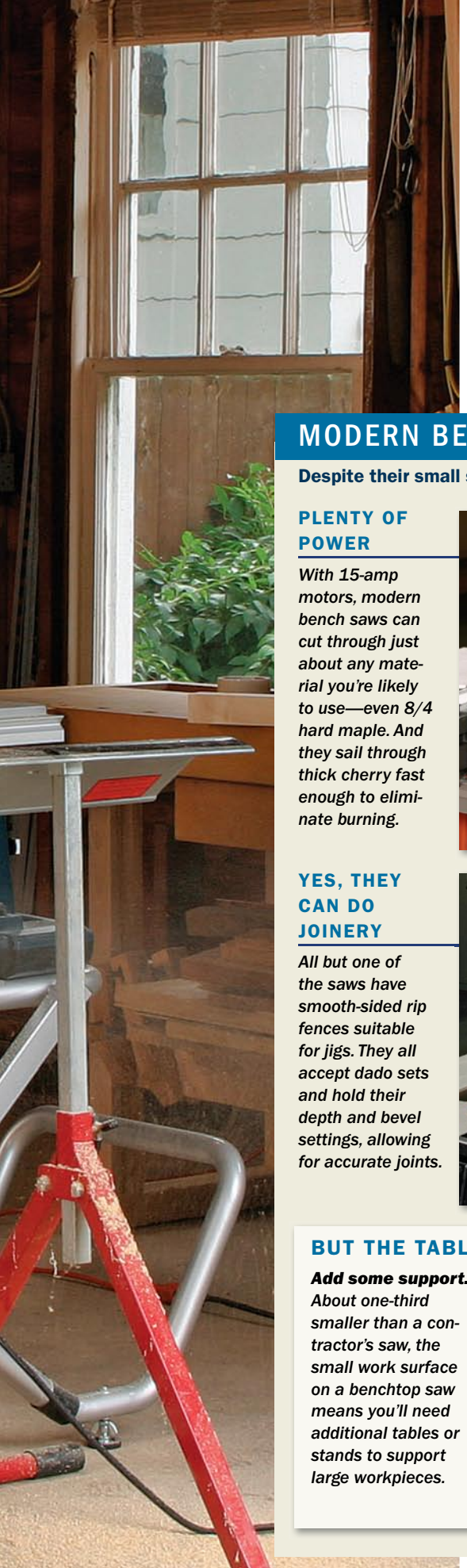
TOOL TEST

Portable Tablesaws

A new breed of small, powerful saws is a perfect fit for tight shops

BY PATRICK McCOMBE

Making room for the wheels. *With its stand folded up, a benchtop saw has a 2- by 3-ft. footprint, so you can tuck it against a garage wall and still have enough room for the car.*



The first benchtop tablesaws were little more than portable circular saws mounted upside down in plastic housings. They lacked the power and precision required to make furniture. But these saws have evolved into larger and more substantial machines, capable of surprising accuracy. And the latest models have European-style riving knives, a much better safety option than the old-school splitters.

Given their rolling stands, light weight, and small footprints, these little saws are the perfect choice for woodworkers who have downsized their homes and now live in condos and apartments. They're also good for those who simply want to keep their car(s) in the garage. Benchtop saws cost less than contractor's saws and much less than cabinet saws, making them a good first saw for beginner woodworkers.

But are benchtop tablesaws a realistic alternative to full-size tablesaws for serious woodworkers and furniture makers? The short answer is yes. I tested a half-dozen

MODERN BENCHTOP SAWS ARE UP TO THE JOB

Despite their small stature, these saws have the muscle and features to handle serious woodworking.

PLENTY OF POWER

With 15-amp motors, modern bench saws can cut through just about any material you're likely to use—even 8/4 hard maple. And they sail through thick cherry fast enough to eliminate burning.

VERSATILE RIVING KNIVES

Riving knives prevent stock from twisting and kicking back. All the saws tested have two-position riving knives that work for both through- and non-through-cuts.

YES, THEY CAN DO JOINERY

All but one of the saws have smooth-sided rip fences suitable for jigs. They all accept dado sets and hold their depth and bevel settings, allowing for accurate joints.

