

BAILEY'S ROUTER CLASS

Stool with a dished seat



Anthony Bailey builds a place where you can park your bum in comfort



THE PROJECT

Traditionally, chair seats were shaped to fit the human form using a lethally sharp tool called an adze, but also known colloquially as a shin-breaker - it took skill, and was risky, to use. However, I once saw in an American Shaker style furniture brochure which had a man using a suspended,

swinging router to make a dished, comfortably bottom-shaped chair seat. This got me thinking and I came up with my own idea. I thought of a simpler ski jig that sits over the work piece - and learnt a few things along the way as I was making it.



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 JIG



The jig only has to create one half of the dish seat shape, as the jig is moved around to follow the drawn outline. Note the cutter slots at each end to help guide where you place the jig, and the use of wax to lubricate the inside of the jig



Done the traditional way, you can create any seat shape but with the router, you need some form of guidance that will inevitably limit the shape you can create. However, if we think of a form that is like two meeting but truncated ovals – because the shape cuts through the front of the seat – we can use that as a basis for a jig. I decided to try using the oval photo frame template from WPP40 to draw out a small unscaled pattern



Cut out all the basic components ready to shape and fix together, and do a dry fit (as here) to ensure everything fits together nicely. Note that I later changed the design from the picture above – I fitted longer pieces in the base so the cutter would leave 'aiming marks' on the jig base which would help enormously when lining up the jig with the edge of the dishing effect you are creating. I used 18mm MDF and ply to construct the jig, but any offcuts would do really



Mark out and carefully cut the curves that the router base will run on. Use double sided tape to hold the two together and 'pack saw' them. Keep the same way round when assembling the jig so the curves will match each other



Sand the curves you have cut on the bandsaw to smooth out the saw marks and then drill, glue and screw the inner parts of the jig together. Countersink the holes so the screws bed in nicely when they are tightened up



The router needs to slide freely but not be too loose a fit. It is therefore important that the pieces in the bottom of the jig are sized accurately



Glue the cheeks in place which will guide the router. The router should be a good running fit without being loose. Wax is used to improve the sliding movement. Clean off the glue inside before it dries



A last important touch is to glue pieces of non-slip routermat onto the bottom of the jig, thus keeping the jig in position and avoiding the need for clamping it down when in use

THE CUTTERS



Although a curved or dished cutter might make more sense when doing the initial shaping, it is easier using a straight cutter and, crucially, they come in longer types that will project right through the jig into the wood. I chose a Trend Craftman range, 16mm dia. cutter with an extra long shank. To do the rustic finishing effect, I used a Trend dished shaped cutter mounted in a small base trimmer. To machine out the mortise jig and to machine the mortises out, a 6.4mm straight

cutter did the trick, followed by my favourite big Wealden tenoning cutter for smooth, safe tenon machining. Finally, a Titman 9.5mm radius roundover cutter in the router table was used for all rounding operations

MAKING IT...



After a tentative start lining up one inside end of the jig with the drawn seating line and cutting deeper and deeper with each pass, I arrived at an initial shape in one half of the seat



I repeated this operation on the other seat half, again not cutting to the final line or seat depth. Note that the jig is moved round the seating curve aiming inwards towards an 'invisible' point of rotation, so the cuts meet in the low point in the middle of each seat half



You should end up with a first round of cuts that look like this. The problem area is the meeting area at the rear. Careful cuts from the back, forwards again aiming at the invisible point somewhere in the middle should remove this. Note how the front of the board extends further forward than the final shape, thus giving more workpiece for the jig to slide on



