

Flush Trim Router Bits

If you're not using flush trimming bits in your router table, then you're not realizing the full value of this tool. Not even close.

All flush-trim bits have a bearing that's exactly the same diameter as the straight cutters forming the bit. This unique relationship allows flush trims to follow specific reference edges while trimming away excess material on neighbouring parts. Specific arrangements of bearings and cutters makes certain bits useful for many different applications, though there's one that's ideal for getting started with.

The simplest, most economical flush-trim bit has a bearing on the tip, with a cutter length that's 2" or 3" long. This model is perfect for use in a router table for duplicating curved or irregular parts. Models with a 1/2" diameter shank work best because they cut more smoothly than 1/4" shank models in anything but the lightest applications.



Start by making a precise plywood or hardboard template of the part shape you want, trace its outline onto your workpiece, then rough-cut the workpiece with a jigsaw or bandsaw, leaving 1/16" to 1/8" of excess wood around the perimeter. Fasten the template to your workpiece with double-sided tape or a few finishing nails, then place the assembly on your router table – template facing up.

Adjust the height of the flush trim bit so the bearing rests only on the edge of the template, then put on goggles, ear protection and switch on your router.

Carefully push the workpiece across the router bit – moving only from right to left – removing tiny amounts of wood until the outline of your workpiece is the same size and shape as the template. The bearing makes this easy because it prevents the router bit from cutting beyond the perimeter of the template. All you have to do is work up to it.

You get a flawless duplication of the template using this technique, except for one possible hitch. If the shape of your part means you'll be routing against the grain of your workpiece, then chipping of the wood is possible if you don't take precautions.



The best way to avoid chipping problems is to use a flush-trim bit with a bearing on both the tip and the shank. Initially adjust bearing height so the top bearing rides on the template edge when it's facing up and grain direction runs in your favour. Tackle areas of contrary grain in a second step only.

Flip the template/workpiece assembly over (so the template's on the bottom this time), then re-adjust bit height so the bottom bearing rides on the template edge in its new position. With the workpiece inverted like this, all areas of chip-prone grain are reversed, ensuring they'll turn out smooth and chip-free.

Despite their simplicity, flush-trim bits turn your table-mounted router into a powerful duplicating machine that's especially useful for making curved parts. Once you've tried this approach, you'll never use anything else.

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