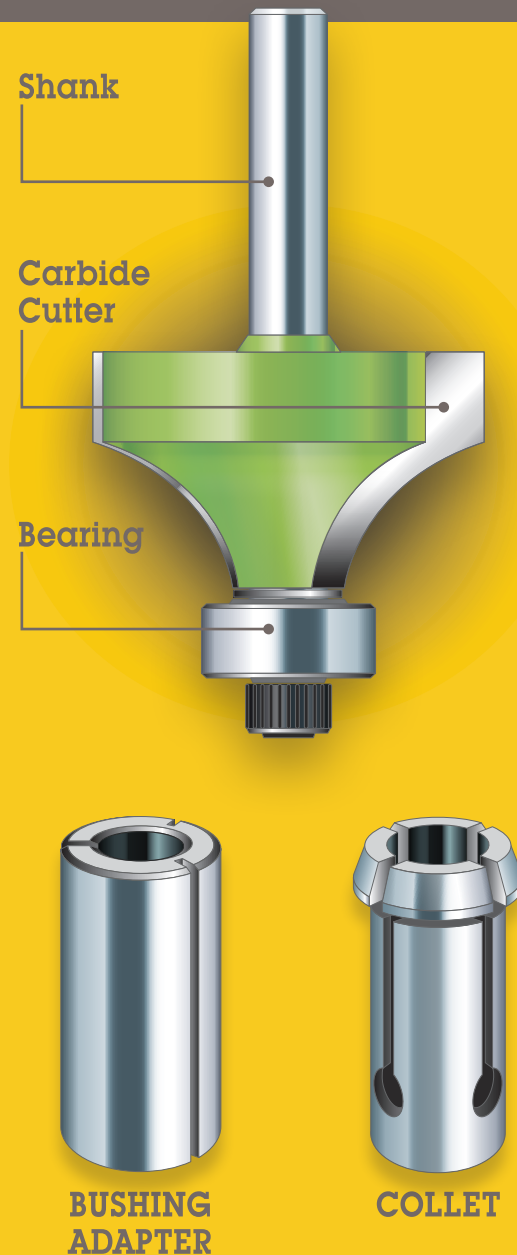


INTRODUCTION TO Router Bits

STRAIGHT ROUTER BITS

From the editors of
CANADIAN
Woodworking
& HOME IMPROVEMENT

ANATOMY OF A ROUTER BIT



SHANK DIAMETERS

A larger diameter is stronger and leaves slightly smoother cut surface. 1/4" and 1/2" are by far the most common diameters.

1/8"	1/4"	3/8"	1/2"	8mm
Very rare Generally for use in rotary tools.	Very common Mainly used for bits that only remove a small amount of material.	Very rare You may sometimes find 3/8" diameter spiral bits.	Very common The best option, unless you have a router with a 1/4" collet.	More popular in Europe, but are sometimes available in North America.

(Varying sizes of bushings are available to be able to use less common sized shanks in a standard 1/2" collet)

MATERIALS

High Speed Steel

Used to be very common, but now rare. Their cutting edges dulled quickly.

Carbide Cutting Edges

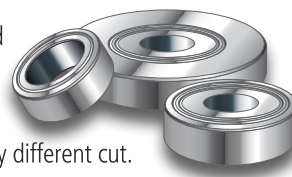
Very common. Carbide cutting edges are fixed to a steel router bit body.

Solid Carbide

Rare. Some smaller bits are made of solid carbide, different widths / lengths available, plunge bits

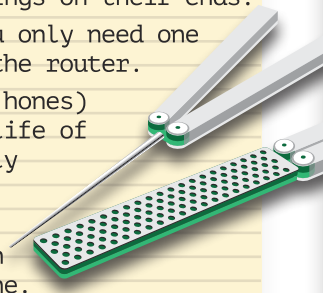
BEARINGS

Bearings are used on some router bits so the bit is guided along an edge of the workpiece. Inner and outer bearing diameters vary. If the inner diameter of the bearing matches the post on the bit you're using you can install a bearing with a different outer diameter to create a slightly different cut.



NOTES

- It's safer to use large bits in a router table.
- It's safer to use a lower RPM when using larger bits.
- Bushing adapters are used to allow your router's collet to hold a smaller bit in it. They're metal sleeves with the outer diameter matched to the router's collet size, and the inner diameter matched to your router bit's shank.
- Some bits can be moved directly downward into the wood, similar to a drill bit. These types of bits are called "plunge bits". They have small cutters on their underside. Plunge bits don't have bearings on their ends.
- Some routers have a spindle lock so you only need one wrench to remove or secure the bit in the router.
- Simple sharpening accessories (diamond hones) are a great way to extend the cutting life of your bit before having it professionally sharpened.
- Bit holders / racks are a great way to safely store your router bit collection so it doesn't get damaged or hurt anyone.
- Buying router bits in sets decreases the cost per bit.



STRAIGHT

For routing grooves. Common cutting diameters range from 1/8" to 1". Common cutting lengths range from 1/2" to 1-1/2".



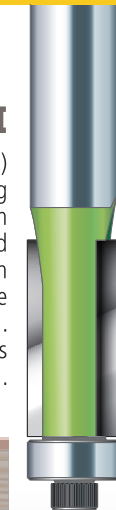
SMALL STRAIGHT

For routing very narrow grooves. Generally only available with 1/4" shanks. Common cutting diameters range from 1/16" to 3/16". Common cutting lengths range from 1/4" to 1/2".



FLUSH TRIM

(bearing on end)
Used for flush trimming plastic laminate, but can also trim solid wood and sheet goods. Common cutting diameters range from 1/4" to 1/2". Common cutting lengths range from 3/4" to 2".



HINGE MORTISING

Shorter cutter. For cutting mortises, but other straight bits can also be used to cut mortises. Common cutting diameters range from 1/2" to 3/4". Common cutting lengths range from 1/2" to 3/4".



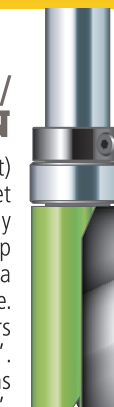
DOUBLE BEARING FLUSH TRIMMING/TEMPLATE

These bits combine the benefits of both flush trim and template bits and allow you to switch between the two types of cuts. Common cutting diameters range from 1/2" to 3/4". Common cutting lengths range from 3/4" to 1-1/4".



TEMPLATE/PATTERN

(bearing near center of bit)
Used for solid wood and sheet goods. The bearing typically follows a pattern placed on top of the workpiece to cut a shape into the workpiece. Common cutting diameters range from 1/2" to 3/4". Common cutting lengths range from 1" to 1-1/2".



SPIRAL

Available in two general types – up-cut (most popular), and down-cut. Up-cut bits excel at removing waste during the cut, but may leave a slightly rough surface where the bit enters the cut. Down-cut bits leave a cleaner edge where they enter the wood's surface, but cut a bit slower. Common cutting diameters range from 1/4" to 1/2". Common cutting lengths range from 1" to 1-1/2".



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