

Toolbox

Bosch 1278VSK Compact Belt Sander

by Derrell Day

My favorite belt sander is an old Craftsman 4x21 that I purchased back when Mr. Roebuck still had his job at Sears. It is a loud, ugly, and aggressive machine that doesn't mind eating away fine millwork or rough framing. It is my "go to" sander in 95% of the "rapid removal" situations I encounter as a finish carpenter. There are times, however, when my old



Tight spaces are where Bosch's compact belt sander really shines. By flipping the tool, you can flush-sand on either side of the 1 1/2-inch belt, and with variable speed from 590 to 950 surface feet per minute, you can slow the sanding action for more delicate work.



The tool's long housing has enough room for a two-handed grip, which gives better control at the front roller. The front roller itself is a mixed bag. It's small enough to follow the profile of complex moldings, but pushing too hard on a sharp corner can dislodge the roller from its yoke, shredding the belt.

standby is too big and bulky. Jobs like joining two pieces of crown in a field joint, easing the connection of a stairway volute, and fitting oak stair treads to a riser are too intricate for "the beast." Shrinking it to better fit those kinds of jobs has been a dream for years. I recently tested the 1278VSK compact belt sander from Bosch trying to fulfill that dream. Here's what I found.

The 1278VSK is a tiny version of a belt sander. It has a 1 1/2-inch belt and a very small front roller that allows you to get into tight spaces. It has a good feel and the balance I expect from a productivity tool. At 4 pounds, it's substantial without being too heavy. A top-mounted slide switch is conveniently located and works easily. At first, I was concerned with the sander's overall length of 15 1/8 inches, but I discovered that the extra length allows a two-handed grip for better control of the small tip area. A dial adjusts belt speeds from 590 to 950 surface feet per minute, and a rear-mounted port keeps the hose out of your way for easier dust collection. The belt changing lever is flush-mounted to prevent hang-ups in tight places. A little wheel adjusts tracking and works fine.

Power comes from a 3.3-amp motor that's a little louder than I would have expected. The sander can be turned 180 degrees to flush-sand on either side of the belt, but flipping the tool changes the sanding action from pull to push — if you're not paying attention, the immediate change in direction can surprise you and gouge your work piece.

The kit I tested comes with ten belts of various grits (60, 80, 120, 180, 240). With the surprising number and variety, I didn't expect to need any replacement belts right away, but I ruined several belts because the roller tip popped out



on more than one occasion, mangling the belt. The front roller is held on both ends by a small metal yoke. The design is similar to the way your watch band is attached to your watch. It works fine in most cases, but if you apply too much pressure on a sharp corner while sanding, the roller flexes and slips out. This was an annoying design flaw on an otherwise well-engineered tool. I hope Bosch is listening and considers a redesign for future models.

Using this compact belt sander involves a bit of a learning curve, but that's to be expected with any specialty tool. The hardest thing is getting used to the small sanding area and the tight radius of the sanding tip. The tip can make your day with its ability to follow the concave or convex profile of crown molding, and sanding inside corners of stair treads was downright glorious. But it can damage your work if you're not careful.

This is a handy tool that won't see use every day, but when the situation calls for a sander that can get into tight spots — this little guy shines. Don't confuse this tool with a detail sander, though; this is a real belt sander capable of rapid stock removal as well as fine finish work. The 1278VSK compact belt sander kit I tested includes a carrying case, extra belts, and an auxiliary handle. It sells for about \$130.

Derrell Day is a finish carpenter and general contractor in Panama City, Fla.

TECHNIQUE

Quick Coping for Flat Moldings

by Dan Papineau

There are almost as many ways to cope moldings as there are finish carpenters. My favorite method of dealing with flat stock like base or chair rail is to use a router with a bearing-over bit and a simple profile jig. Once the jig is ready, it lets me turn out perfect copes in almost no time.

The first step in making the jig is to scribe the profile of the molding in the end grain of a 12-inch scrap of 2-by lumber. I then create a rough “nega-

tive” of the molding profile by making a series of closely spaced rips of varied depth with a table saw and removing the waste with a chisel (see Figure 1).

Next, I mix a batch of Durham’s Rock Hard Water Putty (515/243-0491, www.waterputty.com) spread in a fairly thin, uniform layer over the inner surface of the jig (Figure 2). (A more durable material like auto-body filler would probably also work, but Durham’s is easy to work with and holds up very well.) After covering the putty with a release sheet of stretchy plastic food wrap, I take a piece of molding slightly longer than the jig, press it into the putty, and place a



PHOTOS DON DIEHL

Figure 1. The basic pattern of each molding is roughed out with a table saw and cleaned up with a chisel. A sample piece of molding should fit the opening with 1/16 inch or so of clearance.



