

A Survey of Router Tables

The best tables simplify the job of mounting a router and come with accurate, solidly made fences

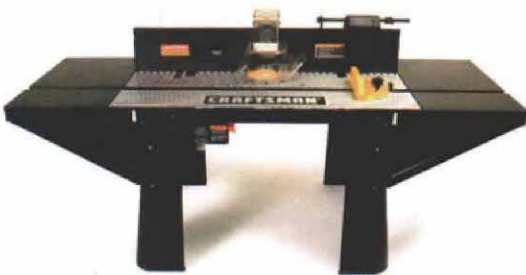
BY JOHN WHITE



Bench Dog \$415



CMT \$259



Craftsman \$95



Eagle America \$360



Freud \$299
Shown with optional \$99 on/off switch.



Hart Design \$239

For the small shop, a table-mounted router can do all that a shaper can and maybe more. Raised panels, box joints, dovetails, mortises, tenons and moldings are but some of the operations possible with a router.

It's not too difficult to cobble together a workable shopmade router table. But it may lack some features available from a commercially made table. There are many tables to choose from, everything from basic units costing about \$50 to setups costing \$500 or more, depending on the options. I looked at 15 tables for this article.

All router tables operate on the same basic concept. A router is mounted upside down, usually on a removable baseplate, although a few mount directly to the tabletop. For many operations, the router table is used in conjunction with a fence.

Most router tables are mounted to a stand, either a short one for benchtop use or a table-height one for freestanding units.

Some router tables can be attached directly to the extension wing of a tablesaw. A benchtop model is good for its portability and small footprint. But the best of the freestanding units have larger tabletops and provide a more stable work surface.

Baseplates simplify router-bit changes

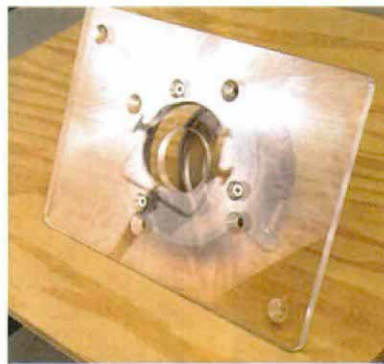
It's easier to change a router bit if you can lay the machine on its side. That's why somebody developed the removable baseplate. Without this removable baseplate, you'd have to change the bit from under the router table in an awkward position. That's true with many benchtop models. But some of the newer benchtop models—as well as all of the freestanding tables—come with removable baseplates. For an extra charge, many manufacturers offer predrilled baseplates to fit your router (see the top right photo on the facing page). It's not hard to drill your own from a blank, but you probably won't end up with the

MOUNTING A ROUTER NEEDN'T BE A STRUGGLE

To use template-guide bushings with a table-mounted router, the router needs to be perfectly centered in the baseplate hole.



The Veritas router table comes with an alignment pin for centering the router in the baseplate hole. The unique clamping system doesn't require the user to drill any holes or to remove the router's subbase to mount the tool.



For a good fit, order a predrilled baseplate. Many manufacturers offer this option for a few dollars more.



Rousseau's concentric rings help align a router prior to drilling mounting holes. Getting a router perfectly centered is possible, but you must have a good eye.

router perfectly centered over the hole.

The Veritas table is an exception. Although it doesn't have a baseplate, the modest-sized tabletop can be lifted clear of the stand and flipped over to provide access to the router. (You can also prop it up at an angle like a car hood on the stand's hinged support arms.) The router mounting system is also the best I've seen. A pair of clamps and brackets will hold any model of router in place. Additionally, it comes with a pin that centers the router in the baseplate hole (see the left photo above).

Rockler's aluminum baseplate and Nucraft's optional steel unit are very stiff and

flat. Among the plastic baseplates, the Woodhaven, Bench Dog and Woodpecker models are very flat and have adjustment screws so you can level the baseplates flush to the tabletop.

The baseplates of the Craftsman and Porter-Cable benchtop tables are pre-drilled to fit their respective line of machines. The optional steel baseplate on the Nucraft table has radial grooves that accommodate the bases of most routers but not the asymmetrical bases found on most plunge routers. For a plunge router, you'd have to drill new mounting holes in the baseplate. The underside of the Rousseau

baseplate has concentric rings molded into it to assist with router alignment, but you must drill your own holes (see the bottom right photo above).

