doesn't have to follow the profile shape faithfully. You then drill a hole (eg. 9mm) in the template (MDF) to allow the suction to work. Care has to be taken to ensure a perfect seal so a marking knife is better than a pair of scissors for cutting the gasket strip to accurately butt the ends together. The method involves a trimming cutter which has the bearing at

the tip. This means the template material, which is underneath the workpiece, has to be a minimum thickness of 12mm to allow clearance.

Vacuum-clamping the template to the workpiece is a novel concept and adds great ease to routing repeat shapes because of the instant grip/release action and, not least of all, the hassle it saves in separating the template from the workpiece when using tape. The method can be used for a variety of edge profiling and shaping applications such as plaques, shields, toy components, breadboards and photo frames, and is an excellent function of the Minimach.

All-in-all the Minimach is a useful workshop device for holding problematic work and could very well be a router user's best friend. ●