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Dave Campbell
Editorial Content Chief, *WOOD* magazine



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Router Table and Organizer

Whether you keep it simple or dress it up, this project will become your shop's one-stop router headquarters.



When your router accessories have scattered around the shop like chips flung from a panel-raising bit, corral them in the drawers and cabinet of this virtually indestructible, easy-to-make router table. You'll gain a rock-solid worksurface, with quick router access to adjust and change bits. Then see page 11 for accessories to make a great table even better.

Begin with the case

1 Cut the base sides (A) to size [Materials List, page 9]. Then cut the shelves (B), dividers (C), base tops (D), and drawer supports (E) $\frac{1}{4}$ " longer than required.

2 Dado and rabbet the base sides (A) and dividers (C) [Drawings 1 and 1a] to accept the shelves (B) and base tops (D). **Quick tip: Don't rabbet your rip fence.** Attach a $\frac{3}{4}$ "-thick sacrificial fence to your rip fence with double-faced tape when rabbeting less than 1" from your rip fence. Cut dados in the upper shelf (B) to receive the dividers (C).

3 Rabbet the inside back edge of each side (A) to accept the lower back (F) and upper backs (G) [Drawing 1a].

4 Lay out the drawer-support (E) locations on the sides (A) [Drawing 1a]. Resize the dado set to the drawer-support thickness, and dado the sides and dividers (C).

5 After allowing for plywood thickness variations, trim the dividers (C), base tops (D), and drawer supports (E) to length. Then cut the base rail (H) to size. Sand all plywood parts to 180 grit.

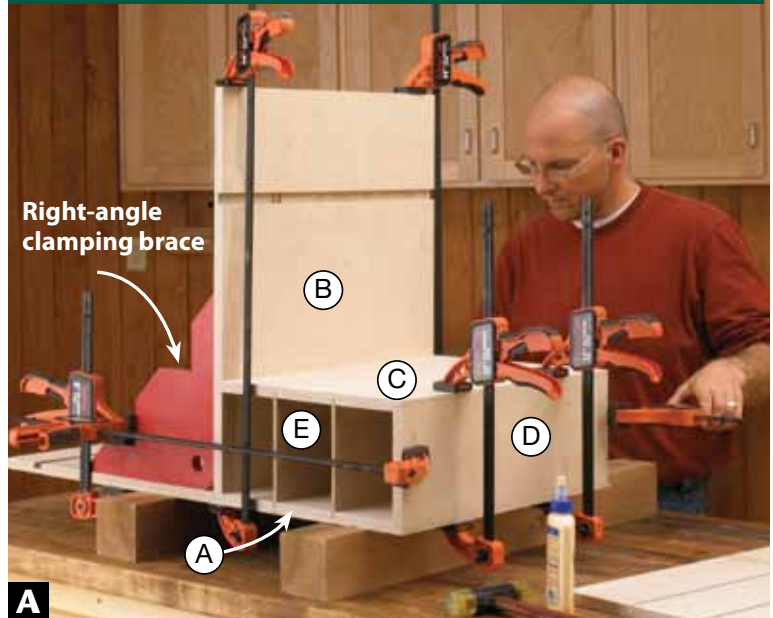
6 Rest one side (A) dado side up on your bench. Glue and insert a base top (D), two drawer supports (E), and the upper shelf (B) in the base side dados and rabbet [Drawing 1]. Then glue and add a divider (C) and clamp the assembly [Photo A].

7 After the glue dries, glue and insert the bottom shelf (B) and base rail (H). Temporarily add, but don't glue, the other side (A) to align the assembly [Photo B] while clamping.

8 Attach right-angle clamping blocks to support the other divider (C). Glue and insert the divider into the upper-shelf (B) dado. Glue and insert the drawer supports (E) and base top (D), followed by the side (A) [Photo C].

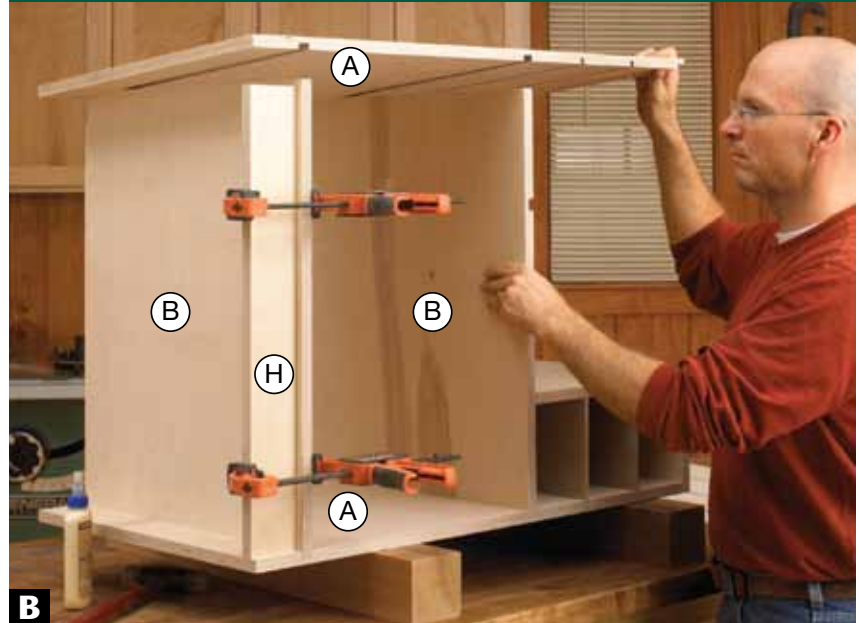
9 Cut the lower back (F) and upper backs (G) to fit, and set them aside. Drill $\frac{5}{32}$ " holes through the base tops (D) at the front and back for mounting screws to install the top.

