Router Know-how

Rebate cutters

PHOTOGRAPHS BY GMC/ANTHONY BAILEY

Welcome to 'Router Know-how,' a new series devoted to routing by our very own router devotee Anthony Bailey, otherwise known as 'The Editor.'

Following on from 'Router Class,' Anthony now looks at the subject more from the 'sharp end'; telling you all that he knows about cutters, how to use them, care for them, and the best routers and jigs to use with them. As always, Anthony would like to hear your questions and views on this very broad subject, and who knows, you may get published in our brand new 'Community' pages. Read on...

This month **The Editor** takes a look at a somewhat undervalued but incredibly useful router cutter, the rebate cutter

The title is very slightly misleading because it should really be how to cut rebates. After all if there are better ways to machine rebates then we need to look at that as well. However, the rebate cutter, I think, is rather underrated. Yes, we probably all own one but it gets only occasional use and in reality more rebaters in different sizes would be useful if we had them to hand.

The average starter set rebate cutter is usually quite small and can cut only limited size rebates as a result. This is fine for fitting small back panels or letting glazing into a photo frame but not much else.

It seems obvious, but a rebate cutter is so, because it usually has a bearing although there are a few exceptions to this. It is not a plunge cutter but an edge cutter instead and therefore can be quite wide in diameter once you add the bearing diameter in the middle. One exception is the stepped rebate cutter for inserting Tonk – library strip – which has no bearing. Another unusual rebate type is the 'undercut' bearing guided cutter used to create decorative undercuts; this cutter has the bearing above and the cutter is flush at the bottom with no projecting nut and washer.

A further point is that you can

Cutters L-R: 4mm width rebater; 12.7mm width rebater; 19mm dia. straight; 19mm dia. Tonk; 21mm dia. up-shear and 21mm dia. down-shear plus bearings; 50mm dia. multi-bearing rebater with five bearings; 25mm dia. tenoning; 25mm dia. bottom trim

obviously create rebates without using a rebate cutter. Any straight or straight sided cutter can, in theory, be used just as well provided it is with some form of guidance. This can be on the router table using the table fence or freehand using a standard fence or jig.

A good example would be inlaid stringing for a newly veneered box lid. If you used a bearing guided rebate cutter the cut width might not match the stringing width and, more importantly, the bearing would run over the slightly uneven veneer and waste glue, so the rebate would be uneven. So when you are considering machining a rebate your considerations are: should you use a dedicated rebate cutter of the correct size and have you got a suitable size bearing, or instead, do you use another cutter without a bearing, but with some other sort of guidance? The more choices you have to hand the easier it is to find a solution to this potential problem.

Machining to fit stringing using a trimmer and a straight fence

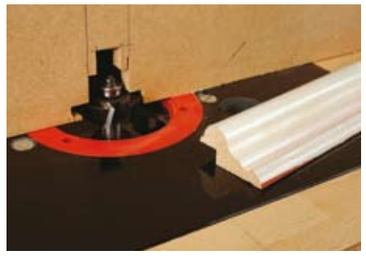
TYPICAL REBATE USES

Photo frame

Box lids

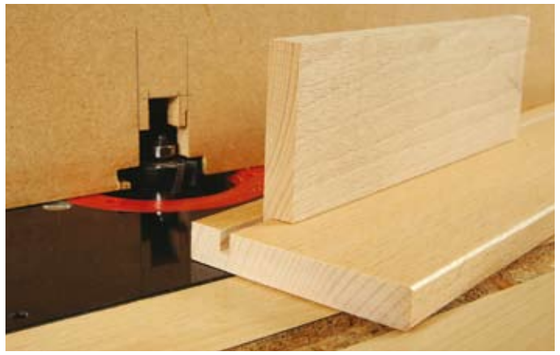
Door meeting

Back panel



Bolection mould

Lap joints



Tongues – to fit grooves

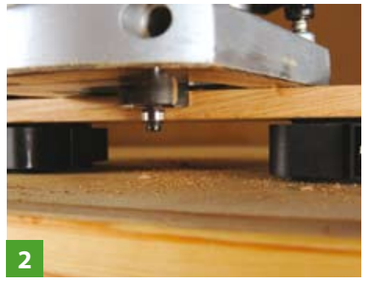
Router table insert

Box stringing

Tonk – library – strip

- Glazing
- Purfling (for guitars)