Insert rings decrease the throat opening

Many baseplates come with a set of insert rings. Depending on the diameter of the bit, select a ring that clears the cutter and provides maximum support for the stock. Most insert rings are attached to the baseplate with three or four small screws that are easy to lose in a pile of sawdust.

My favorite insert-ring designs are found



Nucraft \$310 (for table only)
Optional cast-iron leg set costs \$151.



Porter-Cable \$149



Rockier \$250



Vermont American \$100



Veritas \$269



Rousseau \$400

on the Woodhaven and Veritas tables. The Woodhaven's rings are cleanly machined and are retained by a snap ring; they're easy to remove and replace, even with a router bit in place. Veritas manufactures its insert rings with an eccentric shoulder. They are locked in place with a special pin wrench that you must make (instructions are supplied; it doesn't take long). I also

like the design of the insert rings manufactured by Woodpecker and the optional steel set made by Nucraft because these rings can be adjusted to bring them flush to the tables.

The clear plastic baseplates made by CMT, Bench Dog and Nucraft do not have inserts; the drop-in baseplate for each unit has a 2-in. hole. If you need a larger hole

for panel bits or one sized for guide bushings, you must order a second plate.

Tabletop flatness can affect the accuracy of joints

Router tabletops are made of cast iron, steel, laminated medium-density fiberboard (MDF), aluminum or laminated particleboard. They come in a range of sizes. A tabletop ought to be fairly flat. I like one that isn't out of flat by more than a few thousandths of an inch (across its length) if I'm cutting parts that have to mate to one another. For cutting moldings, this degree of flatness is unnecessary as long as the area around the cutter is flat or slightly crowned. Overall, the flatness measurements ranged from a few thousandths of an inch to a few hundredths of an inch. Flatness is also affected by how well a table is fastened to its stand. The flattest and best-mounted tables received the highest ratings (see the chart on pp. 90-91).

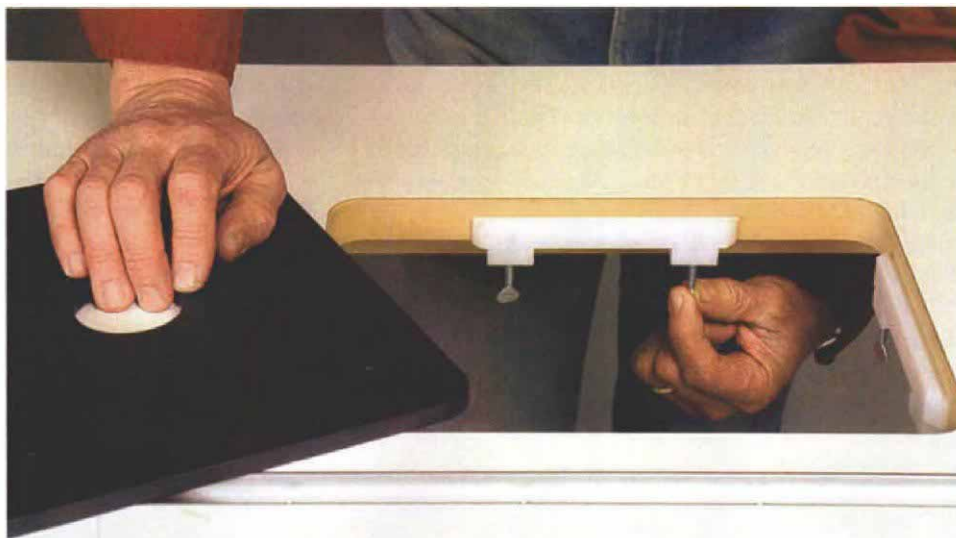
The Veritas table has a very slight crown, which the company claims will flatten out once you mount a router. I found that a slight crown remained, even after mounting a hefty 3½-hp router. But once I clamped the Veritas fence to the table, it flattened right out. In general, a slight crown in the region of the cutter is preferable to a dished table. That's because stock will remain at a consistent height to the bit provided downward pressure is maintained near the cutter.

Nucraft's cast-iron table also stands out in a crowd. At 70 lbs. it's by far the heaviest of the bunch. It's about the shape and size of a tablesaw extension wing and can be mounted as such. For benchtop use, Nucraft offers a set of optional cast-iron legs.