BEGIN ASSEMBLING THE CASE



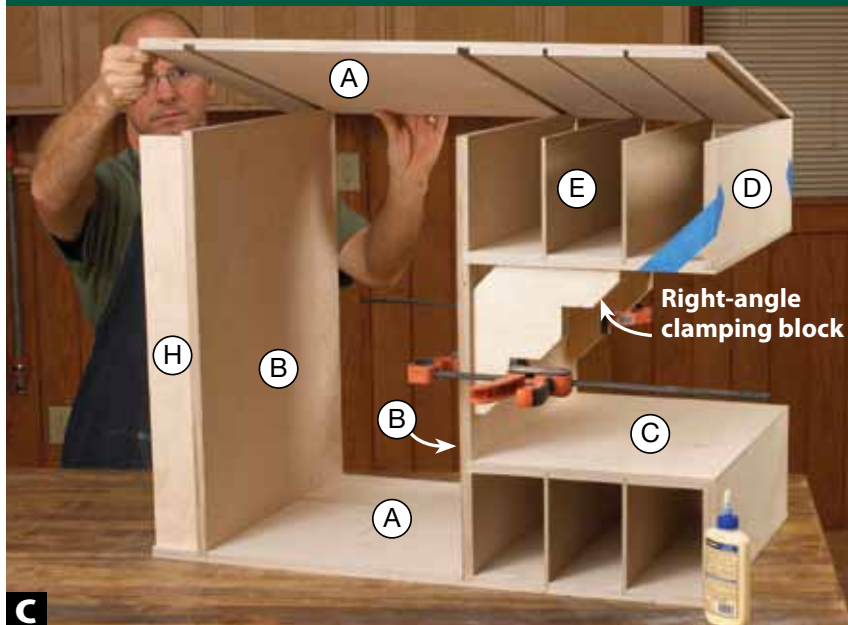
A Right-angle clamping braces keep the upper shelf (B) square to the side (A). (For free plans, go to woodmagazine.com/brace.) Square the drawer supports (E) and base top (D).

ADD THE LOWER SHELF



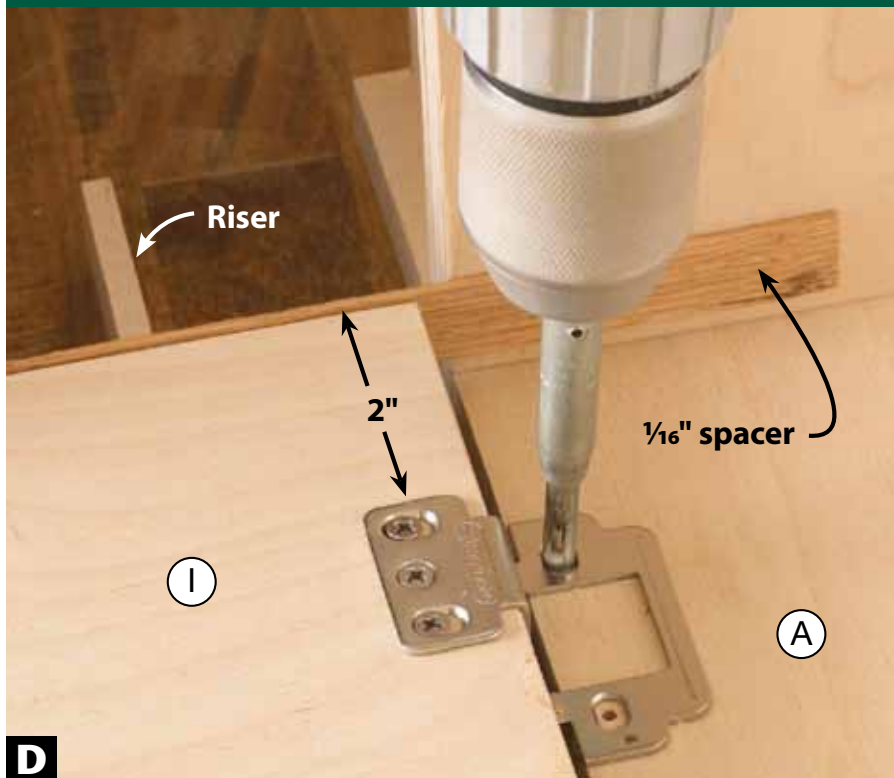
B Assembling the base in stages ensures that the shelf (B) mounts square to the side. The unglued side (top A) helps you align and clamp the subassembly.

FINISH ASSEMBLING THE BASE



C Right-angle clamping blocks support the other divider (C). Tape temporarily holds the base top (D), while drawer supports (E) rest in their dadoes. Then glue and clamp the other base side (A).

ATTACH HINGES TO THE CASE



D Resting the door (I) on risers lets you control hinge placement on the case side (A). Center pilot holes in the oblong hinge slots to fine-tune the door position later.

Now add two simple doors

1 Measure the height and width of the bottom compartment, then cut two doors (I) $\frac{1}{8}$ " shorter than the opening and $\frac{3}{16}$ " narrower than half the width of the opening [Drawing 1].

2 On each door (I), cut the finger pull with a jigsaw and sand smooth. Rout $\frac{1}{8}$ " round-overs on the inside and outside edges of the half-circles. Ease the other edges with 120-grit sandpaper.

3 Mount the hinges on the door (I) edge opposite the finger pull 2" from the top and bottom. Lay the cabinet on its side and raise the door on risers (ours were $\frac{7}{8}$ " thick) to position it beside the cabinet. Use a $\frac{1}{16}$ "-thick spacer between the bottom edge of the door (I) and the lower shelf (B) to position the door. Screw the hinges to the case [Photo D].

4 Screw a magnetic strike plate to the door where shown and position a magnetic catch on the plate. Then close the door, look through the open back, and mark where the magnetic catch touches the underside of the upper shelf (B). Drill and mount the magnetic catch on the upper shelf. Now turn the cabinet on its opposite side and repeat steps 3 and 4 for the remaining door.

Make a six-pack of drawers

1 Measure the height of the drawer openings and rip a 38"-long blank $\frac{1}{16}$ " narrower than the opening height. Cut the drawer sides (K), backs (L), and bottoms (M) to size [Drawing 2].

