



# BAILEY'S ROUTER CLASS

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# Bed headboard

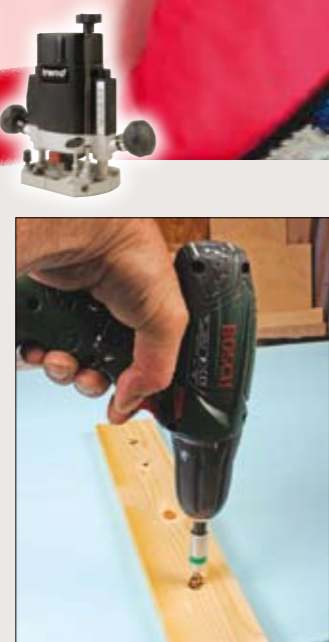


**Anthony Bailey** creates an amazing jig for extraction on face work



## THE PROJECT

You can easily buy a headboard for a bed, but you can choose to make your own and personalise it more as a result. It doesn't have to cost a lot either as this project shows. MDF is the perfect base material which can be machined and then painted to create a pleasing shape, or can be finished off with a padded panel to rest your head against, and soften the look of it.



Screwing the headboard support brackets in place

**T**he router is still the most versatile power tool there is. Along with a vast range of cutters, jigs and gadgets – many of which you can also make for yourself – it can help produce high-quality woodwork.

This series is intended to show you what the router can do, while assuming the reader has a general level of woodworking knowledge. We hope to show you the aspects of each project that specifically involve the router and how this great bit of kit can expand your woodworking skills.

Each month we will highlight the jigs, cutters and gadgets you will need to help you get more from this incredible machine. Feel free to send us pictures of your routing endeavours, or post them on the WPP forum at:

[www.woodworkersinstitute.com](http://www.woodworkersinstitute.com)

PHOTOGRAPHS BY GMC/ANTHONY BAILEY

## THE JIG



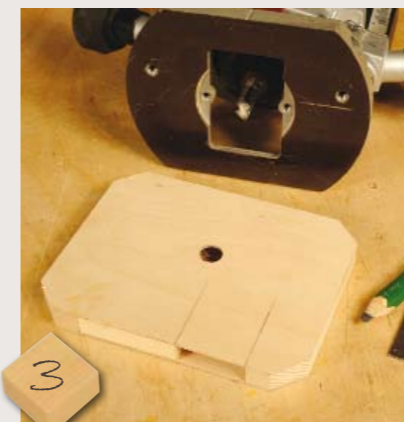
Dust is the enemy of woodworkers, fine invisible dust less than one micron in size can penetrate human tissue – that means skin and lungs. So when we want to machine a material like MDF – especially when face moulding – it generates a lot of dust. We need to consider how to deal with this. So, I thought I would try and mimick several routers on the market that have inbuilt extraction, by making an add-on base through which the dust is drawn immediately sideways and up the extraction spout. It adds a little thickness to the router base but in most cases cutters will still project enough, or you can fit a collet extender.



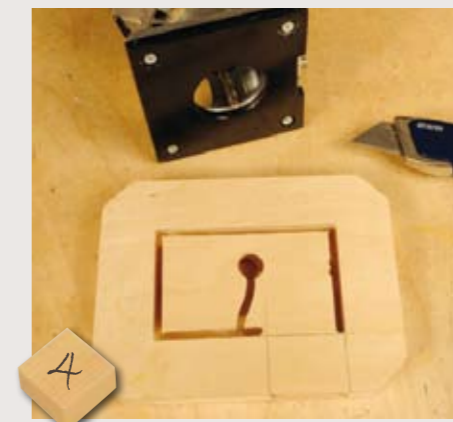
**1** I used very thin 1.5mm birch ply for the top and bottom faces, which are cut slightly larger than the intended router base size. The ply is so thin a Stanley knife and straightedge are best to score it and finally 'crack' the ply by bending so it parts cleanly



**2** Cut some pieces of softwood fillet to make the frame of the base ensuring all cuts are square, and leave a slot for the extraction spout. Glue and sandwich the pieces between the top and bottom plies and clamp up carefully, wipe off any excess and leave to dry



**3** Trim the sandwich square and mark on both faces where the dust outlet slot is. Nip off the corners evenly with a saw. Make a hole roughly in the middle of both faces using a router and straight bit



**4** Now use a straight template trimming bit entering through the hole on the face and machine away the centre area running against the inside faces of the fillets. Any lumps of glue may foul the run but you can see them now to clean them off. Repeat machining from the other face. Take great care to stop at the dust outlet pencil lines or you will machine into the ply and ruin it. Use a Stanley knife and straightedge to cut along the unmachined portions



**5** Use contact adhesive to stick a piece of laminate sheet to the underneath face to protect it and allow the sub base to glide easily. Cut away waste overhanging the edges with a Stanley knife. Repeat step four to remove the centre piece of laminate



**6** Use a bevel cutter to machine a small bevel on all outside edges but avoid the dust outlet slot. These last sections can be done with a hand file. Mark, drill and countersink the holes for the fixing bolts to the router base



**7** The top side needs a tiny rebate to take a rectangle of polycarbonate with rounded corners that just sits in flush, and is trapped by the router's own base



