



The Mobile Dimension Saw

BY BILL GOVE

It hardly seems possible that the surge of small portable sawmills is now about 45 years old. Considering the number of portable sawmill manufacturers that are now active, it's obvious that this market innovation and trend has been quite popular.

Review
#1

ONE OF THE earliest, if not the earliest, portable sawmill products was the Mobile Dimension saw. This sawmill, or better yet the new concept, had its origin in 1962. Oregon resident Jim May noticed that logging operators were required to haul out of the woods some large, partly rotten logs that the sawmill markets would not accept. This observation fostered the idea that there must be a place in the woods for a portable sawmill light enough to take onto the logging job in order to saw the log on the spot and salvage what lumber was usable.

Discarding conventional thinking that required heavy mill machinery to move the log through a stationary saw, May struggled with the concept of moving the saw through a stationary log. Then came the early years of struggling through some improper decision making, which, May reports, was quite discouraging.

However, in 1966 the efforts began to come together. As stated by Lara May, Jim's wife, "we worked many long hours and squeezed each dime until we could make people aware of the potential capabilities of the sawmill." What Mobile Manufacturing Co. then developed is now

Left: Set in an attractive forest site near his home, Rex Baker's 25-year-old Mobile Dimension saw still looks and operates almost as well as when it was new.

a product found all over the world. Thus it was that the modern version of portable sawmills took off, and as the demand grew, the number of manufacturers multiplied.

A 25-Year-Old Mobile Dimension!

There are many good portable mills on the market today, and almost all of the mill manufacturers are constructing their mills on rugged frames; durability is a plus. Yet, I was still surprised when I received a call from a part-time sawmiller who has owned and operated his sawmill for 25 years and claimed that it was still in top shape. "The mill is a Mobile Dimension, Model 128, bought in 1983," he informed me, "and I want you to come see it." So I did.

Rex Baker of Princeton, Massachusetts, is a graduate forester who started his career working for the U.S. Forest Service. Before many years, he found himself back in his home area again, involved in the family activities of rental properties and a floral business. In recent years, however, he returned to his chosen occupation and has had a consulting forestry business plus a custom portable sawmill service. Rex is now almost retired, but he still occasionally operates his sawmill.

I joined Rex at his mill site in an attractive location on his 40-acre woodlot behind his home. He talked about the many interesting experiences that he has had over the years while custom sawing throughout the area. Years ago he had mounted the mill on a house trailer frame and installed bogey wheels. The mill doesn't get moved anymore; its principal use now is just having fun.

Differences between Old and New

As Rex sawed out a few logs for me, I was impressed about how well it

still runs. And I couldn't help but notice how similar his older Mobile Dimension mill is to the new models made today; the basic design still works well. One notable difference is the feed system. Whereas the new mills use a hydrostatic feed control unit, Rex's older machine has a belt and gear drive. Rex says that his feed system still works well enough, but doesn't have the fine control possible with the new feed system.

When setting up his mill he always gave the frame a slight downhill tip to create a little help from gravity for the saw feed. But gravity was of no help as he moved the logs up the ramp onto the mill deck. Whereas the new mills can be equipped with a built-in winch, Rex had to install a boat winch to roll the logs up the ramp. The biggest problem was that he could only make one hitch on the log, and unless he

found the center of weight, the log refused to cooperate.

Rex uses what Mobile Dimension calls the "end stand" system of sawing. This method is usually the standard way of sawing with this machine unless one is sawing especially large logs. Each corner of the frame has an adjustable lift for leveling the frame deck. The corner stands on Rex's model operate electrically off the battery.

