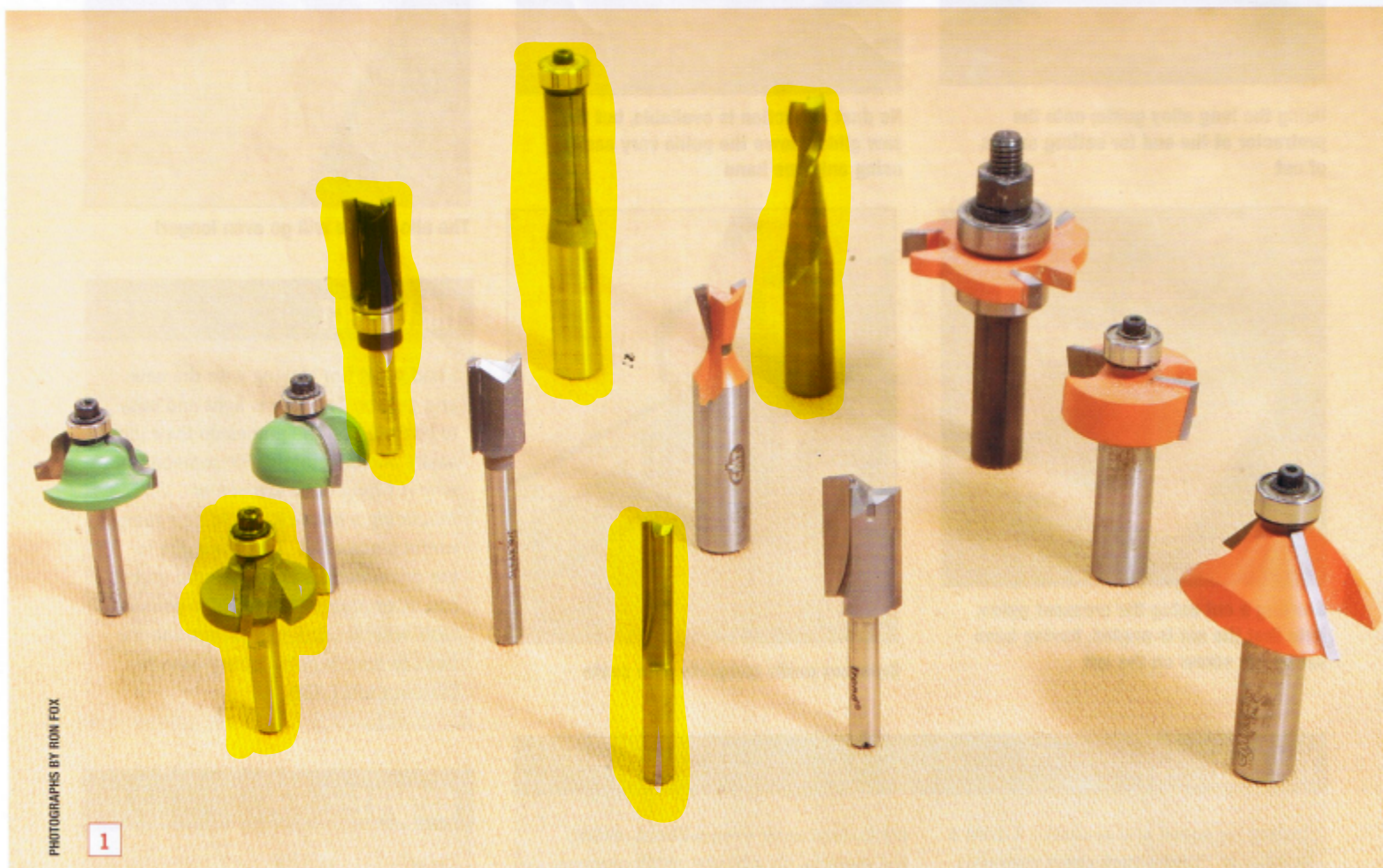


# BAKER'S DOZEN



PHOTOGRAPHS BY RON FOX

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These will do you very well for starters

**To anyone contemplating their first router cuts the choice of bits is bewildering.**

**Ron Fox** cuts to the chase with 13 must-have basics

**I** am often asked by my students to recommend a starter set of cutters that will make most of the basic cuts and take them further down the road than the usual 'ideal for beginners' boxed set.

It depends, of course, on what you want to do with your router, but over the years I have found that I make constant use of the shapes and sizes described here, **photo 1**. They are not 'budget quality' and, being

bought individually, will cost you a lot more than one of the basic budget sets, but you will get much more work out of them and not find that you end up with a number of cutters that you never use.