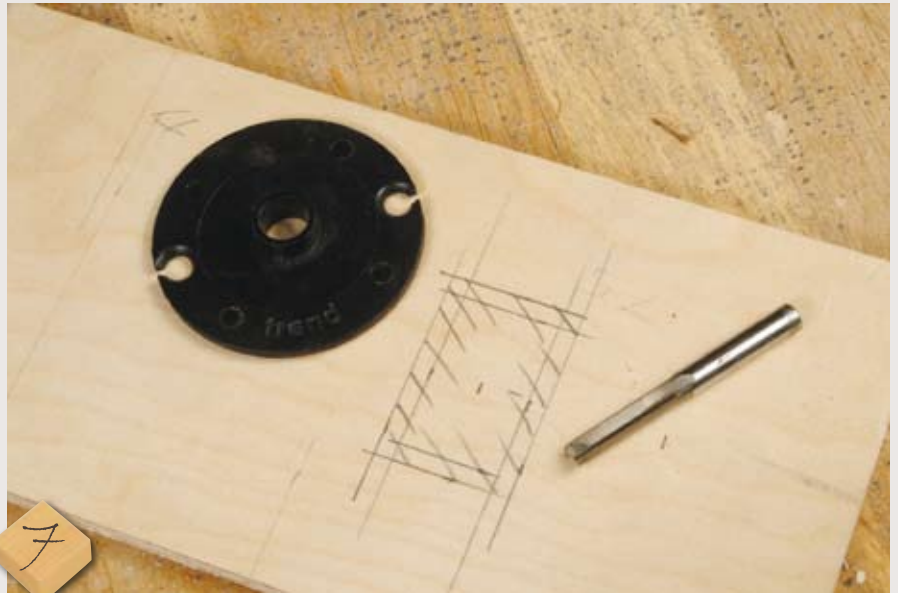
Now the tricky bit – the rustic effect. Use a Trend dish-shaped cutter mounted in a small base trimmer, so it just projects through the base. It is then moved very quickly in all directions, skating over the surface. The purpose of this is to remove the initial machining tramlines caused by the straight cutter, and to equalise the shape to make an even curve



Where the rear curves are a tighter radius than the front areas, the cutter needs to be adjusted so it projects further. Careful use of this 'flying router' technique can produce an interesting rustic ripple formation. This is not for the faint-hearted – if you prefer, use a very sharp gouge to remove any router marks, and create the rippled surface you are after



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The finished ripple effect is pleasing to the eye and as a sitting test proved later, it is also very comfortable. A light sanding with a random orbital sander is enough to take off any rough edges left after the routing



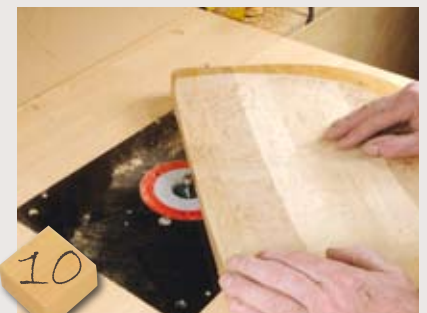
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To make this seat into a stool, it then needs to be shaped on the bandsaw, and then smoothed on a disc sander. However, before it ceased to be a square, I marked out the leg mortise positions with the rear ones angled inwards. A jig is required for the mortising. I used a 6.4mm straight cutter and a 14mm plastic guidebush and marked the jig blank accordingly, ready to cut out the hole



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The jig has a batten at one end to press against the seat and is then clamped at the other end. When machining the front mortises, a strip of wood is placed between the jig batten and the seat to maintain the correct mortise centring



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A Wealden tenoning cutter was used to machine the shoulders on the legs using a push block behind. A tight fit is essential and once that is achieved, the corners are nicked off with a fine tooth saw so they will fit in their holes



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All the edges are rounded off using a 9.5mm roundover and running off a lead-in pin for safety. After that, it needs a good sanding all round and glue-up and assembly. Once dry, a coat of a sanding sealer and wax will bring the stool to a nice finish

Router torque

Q When I make a new project it often goes wrong and I have to put it right – do you find the same problem when you do your router projects in the magazine?

A Let's be honest – yes. Although we publish woodworking magazines, we make quite a few of the projects that go in them and each one is a prototype. This means we run into problems,

and things can go wrong. I like working outside my comfort zone so I'm more likely to encounter problems because I try things I haven't done before – this can be more fun but it can also add to the pressure we already feel because we are working to a publishing deadline! So, please don't be downhearted, we all have our troubles – the trick is getting yourself out of trouble by finding the right solution, and hopefully we can help you with our tips and techniques. ■

Email your router questions to: anthonyb@thegmgroup.com



Anthony makes his seat in front of camera... adding extra pressure