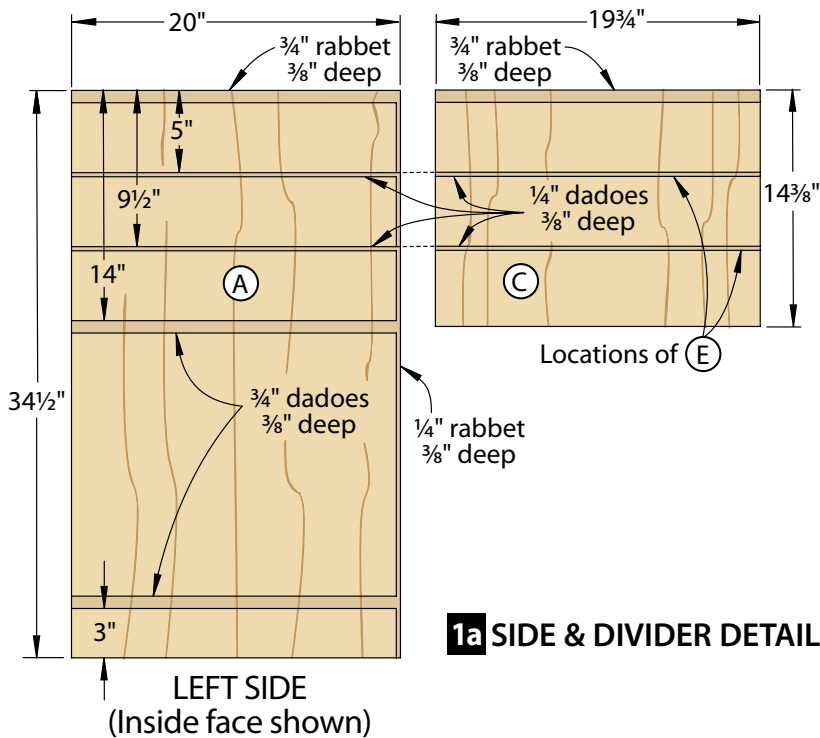
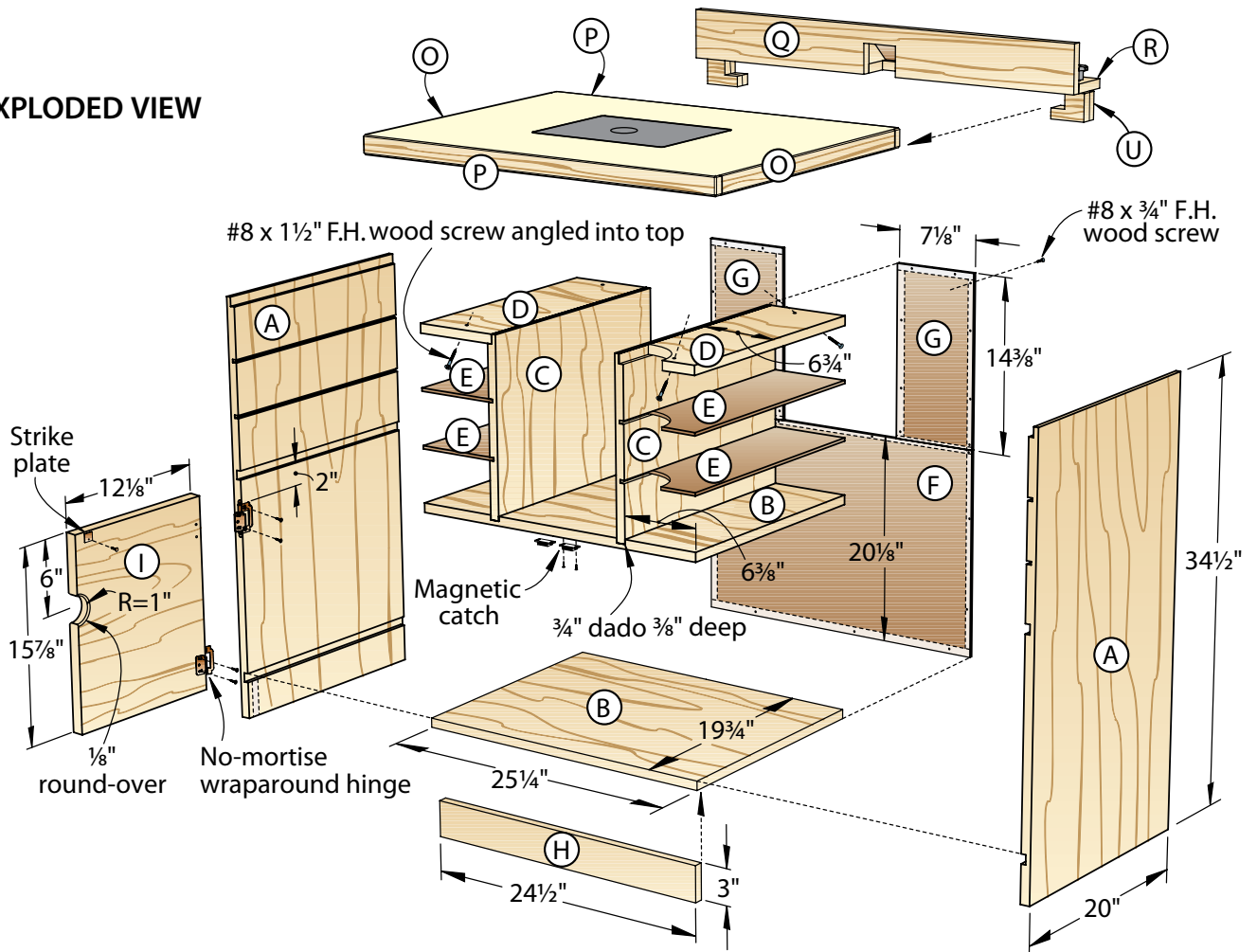
2 On the blank for the drawer fronts (J) and each side (K), cut a drawer bottom groove where shown.

3 Cut each front (J) $\frac{1}{16}$ " shorter than the drawer opening width. On each drawer front, jigsaw a finger pull and sand it smooth. Rout $\frac{1}{8}$ " round-overs on the inside and outside half-circle edges.