**8** You need a rigid extraction spout. I decided to use sink waste pipe and an elbow bend. The bottom of the elbow is cut flat, sanded and a flat piece of plastic conduit bonded to the cut-away underside and another flat piece glued over the portion that shows above the sub base. Once fitted into the sub base the setup seems to give close on 100% dust removal with an extractor fitted

## THE CUTTERS

This time quite a selection of cutters have been used for what seems a simple project. A 12mm straight makes the opening in the extraction sub base followed by a tiny Trend profile trim cutter and then an equally tiny rebate cutter to fit the polycarbonate sheet in the top. Next is a small, classical, face-mould cutter for the panel effect. The larger profile trim cutter rounds the headboard corners,



then a 19mm straight cutter is used to clear the bearings on the next two cutters. The 9.5mm straight makes the headboard leg slots and then a dedicated router drill countersink makes the screw holes in the legs

## MAKING IT



This technique can be used for any size headboard although this one is for a single bed. The first step is to measure up and mark out the board size required, this will generally be the same width, or wider, than the bed width and then cut to size. Mark out any detailed shaping, in this case the rounded corners and the positions for the panel shapes which will be face moulded



Continue to machine all panel lines, dust free, until the panel shape or shapes are complete. With poor or no extraction this operation is very unpleasant, so our newly made sub base will make all the difference. Note how a line-undercut has produced a slight point in the corner, this can be carefully cleaned away with a gouge. The pencil stop mark is to avoid overrun, which is worse



Fit the face-moulding cutter and the newly made router extraction sub base. Clamp a straightedge in place after measuring the cutter to sub base edge distance aligning it with the panel markings at both ends of the line. I found a waste piece of plastic with a projecting pip that I could locate safely in the ventilation slots on the top of the router



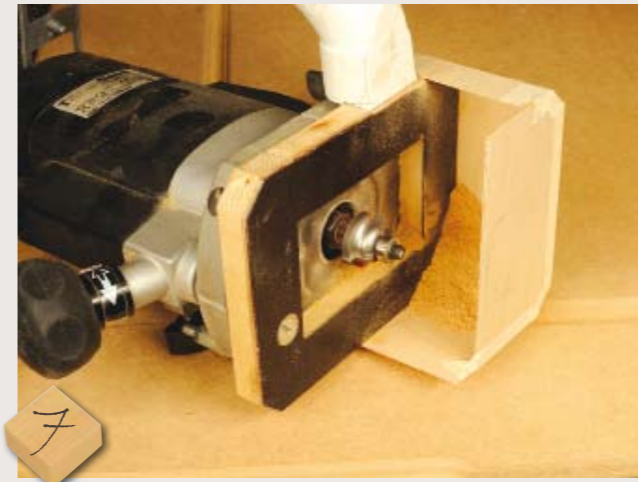
In order to machine the rounded corners a shaped template is clamped underneath for a straight bearing-guided profile cutter to follow. A simple spout shape is screwed to a 9mm piece of board to act as extraction sub base when hooked up to a vacuum unit. It works effectively with this type of cutter



Make sure the extraction is linked up to the sub base and switch on. Plunge and machine the first panel moulding line ensuring you do not overrun. It is better to slightly undercut the line and then the adjoining machining will probably run neatly into the first



The back edges of the headboard need a roundover. This time dust escapes around the top of the large diameter cutter so the extraction sub base needs to be refitted. However, a lot of dust is ejected below so I used a second extraction sub base to which I glued a thin ply shield and a base piece. This collected the dust ejected from the side



The front edge can be made to look better and feel more comfortable by applying an ogee moulding using a bearing-guided cutter. The sub base stays in place to draw up dust. When one side is machined, rest the router carefully so you can collect the dust safely from the dustshield then proceed with the next



Drill and screw the legs to the headboard, if you have a router drill-countersink you use that to make the holes. This is an efficient way to drill accurately



A headboard normally needs fixing using two slotted legs that slide onto bolts fitted on the back end of the bed. These can be machined best on the router table using a straight cutter in several passes, until the cutter breaks through the leg. Fit a stop at the outfeed side so the cuts finish at the same position at each pass. Note the slight notch-out to prevent dust packing and stopping the cut short. The extraction hood is holding the component down and a set of spring fingers press against the side



Undercoat the headboard with a paint designed for porous board such as MDF, so the edges are sealed before applying proper top coats. Rub down the surfaces, especially the mouldings, so they are smooth after the basecoat

## Router torque

**Q** This sounds really stupid, but I managed to damage the top of my nearly new benchtop by routing right through a workpiece into the top, because the depth stop rod slipped. I'm going to be more careful in future, but is there an ideal answer to protecting surfaces?

**A** Obviously a sacrificial board is the way to go as I'm sure you now realise. However, the workpiece can still slip around on it

unless clamped down. Rubber faced supports such as Loc Blocks allow a cutter gap and stop the board slipping. However, recently I discovered using Celotex polyurethane foam board that is used for building insulation. The advantage of this is it gives a good support surface and cuts really easily so there is no strain or wear on the cutter but it doesn't make dust as it is trapped underneath. To give it non-slip grip I use spray adhesive and let it dry off before mounting the workpiece. Best of all, offcuts can be found in builders' skips everywhere ■



Celotex foam makes a great sacrificial work surface

Email your router questions to: [anthonyb@thegmcgroup.com](mailto:anthonyb@thegmcgroup.com)