

A Worthy Pair of Cordless Belt Sanders

BY GARY STRIEGLER

Anyone who uses a corded belt sander knows one of its major pitfalls: the power cord, which seems to get either hung up or stepped on while you are sanding, resulting in a gouged work surface. I've even managed to ruin a couple of cords by sanding over them. That's why I was excited to try out Metabo HPT's 36V MultiVolt (model SB3608DAQ4) and DeWalt's 20V Max XR (model DCW220B) 3-inch-by-21-inch cordless belt sanders. We often use belt sanders on our jobsites for tasks such as sanding cabinets and door edges, flattening joints in large glue-ups, and even rough-sanding floors on remodels. All of these jobs would be easier without the power cord if the battery life and power of cordless sanders could deliver results close to corded models, in the same way that cordless multi-tools, random orbit sanders, and trim routers now perform just as well as their corded counterparts.

Over the past few months, my team and I used these new Metabo HPT and DeWalt sanders on several projects to see how they compared to my corded models. Power is important, of course, but I also wanted to test dust collection, belt tracking, and the weight and balance of the tools.

Dust collection. I don't expect 100% dust collection from a

belt sander, but I don't want the sander to throw a cloud of dust in the air or leave a pile of sawdust on the sanded surface. Both sanders have swiveling ports that allow them to be hooked up to a vacuum (the DeWalt also has a wireless tool control to trigger the vac), and this approach worked well for capturing sawdust on both machines. For me, though, the vacuum hose is often more trouble than a cord, and I was pleased to find that the dust bags that come with both sanders worked almost as effectively as a vacuum system at controlling sawdust.

Belt tracking. Tracking means that the belt stays centered without adjustments no matter what is being sanded. We put this feature to the test on a 5-by-8-foot walnut butcher-block counter-top that we had glued up and needed to sand the edges and ends of to get rid of saw kerfs and clamp marks. Any time you sand something less than the width of the belt (the slab measured about 2 inches thick), it can make the belt wander and tear up the belt edge. I used both sanders for this task, pushing hard on the walnut edges, and experienced no tracking problems at all.

Balance. The walnut butcher-block top was way too wide to run through my planer in one piece, so I had to build it in three



Edge-sanding material that's thinner than the belt sanders' 3-inch-wide belts tests their tracking ability; the author found that the belts on both machines stayed centered without adjustments (1). Cordless belt sanders are heavier than corded models, but the author found that both sanders were well-balanced and benefited from the extra weight on certain tasks (2).

Photos by Gary Striegler

Weigh In!

Want to test a new tool or share a tool-related testimonial, gripe, or technique? Contact us at jlc_tools@zondahome.com.

sections and glue and clamp them together. That left me with two 8-foot-long joints to sand on a very expensive project. A well-balanced sander is the fastest way to evenly remove material for a task like this, but poor balance can ruin a project by leaving grooves (we call it digging a hole) that show up when the painter or finisher starts to work.

To sand these long joints, I start by flattening the joint with the belt sander held at an angle, then go back and remove the cross-grain scratches by sanding parallel with the joint. As I do this, I feather out 4 to 5 inches from the joint on both sides, which leaves very little sawdust on the surface. In my testing, both machines did a good job of smoothing out the joints enough that they needed only a few quick passes with a random orbit sander afterward.

Both sanders proved to be well-balanced, and while the weight of the sanders (due to their batteries) was a little challenging for edge sanding, the extra weight was actually helpful for a job like this countertop. I would rather deal with the weight than a cord, and it was especially nice not having to worry about running over a power cord when working with this expensive material.

Power. One of the most demanding tasks we worked on with these two tools was sanding high spots out of a floor on a remodel job. I outfitted both sanders with new, 50-grit belts and started my guys sanding with fully charged batteries. I equipped the DeWalt with the company's Flexvolt 20V/60V Max 9.0-Ah battery, and the Metabo HPT with an 18-volt 8.0-Ah LiHD battery, and asked my

crew to keep track of how long they could sand using heavy pressure on the sanders to remove maximum material. This wasn't a perfect test, as they had to stop to check their work with a straight-edge occasionally, but they found that both sanders would run at full power for 15 to 20 minutes of heavy sanding on a battery charge, not quite enough time for a spare battery to totally charge up. The dust bags on both units filled up without leaving excessive dust on the floor.