4 Rabbet both ends of each drawer front (J) and dado each drawer side (K) to accept the drawer back (L).

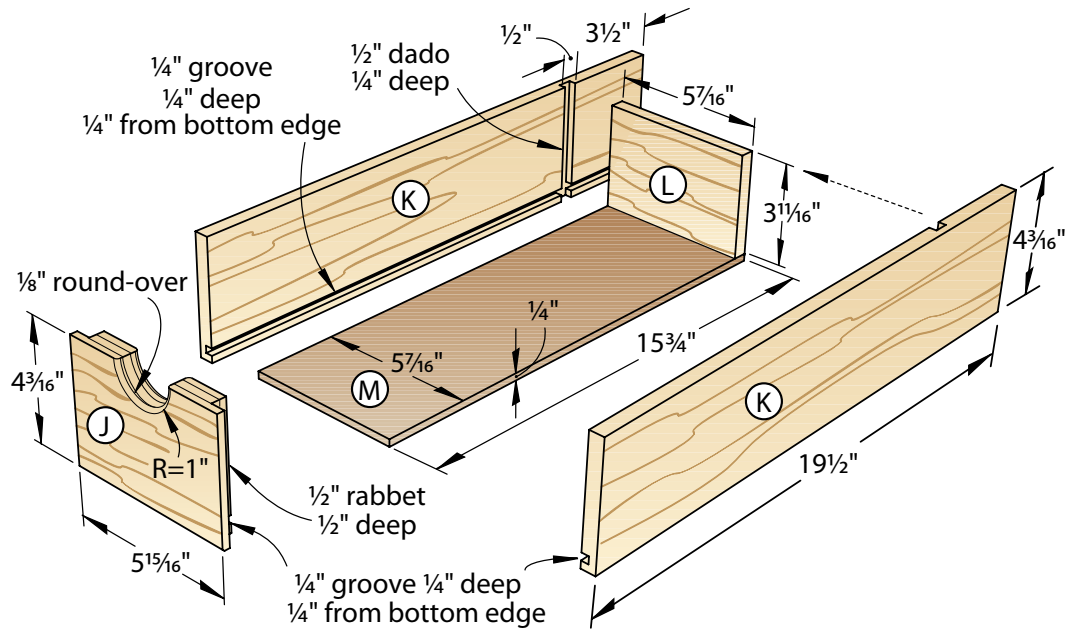
5 Sand all drawer parts (J, K, L, M) to 180 grit. Then glue and assemble them [Drawing 2], and check for square.

