



EZ Boardwalk

by Dave Boyt

The EZ Boardwalk is a manual band mill built by Edward Zimmerman, his family, and a neighbor in northeast Missouri. The 24-hp Honda engine provides all of its power to the band saw, leaving the sawyer to power the tasks of loading and turning the log, adjusting the saw height, and walking alongside the mill to push the saw through the log.

This may sound like too much work for those of us who are accustomed to fully hydraulic mills, but as EZ Boardwalk owner Ron Arnett sees it, “A little walking doesn’t hurt a person every now and again.” The scheme does provide some advantages that make this mill so attractive that one owner sold his fully hydraulic mill and is now using the EZ Boardwalk for his business.

The first advantage of foregoing “bells and whistles” is, of course, that purchasing the mill is much

less expensive. The lack of power options means that the mill is also much less expensive to maintain, and is simpler to work on. Field repairs are generally possible, and the use of off-the-shelf parts means that downtime is minimal. Many manual mill operators say that pushing the mill through the wood by hand gives a better feel for how the blade is cutting. They can immediately adjust the feed to accommodate knots, width of the cut, and even variations in the wood grain. As soon as the blade starts to dull they can feel it.

The EZ Boardwalk has some features that distinguish it from the other dozen or so manual band mills. The most noticeable difference is that the blade is angled 15 degrees out of square with the track. Slightly less obvious is the length of the blade. In spite of the mill’s diminutive size, it can cut logs up to 40 inches in diameter and 16 feet long, provided you’ve got the muscle—or machine—to load and turn the log. Other fea-

tures are less prominent, until you start using the mill.

Rick Braun—Nine Months’ Experience

Rick Braun, owner of the Wood Merchant Design Studio in Lampe, Missouri, bought his EZ Boardwalk because of the combination of the wide cutting capability and low initial cost. He had been using a neighbor’s hydraulic band sawmill to cut smaller logs, and a chain saw mill to slab off the larger ones. Because he uses the natural edge in his tables and countertops, Rick needs to make wide slabbing cuts. He saw Edward Zimmerman demonstrate the EZ Boardwalk at a farm show. “Ed was very informative, and he knew his product.” Braun purchased his mill in June 2007.

Rick says he cuts oak, walnut, sycamore, cherry, elm, and cedar. “I select my logs for character, grain, and features, and it has worked out very well. We’ve sawn some logs as big as it will hold, up to 36 inches

EZ Boardwalk

Total mill length (with tongue)	23 ft.
Frame length	20 ft.
Height	94 in.
Weight	1,700 lbs.
Frame material	2 x 6 channel iron, 5/16 in. wall
Space between guides	34 in.
Throat	12 in.
Maximum log size	40 in. diameter by 16 ft. 6 in. length
Band wheel diameter	19 in.
Blade	14 ft. 6 in. by 1-1/4 in. wide
Cutting speed	5,800 sfm
Motor	24-hp Honda, air-cooled
Trailer hitch ball size	2 in.
Setworks	Manual
Hydraulics	None
Price	\$6,650
includes wheels and axle, log turner and leveling stands	
Options	track extensions, lap siding and shingle attachment. Edward also sells a sharpener, cant hooks, and the LogWizard chain saw debarker. The mill is also available with the smaller 20-hp Honda engine and without the trailer package at a reduced price.

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Left: Rick Braun prepares to cut a 16-ft.-long walnut log. Instead of cutting boards, he will make a series of slabbing cuts and keep the natural edges of the log for his furniture.

in diameter and 16 feet long.” He does say that he sets the big logs on the frame gently, and it rests on a concrete slab. Once in place, he says, the mill has no problem cutting the logs. “We just take it through easy and let the mill do its work and it goes well for us.” He continues, “I was surprised that the blade didn’t wander when it hit knots. With a good sharp blade on it, it holds a true line.”

Has he found any advantage to the angled blade? “Absolutely!” he replied. Rick says that the blade enters the wood straighter since it starts on an edge instead of flat against the end of the log. It also cuts smoothly. He uses his wood-working experience to explain it. “It’s like using a [hand] plane, it cuts better at an angle rather than going straight across the grain.”

Even though he has only run it for about nine months, Rick has strong opinions about his mill. “It’s a quality machine. I’ve run it on some big logs and hard wood, and it’s been a good dependable saw. The Honda motors have been a good selling point. I use them on pressure washers and other machinery, and they have been very reliable for me.” So far, he has had no problems with the mill, but isn’t too worried about it if he does. “If something breaks on it, you can figure it out. It doesn’t have any electronics or hydraulics on it. It is a very easy, straightforward mill. Keep it greased and lubed, don’t abuse it, and I think it’ll last for a long time.”

