



LT300

**AWMV**

**INDUSTRIAL PRODUCTS**

A DIVISION OF WOOD-MIZER

**Darrell Gruver, of D & D Hardwoods, has an interesting dilemma for these hard times: What do you do when you need to expand your production capabilities?**

**S**tarting out with a Wood-Mizer LT70 electric mill, Darrell Gruver soon added an AWMV (a division of Wood-Mizer) LT300 and a band resaw in another building to cut walnut. The LT300 worked so well that he replaced the LT70 with a second one, then purchased a third one to replace his resaw. According to AWMV sales representative Doug Keele, it is not unusual for mills to set up more than one LT300. He informed me that “We’ve got one business running six of them.”

Darrell Gruver has his three

mills set up in two production areas near his home in Racine, Missouri. The larger building with two mills primarily cuts walnut, while the third mill handles other hardwoods, mostly for flooring and railroad ties. On the day I visited the mill, however, all three sawmills were cutting oak ties.

### Using the Mill

Jeff Carpenter started working for Gruver four years ago, stacking lumber. Two years ago, he was promoted to sawyer. Seated in his air-conditioned cab with one hand on each of the two joysticks, he doesn’t appear to miss his old job. With little more than a flick of the wrist and the twitch of a finger, he loaded a 30-inch burr oak log from the live deck onto the carriage, rotated it for the first cut, raised the narrow end, and clamped it in place.

Every mill installation is different with different needs. Since this

mill cuts mostly walnut, and works in the same building as another mill, the layout was important so that the sawyer could have a good view of the log as it was being cut for grade, and to ensure a smooth flow of materials. Darrell chose to elevate the sawyer’s cab and set up the mill to cut toward the sawyer. He also installed extra lights above the mill to help the sawyer see the grain and any defects as he cuts. The LT300 features an air sweep system that blows sawdust off the cant to make the surface easier to read. Another advantage of having the mill cut toward the sawyer is that the dragback system moves the boards away from the sawyer into the waiting hands of the off bearers. Jeff has found that this arrangement works well for him.

### Controls and Band Wheel

Dallas Gonzales was at the controls of the second saw. When I commented that it looked like the

## AWMV Model LT300

cockpit of a helicopter of a military jet, he grinned. "I've jumped out of both, in the Army during Desert Storm, mostly in Turkey." Like Jeff, he never slowed down or missed a cut while he talked.

He explained the controls. His left hand controls the saw guide and the blade drop. A push of the button activates the feed and another stops it at the end of the cut. The computer automatically raises the blade half the board thickness to drag back the board when the carriage returns for the next cut.

A hand wheel next to the left joystick sets the cutting feed rate, and another control on the right optimizes the cutting speed for the hardness of the wood. According to Doug Keele, this "cruise control" monitors the power being used by the band wheel motor and the feed motor to determine the optimum cutting speed. Dallas concedes, "It's a pretty smart machine—it's a lot smarter than I am." Combining their brains and brawn, man and machine reduced a 30-inch burr oak log to roughly 250 board feet of 4/4 boards and a railroad tie in under 20 minutes.

I got a glimpse of the band wheel when Dallas stopped to change a blade. With practiced efficiency, he had the new blade on and had returned to cutting in a couple of minutes. The 30-hp, 3-phase motor transmits its power to the 25-inch-diameter band wheel with a wide cogged belt. The blade guide system consists of two sets of flat guides above and below the saw blade, and a top roller with a backing collar. One surprise is that AWMV uses loose belts on the band wheels. According to Doug Keele, the belted band wheel gives better blade life than a solid steel rim, and there is no need to have it re-crowned. Part of the key to the quick change is the pneumatic tensioning system. The tension is released to remove the blade and applied when the new blade is in place with a quick twist of a pneumatic valve.

<b>Max log diameter</b> .....	36 in.
<b>Max width of cut</b> .....	24 in.
<b>Bed length</b> .....	27 ft. 11 in
<b>Max cutting length</b> .....	21 ft. 6 in.
<b>Min thickness of final cut</b> .....	.2 in.
<b>Band wheel diameter</b> .....	25 in.
<b>Band wheel surface</b> .....	Loose belt
<b>Band</b> .....	2 in.
<b>Band tensioning</b> .....	Pneumatic
<b>Setworks</b> .....	Computer controlled, ball and screw
<b>Log turner</b> .....	Chain type, bidirectional
<b>Carriage feed</b> .....	2-hp electric, chain and sprocket
<b>Power</b> .....	30-hp, 460V, 3-phase
<b>Options</b> .....	Bed extension, debarker powered taper set roller, air-conditioned cab

### MANUFACTURER

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**MANUFACTURER'S COMMENTS:** The setup of the LT300 can only go one way. You can't choose which end to put the sawyer station. The dragback on the LT300 is designed to feed into an off-bearing belt. We don't encourage off-bearers to try and catch boards coming back at 300 fpm. The blade width is either 1 1/2 inches or 1 3/4 inches depending on the application. The swing arms are called Pantographs and we designed them to fit all of our old machines. They are standard equipment on the new mills.



