Straight Talk on Straight Bits

Here's how to make the best choice for righteous routing

By Joe Hurst-Wajszczuk

Straight router bits aren't as simple as you might think. Sure, some straight bits are more versatile than others. But the sampling shown here identifies important differences—in appearance, function, and cut quality. Whether you order your bits online or head to your favorite woodworking store to stock up, this information will help you get the best performance and value for your money.

Crisp at the top
Look for a downcut, spiral-fluted straight bit when your plunge-cut mortise or cavity needs to be free of surface tearout. This downward cutting action is great for inlay and banding work. But make sure to take shallow passes, and clean the cavity between passes to remove packed-in sawdust. Narrow-diameter bits are brittle, so use a larger bit whenever possible.

Whiteside, \( \frac{1}{8} \) D × \( \frac{1}{2} \)" CL, $18.44
Whiteside, \( \frac{1}{4} \) D × 1" CL, $18.44

Masterful mortising
Just the ticket for plunge-routing mortises: upcut, spiral-fluted bits in different diameters. Designed to pull chips up and out of the cut, the cutting action creates a fuzzy top edge that can be easily cleaned up with a light sanding. Choose solid carbide over high-speed steel for greater durability, especially when routing hard woods.

Whiteside, \( \frac{1}{4} \) D × 1½" CL, $50.12

Take a broad bite
With a downward-shearing cut and a wide cutting radius, a planer bit (aka “dado” bit) excels at routing shallow dadoes and leveling large surfaces like live-edged slabs. For woodworkers with large routers, planer bits are available up to 2" dia. Make sure to dial down your router’s speed to suit these big bits.

CMT, 1\( \frac{1}{2} \) D × \( \frac{5}{8} \)" CL, $31.99

Best of both worlds
A compression bit has spiral flutes designed for pushing chips down and pulling them up. With upcutting action on the bottom of the bit, and downcutting action on the top, the bit is ideal for edge routing double-sided sheet goods with delicate veneers. Compression bits are most often paired with CNC machines, although they can be used with handheld and table-mounted routers.

Freud, \( \frac{1}{2} \) D × 1¾" CL, $84.47
Workshop workhorse
Available in a wide variety of cutting diameters, a $\frac{1}{2}''$-dia. shank, two-flute, carbide-tipped straight bit is the closest thing to a “standard” straight bit. Better versions feature a chip-limiting design to promote safer, smoother routing. The non-stick coating reduces friction, resin adhesion, and rust. Don’t put a dull bit out to pasture; in most cases, it can be resharpened for a few bucks. 
Freud, $\frac{1}{2}D \times \frac{1}{4}''$, $21.97$

Sheet good solution
These straight bits are sized to match the actual thickness of the most commonly used nominal plywood sizes, ensuring snug-fitting grooves and dadoes. The 3-bit set shown here is a smart choice for cabinetmaking. Keep the trio together so that you don’t accidentally confuse them with standard-sized straight bits.
Whiteside, 3-piece Undersized Plywood Dado Set, $49.16$

$\frac{1}{2}''$ or $\frac{1}{4}''$ shanks?
A larger $\frac{1}{2}''$-dia. shank dampens vibration and helps make smoother cuts, but bigger bits won’t fit routers with $\frac{1}{4}''$-collets. For compact routers and laminate trimmers, it’s helpful to have $\frac{1}{4}''$-shank bits in your arsenal.
Whiteside, $\frac{1}{2} D \times 1'' CL$, $16.07$

Get more bang from your bits
With a few jigs and inexpensive accessories, straight bits can become the most versatile cutters in your collection. Save money, and maybe an extra trip to the store, by trying these tips.

- **Rabbeting.** Instead of using a more expensive, bearing-guided rabbeting bit, get the job done just by using a straight bit in your table-mounted router, or attaching an edge guide to your handheld router.

- **Cut circles and arcs.** Attach a trammel to your router’s base, drive a pivot pin into the workpiece at the desired radius, and you’re ready to rout. Unlike bandsawn or jigsaw-cut curves, a trammel-guided router creates clean, bump-free curves, saving time and stock.

- **Follow a pattern.** Attach a bushing to your baseplate, and your bit will follow patterns like a bloodhound. Unlike pricier bearing-guided bits, a bushing always remains in contact with the pattern, regardless of the cut depth. Also, bushings can’t seize or damage the pattern.

- **Joint edges.** For perfect, glue-joint ready edges, clamp a reliable straightedge to your work (make a light cut for best results) and rout the edge.

- **Drill holes.** Equipping a plunge router with an upcut spiral bit transforms the pair into a portable drill press. With the right guide and bits you can drill dead-on shelf pin holes in cabinets, and even dog holes in a workbench.