BUT THE TABLES ARE SMALL

Add some support. *About one-third smaller than a contractor's saw, the small work surface on a benchtop saw means you'll need additional tables or stands to support large workpieces.*

Miter gauge runs out of room. *The space between the front of the table and the blade (at maximum height) varies from 5 in. to 8¼ in., so plan on building a crosscut sled for panels and wide stock.*

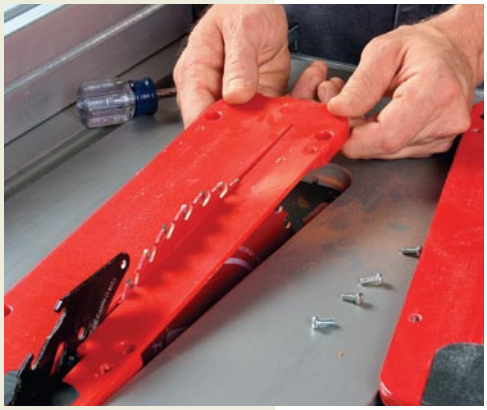
Photos: Kelly J. Dunton

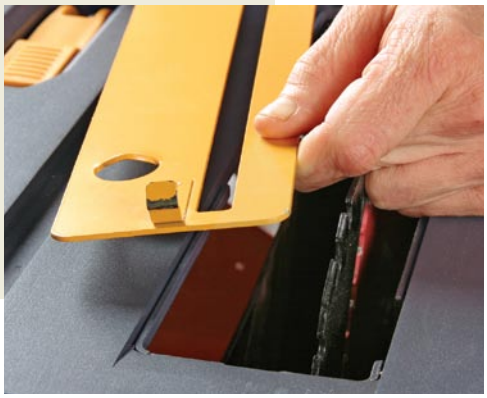
LITTLE THINGS MEAN A LOT

Since all the saws have enough power to do the job, ease of use and accessories make a big difference.

NOT ALL TAKE A ZERO-CLEARANCE THROAT PLATE

It's easy to install a shopmade throat plate on some of the saws; on others, it is difficult to impossible. Bosch offers blank inserts (top) as an accessory. The Craftsman's throat plate (bottom) has two problems: We couldn't figure out how to make a zero-clearance replacement, and the stock plate can't be adjusted level with the table.





SOME RIVING KNIVES ARE EASIER TO USE THAN OTHERS

Most of the riving knives are secured with convenient levers (left) or knobs. Unfortunately, the Jet's small knob (below) is hard to turn.

Blade guards are better than ever. *All the riving knives double as holders for blade covers and anti-kickback pawls. The guards and pawls install and remove easily, making it more likely you'll use them.*

new saws, including models from Bosch, Craftsman, DeWalt, Jet, Makita, and Ridgid. To be considered for the test, saws had to have riving knives to prevent kickback, the most common tablesaw accident. Without a splitter or riving knife in place, a board can pivot sideways as it passes the blade and catch the blade's back teeth, which launch it toward the user. But unlike old-style splitters, which are stationary, riving knives move with the blade, which means they're on the saw—preventing kickback—for almost all types of cuts.

The saws also had to have at least 24 in. of rip capacity, so they could conceivably break down full sheets of plywood—although doing so without an extra pair of hands or additional outfeed *and* infeed support is exceedingly dangerous. All but one of the saws have folding stands that put the saw at a comfortable working height and, when folded, act as two-wheel dollies for moving the rig around.

To measure their suitability for woodworking, I evaluated these little saws using the same criteria I would for a full-size tablesaw, including measuring for table flatness, blade runout, and miter-slot parallelism. I looked critically at the controls for blade height and bevel adjustments and compared the riving knives for function and ease of use. Finally, I did a series of real-world cutting tests, ripping and crosscutting everything from 8/4 hard maple to ¾-in. birch plywood. I also installed dado sets to see how they handled joinery. Since the factory blades that come with these saws are all over the place in terms of quality, I leveled the playing field by installing new, 40-tooth Freud Diablo thin-kerf blades on every saw before testing.

Bottom line: These are serious saws

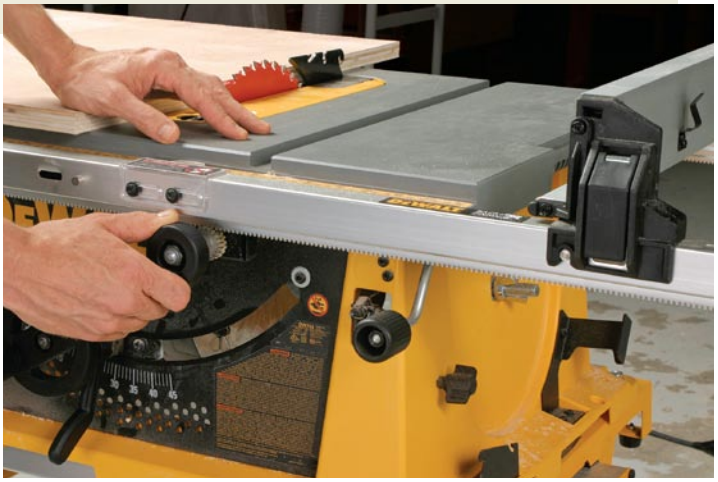
These saws all have motors rated at 15 amps, but they're designed to run on ordinary 110-volt circuits without tripping breakers, so you won't need any special wiring. They all have enough power to rip even 8/4 hard maple at a reasonable feed rate, and they all plowed through 6/4 cherry fast enough to avoid burning.