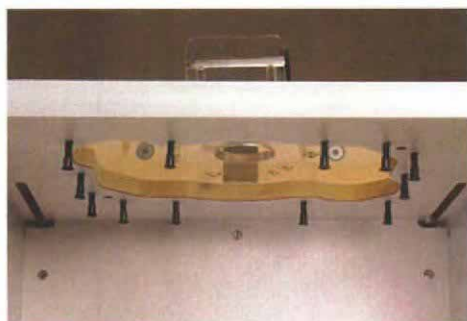
Most router tables are made of laminated MDF. The Rockier table is made of laminated particleboard. Unless it is properly supported, MDF or particleboard will likely

ADJUST BASEPLATES FOR SMOOTH ROUTING

To feed stock smoothly, a baseplate should be perfectly flush with the tabletop.



Woodhaven uses thumbscrew levelers. These levelers are adjusted from below the table. They can be purchased separately to retrofit most MDF-core tables.



The view from below. CMT's table has 12 leveling screws, accessible from below. The Bench Dog router table has a similar setup.



Levelers are built into the Eagle America baseplate. Six Allen screws are easily adjusted from above.



Woodhaven \$375



Woodpecker \$339



Woodstock \$188

sag under its own weight. The materials also are subject to stresses close to any major cutouts. Many manufacturers machine a channel into the tabletop for a miter gauge. And it's here that most of the tables take a slight dip.

All of the MDF tables moved slightly as the humidity changed. One day a table would be flat; the next day it would have a slight warp. This movement affected the fit of the baseplate. As a table swells from increased humidity, the baseplate requires readjustment for a flush fit. The metal tables, obviously, don't get bent out of shape due to weather changes.

The Bench Dog, Freud and Woodpecker tables seemed to stay flattest because they are solidly attached to their stands. Bench Dog and Woodpecker stands have cross braces that add support to the tabletops.

A sturdy stand keeps the tabletop flat

A stand has to fulfill several functions beyond the obvious goal of getting the router table off the shop floor. A good stand keeps the tabletop flat, can be adjusted for floor irregularities and provides stability.

It's a rare shop that enjoys a perfectly flat floor. I expected most stands would come with leg levelers, but that's not the case. Only the Eagle America, Woodpecker and Rousseau stands come so equipped.

The Rousseau stand, with its heavy, welded steel construction, is clearly a standout (Rousseau also offers a sturdy folding stand). The company supplies four screws for attaching the tabletop to the stand. Adding four more screws would keep the top flatter. Among the enclosed stands, the Bench Dog is the best. Because the router is totally enclosed, the unit is less noisy. Also, you can add dust collection from below the router as well as at the fence. But the stand bears directly on the floor, and it did not take long before the melamine edge

began to chip. Levelers or glides would solve the problem.

Few fences are perfectly flat and square

Fences found on full-sized tables are of similar design. They consist of an aluminum extrusion or casting with an adjustable two-piece facing made of wood, plywood or MDF. Like insert rings, facings allow you to close gaps around the bit for better stock support.

A fence not only needs to be flat and square, but it also needs to be strong, stable and practical to use. Many of the fences are weak in one or more of these areas.

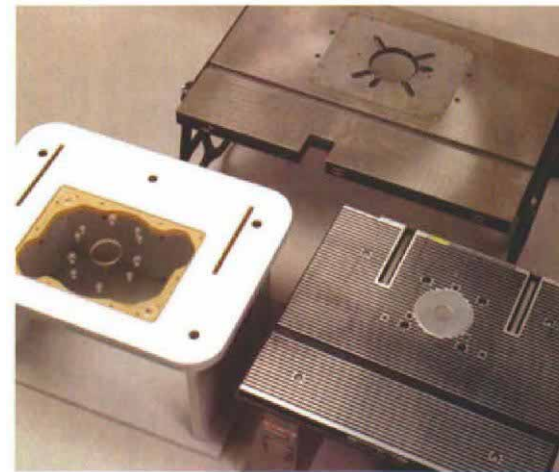
The best fences—those rated excellent in the chart—are out of flat by only a few thousandths of an inch when measured across their lengths. The least-accurate models are off by 10 times as much. I also measured how square the fences were to their tables. Most were off a bit. Depending on what you use a router table for, these measurements may or may not be important. Close tolerances are important if you're using a fence to make tight-fitting joints. But if you're simply running molding, it's not that big a deal.

Not surprisingly, the thickest fences are the stiffest. As I learned from manufacturers, aluminum extrusions and castings don't necessarily come out of the foundry flat and square. You can tune a fence by adding some tape or paper shims either under the fence to help square it or between the facings and fence to flatten them out. But the best-rated fences are machined by the manufacturer. The fences with solid wood facings are generally less accurate because wood has that nasty habit of warping. The fences that rate better have birch plywood or MDF facings.