A Circular Saw Mill

The Mobile Dimension mill is possibly the only commonly used portable sawmill that employs circular saws rather than a band saw. When asked for his comments regarding the advantages he has found with circular saws, Rex was quick to state his experienced opinion. "You can saw the complete piece of lumber in one pass, avoiding the need



As the saws are making the next cut, Rex removes a board that has just been sawn and returned by the carriage to Rex at the operator's position.

for standing the boards up on edge in order to resaw them," he said. This is possible, of course, because the Mobile Dimension makes use of a vertical saw plus a multiple set of horizontal saws, all cutting in one pass. Rex's claim of more accuracy in lumber size is understandable as you watch all the saws working together. The manufacturer claims an accuracy of + or - 1/32 inch.

"Accuracy of circular saws is especially evident when sawing frozen logs," noted Rex, relating how he has seen band saws wander when making frozen cuts. Nevertheless, although he frequently cuts boards as wide as 12 inches, he limits his cuts to 8-inch widths when sawing frozen wood.

Another appealing advantage for circular saws, as enumerated by Rex, is that the saws used on the Mobile Dimension mill only have six teeth. He can quickly replace them and easily sharpen the bits himself. Of course, his circle saws do make a coarser sawdust, too coarse he has found to sell locally.

Rex is convinced that this application of multiple circular saws also improves his overrun. As he works alone, sawing 1-inch boards, he claims to normally attain a 10% overrun. When sawing a thicker product out of a perfect log he claims as much as a 60% overrun.

Rex's current home project, using products of the mill, is the construction of two "grandmother" clocks. The first is being built of white pine, and if the project goes well, the second clock will be fashioned from cherry.

So, it would seem that not a great deal has changed in the Mobile Dimension sawmill over the 25-year period since Rex bought his Model 128. That should speak well for the original design. Rex's mill is powered by a 56-hp Volkswagen engine, the same as now used on new mills, although electric power is also commonly used now. And any parts needed for an old mill are readily available from the manufacturer.

If Rex Baker's 25-year-old Mobile Dimension sawmill is representative of the quality of the company's product over the past 45 years of manufacturing, it speaks well of an attentive owner with a well-made piece of machinery. Incidentally, the Mobile Dimension sawmills are found not only throughout the U.S., but in about 60 other countries. ■

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Although Rex does saw hardwood logs, the majority of his production is white pine and hemlock.



Review
#2



Mobile Dimension

Do I own one of these great mills yet? No, but I've pointed out the qualities to many folks who were in the market for just that sort of mill.

BY MARK HAVEL

THE FIRST TIME I saw the Mobile Dimension saw, it was pulling up the very steep drive at our coast property. I had checked around for portable sawmills that were available near the site who could handle large logs. I had made a view-enhancing, wolf-tree-removing partial cut on this steep, ocean-facing slope and had 15 Sitka spruce logs decked up to mill into structural lumber for my house. The 15 logs were just the highest quality butt logs and a couple of second logs, with about six truckloads more that went to chip or core-ply peeler markets. The 15 logs I kept turned into 13,000 feet of lumber, straight and uniform.

The miller, Linton Whittles from Cloverdale, Oregon could only work on Thursdays and Fridays, which left me the weekend to clean up around the mill and move away the next truckload of lumber. Each Saturday I'd come over to the site to shovel sawdust, move firewood

Left: Big logs make lots of lumber. Proof of Mobile's abilities in this stack of accurate structural lumber.

slabs, and load a flatbed truckload of finished lumber. For a period of four or five weeks it was a wonderful transformation to watch. What started out as a large deck of BIG logs (yes, BIG) turned to big timbers and lumber, all air drying for a year, properly stacked, stickered, and covered. The Mobile Dimension saw will cut to 20 feet in length standard, and there was only one long log, a 24-footer, that made 10, 4 x 12's for some exposed beams and headers, which was done with a slide-out extension provision on the trailer and a truss beam section added in. I understand that the Mobile Dimension saw can be extended out to 60 feet in length!