Of course Rick still keeps the chain sawmill handy. “If anything is bigger than 32 inches, we run 5- or 6-foot bars on our Alaska chain sawmill,” he says.

Rick’s work can be viewed on the Internet at www.wood-merchant.com.



The height gauge has scales for common lumber thicknesses, and accounts for the kerf of the blade.



John Arnett pushes the blade through a stack of 3/4 oak to prepare it for the moulding machine inside the shop.

The Arnett Brothers—Six Years’ Experience

The forecast was for clear and warm weather, but there was blowing snow when I reached Ron and John Arnett’s sawmill near the northwest Missouri town of Philadelphia. In spite of the weather, the Arnett brothers were outside cutting lum-

ber on their EZ Boardwalk mill. A beautiful stack of surfaced, kiln-dry oak boards was set for edging. “We got an order for moulding, and we’re using the mill to straight-line rip the boards,” explained Ron. When they finished, they took the wood inside, and talked about their business and the mill.

“Dad, John, and I got to talking

about buying a sawmill,” recalls Ron. “I had sheds I wanted to build, John had a barn he wanted to build, and Dad had stuff he wanted to build, too. We looked at mills with power feed and hydraulic log turners, but after all was said and done, the Boardwalk gave us everything we needed for less than \$7,000.” He concedes that the manual mill requires more work, but “it isn’t like we were going into the logging business. We just wanted to be able to put a log on there and saw it up.”

“We all went to visit Ed Zimmerman and he took us through the operation and we decided right then and there to buy one.” That was six years ago, so they have plenty of experience with the machine. “We’ve done a lot of quartering hedge trees for fence posts. When we get set up to do that, we tell our friends and they bring their logs on the site so we mill them, as well. It makes a day of it.” He continues, “This mill has done a wonderful job for us. Ed has made a lot of changes since I bought this one. All I had to do was bring the mill over, and he’d make changes to update it. He’s just been really nice to work with.”

Ron agrees that the 24-hp Honda is an excellent choice to power the mill. “We did have a problem with the carburetor, but Ed came out and replaced it.” The motor turns a pair of V belts that provide power to the band wheel. A lever on the side of the mill slides the entire motor sideways on the mount to tighten the belts and engage the band wheel. The lever over-centers just far enough to stay engaged during the cutting. One of Edward’s many innovative features is a cable that automatically brings the engine to full power when the drive belt is tightened, and drops it down to an idle when the belt is loosened to stop the blade.

The band wheel height adjustment is also innovative and very effective. Rather than using a ratcheting mechanism with a release, the



The Arnett brother's mill does double duty as Ron uses it as a straight line rip saw. Although not the ideal tool for the job, he says that it is accurate enough for their molding.

weight of the carriage is supported by a garage door coil spring. The height adjustment crank is a chain-driven double-reduction gear, so that one revolution of the crank moves the carriage up or down about 7/8 of an inch with a smooth, positive feel. A short section of V belt attached to a spring-loaded metal bar applies friction to a pulley, locking the carriage height to the desired setting. This arrangement allows any blade position. Ron says he has never had the carriage slip up or down during a cut.

Another feature of the EZ Boardwalk is a metal bar that extends down from the carriage, in line with the log stops. If the carriage is low enough that the blade would hit a log stop, the bar bumps it first. “It can be a real blade saver,” says Ron, but he admits that he did hit a log stop when he locked the bar in the “up” position and forgot to put it back down.

The mill’s trailer package includes a hand-cranked log turner. This consists of a winch with a hook on the end. In less than a minute, Ron bolted the log turner onto the side of the mill for a demonstration. The cable wraps part way around the log, and the hook secures it to the log so that cranking the winch rolls the log against the stops. “We’ve used the log roller quite a bit when we’re

logging, and it does save the back (from using cant hooks). It’ll roll a 40-inch log.” The mill won’t cut a 40-inch slab, but you can cut and rotate the log to get it down to the size where the blade can get through it.

I asked Ron if there were any changes he’d like to see on the mill. He thought for a bit, and then replied that the fuel tank and the lubrication tank were side-by-side, and the same color. He knew of one sawyer (not Ron or his brother John) who put blade lube in the fuel tank by mistake, and couldn’t understand why the engine wouldn’t start. Other than that, he had no problems or concerns. He summed up, “They’re tough, they’re easy to use, and they’re portable.”