1 EXPLODED VIEW

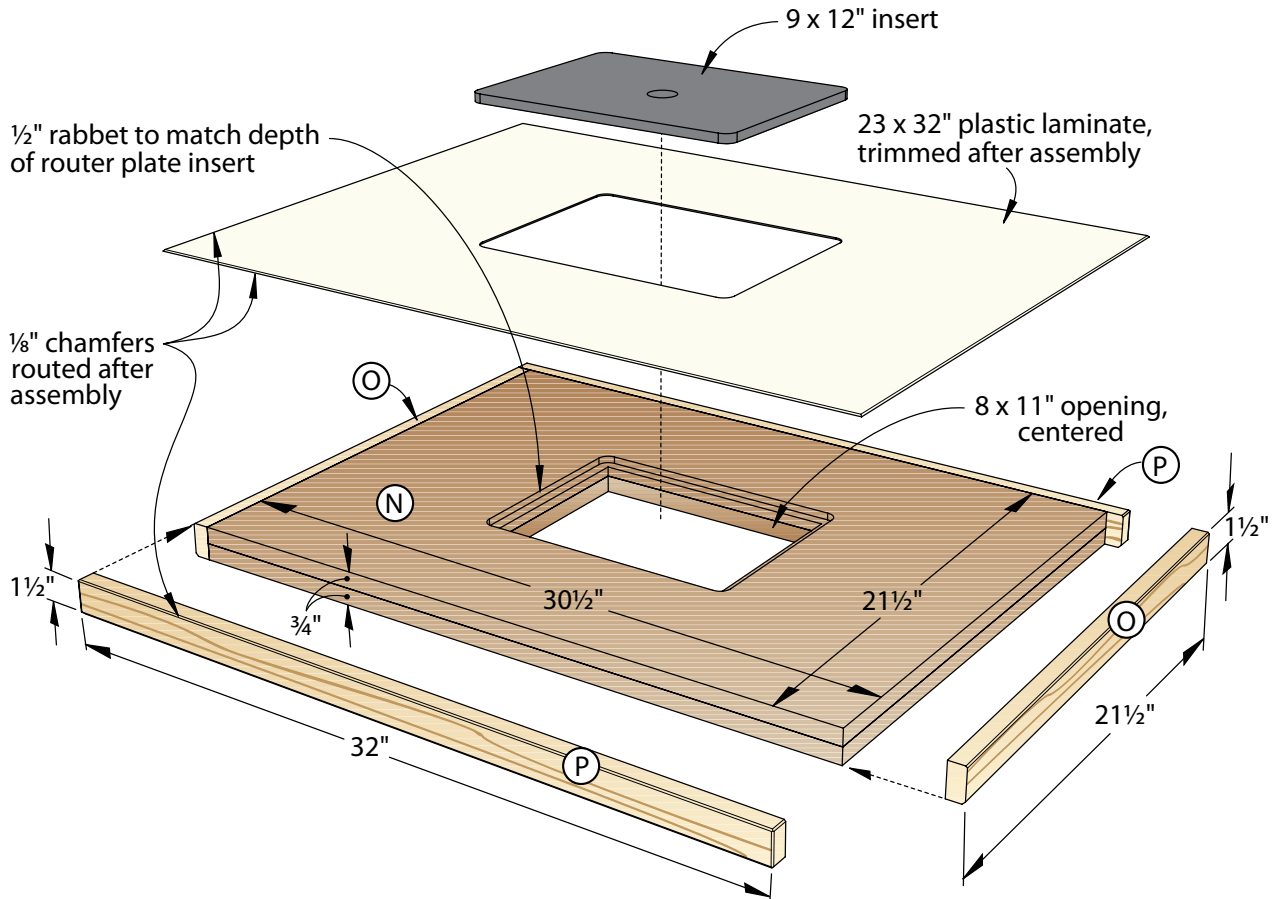


1a SIDE & DIVIDER DETAIL

2 DRAWER



3 ROUTER-TABLE TOP

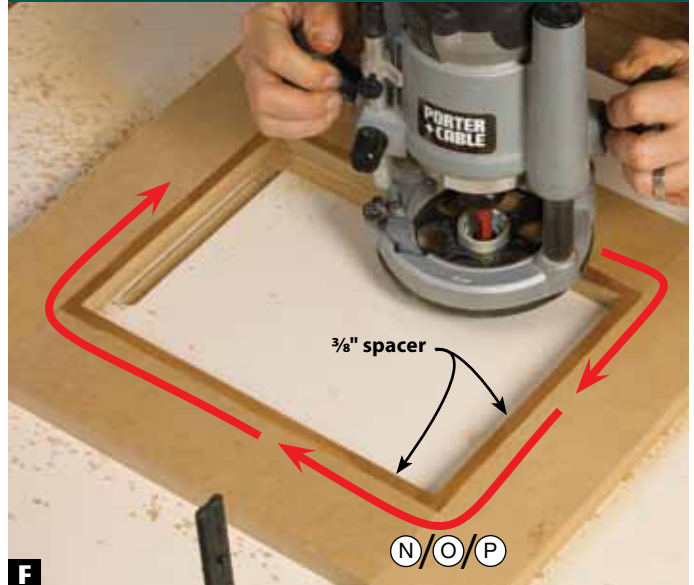


CLAMP ON A FRAME FOR ROUTING



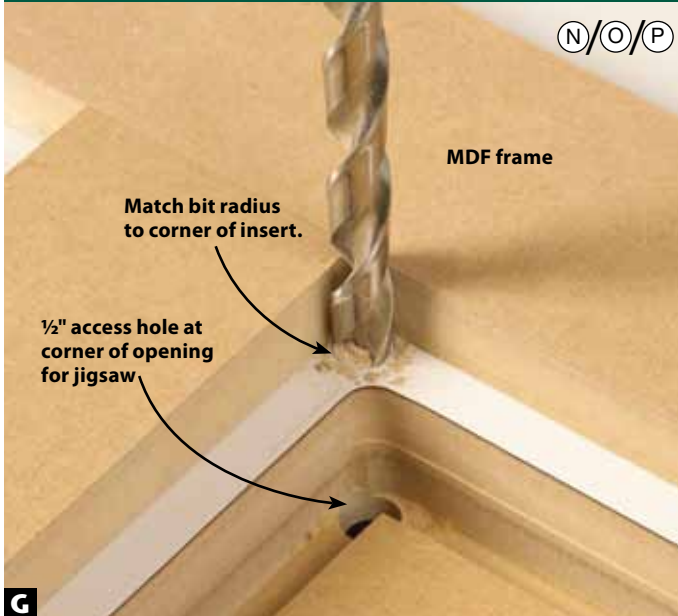
E Center the router-table insert on the top assembly (N/O/P), then frame it with MDF strips wide enough to accommodate your router base.

MAKE PLUNGE CUTS IN STAGES



F With 3/8"-thick spacers inside the MDF frame, rout clockwise through the laminate and upper MDF tabletop (N) in 1/4"-deep passes.

TWO SETS OF HOLES DEFINE CORNERS



G Cutout corner holes define where to saw away the lower top (N). The frame corner holes remove stock the rabbeting bit can't reach.

CLEAN UP THE CUTOUT



H From the underside of the top assembly (N/O/P), ride the bottom-bearing flush-trim bit against the inside edge routed earlier.

Top off your router table

1 Cut two tabletops (N) about 1/4" over-size [Drawing 3]. Mark the area on the lower tabletop where the router-table insert will mount. Glue, clamp, and screw the tops together, but avoid glue and screws in the router-table insert area. Allow the glue to dry overnight, then cut the top to size.

2 Cut the tabletop end trim (O) to match the top assembly (N) ends. Glue and clamp the end trim flush with the tabletop and the front and back edges. Then cut the tabletop side trim (P) to fit the width of the top and end trim (N/O). Glue and clamp it flush with the tabletop and end trim. Finish-sand the top assembly (N/O/P) to 180 grit.

3 Cut a sheet of plastic laminate 1" oversize for the top assembly (N/O/P). Adhere it centered on the tabletop. Use a flush-trim router bit to trim the laminate flush with the trim (O, P).

Install a router base plate

1 Center the insert plate on the tabletop, and frame it with MDF strips clamped and double-faced-taped to the tabletop [Photo E]. Remove the insert.

Note: The router-table insert we used (see Sources) has a 1/2"-wide rabbet around the underside edge. If your insert lacks this lip, modify the spacer thickness and bushing diameter to adjust the dimensions in the following steps.

2 To leave a 1/2"-wide lip, first cut the table assembly (N/O/P) opening 1" smaller than the insert size. To do this, install a 1/2" straight bit and 3/4" guide bushing on your router. Secure 3/8"-thick, 3/4"-wide spacers to the inside edge of the MDF frame using double-faced tape. Plunge-route through the laminate and top layer of MDF, working clockwise around the frame with the router bushing against the spacers [Photo F].

Quick tip: Use multiple passes. Plunge rout in 1/4"-deep passes to the maximum length of the bit to avoid overtaxing both router and bit. Remove the 3/8"-thick spacers and the unglued upper layer of the tabletop (N).

3 Using a drill bit with the same radius as the router-table insert corners, drill one hole through the top at each corner of the routed opening [Photo G]. Then, in the framed opening corners, drill holes into the top layer slightly deeper than the insert thickness.

Note: Our router-table insert has 1/4"-radius corners, so we used a 1/2"-diameter drill bit. If your insert corner radius exceeds 3/8", drill these holes before routing the top.

4 Remove the MDF frame from the top assembly (N/O/P), turn the top assembly upside down and draw lines between the centers of the holes. Cut out the opening with a jigsaw.

5 With a bottom-bearing flush-trim bit, rout from the table underside to clean up the opening [Photo H].

6 Turn the top laminate side up and install a 1/2" rabbeting bit set to the depth of the insert thickness. Then rout a 1/2" rabbet around the top opening [Photo I]. Clean up missed areas between the rabbet and the 1/2" holes with a chisel.

Quick tip: Lighten up on your final pass. An insert that rests flush with the router-table top is crucial for smooth table routing. Remove most of the material for the lip supporting the insert in one or two passes, but make the final pass a light, skimming one to leave a smooth, uniform lip.

7 Test-fit the insert in the opening. If the fit is too tight, lightly trim the plate on a tablesaw. If the plate is too loose, glue narrow filler strips around the tabletop opening.

8 Rout a 1/8" chamfer on the top and bottom edges of the trim (O, P); then ease the corners with sandpaper.

Build a fence for your table

1 Cut the fence front (Q), base (R), and supports (S) to size [Drawing 4].

2 Glue the fence front (Q) to the base (R). Then add the supports (S) and check for square.

3 Cut the fence dust port (T) to size. Sand a 45° chamfer on one end of the port to fit against the fence base (R) [Photo J]. Then chamfer the top end

until the dust port rests flat on the supports (S).