All the cutters except two are tungsten carbide tipped (TCT), the exceptions being the  $\frac{1}{8}$ in straight and  $\frac{3}{8}$ in spiral, both of which are solid carbide. Shank size depends on your router; if you have a  $\frac{1}{2}$ in model you will buy most of your cutters on  $\frac{1}{2}$ in shanks. I would, however, buy the  $\frac{1}{2}$ in straight on a  $\frac{1}{4}$ in shank because you will then be able to hone it much more easily than if it were on a  $\frac{1}{2}$ in shank.



## STRAIGHTS

Straight cutters are the workhorses of routing, used for grooves, housings, tenons, guidebush work, circle cutting etc. My  $\frac{1}{4}$ in solid carbide one is slightly longer than usual, with a blade length of 28mm. The little bit extra depth of cut is very useful for tenons and guidebush work, **photo 2**.

The  $\frac{1}{2}$ in, and  $\frac{3}{8}$ in cutters are two-flute TCT, used for general work. The  $\frac{3}{8}$ in is particularly useful for cutting housings in standard veneered boards, many of which are made in 16mm nominal thickness. It has a centre carbide insert to enable it to be plunged

efficiently. The  $\frac{1}{4}$ in one is too narrow to need this.

A variation of the straight cutter is the spiral. My  $\frac{3}{8}$ in example is a solid carbide upcut spiral. It cuts with a shearing action, which gives a clean edge to the cut, and is a very good cutter for mortising because the spiral action helps pull the chips up out of the mortise.

Spirals are more expensive than corresponding two-flute straights, but not excessively so until you start looking at the larger sizes. You won't be able to hone them so it is a good idea to check before you buy that there is a sharpening service available from your supplier. \*

**Photos 3, 4, 5, and 6** show a few applications of straight cutters. Note that the mortise is being cut with the router hand-held and the Bob Wearing levelling foot – which has been described on many occasions in these pages – steadying the cut.



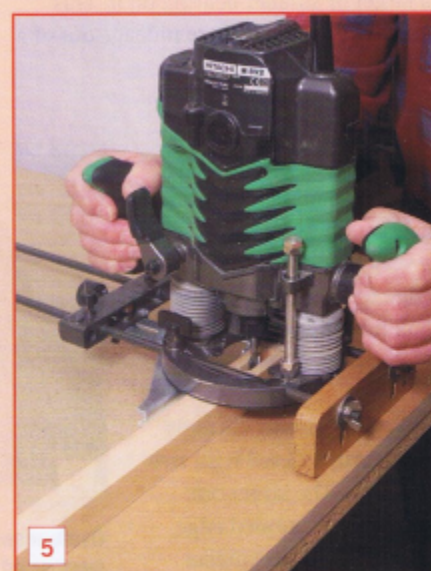
**The straights**



**Cutting a housing with a simple jig, using the  $\frac{3}{8}$ in straight**



**Grooving a drawer side on the router table with the  $\frac{1}{4}$ in straight**



**Mortising with the  $\frac{3}{8}$ in spiral**



**Cutting a circle for a clockface tile using the  $\frac{1}{4}$ in straight**

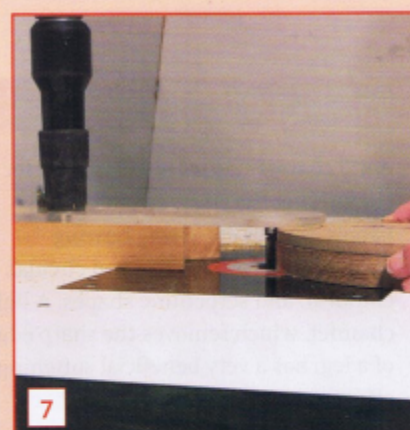
## TRIMMING CUTTERS

There are two main types of trimming cutter, both of them bearing guided. The first is the flush trimmer, which has the bearing at the bottom of the cutter. The bearing is flush with the blades and, as the name implies, trims lippings, overhangs and rough-cut workpieces to exact size by running the bearing against the main workpiece or pattern. The usual diameter of these cutters is  $\frac{1}{2}$ in, but there are alternatives. I would recommend that you buy one with a cutter length of at least 25mm so that it spans the thickness of standard boards when trimming.