TOP TIPS

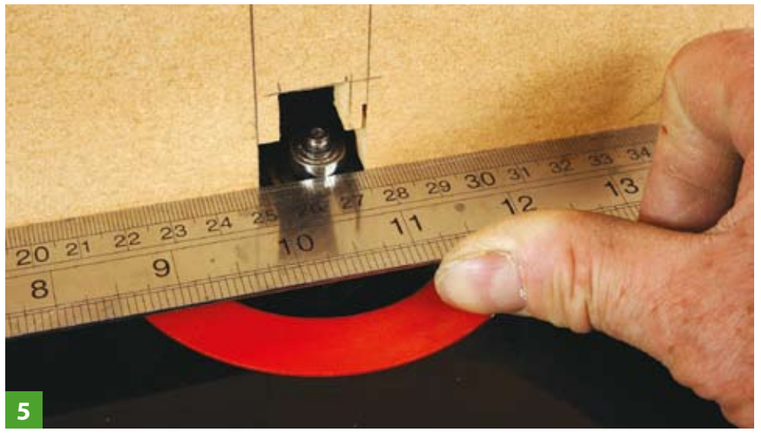


1 Bearings are often interchangeable between cutters, so keep all loose bearing, machine screws, washers, glue shields – supplied with laminate trimmers – and Allen keys in a safe container so nothing gets lost.

2 When freehand edge working with bearing guided cutters on thinner stock the bearing can hang down lower; in this instance support blocks are needed to keep the Allen screw holding the bearing in place, clear of the bench.

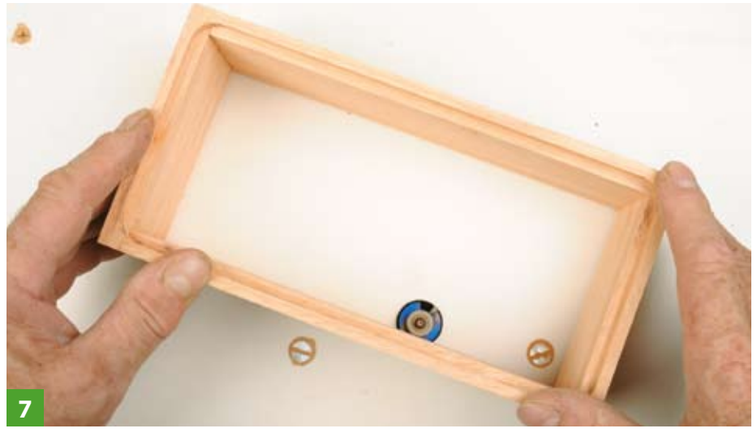
3 The equivalent operation on a router table is perhaps better dealt with by setting the fence well forward of the bearing, so a full height but very shallow 'pre-scoring' cut is made before doing one or more passes to full width.

4 Because of their cutting action rebate cutters have a tendency to disappoint because they can tear the wood away leaving a ragged rebate, especially with brittle opposing grain hardwoods. The usual solution working freehand is to make the cut in several passes to final depth so not too much is taken out in one go.



Router cutter manufacturers and suppliers

Wealden www.wealdentool.com
Trend www.trend-uk.com
CMT www.cmttools.co.uk
Titman www.titman.co.uk
Makita www.makitauk.com
Axcaliber www.axminster.co.uk
Whiteside www.routercutter.co.uk
Infinity www.infinitytools.co.uk



5 You could of course use a large diameter straight cutter for the same result on the router table but a key advantage is being able to set the rebate width exactly by placing a rule across the cutter opening against the bearing. I use this method with all kinds of bearing guided cutters.

6 If you need a rebate of a size you don't possess you can use a straight cutter so long as it is a 'fenced' cut. I use a tenoning cutter a lot and it tackles rebating as well as machining tenon shoulders.

7 If you are machining the rebate for two halves of a box lid you will need to make sure before you start that you always machine into the cutter feed direction, the outside means going anti-clockwise around the box and the internal rebate is done clockwise. Always start in the middle of one side, not running into a corner as you have better vision and less resistance as you start cutting.

8 A multi-bearing set is invaluable because in one cutter you can accurately make repeat rebates in any size the bearings will allow. If you need to make large rebates you should consider a ½in shank set in a large router, thus avoiding straining both router motor and the shank on a much smaller ¼in set.

9 The bearing can usually be changed for a different diameter bearing. If you have a set of cutters you may find you can swap bearings around thus giving a greater range of rebate size options.

10 In common with all bearing guided cutters, the rebater can work around curved and unusual shaped profiles. However, when you are reliant on the bearing and working on a photo frame, for example, you will need a rebate on the back for glass and a backing board on top of that, you then need a moulding around the front inside edge. You need to plan your machining so either cutter doesn't have trouble running because the bearing surface has been machined away by the first cutter. ■

Next time we have a go with both roundover and ovolo cutters and their opposite matching cutters – cove and corebox – and see what we can make them do.