4 Bore a centered 2 1/2" hole in the fence dust port (T). Glue and clamp the port in place. Center a plastic dust port [see Sources] on the fence dust port; then drill and screw it in place.

5 To make the fence clamps (U), laminate two pieces of 3/4" plywood to make a 1 1/2 x 2 1/2 x 6 1/4" blank [Drawing 4a]. Clean up the edges by cutting the blank to 2 1/4" wide. Square both ends, and drill 3/8" holes centered on the blank edge and 1" from each end. Then drill corresponding holes in the router fence base (R) where shown [Drawing 4].

6 Saw the fence clamps (U) to size, and bandsaw notches where shown. Insert a carriage bolt through each clamp block and add the washer and knob.

7 Remove all the hardware, finish-sand the parts to 180 grit and apply a finish. (We used two coats of wipe-on polyurethane, sanding with 320 grit between coats.)

8 Mount the top assembly (N/O/P) to the base. Then drill and screw the lower back (F) and upper backs (G) to the base, and check for square. Now reattach the hardware, gather up those long-lost router accessories and get organized. 🌿

Written by **Bob Wilson** with **Jeff Mertz**

Project design: **Kevin Boyle**

Illustrations: **Roxanne LeMoine; Lorna Johnson**

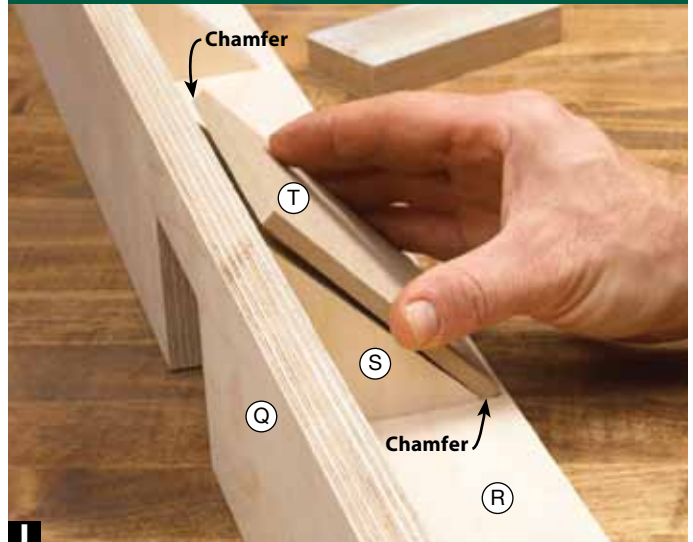
Graphic design: **Lorna Johnson**

RABBET THE INSERT LIP

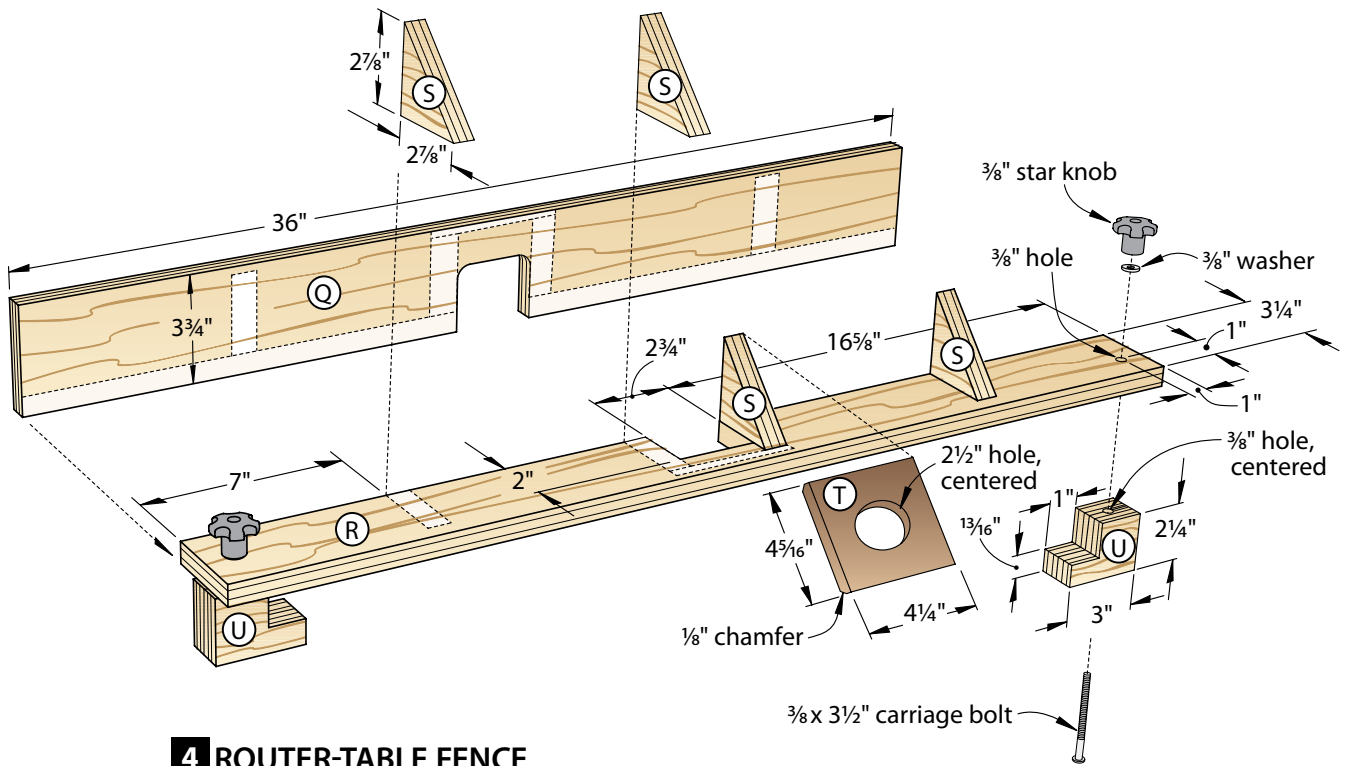


I Rabbet clockwise between the drilled holes with a bearing-guided bit to create a lip that will accept the insert.