Besides accuracy, ease of use is important when judging a fence. With clamps on both ends, movable and offset facings,

guards and hold-downs, a router-table fence has a lot of adjustments. A fence received a higher rating if its hardware worked smoothly, if it had T-slots for attaching other options and if it did not require additional tools to make adjustments.

The Bench Dog model No. AF 400 fence is a thick aluminum extrusion that has been machined flat and square. Its clamps and face adjustments slide like silk and are tightened via large, easy-to-grasp knobs (see the top photo on p. 90). The same is



Tabletops come in a choice of materials. The most common material is laminated MDF (left). One manufacturer offers a cast-iron model (top). Several portable models have aluminum tops.

true for the CMT benchtop fence, which is manufactured by Bench Dog. I also like the Rousseau fence because of its substantial, accurately machined aluminum casting. The Hart Design fence is also nicely finished, although not quite as accurate as the CMT and Rousseau.

At first glance, I liked the beefy Veritas extrusion, with its T-slots for attaching hold-downs and stop blocks, but the unit is cumbersome to adjust, requiring a Phillips-head screwdriver, a slotted screwdriver

and a straightedge. The locking levers are also too close to the stand.

The Woodstock and Porter-Cable fences are very time-consuming to set up. Each half of each fence must be realigned with the other half every time the fence is moved (see the bottom photo below). In their favor, this kind of design allows you to perform operations—such as jointing or



The Bench Dog has aluminum rods for *shimming the outfeed fence*. One face has been machined to square it up. Also, large knobs are used for all adjustments.



A fence should be square to the table and easy to adjust. A split fence, which is found on many benchtop models, such as the Woodstock Rebel, must be realigned each time it is moved, a time-consuming process.

making moldings—that require an offset fence on the outfeed side for support.

Dust collection takes place at the fence—Most fences are designed with a vacuum-hose hookup at their midsection. Rousseau provides a blank fiberboard panel that must be drilled out to accommodate a hose. The connector port on the Eagle America fence is slightly undersized, and most hoses in the shop wouldn't fit. The

Freud fence has a nonstandard 2-in. fitting.

The design of the Veritas dust pickup is unique and adds greatly to its utility. The heavy plastic hose fitting attaches to the steel table with strong magnets. It can even be attached to the underside of the top to pick up dust from dado-type cuts that force the shavings down.

Woodpecker has an optional router enclosure that mounts under the tabletop. The enclosure has a door mounted on its side. For small and midsized routers, this works fine. When I mounted a 3½-hp router, I was unable to reach all of the controls through the door.

Choose a table based on the type of work you do

If you use a router table only to run moldings or to waste out a joint before finishing up with hand tools, then most of the lower-priced router tables ought to suit you just fine. If, however, you intend to create joints that fit tight right off the machine, spend a few more bucks.

The CMT benchtop router table, which is manufactured by Bench Dog, is a top-notch portable. The CMT has a sturdy, accurate fence, which makes it suitable for a shop as well. The Veritas table is another excellent small unit. Although it's expensive, the Nucraft table makes sense if you prefer to mount a router table to your tablesaw and use its fence for routing.

Among the full-sized tables, the Bench Dog and Rousseau offer the best combination of accuracy, ease of use and sturdiness. For a good value, consider the Hart Design router table.

Or better yet, mix and match components to create a dream router table. My dream table would consist of the Rousseau LS 3310 leg set (\$191). For a top, I would buy Woodpecker's jumbo model No. 928 (\$129). To help keep it stiff, I'd add a couple of angle-iron cross braces underneath. Next, I'd purchase Woodhaven's large phenolic baseplate, model No. 147 (\$50), and the plate levelers, model No. 130 (\$15). The Woodhaven plate is an exact fit in the Woodpecker table cutout. Next, I'd order Bench Dog's AF 400 fence (\$135). A final addition to the perfect table would be Freud's BF 3700 on/off switch (\$99). This combination would cost \$619. □

John White maintains the Fine Woodworking shop and also is a cabinetmaker.