**Above:** The chain log turner is heavy enough to handle any log that the mill can cut, yet precise enough to position smaller pieces.

**Opposite page:** The LT300 uses the trademark monorail system. The computerized setworks works the cant down to the desired size with a minimum of waste.

### The Computer Networks

Running the third mill was Cliff Samson. He originally ran the resaw, but when it was replaced with the third LT300, he learned to run it. He says that it makes good sense to have the same type of saw for all three mills. “We all like ‘em,” he told me. “This way, any of us can run any saw out here.” His machine was purchased about two and a half years ago, and it has seen a lot of logs since then. “We run it 10 hours a day, five days a week. They’re good saws. If we have any problems, it is pretty easy to get in there and fix it.”

As he cut the next log, Cliff explained the computer networks system. The computer holds eight preset board thicknesses, and allows the sawyer to specify the size of the cant he wishes to cut from the center. “We can also set the size of the center cant. Right now, we’re cutting 4/4 lumber and 7-inch-by-9-inch railroad ties.” A laser helps him see exactly where

each cut will be. After two sides have been cut, he adjusts the setworks height close to where the next cut should be and the computer determines the precise carriage height to cut 4/4 lumber and leave a 7-inch-thick final cut for the tie. When he turns the log to cut the fourth face, he pushes a button on the console to tell the computer that he is working on the 9-inch side of the cant. After that, he



**At the controls.** According to Dallas Gonzales, the controls are not difficult to learn, and the computerized setworks and feed allow the sawyer to concentrate on making the cut without calculating blade height.

presses the button each 1/4 turn of the log. The computer also has an override, which allows the sawyer to change the cutting pattern.

With heat and air conditioning, a comfortable seat, and panoramic view of the deck, Cliff refers to the LT300 as “the Cadillac of saws.” He did, however, find it lacking in one respect. “I put my own stereo system in there [the cab].”

### Blades

Keeping the four mills running is a full-time job for Hal Hembre, who performs maintenance and runs the company’s two sharpening machines in his “spare time.” “If we don’t hit metal, we change blades six to eight times per day [on each mill]. Oak isn’t too bad, but we do get quite a bit of metal in walnut. We’ve hit fence wire, old insulators, and angle iron, just a little bit of everything.” Depending on the wood, they use Wood-Mizer blades with 4-, 7-, or 10-degree hook angles. “On the oak, we use

the 7-degree blades, and 10-degree on walnut.” For harder or frozen logs they use the 4-degree blades.

Hal’s biggest complaint is the cables that run inside “cat” tracks on the side of the mill “The cat tracks are one of our biggest problems. A piece of bark will fall down in there, get jammed, and then it’ll cut the cable.” He has fitted two of the mills with overhead swing arms, and the third mill is scheduled for the conversion next week. According to Doug Keele, the overhead swing arms are now standard on the LT300.

### **Production, High Recovery, and Flexibility**

Who is the typical owner of the LT300? According to Doug Keele, there is no such person. “Some step up from portable mills. Eighty percent of the time, it is someone already in the industry who understands the importance of low-cost operation and thin kerf.” Doug listed some of the differences between



**Squaring off the log.** Notice the 45-degree cuts on the corners to remove the swell on the end. The monorail design makes it possible to trim logs that would be too big for a four-post mill.

the LT300 and the LT70 electric mill. “The LT300 has a stronger frame, heavier sawhead, industrial ball screw system to raise and lower the saw, better blade tensioning, and, with its sophisticated controls, is more sawyer friendly.” He added that the LT300 is designed for multishift production, often running for

three shifts for days on end. Support for the LT300 includes assistance with setup and two days of training.

Few sawmill owners watch the markets more closely than Darrell Gruver. With mills going out of business, he is constantly looking for new opportunities. Right now the railroad tie market is holding up well; however he hasn’t cut any walnut for that purpose (yet)! As sawyer Jeff Carpenter put it, “You have to be very adaptable. One thing about the way Darrell runs the business—he always has another plan.” Darrell has found that his three LT300s have given him the combination of production, high recovery, and the flexibility to stay in business even in these difficult times. ■

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