

Belt Sanders Get Better

Their abrasive power is undisputed, but the newest models offer improvements in comfort, convenience, and control



BY MICHAEL STANDISH

A few days after I told a friend that I'd be writing an article about belt sanders, he emailed me this message: "BELT SANDER: An electric sanding tool commonly used to convert minor touch-up jobs into major refinishing projects."

There's no disputing that few tools can remove wood as quickly as a belt sander. It's also true that a moment of inattention while sanding can result in disaster. These days, variable speed control is standard on many belt sanders, including the ones in this review. This feature reduces the chances of turning a workpiece into scrap.

I take advantage of variable speed control every time I level a table, a countertop, or any other glued-up assembly. With a fine-grit belt and lower motor

speed, I can even sand veneer plywood without white-knuckle dread.

My belt sander, like those in this review, is a 3-in. by 21-in. model. While portable belt sanders are available in a wide array of sizes, I wouldn't enjoy scribing a piece of trim with a 15-lb., 4-in.-wide model any more than I'd like to sand a 2-ft. by 6-ft. tabletop with a belt sander only $\frac{3}{8}$ in. wide. The versatility of the 3-by-21 configuration is what made it my choice.

Not all belt sanders in this size range are exactly alike. Some cost less, some are more powerful, and some are more user-friendly.

Belts should spin straight

Most sanders come with a belt that's already installed, but that

doesn't mean the belt will stay there once you pull the trigger.

A belt that isn't tracking straight can be frayed by the sander's body or even fly off the tool completely. For proper alignment, these sanders use adjustment knobs to tweak their undriven rollers back and forth. Although this process used to be notoriously tedious, several sanders I tested required no fiddling to get their belts running true. DeWalt and Makita tout automatic belt tracking in their advertising. Bosch, Craftsman, Hitachi, and Ryobi make no such claims, but all their belts spun just as perfectly right out of the box. The Porter-Cable was finicky to dial in, and the Ridgid was even fussier.

For replacing old belts or for switching grits, belt sanders normally have a lever that releases a spring-loaded front roller. Taking a page from industrial-style stationary belt sanders, DeWalt employs a third roller for tensioning. This design allows for a convenient location for the lever, which is more of an eared knob that is extremely smooth in operation.

Of the other models, which use the traditional lever between the front and rear rollers, the Makita and the Ridgid were distinctly less stiff and balky than the rest. The Porter-Cable's stamped steel lever had an evil little burr that was perfectly located for center-punching my fingertip.



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Learn how sanding frames and stands add versatility to belt sanders.



Trigger and speed controls vary

Belt-sanding can go bad quickly enough that any tool-induced distractions are unwelcome. Most of the trigger-locking buttons on these belt sanders were simple to operate: a nudge of the thumb's knuckle to engage the lock, an extra squeeze on the trigger to release it. I found locking the Ryobi's trigger to be an erratic proposition, however, while the collar around the Ridgid's button required my nontrigger hand to depress it.

Like trigger locking, on-the-fly speed changes are a convenience, especially when delicate or detailed sanding tasks call for slowing things down. Unfortunately, most of the speed controls on these belt sanders were disappointing. The Craftsman and Ridgid dials were well within reach of my trigger hand, but they were too stiff to spin comfortably.

Except for the Bosch and the Ryobi, the dials on the other sanders were too far from the trigger to allow for adequate control of the tool while I was making one-handed speed changes. The Bosch's speed can be regulated by trigger pressure, although not as precisely as I'd prefer. The Bosch's trigger-mounted dial can be set to limit the tool's top speed. Ryobi's speed adjuster is located on its front handle, so any changes can

be made without even having to lift a finger.

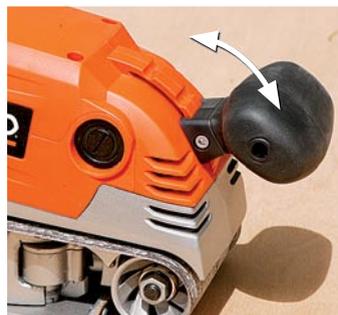
The sander does the hard work, not you

The usual recommended belt-sanding method is to minimize downward pressure on the tool, no more than is required to keep the sander flat on the work-surface. For faster removal of wood, most owners' manuals suggest increasing the motor speed or switching to a coarser-

grit sanding belt rather than forcing the issue.

Because the message is so clearly to let the tool's mass do the work, I was surprised to find that sander weight had so little to do with sanding power. For example, the lightest sander tested removed the least material, but the second-heaviest sander removed the second-least amount of wood. I was also unable to find any consistent matchups between sanding per-

DETAILS THAT MAKE A DIFFERENCE



User-friendly front handle. The adjustable handle on the Ridgid improves comfort and tool control.



Speed control at your fingertips. Ryobi's dial is on its front handle, which eliminates the need to move your hand to adjust it.



Innovation outdoes tradition. The DeWalt features an eared knob instead of a lever, allowing belts to be changed more quickly and easily.



Manufacturer/model	Price	Motor orientation	Weight	Speed range (surface feet per minute)
Bosch / 1274DVS 877-267-2499 www.boschtools.com	\$145	Inline	7.1 lb.	550-1100
Craftsman / 11727 800-932-3188 www.sears.com	\$100	Transverse	11 lb.	800-1300
DeWalt / 433 800-433-9258 www.dewalt.com	\$189	Transverse	12 lb.	850-1400
Hitachi / SB 8V2 800-706-7337 www.hitachipowertools.com	\$149	Transverse	9.5 lb.	820-1475
Makita / 9903 800-462-5482 www.makita.com	\$180	Transverse	9.5 lb.	690-1440
Porter-Cable / 352VS 888-848-5175 www.porter-cable.com	\$179	Transverse	10.75 lb.	850-1300
Ridgid / R2720 800-474-3443 www.ridgid.com	\$179	Inline	10.5 lb.	800-1500
Ryobi / BE321VS 800-525-2579 www.ryobitools.com	\$99	Inline	7.9 lb.	775-1148

formance and motor amperage, top speed, or platen area.