Figure 2. Once the prepared blank has been “battered” with a hard-setting filler, the molding is pressed into place with a vise to form a perfectly detailed negative pattern.



scrap of 2-by material about as long as the jig itself on top of it. I then put the assembly in a vise and tighten it down hard, so any excess putty squeezes out the ends.

Once the putty has set up, I remove the jig from the vise, clean up the ends with a chop saw, and cut an additional 3/4-inch slice of material from each end of the jig. With the jig lying face up on a flat surface, I glue each of those slices to the corresponding end of the jig, as shown in Figure 3. Finally, I use a coping saw to trim the “ears” from the end pieces to allow the router to enter and exit the cut.

Figure 3. A thin slice from each end of the jig body is carefully aligned and glued in place to serve as a router-bit guide. The jig can be turned end for end as needed, depending on the direction of progress around the room. If the end pieces break or wear out, a replacement piece can easily be cut from the body and glued in place.



I use a 3/8-inch trimming bit for coping simple patterns like clamshell base. A 1/4-inch spiral flush-trim bit is a better choice for MDF and intricate designs. You could use the jig right side up with a handheld router, but because that obscures the view of the router-bit bearing as it traces the pattern, I prefer to use it in a simple site-built router table.



Figure 4. Using the jig with a simple site-assembled router table makes it easy to guide the bit along the profiled end of the jig (far left). Because Durham's Water Putty expands fractionally as it sets up, the jig will ordinarily fit snugly over the molding. If

necessary, the jig can be clamped to the molding through a slot cut in the side (inset). In either wood or MDF, the result is a perfect coped joint (below).

To set up the router table, first mount the router in the center of a 3-foot piece of 1x8. Set up a work table by laying two straight 2x4s across a pair of sawhorses and placing a sheet of 3/4-inch plywood on top of them, positioned so that 8 inches of the supporting 2x4s extend past the edge of the plywood. Place the 1x8 and attached router on the projecting ends of the 2x4s and fasten it in place with a few drywall screws, and you're ready to start coping.

Using the jig is just a matter of plac-

ing it over a length of molding and guiding the bearing on the end of the router bit over the patterned end piece (Figure 4). Although it takes half an hour or so to make a jig for each molding pattern, once you're set up, you can really fly. Even with detailed MDF moldings, making a perfect cope takes only about five seconds, and switching between patterns is almost effortless.

Dan Papineau is a project supervisor with Habitat for Humanity in Bremerton, Wash.



HAND-CARRY COMPRESSORS

Terrain Tamer. If you've ever had to carry a 70-pound compressor on an icy sidewalk or through a muddy construction site, you'll appreciate the innovation behind PC's C3551 *Job Boss*. The cart-mounted compressor's fully pneumatic tires and retractable handle make it easier to get on the job than other hand-carry compressors. In addition, it has a cool removable panel that houses the regulator and two quick connects, so you can adjust the air pressure from a remote location (like the roof) without having to climb down. Trim carpenters and remodelers can leave the compressor outside and keep the job site clean and quiet. According to the manufacturer, the C3551 draws about 12 amps and is 40% quieter than competitive compressors. Like most of the newer Porter-Cable compressors, it runs at 150 psi instead of 125. The higher operating pressure stores more air without resorting to a bigger (and heavier) tank. The C3551 has an oil-bath pump and sells for \$360; the nearly identical oil-free model C3151 sells for \$300.

Porter-Cable, 800/487-8665, www.porter-cable.com.



Slim Twin. Weighing in at 64 pounds, the EC119 from Hitachi is several pounds lighter than many twin-tank, hand-carry compressors. The 2-horsepower, oil-lube machine has a well-protected gauge panel and on-board cord and hose storage. In a smart move that other makers should follow, Hitachi fills the crankcase with oil before the tool leaves the factory. The EC119 can produce 4.4 cfm at 90 psi from its twin 2-gallon tanks. I found it on the web for about \$300.

Hitachi, 800/829-4752, www.hitachi.com/powertools.

Maximum Warranty. If you're looking for a hand-carry compressor with an above-average warranty, the EX8005 from Campbell Hausfeld deserves a look. Part of the pro-duty Maxus line, the EX8005 has twin 2-gallon tanks that can deliver 4.2 cfm at 90 psi. It has a 2¹/₂-horsepower motor that draws about 14 amps to power the oil-lube pump. A top-mounted gauge panel and regulator make hookups easy. The five-year warranty covers parts and labor. This compressor sells for about \$320.

Campbell Hausfeld, 800/543-6400, www.chpower.com.