CHAMFER THE DUST PORT TO FIT

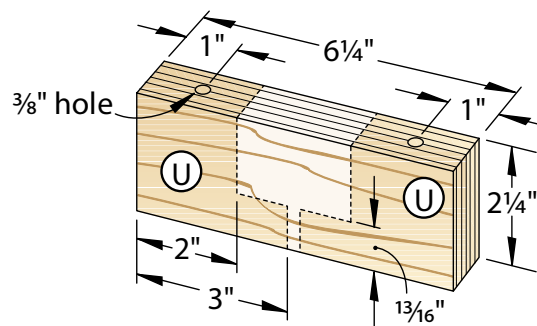


J Chamfering the ends of the fence dust port (T) helps it form a tight seal against the fence front (Q) and base (R).



4 ROUTER-TABLE FENCE

4a FENCE CLAMP BLANK



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Materials List

Part	FINISHED SIZE			Matl.	Qty.	
	T	W	L			
Base						
A	sides	¾"	20"	34½"	BP	2
B*	shelves	¾"	19¾"	25¼"	BP	2
C*	dividers	¾"	14¾"	19¾"	BP	2
D*	base tops	¾"	19¾"	6¾"	BP	2
E*	drawer supports	¼"	6¾"	19¾"	MDF	4
F	lower back	¼"	20⅞"	25¼"	MDF	1
G	upper backs	¼"	7⅞"	14¾"	MDF	2
H	base rail	¾"	3⅞"	24½"	BP	1
I	doors	¾"	15⅞"	12⅞"	BP	2
Drawers						
J*	drawer fronts	¾"	4¾"	5½"	BP	6
K	drawer sides	½"	4¾"	19½"	P	12
L	drawer backs	½"	3⅞"	5⅞"	P	6
M	drawer bottoms	¼"	5⅞"	15¾"	MDF	6
Tabletop						
N**	tabletop	¾"	21½"	30½"	MDF	2
O	tabletop end trim	¾"	1½"	21½"	P	2
P	tabletop side trim	¾"	1½"	32"	P	2
Fence						
Q	fence front	¾"	3¾"	36"	BP	1
R	fence base	¾"	3¼"	36"	BP	1
S	fence supports	¾"	2⅞"	2⅞"	BP	4
T	fence dust port	¼"	4¼"	4⅞"	MDF	1
U**	fence clamps	1½"	2¼"	3"	BP	2

*Parts initially cut oversize. See the instructions.

**Laminate two pieces to make these parts. See the instructions.

Materials key: MDF—medium-density fiberboard, P—poplar, BP—birch plywood.

Supplies: #8×¾" flathead wood screws, #8×1½" flat-head wood screws, plastic laminate 24×36", ⅜" star knobs (2), ⅜×3½" carriage bolts (2), ⅜" washers (2), magnet catches (2).

Blade and bits: ⅛" round-over, ½" straight (with ¾" bushing), bottom-bearing flush-trim, chamfer, ½" rabbeting bits; ½", 2½" drill bits; dado set.

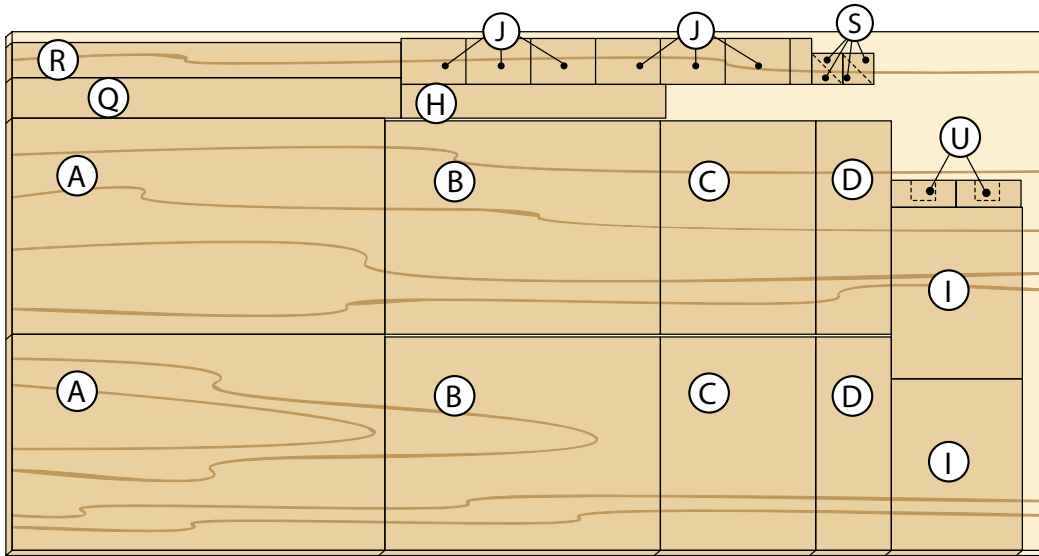
Sources

Router-table insert. All-In-One Router Plate Kit (9×12") no. 9338, \$35, MLCS, 800-533-9298, mlcswoodworking.com.

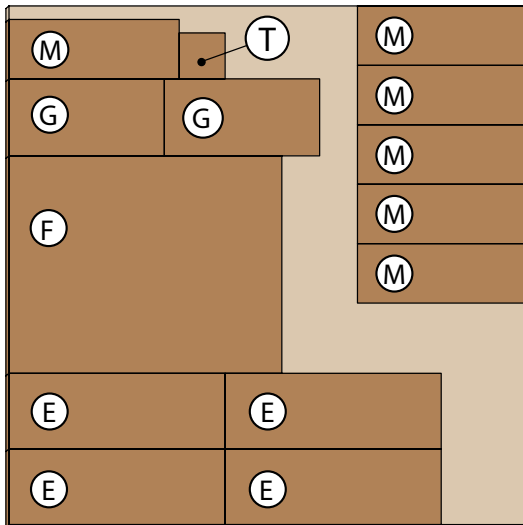
Universal dust port. For attaching a 2½" hose, use no. 92031, \$7, Rockler, 800-279-4441, rockler.com.

No-mortise hinges. Flat-tip 2¾" sterling nickel hinges (4) no. A03180T G9 PK, \$2.51 each, Woodworker's Hardware, 800-383-0130, or wwhardware.com.