Sander performance goes beyond wood removal

Almost no one uses a belt sander until it's time to remove wood in a hurry, which some of these tools do better than others. But raw sanding power isn't useful if it can't be applied manageably.

The DeWalt and the Ridgid were the easiest sanders to control. The Hitachi and the Makita were similarly well-behaved, with the Bosch and the Ryobi close behind. The Craftsman and the Porter-Cable were the most skittish.

I also tried each sander at edge-sanding, as when scribing baseboards or cabinet filler strips.

Predictably, the heavier the sander, the more tiring it was to hold horizontally. On the other hand, when a heavier sander is more powerful, it needs less hefting time. Anyone expecting to do concave scribing should know that Craftsman, Ridgid, and Ryobi warn against putting pressure directly on the front rollers. They say that belt-tracking problems or even damage to the tool could result.

Dust control is another aspect of performance worth considering. To corral their dust, the belt sanders I tested use cloth dust bags, except for DeWalt, which uses a canister. But the bags filled up—turning the sanders into dust pumps—far too quickly for my taste.

Attaching a sander to a shop vacuum might seem like a simple way of preventing these dust blizzards. Unfortunately, the exhaust-port dimensions on all these sanders—like the sizes of the hoses they're meant to connect with—are so irregular that you would need a fistful of PVC connectors, some epoxy, and a spare afternoon to make a good connection. DeWalt and Bosch sell hose adapters, which presumably are compatible with their own vacuums, but connecting any of these sanders to any of my own vacuums required a fair

Accessories add versatility. Attaching a stand and an adjustable fence to the Bosch sander turns it into a stationary tool.



Noise (db.)	Cord length (ft.)	Available accessories	TESTING RESULTS					Overall grade
			Belt tracking	Belt change	Trigger lock	Speed control	Sanding	
94	13	Sanding frame, sanding stand, fence, vacuum adapter	Excellent	Good	Excellent	Fair	Good	Good
99	9.5	None	Excellent	Good	Excellent	Good	Good	Good
90	7.5	Sanding frame, sanding stand, fence, vacuum adapter	Excellent	Excellent	Excellent	Good	Excellent	Excellent
94	7.5	None	Excellent	Good	Excellent	Good	Very good	Very good
95	16	Sanding frame	Excellent	Very good	Excellent	Good	Very good	Very good
96	8	None	Very good	Fair	Excellent	Good	Good	Good
99	12	None	Good	Very good	Fair	Good	Excellent	Very good
92	9.5	None	Excellent	Good	Very good	Excellent	Very good	Very good

amount of fiddling. My gripe is pointless in the case of using the DeWalt with its stand: There's no room for the adapter or the dust bag. Although DeWalt provides a gate valve that blocks the dust port to prevent direct dust facials, the company's design energies would have been better spent on collecting dust.

DeWalt is not alone. All the manufacturers seem to approach dust control by sweeping it under the rug.

Accessories enhance sander potential

Bosch, DeWalt, and Makita offer sanding frames as an option. They're basically adjustable depth-limiting jigs with wide footprints that also reduce left-

to-right tipping of the sander. Sanding frames cost anywhere from \$85 for the DeWalt and the Makita to as much as \$100 for the Bosch—about the same as replacing the wood for a tabletop that's been gouged to ruins.

Bench-mounted stands with fences, handy for on-site finish-carpentry touch-ups, are also available from Bosch and DeWalt. DeWalt's frame comes with legs for conversion to a stand as well as a fence. Bosch sells its stand and fence separately for around \$50 each.

The best of the bunch

The Ryobi was an easy choice for best value. It's not the most powerful sander, but it's light, compact, and user-friendly.

The DeWalt and the Ridgid were the picks of the litter. Both removed plenty of wood and were as controllable as a belt sander gets. The Ridgid includes amenities like a Velcro cord wrap, an adjustable three-position front handle, and a soft-start function.

When it came to belt changes, tracking adjustments, control, and noise level, the DeWalt was my favorite sander. It is powerful, and its optional sanding frame is nearly a must-have. The DeWalt sander, by a nose, wins best overall. □

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SANDING CERTAIN METALS CAN HAVE EXPLOSIVE RESULTS

In their owners' manuals, Bosch and Hitachi mention sanding metal as an application, while Porter-Cable explicitly warns against it, citing the danger of mixing sparks and sawdust. I found another reason for caution after reading an article in a technical bulletin from Lee Valley (www.leevalley.com). It reported the dangers of using a belt sander to remove the heads of aluminum pop rivets, followed by dressing the edge of a rusty piece of angle iron. This resulted in a sanding belt loaded with thermite, a mixture of aluminum powder and iron oxide. Extremely volatile, thermite has been used as an accelerant for incendiary bombs. To avoid turning your belt sander into a bomb, consider getting a crepe-rubber belt-cleaning stick, or—better yet—make a habit of changing to a fresh belt if you're working with different metals.



Keep sanding belts clean. Running a crepe-rubber stick over a turning sanding belt rids it of metal and wood debris. \$7.50; www.leevalley.com.