The Mobile Dimension saw that Linton used to cut all of this spruce is nothing new, as it was designed in the 1960s and manufactured under several names. The MD looks con-

siderably more complex than most mills due to its beautiful truss beam superstructure, but it is actually fairly simple. Generally mounted on a trailer for moving to a mill site, the MD consists of a trailer bed, a four-post raising and cross-beam travel device, and a long, square trussed beam for carrying the saw down and back. The log-loading mechanism is a battery-powered par buckle winching system that uses a long tube as the drum for several loading lines. Depending on the length of the logs, you would pull certain lines out and over the log, hooking them back to the trailer frame so that the log would roll up the ramps and into place for sawing. There are effective dogging devices when used on this trailer, but the MD mill can also be used without it. The Mobile mill can be set up on any log, of any size, with simple end stands, or even using the log itself when it is really huge. Linton told me the story of his first job with the Mobile mill, where he was invited

to cut at a large log mill that had logs too large to even work through their 6-foot-diameter capacity. He would have the loader operator pick up his mill with some straps and set it down on the next log to cut, which were in the 8- and 10-foot-diameter class. He was very nervous at first with such a big machine handling his new mill, but after a few logs he realized the fellow could diaper a baby with that loader.

A Circle Saw with Edgers

The Mobile Dimension is a circle saw with accompanying edgers, so that logs are only moved into place once, or mounted to once, and then simply cut up, with no turning or further handling of the log or cant. The saw is powered by a 57-hp VW industrial engine, with an engine option of 67 hp. I understand that the MD mill will cut between 500 and 2,000 BF on a gallon of gas, and I expect there are plenty of VW aficionados out there, that somewhere there is a 150-hp Mobile Dimension

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mill, though I found it was just fine in stock form. The MD mill is also available with electric motors (25 hp and 15 hp for the face blade and edgers). It swings a 30-inch face blade vertically, with one, two, or three easy-to-add or -remove edger blades, traveling along horizontally at the same time. The edgers are 11 1/2 inches in diameter, as well as a 19 1/2 inch optional size. The face blade and edgers all have removable teeth, which turn into place and lock. The saw is powerful and aggressive, so unless you come into large pieces of metal, it seems that only one tooth will be affected when it takes out a nail, and within a few minutes the tooth is replaced and the saw is cutting back up to capacity. The MD saw produces up to two fully cut 2 x 6's, three 4 x 4's or a single large beam on each pass. At the end of the saw travel, it will hook the end of the boards and bring them all back to you at the end of the log. The raising of the four post cross beam device and then the crosswise travel of the truss along the supporting beams is done from the operator's end, so that when working with large logs, this system will simply bury you in wood.

When I first came across the Mobile Dimension sawmill, I had owned my forest properties for 10 or 15 years. I had done quite a bit of wood cutting, improving my timber stands, as well as some salvage cutting on larger storm-damaged trees. I had had two or three sawyers come out to the property to mill lumber for me on band saw mills, and found that as the logs got larger and heavier it became a real issue loading, but, more importantly, turning and positioning the logs and cants when preparing to saw lumber. Having to turn a 5,000 pound log at least a couple times before the first board comes off, you know you will have a hard day of work. Then as you watch the now 4,000 pound cant come crashing down on the table, it is hard to imagine that the bed is still leveled or supported adequately.

Not fully aware of the different



Accurate lumber makes easy building.



The Mobile saw can make fully cut, structural lumber in one pass.

types of sawmills available at the time, I called around and asked neighbors, looking for something that could handle big logs and produce thousands of board feet of usable lumber in a reasonable amount of time. I don't remember where it was that I actually heard of the Mobile Dimension mill, or who hooked me up with Linton, but was I very happy! I did contact the factory in Troutdale, Oregon, which suggested that I call a few owners in my area, Linton being among them. Then, as I listened to more folks discuss mills and checked around, I found the MD mills all over the place, each with a very happy owner. Some of the mills were portable, but perhaps half were built into log-handling systems at the owner's property. Several of the mills sat outside in the Oregon weather all of the time, and while looking a little shabby, still produced fine lumber whenever the time came to make sawdust. The nicest installation is at George Lee's place, where he has his mill set up on a hillside, using the slope to load the logs onto the deck. The

whole mill and log-handling area is built into a nice sawmill house, with floors sloping beneath the mill to a conveyer, that takes the considerable sawdust out to a pile that is accessible with his tractor and scoop. George's mill runs like a dream, and when I have him cut special logs for me, he takes his time with slow mill travel and produces the finest tolerance lumber I have ever seen.