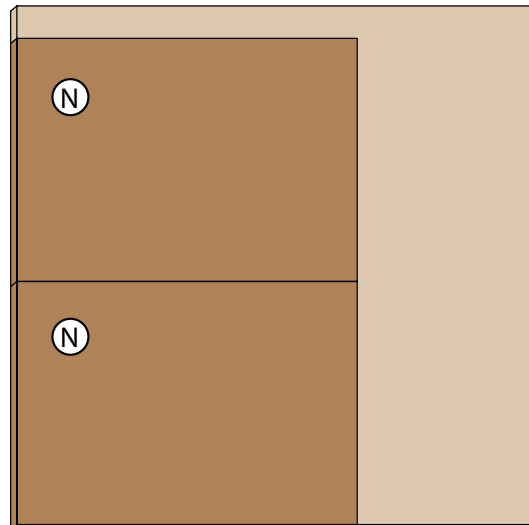
Cutting Diagram



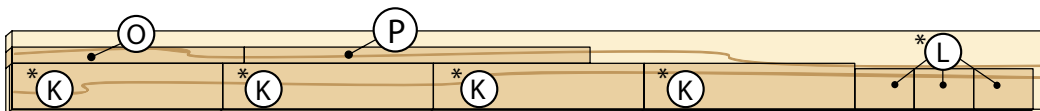
$\frac{3}{4}$ x 48 x 96" Plywood



$\frac{1}{4}$ x 48 x 48"
Medium-density fiberboard



$\frac{3}{4}$ x 48 x 48"
Medium-density fiberboard



$\frac{3}{4}$ x $7\frac{1}{4}$ x 96" Poplar (5.3 bd. ft.) (2 needed)

*Plane or resaw to the thickness listed in the Materials List.



$\frac{3}{4}$ x $5\frac{1}{2}$ x 96" Poplar (4 bd. ft.)

Our editors choose four accessories that will dramatically improve your table's performance.

"Let's start with a must-have: a good fence. It's essential for accuracy, dust collection, and safety. I really like this Woodpeckers fence because, for \$135, you get everything you need: tall fence panels, T-slots, a dust port that actually fits my shop vacuum, leveling screws to keep the fence square to the table, shims for offset jointing, and a see-through bit guard."

Kevin Boyle,
Senior Design Editor



32" LE Router Table Fence, #LEFNC616, \$130;
Woodpeckers, 800-752-0725, woodpeck.com

"I've looked at, and tested, a lot of feather boards over the years, and these from Milescraft are my favorites. A single, shorter first finger, and the open body make setting the tension a cinch. Sold as a pair, I stack them for tall workpieces, or separate them to provide both in- and down-pressure, as shown here. And they appeal to my frugal side: All of the hardware (miter bars, T-bolts, etc.) comes with this model to use in all those setups—and it still costs less than buying two single models!"

Dave Campbell,
Deputy Editor



Dual/Tandem Feather Board, #1407, \$30;
Milescraft, 847-683-9200, milescraft.com

"I always have extruded aluminum T-track on hand because I build a ton of jigs. It's so versatile. And I wouldn't own a router table without it or combo track, because they're ideal for guiding and securing these accessories: feather boards, stops, safety guards, and a miter gauge. The combo track (miter U-channel and T-slot side-by-side) is perfect because all those accessories work in it. Trust me, buy extra lengths of both—you'll find yourself using it for a lot more than routing."

Jeff Mertz,
Design Editor



36" T-Track, #9471, \$16;
32" Combo T-Track/Miter Track, #9859, \$25;
MLCS, 800-533-9298, mlcswoodworking.com

"For years I used a fixed-base router in my table, and every time I rotated it to adjust the bit height the power switch rotated to a new spot. I was always fumbling under the table trying to locate that switch. Then I tried this auxiliary power switch, and it was like when someone invented the automatic bread slicer: Hallelujah! Now I control the power without reaching below the table. I'll never own another router table without an auxiliary switch." 🌲

Bob Hunter,
Tools & Techniques Editor



Safety Power Tool Switch, #20915, \$30;
Rockler, 800-279-4441, rockler.com

The Perfect Router for Table Mounting

Is there such a thing?
We found three that fit the bill.

Although you can mount nearly any handheld router upside down in a router table, some are better suited to this line of duty than others. For example, many routers now sport built-in lift mechanisms that you crank to adjust bit heights from above the table, as shown at *right*, without removing the router or reaching below the table. These routers typically require an extra hole in the insert plate to operate the lift mechanism. But beware: With some of these routers you still have to reach below the tabletop to lock the collet, negating half the benefit of a lift.

If you already have a router you like and don't want to upgrade, you might be able to get the same convenience by installing its motor in a router lift. These units come attached to insert plates with adjustment mechanisms built in, as shown *below*. Keep in mind, though, that with prices ranging from \$175 to \$450, a lift might cost more than a new router. Router lifts specify which router models will fit, and some require adapters.

GIVE YOUR ORDINARY ROUTER A LIFT



A router lift, shown out of the table, raises the router fully so you can change bits above the table without angled wrenches.



A good table-mounted router makes bit changes hassle-free. An angled wrench to hold the spindle sure helps.



You should also look for a router with variable speeds so you can slow it down for large-diameter bits. Another essential feature: electronic speed control, which maintains rpms when the routing gets tough. A 3-hp motor really hogs away material, but a midsize model (1½ to 2¼ hp) will get you by if you take lighter cuts.

When mounting any router in a table, position it so the variable-speed control will be easy to reach, because this cannot be controlled from above. Add an auxiliary power switch to avoid reaching under the table each time to power the router. Also, be careful to mount the router so any above-the-table adjustments won't be covered by the fence during operation, because you might need to tweak a bit's height with the fence in place. 🌿

Recommended routers

We've used a lot of routers over the years at **WOOD**® magazine. These three rank among the best for table routing:

Porter-Cable #892, 2¼ hp, 10,000–23,000 rpm, \$190, 888-848-5175, deltaportercable.com.

■ The 892 features two power switches plus a speed dial marked in rpms, and its lift mechanism works smoothly and accurately.

Triton #MOF001, 2¼ hp, 8,000–21,000 rpm, \$220, 888-874-8661, tritonwoodworking.com.

■ This easy-to-use router with built-in safety switch won't accidentally power up while you're changing bits.

Freud #FT3000VCE, 3 hp, 8,000–21,000 rpm, \$350, 800-334-4107, freudtools.com.

■ You won't bog down this robust router, and the spindle locks from above the table for one-handed bit changes.

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