MAKE AND MODEL	PRICE
Bench Dog (800) 786-8902 Model No. RT 400 table	\$130
Model No. AF 400 fence	\$135
Model No. CB 400 base	\$150
CMT (888) 268-2487 Model No. 999.402.00	\$259
Craftsman (800) 377-7414 Model No. 25483	\$95
Eagle America (800) 872-2511 Model No. 415-0024	\$360
Freud (800) 472-7307 Model No. BF3	\$299
Hart Design (800) 345-2396 Model No. Hart 1	\$239
Nucraft (800) 971-5050 Model No. NU 105 table	\$310
Model No. NU 200 leg set	\$151
Model No. NU 1020 steel insert	\$200
Porter-Cable (800) 487-8665 Model No. 698	\$149
Rockler (800) 279-4441 Model No. 81267	\$250
Rousseau (800) 635-3416 Model No. RM 3508 table	\$91
Model No. RM 3301 fence	\$79
Model No. RM 3509 baseplate	\$39
Model No. LS 3310 leg set	\$191
Veritas (800) 871-8158 Model No. 05J2022	\$269
Vermont American (800) 626-2834 Model No. 23463	\$100
Woodhaven (800) 344-6657 Model No. 172SHDM table	\$160
Model No. 202 DF fence	\$105
Model No. 301 leg set	\$110
Woodpecker (Distributed by Woodworker's Choice) (800) 892-4866 Model No. 928 table with leg set and insert rings	\$219
Model No. 931 fence	\$120
Woodstock Rebel (800) 840-8420	\$188

ROUTER TABLES AND FENCES

TABLE SIZE/MATERIAL	TABLE FLATNESS	BASEPLATE	FENCE QUALITY	COMMENTS
24 in. by 32 in./ laminated MDF	Excellent	Acrylic blank (predrilled plates available)	Excellent	A rugged, well-designed system. The fence is especially well made and easy to adjust.
15¾ in. by 22 in./ laminated MDF	Excellent	Acrylic blank (predrilled plates available)	Excellent	Made by Bench Dog and every bit as good as its big brother.
14 in. by 40½ in. (including wings)/die-cast aluminum and stamped steel	Fair	Not applicable (router mounts to underside of table)	Good	The Craftsman is an acceptable portable unit. Among the lower-cost units, its fence is better than average.
24 in. by 32 in./ laminated MDF	Good	Sheet phenolic blank	Good	A plain vanilla table and fence on a nicely made wooden base.
19¾ in. by 26¾ in./ laminated MDF	Excellent	Glass-filled plastic blank	Fair	The unit comes with a smaller-than-average baseplate and fence. But the stand is very sturdy, and the optional (\$99) on/off switch is a good idea.
23½ in. by 31½ in./ laminated MDF	Good	Molded phenolic blank	Good	A good-quality table for the price, with a simply designed, sturdy fence.
18 in. by 27 in./ cast iron	Excellent	Acrylic blank (optional steel baseplate with predrilled holes and insert rings available)	Not applicable	You'd be hard-pressed to wear this table out. It's best used as a tablesaw extension wing. The user must supply a fence.
17 in. by 20 in./ die-cast aluminum	Fair	Not applicable (router mounts to underside of table; predrilled for Porter-Cable routers)	Fair	Rugged, compact table. But resetting the fence is time-consuming.
24 in. by 31¾ in./ melamine	Fair	Machined aluminum blank (predrilled available)	Fair	The top needs more support from underneath to prevent sagging. The fence is prone to flexing when clamped.
24 in. by 32 in./ laminated MDF	Good	Molded phenolic blank (has marked rings to help align router base)	Excellent	This unit has a heavy-duty welded stand. The top could be kept flatter by adding more mounting screws from underneath. The fence is among the best.
16 in. by 24 in./ steel plate	Good	Not applicable (router mounts to unique clamp system under table)	Good	The Veritas is the best solution to mounting a router. Resetting the fence, however, is time-consuming.
14 in. by 40½ in. (including wings)/die-cast aluminum and stamped steel	Fair	Not applicable (router mounts to steel blank under table; drilling templates are included)	Poor	The light-duty fence is prone to flexing.
24 in. by 32 in./ laminated MDF	Fair	Sheet phenolic blank (drilling templates available)	Fair	The top needs better attachments to keep it flat. The baseplate insert rings are well made.
24 in. by 32 in./ laminated MDF	Excellent	Sheet phenolic blank (predrilled plates available)	Good	The top is the thickest of all of the MDF tables and stays quite flat. The baseplate is also nicely made. But the fence clamps are awkward to use.
18 in. by 24 in./ cast aluminum	Good	Aluminum blank	Fair	Insert rings aren't flush with the underside of the baseplate and can interfere with mounting the router.