One of the most productive areas of routing is making batches of items such as plaques, shields etc with the router in a table, and the flush trimmer is the one I use for this, with the workpiece taped to the pattern. For intricate shapes, these cutters can be bought in  $\frac{1}{4}$ in and  $\frac{3}{8}$ in diameters, but must be used with light cuts since they are rather delicate, **photo 7**.

The alternative type of trimmer is the template trim, which has the bearing mounted on the cutter shank immediately above the blades. I use this a great deal, in conjunction with home-made straightedges, for making very accurate cuts for jigs and templates. It is also a very good way of 'planing' the edge of a board for jointing.

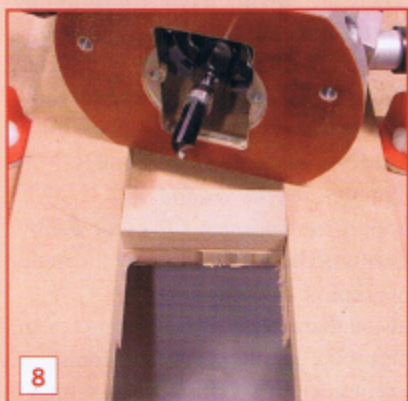
As with the flush trimmer, I find that a cutter length of 25mm is the most useful, but different lengths and diameters are available, **photo 8**.



**Pattern routing with the flush trimmer**



## TRIMMING CUTTERS (continued)



**Precise cutting of a home-made hinge jig**

***“Being bought individually they will cost you a lot more than one of the basic budget sets, but you will get much more work out of them and not find that you end up with a number of cutters that you never use”***

## SHAPING CUTTERS

Probably the job most readily associated with routing is edge-moulding table tops, shelves etc. There is a bewildering array of shaping cutters in the catalogues but I find that three or four shapes give me most of what I want.

One of the problems is that the various shapes come in a range of sizes, so you need to think about what you are going to use them for before buying. A large tabletop requires larger mouldings than a small cabinet. My shaping cutters are sized for cabinet work.

A few shaping cutters, like the Roman ogee, have the advantage that their shape allows you to use just the bottom curve for delicate edge decoration. It is always worth looking to see which of yours do, and trying them at different depths. You might also find that the bearings on your shaping cutters are interchangeable, allowing you to alter the appearance of the cut by putting a larger or smaller bearing on it. This enables you to get more mileage out of a given set of cutters.

### ROMAN OGEE

This is probably the best-known shaping cutter and is everyone's favourite. It gives a very nice delicate cove edge to small items such as box lids and bases.

### ROUNDROVER/OVOLO

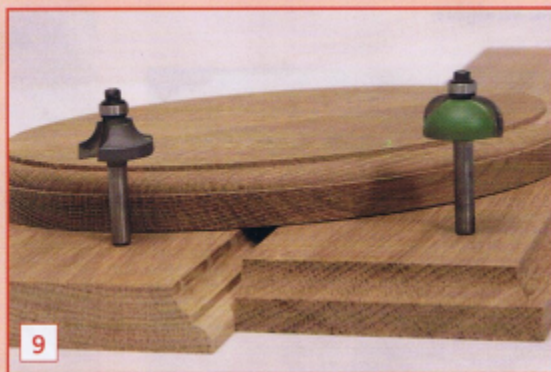
This 'two-in-one' cutter is frequently offered with two bearings. The larger one produces a rounded edge to the panel; the smaller

one exposes the bottom edges of the cutter and gives the characteristic ovolo shape of shoulder top and bottom of the cut. This is one of my favourite shapes for moulding the edges of shelves, mounting boards, circular plaques etc. I find a small one, with a radius of 1/4in, does most of what I want.

### COVE

The cove bit cuts one basic shape, a concave edge in a panel. It can also be used, however, for cutting finger pulls in drawer fronts and cupboard doors, and the size of the cut can be varied by changing the diameter of the bearing and cutting at part depth. It has a further use in that in conjunction with the roundover cutter – provided the sizes are compatible – it can be used to make a drop-leaf table.

The ovolo and cove cutters can be used together to create a compound cut for table edges etc. The cove is used first, with the board held vertically to the table fence, followed by the ovolo with the board flat on the table, **photo 9**.