There is one downside to the small (universal-type) motors on these saws. They are *loud*, pumping out between 92 (Bosch and Makita) and 99 (Ridgid) decibels. I measured their volume from about 2 ft. away with the motors running, but not cutting. They get even more shrill under load, so ear protection is a must.

For accurate cuts, tablesaws must have their blades parallel to the miter slot. All these saws, with the exception of the Bosch, needed to have their blades trued to the miter slot before use. The numbers in the chart (see p. 80) relating to blade/miter slot

2-FT. RIPS ARE STANDARD

For maximum capacity without sacrificing portability, all the saws but the DeWalt have an expanding table to the right of the blade (top). DeWalt attaches the rip fence directly to a pair of rack-and-pinion extensions that make fine-tuning a rip setting faster and easier (bottom).

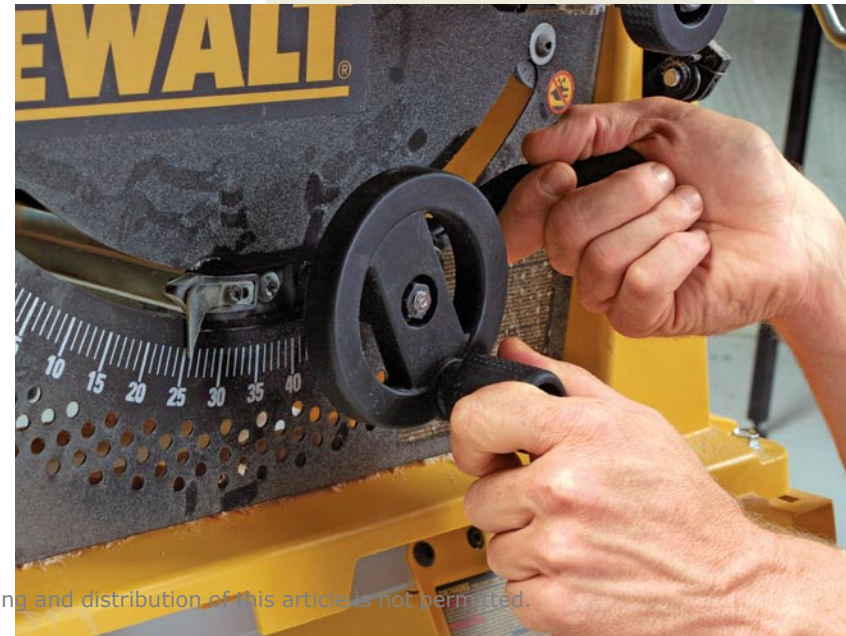


ONE MITER GAUGE STANDS OUT

Ridgid's very solid miter gauge has adjustable stops (left). Most others have metal tabs that work but have too much play (bottom).

SOME DIFFERENCES IN ADJUSTMENTS

All but two of the saws have positive, rack-and-pinion controls for bevel adjustment (left). On the Bosch and DeWalt (below), the trunnions swing free when you release the lock.



parallelism are after adjustments. Unfortunately, even after adjustment, the miter slot and blade on the Makita and Jet models were still out of parallel when they were set to cut at 45°, a problem significant enough that it probably would require shimming the trunnions to correct, a difficult and time-consuming job.

With those two exceptions, I found all the saws made high-quality cuts. To cut joinery, all the saws maintained a consistent blade height while cutting dadoes and tenons, and all the rip fences except the DeWalt's easily accept shopmade jigs. Miter-slot widths were consistent to 0.001 or 0.002 in., which will keep the miter gauge and various sleds and jigs on track. The Craftsman was the exception, with a slot that varied 0.007 in. over its length. The Craftsman also has the only non-adjustable throat plate, which was noticeably lower than the table.

Improved rip fences

Rip fences have always been the weak link when it comes to portable tablesaws, but manufacturers have improved them dramatically

TESTING RESULTS

MANUFACTURER/ MODEL	STREET PRICE SAW ONLY/ WITH STAND	OPTIONAL OUTFEED/SIDE SUPPORT	ARBOR LOCK	TABLE FLATNESS	MITER SLOT/BLADE PARALLELISM		BLADE RUNOUT	DECIBEL LEVEL
					AT 90°	AT 45°		
Bosch 4100-09 www.boschtools.com	$500/$650	$40/$25	Yes	0.015 in.	0.001 in.	0.004 in.	0.003 in.	92
Craftsman 21828 www.craftsman.com	$314/NA	Included/None	No	0.006 in.	0.006 in.	0.006 in.	0.004 in.	98
DeWalt DW744X www.dewalt.com	$530*/$630	$110**	No	0.005 in.	0.003 in.	0.005 in.	0.004 in.	93
Jet JBTS-10MJS www.jettools.com	NA/$610	Included/None	Yes	0.011 in.	0.002 in.	0.015 in.	0.003 in.	95
Makita 2705X1 www.makita.com	$570/ $690	None/None	No	0.003 in.	0.002 in.	0.012 in.	0.006 in.	92
Ridgid R4510 www.ridgid.com	NA/$450	None/None	No	0.014 in.	0.002 in.	0.004 in.	0.004 in.	99