A Talk with Edward Zimmerman

Edward Zimmerman’s shop is near Shelbyville, Missouri, just a few miles from the Arnett brothers, so I stopped in for a visit. A sign out front announced “EZ Boardwalk Sawmills,” with “Quilts for Sale” below that. Edward is friendly, straightforward, and easy to talk with. “We built a mill for ourselves 10 years ago. Two years after that, we built a second one. It sold before it was finished, and we just took off from there.” Inside his shop were three mills in various stages of completion. Titus, one of Edward’s two employees, was making the sparks fly in the welding area, as he fabricated the basic carriage components. Edward pointed to another mill standing on a short section of track. “This is where we align everything. We still have to fit the shields and guide arms.” He continued, “We’ll weld the bottom bracket with the wheels on it onto the track section. Another three or four hours and it will be ready for paint.” A third mill had just been painted “Boardwalk blue” and was awaiting a final check and application of decals.

Edward explained the reasons for the angled blade. “The angle



The lever to engage the band wheels slides the engine on its mount to tighten the drive belts. The guards were removed for demonstration only, and were replaced before the engine was started.

helps pull the blade into the wood. With a sharp blade, you may actually have to hold the mill back a little.” A second advantage he has found is that the blade enters the wood at an angle, instead of all at

once. This stabilizes the blade as it starts the cut, and it comes in straighter. He also says that some customers feel that the blade cuts a little straighter through the knots, “but I don’t promote the mill on

that basis, because that would be hard to prove.”

Although its physical size and appearance are similar to other manual band mills, Edward pointed out that the Boardwalk has other features that set it apart. The distance between the upright posts that support the head rig are 40 inches apart, and the 19-inch band wheels are set far enough apart to make a 34-inch-wide cut, giving the EZ Boardwalk the largest cutting capacity of any band mill in its class—or the next class, for that matter. According to Edward, this has been one of the major selling points of the mill. “We’ve sold several mills because people recognize the advantage of being able to cut larger diameter logs, logs with crooks, or gun stock material.” With no cables or hydraulic lines to deal with, the mill is easy to extend. “We have standard track extensions of 4, 6, and 8 feet, but we’ve custom-built



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20-foot and 24-foot extensions. They just bolt onto the end of the track,” he says. “One of our customers in Michigan is cutting 64-foot-long logs for log cabins.”

The drive mechanism appears well designed. The spring-loaded blade tensions pull evenly on the 1-3/4 inch-diameter band wheel axles, so there is no twisting force that can cause the bearings to fail prematurely. The heavy duty sealed bearings are self-aligning to allow for adjustments in band wheel tracking. Although the tracking is easily adjusted, Edward says that he doesn't know of any users who have had to do it.

Walking outside to the storage area for assembled mills, I noticed that two of the mills were mounted on steel wheels instead of rubber tires. “Those are for some Amish customers, who requested the steel wheels. They also requested the smaller engine with a recoil start. We can pretty much custom-build the mills to meet our customer's

requirements.”

Edward also says his customers have given him some good ideas. Two examples he demonstrated were a series of welded bars just under the track that give leverage points for a cant hook when sliding the log or cant against the stops. Another was an adapter that allows the winch-type log turner to lift the back of the frame so that the wheels and axles can slide out.

Back in the warmth of his office, Edward summed up his ideas on the mill. Simplicity is as important to him as it is to his customers. It keeps the cost down and makes the mill easier to use. The biggest part of the maintenance is keeping everything lubricated, and making sure there is a sharp blade on the band wheels. All of the operation controls are easy to use, and the guards appear to be well arranged for safety without getting in the way. While a surprising number of experienced sawyers have sold their mills and purchased the EZ

Boardwalk, most buyers are first-time purchasers. Edward makes sure that each customer has a basic understanding of the mill. “We give sawing instructions with each mill. We go through the different adjustments pretty thoroughly, whether they pick up the mill here, or if we deliver it.”

Word must be getting out about his mills. A map with pins in it shows a distribution of mills across much of the U.S., with concentrations in the Midwest and Northeast. “Last year, we built 84 mills,” he said. “We're on the way to building even more this year.” He says this year has been unusually busy. That's what happens when you build a quality product, sell it for a reasonable price, and stand behind it. ■

Dave Boyt has a BS degree in Forest Management and an MS in Wood Technology. He manages a tree farm (2006 Missouri Tree Farm of the Year), and operates a band saw sawmill.

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