HAND-CARRY COMPRESSORS

Light and Airy. When it comes to compressors, few things concern pros more than noise and weight. Thomas scores high in both areas with its *T-635HD*. This 26-pound compressor can run a single framing or roofing gun



or two finish guns. To save space and weight, the *T-635HD* uses a 2-gallon tank, so the pump is going to run more often than it would on many hand-carry compressors, but some users say it's quiet enough that it's no big deal. The *T-635HD* has a $\frac{3}{4}$ -horsepower motor that delivers 1.7 cfm at

100 psi. It doesn't come with a regulator, though, so be sure to get one before you take it on the job site. I found this tool on the web for \$280.

Thomas Pumps & Compressors, 800/558-7721, www.thomaspumps.com.



Maximum Volume. Most twin-tank, hand-carry compressors deliver about $4\frac{1}{2}$ cubic feet per minute at 90 psi, but if you're looking for a hand-carry portable with enough air to run a second framing gun, you might look to a new compressor from Ridgid. The *OF45150* has an oil-less pump that delivers 6.2 cfm at 90 psi. To make more air, the 3.25-peak-hp motor spins at nearly 3,500 rpm and builds pressure to 150 psi. Other features include a roll cage and top-mounted gauges. The compressor weighs 72 pounds and sells for \$259.

Ridgid, 800/474-3443, www.ridgid.com.

METAL-WORKING TOOLS

Big-Wheeled Chopper. Occasionally cutting steel studs or rebar with an abrasive blade in your miter saw is no big deal. But if you're cutting metal with increasing frequency, you might try a purpose-built metal-cutting chopsaw like the *CC14SE* from Hitachi. With a 14-inch blade that spins at 3,700 rpm and a 15-amp motor, the saw can cut a bundle of steel studs in one pass. It has a quick-release vise and an aluminum housing that stands up to heat and metal chips better than plastic. It sells for about \$170.

Hitachi, 800/829-4752, www.hitachi.com/powertools.



Don't Be Abrasive. While using abrasive blades is an inexpensive way to get through ferrous metals, they don't last very long and the sandy grit they produce can be a real nuisance. A better way is to use the new generation of steel-cutting blades like the *Diablo Steel Demon* from Freud. Available in 7- to 14-inch sizes, the Steel Demon boasts carbide teeth strengthened with cobalt and titanium. While they cost considerably more than abrasive blades, they last longer and produce burr-free cuts. Prices start at \$42 for a 7-inch blade; 14-inch blades are about \$105. Similar blades are available for nonferrous metals. Freud, 770/399-6640, www.freudtools.com.



Bonus Bit. Instead of individual twist bits, most metal fabricators use step bits for drilling in sheet metal and mild steel. Bits like the *Unibit* from Irwin allow users to drill 13 different hole sizes from 1/8 to 1/2 inch. It's great for drilling through metal studs and other light-gauge steel. I found it on the web for \$16.

Irwin, 800/866-5796, www.irwin.com.



Cordless Cutter. I never would have thought it when I bought my compact angle grinder at a clearance sale, but it has become a highly valued remodeling tool. Cutting rebar and fasteners, shaping and sanding wood, and cutting masonry and tile are just a few of its many uses. I'm sure if it were cordless like DeWalt's *DC410KA*, I'd use it even more. DeWalt's 18-volt version spins at 6,500 rpm and includes a spindle lock that makes changing the 4 1/2-inch wheel easier. At \$229 it's twice the price of a corded version, but the extra convenience means you'll probably find additional reasons to use it. It's sold in a kit that includes two batteries, a pair of wheels, and a case.

DeWalt, 800/433-9258, www.dewalt.com.

METAL-WORKING TOOLS

Wheel Right. If you've ever had a problem knowing what grinding wheel to use for a particular application, you're not alone — even metal-working pros frequently have trouble choosing from perhaps hundreds of wheels available. Bosch,



the largest producer of hand-held grinders, recently introduced an extensive line of grinding and cutting wheels with color-coded labels. Bosch says the labeling system makes it easier to match the correct wheel to the job. The new line includes metal and masonry wheels and cups for everything from 4-inch portable to 9-inch bench-top grinders. Prices for

4¹/₂-inch wheels start at \$2; 14-inch wheels start at \$5.50.

Bosch, 877/267-2499, www.boschtools.com.



Low-Cost Sheet-Metal Shear.

I'm embarrassed to admit that I spent \$100 on a pair of pneumatic sheet-metal shears to cut metal roofing, only to find out that the jaws won't go over the ribs. Needless to say, I was a little disappointed to learn not only that I bought the wrong tool, but also that Malco makes a better-suited tool that costs less than \$50. *TurboShears* chuck in to any corded or cordless drill, and, according to the maker, the unique jaw design would have easily scaled the ribs on my last metal roofing project. This looks like a handy tool for cutting flashing, duct work, and any other light-gauge, blood-producing metal. In a further refinement, you can now use the tool one-handed with the optional drill clamp, which sells for \$16.



Malco, 800/328-3530, www.malcotools.com.