*Base model Includes simpler, non-rolling stand **Side and outfeed supports sold as set

in recent years. With one exception (DeWalt), all the rip fences grip aluminum rails front and back and true themselves as they're positioned and locked. DeWalt's rip fence works well too, but its unique design makes it tough to use jigs that ride on the fence.

Some controls are more positive than others

One of the most significant differences among models is the controls used for bevel and height adjustments. The Craftsman, Jet, Makita, and Ridgid models all have rack-and-pinion bevel adjustments while the Bosch and DeWalt trunnions swing free when you release the lock. The rack-and-pinion design makes it a little easier to fine-tune a bevel setting, but I wouldn't consider it a must-have.

All the saws' trunnions have adjustable stops at 45° and 90°. As a test, I repeatedly switched between the two settings and checked their accuracy with a drafting triangle. All the saws passed the test without even a sliver of light between the blade and the square.

The Ridgid is the only saw with a blade-elevation lock, but the others held their settings without it.

Riving knives are excellent

All the saws have two-position riving knives for through- and non-through-cuts. After removing the guard, anti-kickback pawls, and throat plate, you can loosen the lever or knob at the base of the knife and move it up or down. With a remote release at the back of the saw, Makita makes the process even easier. All the knives are sized for thin-kerf blades, and they barely attracted notice as I used the saws, which is exactly what you expect from a well-designed safety feature.

Some throat plates are deal-breakers

Any experienced woodworker will tell you that a zero-clearance throat plate improves safety and reduces tearout, but only Bosch offers a zero-clearance insert (TS1005). However, Leecraft (716-685-

JET

MAKITA

RIDGID

DADO CAPACITY	FRONT OF TABLE TO BLADE	ACCEPTS SHOPMADE THROAT PLATE	MITER GAUGE	RIVING KNIFE/ BLADE GUARD	STAND	COMMENTS
13⁄16 in.	6¾ in.	Yes	Very good	Very good	Excellent	Most power. Accurate right out of box. Best stand. Best accessories.
½ in.***	5 in.	No	Good	Very good	N/A	Non-adjustable throat plate can't be made flush with table. Onboard wheels and handle boost portability.
13⁄16 in.	5⅛ in.	Yes	Very good	Very good	Very good	Rack-and-pinion rip fence adjusts very well.
13⁄16 in.	6⅜ in.	Yes, but difficult	Poor	Good	Good	Riving knife most difficult to use. Non-adjustable stops on miter gauge. After truing, saw still off at 45°.
13⁄16 in.***	8¼ in.	No	Very good	Excellent	Very good	Smooth controls. Best riving knife and guard. Flattest table. After truing, saw still off at 45°.
13⁄16 in.	6⅞ in.	Yes	Excellent	Very good	Very good	Lowest price with stand included. Good controls.

***6-in. set only

4458, www.leecraftzeroclearance.com) makes one for the DeWalt. You could make your own (see "Get Safer, Cleaner Cuts on Your Tablesaw," *FWW* #200), but it looks nearly impossible with the Craftsman and Makita, and difficult with the Jet. I consider this a deal-breaker for serious woodworking. All the saws have available dado throat plates, and all but the Craftsman accept dado sets stacked to 13⁄16 in. The Craftsman and Makita will accept only a 6-in.-dia. dado set while all the others will take an 8-in. set.

Dust collection is decent

All the saws have 2-in. dust-collection ports connected to plastic shrouds that cover the section of blade below the table. For dust collection during testing, I used both a 16-gallon Ridgid shop vacuum and a portable 1½ hp Delta dust collector (Model 50-760). Both methods worked well, except when I was cutting 1½-in. or thicker stock, which puts more blade above the shroud and allows more dust to escape.

The verdict

Picking a best-overall saw here is tough. Most of the saws have enough power and accuracy to handle just about anything a serious woodworker would throw at them, but it's the little things that make all the difference.

I think the Bosch is the best overall choice for woodworkers, because it's accurate, smooth, and powerful. It doesn't really have a single stand-out feature, but all of its features rank near the top. It's one of two saws with an arbor lock (for easier blade changes), and it was the most powerful saw. Also, it easily has the best stand and most useful accessories. Taken together, it's an excellent package.

The Ridgid and DeWalt saws are also very solid performers. But since the Ridgid has the lowest price with a stand included, it gets the best-value award. □

Patrick McCombe is an associate editor.