**Ovolo moulding (top), cove moulding (lower right) and compound moulding using both cutters (lower left)**

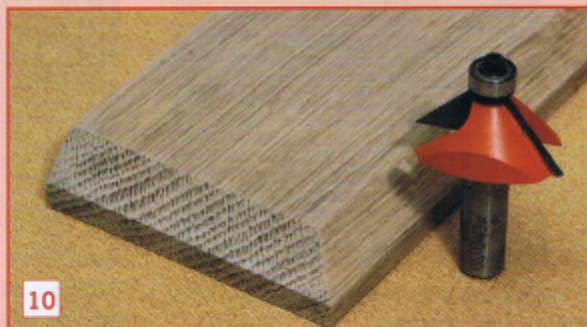
## CHAMFER CUTTER

A 45° chamfer cutter is very useful for chamfering the edges of table legs, panels, frames etc. Being bearing guided, it can also be used on circular, elliptical, and serpentine shapes. A light chamfer, which removes the sharp edge of a leg, has a very beneficial softening effect on the workpiece.

An exceptionally useful application of this cutter is to lighten the appearance

of a panel by putting a chamfer on one of its edges, **photo 10**.

**Chamfered board edge: depending on which way up it is used, it will appear thicker or thinner**





## REBATE CUTTER

Rebates can be cut with a straight cutter in the router and the side fence mounted, provided the workpiece is straight sided, but it is easier to use a bearing-guided cutter and the results are usually better. The width of the rebate is controlled by the bearing, and the depth by the usual router depth-setting system.

Rebate cutters are available with sets of different-diameter bearings, and, although more expensive than the single-bearing type, are well worth it for the range of rebate widths possible. Being bearing guided, the cutter can cut rebates in any shape of workpiece including circles and ellipses, **photo 11**. It is also possible to rebate the inside of a frame after assembly.



Rebates straight and circular

***“A slotting cutter cuts like a miniature circular saw, requiring less power than a straight cutter and also giving better chip clearance”***

## SLOTING CUTTER

A slotting cutter cuts grooves more efficiently than a straight cutter. It cuts like a miniature circular saw, requiring less power than a straight cutter and also giving better chip clearance. Slotters are usually sold with a bearing to control the depth of the slot, but can be used on straight workpieces with the router side fence or table fence

controlling cut depth.

An expensive, but extremely useful, version of the cutter is the ‘stacked’ set with three or four different-thickness slotters and one or more bearings. The slotters can be used on the arbor singly or in combination, giving a range of slot sizes. Different-diameter bearings create different slot depths.

A 4mm slotter – included in most stacked sets – is the size required to cut the slots for biscuit jointing. This is a very useful alternative to buying a biscuit joiner if you do not do much biscuiting.

For general routing I find the 1/4in slotter to be one of the most useful. Apart from cutting grooves in panels it can cut small rebates and tenons, and I use it for simple panelled door construction, **photo 12**.



Rebates straight and circular

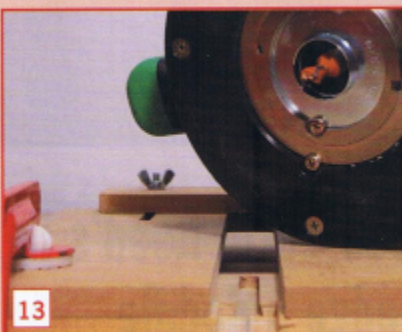
## DOVETAIL CUTTER

This is the most marginal of my baker's dozen. Most dovetails are cut with the aid of some kind of dovetail jig, and the cutter comes with the jig. The main use for a dovetail cutter in general routing is to make sliding dovetails, i.e. dovetailed housings. For this job I use a fairly wide-angle dovetail cutter (12° or 14°).

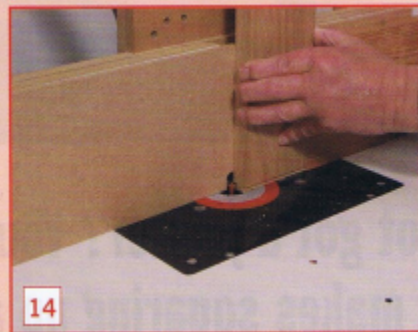
I cut the housing with the router hand-held with my home-made

housing/slotting jig. This is a guidebush operation, and is the easy part of the job. The harder part is cutting the dovetail tongue on the other board. This is a table job unless you have a WoodRat or a sophisticated jig like the Leigh.

The same cutter is set to the same height as the previously cut housing. A tall substantial fence is an advantage because the board is run vertically past the cutter, **photos 13 and 14**.



Housing made with a slotting/dovetail jig



Dovetail cutter used to make a tongue on the table

So that's my baker's dozen. I do a large proportion of my total routing work with these, much of it on the table. I have many other cutters, but these form my core set. ■