I also used the sanders on several small cabinet projects, sanding face frames and end panels. For this type of work, the power and battery runtime were more than adequate, and I had no problem sanding smooth and flat, with no tracking problems.

Overall, I was pleased with both belt sanders. For all but the most intense sanding operations, the battery life was fine, and these cordless models sanded just as well as my corded ones. If I had to choose one, it would be the DeWalt, which seemed to sand a little faster, but it probably is going to come down to which battery platform you are using already. With either sander, you could safely put your older belt sander on the shelf and stop hassling with the cord.

Gary Striegler, a JLC contributing editor, owns Craftsman Builders (craftsmanbuildersnwa.com), in Fayetteville, Ark., and teaches workshops at the Marc Adams School of Woodworking. You can follow him on Instagram at [@craftsmanbuilders](https://www.instagram.com/craftsmanbuilders).



DeWalt DCW220B

Surface feet/min. = 650 to 1,050
Belt size: 3 inches by 21 inches
Weight (tool only): 7.7 pounds
Price (tool only): \$300
dewalt.com



Metabo HPT SB3608DAQ4

Surface feet/min. = 400 to 1,475
Belt size: 3 inches by 21 inches
Weight (tool only): 7.7 pounds
Price (tool only): \$170
metabo-hpt.com

Both sanders had plenty of power and runtime to tackle tough tasks such as sanding down high spots on hardwood flooring (3).

Reekon M1 Caliber Digital Measurer

BY TOMMIE MULLANEY

When I'm cutting material to length on a miter saw, accuracy and production are equally important to me. A tape measure is accurate, of course, but pulling a measurement for every cut isn't very productive. Stop blocks—either clamped to the workbench or integrated into the saw stand's extension arms—are both accurate and productive ... as long as all of the cuts are the same length. Reekon's M1 Caliber digital measuring device promises increased productivity while eliminating the need for an old-school tape measure. This device attaches to your miter saw auxiliary fence and is designed to read with precision the measurement of any flat material. I've been using one for several months to see how well it lives up to its promise.

Setup. Attaching the tool is simple. The M1 comes with a strong, spring-loaded clamp in the back with a locking mechanism. The clamping force and rubber material made a secure bond when I affixed the M1 to the fence.

The M1 has a lot of buttons and features, which—even as a “techie”—I found to be a little confusing at first. It has the capability to read flat material not only at 90 degrees but also at 45 degrees from both the long and short points of the material. Because I found switching and calibrating the M1 when changing angles on the saw to be complicated, I didn't test this feature, but I think it would make sense if the saw was kept at a single angle—such as 45 degrees—over a period of time to make multiple cuts. For my testing, I kept the M1 calibrated to the saw at a 90-degree angle.

To calibrate the saw, you slide material under the wheel of the M1 and place it against the side of the saw blade. Then, with a few pushes on the buttons, you finalize the calibration. For example, the M1 allows you to set the kerf thickness of your blade so you can measure from both the left and right sides of the blade.

Display. The display on this machine is great. Numbers and units are easy to read, and the backlight helps in both low light and bright conditions. Outside, the maximum operating temperature is 105°F.

I didn't exceed that temperature during my testing, but since I work in Florida, I can see how that could occasionally become an issue.

Battery life. The unit came with two AA batteries, which provide an estimated 15-hour life with the backlight on. For added convenience, I would love to see a rechargeable lithium-ion battery pack.

Accuracy. According to the M1's technical specifications, measurements should be accurate within ± 0.029 inch—more than adequate for typical woodworking projects. But this specification comes with a caveat, which is that material that is warped, crooked, or bowed might result in variances that exceed this specification. The problem, of course, is that wood is rarely perfectly straight, and I had to move material around extremely carefully and slowly and frequently recalibrate the device to ensure that it all worked correctly. Even then, while working with 1x4 finger-jointed pine (which is about as straight a stock as you can find), I found that tolerances ranged from $1/16$ inch to as much as $1/8$ inch. For example, when I was making multiple cuts on a long piece of stock, the first several 6-inch-long pieces were dead accurate, but then as I spanned the stock up past 8 feet, the device lost a little accuracy over those longer lengths. This would probably be fine for rough framing but not for the trim carpentry work that I do. I almost think the M1 needs a larger wheel and more markings for the machine to read.

