

BAILEY'S ROUTER CLASS

Magazine rack



Anthony Bailey makes a stylish magazine rack

The 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

THE PROJECT

I was looking for a neat, space-saving solution to keep magazines close to hand. This design is perfect for standing next to a settee or armchair, or is equally at home standing against the wall thanks to its single-sided design. Of course, it's ideal for keeping the latest copy of Woodworking Plans & Projects next to you if you fancy a spot of armchair woodworking!

PROFILING

One of the basic features of a router is the ability to copy shapes again and again, although this often isn't exploited properly. As soon as you fit a bearing-guided template trim cutter to the router you can mimick any shape exactly. This can be done freehand, although working on the router table gives you much better vision and control of the job. There are other trimmers intended for laminate or veneer trimming as well.

Standard template trim cutters mostly have the bearing at the bottom which is safer because if the router lifts (freehand) or the workpiece lifts (router table) the bearing is still in contact with the template or component to be copied, or the blank fixed to it. The top bearing type in the same situation can chew into the job and cause damage.

Before starting a trimming operation use a jigsaw or bandsaw to remove the bulk of the waste, leaving no more than 3mm to be machined away, thus avoiding cutter strain.



Many different tasks can be done depending on the size of router and cutter in use, even 50mm-thick electric guitar bodies, or other big sections such as brackets, can be made this way

THE JIGS

The ply I've chosen for the magazine rack is quite thin, so I've opted for a suitable corner joint to hold the rack together, which is also highly visible, making a feature for the rack. The simplest and most effective method seemed to be a form of through mortise and tenon. The ends have the slots in them so a jig is required. The same jig incorporates the guide bush slots for housing in the dividers and base.



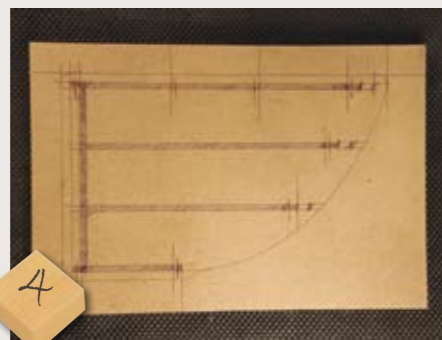
The most complex components are the rack ends and they are best made using a jig



Fit two other battens in place so the end blank is held firmly. Now remove the blank ready for marking out



The jig is made from 6mm MDF and softwood battens, which are clamped then screwed in place along two sides with a prepared rack side in place. The battens are clamped first before the jig is turned over for insertion of the screws



Carefully mark out the positions for the rack front and back, the dividers and the bottom panel, on the other side of the jig. Now mark where each slot for the front and back will be. Note that in every case except the base, each is notched back from the end so you get strength and discreet joints. Draw where the guide bush needs to stop (shown as short red lines in this photo). This is where the cutter to make the guide bush slots must start or stop



A 16mm straight cutter was used to create slots for a 16mm guide bush using a straight fence and taking care not to let the cutter deviate off course

THE CUTTERS

This is another project that isn't 'cutter heavy' – it needs 6.4mm and 16mm straight cutters and a 9.5mm template trim cutter with a bearing at the bottom end. Both straight cutters are essential in a standard kit, although preferably you will have more than one 6.4mm cutter as they are so ubiquitous in routing – likewise the template trim is an easy way to copy shapes with the router table.



MAKING IT...

Start by cutting out one end of the rack, allowing for the overlapping corner joints, and finish to size and the finished shape, with a long smooth curve on the top edge. Now cut an oversized blank for the other end



In the router table install a template trim cutter and use carpet tape to fix the finished end piece onto the other, slightly oversize, end blank. You can now trim it to exactly the same size and shape as the finished component. Note the use of a lead-in pin to rub against when starting the cut. This avoids any unexpected kickback. Always press *against* the rotation of the cutter, not with the rotation. If you do the latter, the workpiece will shoot away from you unexpectedly



Use the end jig to make the long slots in each end component so the ply tenons can slide into them using a 16mm guide bush and 6.4mm straight cutter combination



Now set the 6.4mm straight cutter so it will make the divider housing slots by going down no more than half the thickness of the ply. Note that the battens on the jig need to be fixed to the other face of the jig in order to cut out the other end of the rack as they need to mirror each other

Bailey's Router Class



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Next, cut out the front and back allowing for the projecting tenons. Mark out the tenons and make the long cuts between on the router table doing a 'drop-on' cut with the 6.4mm straight cutter, starting where each slot begins, and lift off once you reach the end of the slot. Put marks on the through fence so you can see where the cutter is. Do the short shoulder cuts with a fine-tooth handsaw and round the ends with a chisel so they fit in the mortises



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Adjust the router table to make the bottom panel slots. Again, use a 6.4mm straight cutter to make the slots in the sides and ends to take the base. Still use the through fence for continuous support and machine in no more than half the thickness of the ply to avoid weakening it



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The resulting bottom panel groove neatly meets up with the other slots and grooves



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Dry assemble the rack and measure and cut out both the base and dividers to suit. Notch out the top corners of the dividers so the ends fit in the housings. Sand and assemble the magazine rack with PVA glue, when dry apply a suitable finish and the job is done ■

Router torque

Q I find my router isn't that accurate, when I plunge it leaves a slight divot in the slot I'm starting to make and it doesn't always keep to the same cut line after the first pass when I plunge deeper for the next pass.

A We rather kid ourselves that machines like the router are accurate time after time, but that often isn't the case. Cheaper routers ought to be worse but that isn't always true either. The US pattern fixed-based routers don't create a slightly deeper spot as you describe, because they cannot plunge, but they aren't all that practical to use, I feel. Make sure your plunge action is smooth and well lubed and lower the



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router gently as you start the cut. As regards 'offline stepping', this is often worse when using a trammel to cut circles but can happen with straight cuts as well. Make sure your whole setup is locked tightly for a start, e.g. fence rods and plunge lock, as routers can waggle on the columns when unlocked.



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If one face is more critical than another, i.e. a 'seen face', then unlock one fence rod and tap the unplunged router over fractionally, lock and re-pass at full depth for a full-depth clean finish.

Email your router questions to: anthonyb@thegmcgroup.com