Then There's Sawdust!

Circular saw mills sure produce sawdust. The kerf on the MD mill is 5/16 inch (0.313), which can build a huge pile to move out of the way at the end of the day. Although I need to add that every time I have a mill come to saw for me, no matter the kind (band or circle), I look at the sawdust and think it is too much compared to the logs we started with or the boards we end up with. Undoubtedly, the circle saws create 3 times the waste in dust, but I'd like to point out other savings that, in my mind, make it not an issue. In this article I mention my first experience with a Mobile Dimension mill, which is now probably 15 years ago. Since then I have been around every type and brand of small portable mill currently available, as well as all sorts of commercial lumber mills including the highest producing lumber mill in the U.S. that is located, proudly, in my hometown. The commercial mill that I mention produces over 700,000 BF of lumber every shift on the large-log side and another 450,000 on the small-log side. Now that's making some lumber, but how does it relate to the review of a portable mill that might cut 1,000 to 5,000 BF a day? Efficiency and accuracy.

We may share stories later that have to do with the efficiencies of mills in general, but not turning the logs to open them up, and then not having to handle any slabs to make boards at a later time, makes all of the difference in the world. Let's take a look at the cross section of the log figure (Figure 1) to see how the MD mill simply takes the log

apart and brings it to you, not off the side with manual labor, but out the end where you are standing and simply piling fully cut lumber. The MD saw doesn't have to rely on the previous cut to produce one edge of the board either. With an experienced sawyer, the top of the board can be trimmed, the face cut, as well as the bottom of the boards, with each pass. This can include up to three full boards if used with the three edger blades and it produces every board exactly the same as the others. Some folks may not choose to use the three edger blades for cutting two boards, but I learned from the experienced sawyers I've hired, that it simply guarantees the accuracy. When building with this lumber every board is accurate, square, and taper free.

Yes, there are trade-offs with everything. With the Mobile Dimension mill, 12 inches is your largest dimension, and with the standard edger blades, 4 inches is the thickest. You can cut around to make

large beams, one per log, but you can't cut production lumber past 8 x 12 and it will be a grunt to turn half a log to cut a large slab. What you can make are piles and piles of accurate structural lumber and a pile of sawdust. Lastly, on the limiting side, it isn't too practical on very small logs. I mentioned 13,000 BF of Sitka spruce, which I used to build my home. I did most of the work myself, but I did hire help for various things like the lumber milling. The comment from the two guys I had help me frame the house was that this was the best lumber that they had ever used, and they had lots of experience.

So getting back to the operations of the Mobile mill, I have to give it high marks for being well designed, not having too many bells and whistles, and making lumber most of its operating time. Considering the application will give you ideas on how best to use this mill to reduce the negative aspects of the larger kerf and the inability to rotate the log for

better grade cuts. When I was cutting the hardwood for the flooring, I again turned to the Mobile Dimension mill with the same experienced sawyer. I cut about 2,000 BF of Oregon ash, making the most of the production of the Mobile mill by cutting 3-inch-by-whatever cants. I then took these cants into the shop and resawed them on an 18-inch vertical band saw into 1 x 3's which I dried and milled into tongue-and-groove flooring. This was the best use of the production log breakdown and then the appropriate use of a very thin kerf band saw to finish things up. ■

Mark Havel is an Oregon forest landowner, an engineer and developer of systems and equipment for low-impact small scale forestry work. Living just 30 miles from the Pacific Ocean and often traveling to the Atlantic side of the country on forestry-related trips, Mark has a broad view of forestry and practices nationwide, and considers himself a tree hugger and a tree whacker.

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