Fence compatibility. I've been using the M1 with a Festool Kapex 120; however, each saw and its fence may differ slightly in size and shape. To check the compatibility of this device with your saw, you can click on the “Adapter fence” link on the company's website. For miter saws that don't accept this device, Reekon offers an adapter fence to create an auxiliary fence with a surface tall enough for the M1 to clamp to. Price is \$150. reekon.tools

Tommie Mullaney owns Black Label Carpentry in central Florida. You can visit his web page at blacklabelcarpentry.com or follow him on Instagram at @BlackLabelCarpentryCo.



The Reekon M1 is designed to clamp to a miter saw's fence and accurately measure the material being cut (1). The display is large and clear (2), and the spring-loaded clamp provides a strong connection to the fence (3).

Photos: Tommie Mullaney

WaveCel T2+ Max Hard Hat

BY TIM UHLER

I don't know anyone who enjoys wearing hard hats, but they are an OSHA requirement for some of the overhead work we do and, eventually, most of us manage to get used to them. Until recently, I thought that not much has changed when it comes to hard hats. Sure, the new ones seem more comfortable, functional, and—dare I say it?—cooler looking. But the internals—the suspension that protects the noggin—are largely the same as they've been for a long time.

Last winter, at the World of Concrete trade show, I noticed that many booths had hard hats, but I was working at the show and didn't have a chance to look closely into them. When I got home, though, I did some research and found WaveCel's T2+ Max, which had the features I was looking for, including a full brim to block the sun, a vented design, and a light weight. This is an ANSI-rated Type II hard hat, which means that it is designed to offer protection from lateral blows and objects hitting the head from the front, back, and sides, as well as the top (Type I hard hats protect only from blows to the top of the head). It has an adjustable fit and accessory rails for options such as a four-point chin strap, a head lamp, earmuffs, and a face shield. I also liked that it is made in the U.S.

After speaking with a rep at the company, I realized I knew next to nothing about hard hats. He explained that most head injuries we are trying to prevent with hard hats come from glancing blows, which cause the brain to move inside the skull (I knew that) and to rotate (I didn't know that). According to the inventors, the WaveCel, which was first used for sports and bicycle helmets, can absorb up to 73% more rotational force than other hard hats and has up to 98% lower predicted risk of concussion than a standard helmet lining. Now, I take that all with a grain of salt since the authors of the study cited by the company rep are also co-inventors and patent holders. But I'm convinced this is a better design; watch the videos on the company's website to see for yourself.

With all of that as prelude, is this hard hat comfortable? I received three samples, and my crew and I wore them for several weeks as we lifted exterior walls with our telescoping forklift (when local safety rules require hard hats in the presence of an overhead hazard) and when we framed interior walls (even when they weren't required). We didn't have to wear them every day, but we did anyway.

I can say I have never worn a hard hat as comfortable as this one. It has a slightly lower profile than others I've worn, has good air circulation because of the vents (unvented models for cold-weather work are available), and has a built-in sweatband that works well. The hat didn't wobble or fall off when we were bent over framing walls, and we didn't have to crank it super-tight to keep it in place. And I think it made me look cool. At \$150, it isn't cheap, but I think that the safety factor, comfort, and style that it offers make it well worth the cost. wavecel.com



The WaveCel T2+ Max is a Type II hard hat with a wide brim, and top and rear vents for better air circulation (1). Rails for ear muffs and other accessories are incorporated in the design (2). Fit can be adjusted with the oversized dial (3).

Photos: Tim Uhler

Tim Uhler is a lead carpenter for Pioneer Builders in Port Orchard, Wash. He is a contributing editor to JLC and Tools of the Trade. Follow him on Instagram at @awesomeframers, subscribe to his YouTube channel, or visit his website at awesomeframers.com.