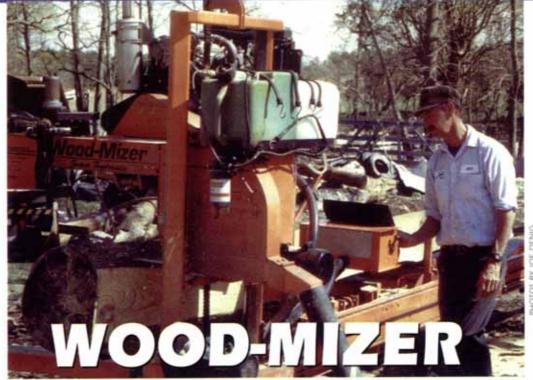
## IS&WM's SAWMILL Review

Reviewed by Joe Denig

Wood-Mizer's
newest LT40
Super Hydraulic
is another solid
offering from the
company that
pioneered
portable bandsaw mills.

xpectations! As I was driving to Granville County, North Carolina to review the Wood-Mizer LT40 Super Hydraulic, I was thinking about the expectations of my readers, this magazine and Wood-Mizer, the world's largest producer of small bandmills. The LT40 Super is Wood-Mizer's topof-the-line mill made for the serious sawyer. How would I tackle reviewing a product from the company that everyone thinks of when they think of portable sawmilling?

I started the only way I could, by turning my vehicle onto the farm where Duke Bradsher of Duke Bradsher Custom Sawing, Oxford, North Carolina was currently sawing with his LT40 Super Hydraulic mill. Duke is an outgoing individual and a good judge of machinery. His background as a gunsmith gives him a good insight into mechanical devices and precision. On the day I visited him,



# LT40 Super Hydraulic

he and his assistant
McArthur "Monk" Cross
were cutting structural
lumber for a local farmer.
Duke owns two WoodMizers. He purchased his
first in 1994, and this new
one last August. His other
mill is also an LT40, but
with a smaller, 24 HP gasoline engine and few accessories.

Duke wanted to talk right away, but I asked him if I could watch the mill running before I interviewed him. My first impression was that it was well laid out, the controls were conveniently located, and that it was easy to operate. It was easy for Duke to maneuver around the frame while sawing

because of the cantilever design, and when he had to change the blade he could change it from one position without having to walk around the mill. To me this suggested that Wood-Mizer's designers had thought things out and modified the mill as experience dictated.

The other thought that struck me was that someone had put a lot of effort into making the mill safe, from warning and operating labels that made sense, to controls that are conveniently located, to a beeper that sounds when the mill is cutting.

One subject that is often debated by small bandmill owners is which is a better design, a cantilevered bandmill or a bandmill with the head supported from both sides. After measuring the lumber coming off the mill (a little more than a 1/16 of an inch difference in measurements from a board measured in six different places) and observing Duke operate the mill, it's clear that Wood-Mizer has a sound design. Duke says the head is designed to have a small amount of give in it and that it pulls to the correct relationship, parallel to the frame, as the saw enters the cut. The mast that supports the bandsaw head is made from 1/4 inch thick steel tubing.

A chain drive is used to move the bandsaw head up and down. Duke's mill came with two sets of scale boards to help set what thickness of lumber to cut.

Top: Duke Bradsher runs his new Wood-Mizer LT40 Super Hydraulic through a log during one of his custom sawing jobs.

One scale board is marked in inches, and Duke uses it for sawing 2-inch structural pine lumber. The other scale board is designed for sawing hardwoods, and is marked in quarters (3/4, 4/4, 6/4 etc.). In response to customer requests, Wood-Mizer has made this scale board reversible, with a little thicker dimensions on one side than the other. The boards were easy to read and the bandsaw head was easy to adjust to the correct thickness. The mill is also available with electronic setworks, an option Duke said he wishes he had

The main frame that the cantilevered saw head travels down is well designed. It is built using 4x8x3/16 inch steel tubing, with the bed frame made from 4x4x 3/16 inch tubular steel. The head moves via hardened wheels on a track made of 1 inch hardened steel rod. Cross supports (bed rails) are made from 2x4 inch tubular steel. The four cross supports are covered with stainless steel wear surfaces, and are all height adjustable using a screw mechanism, which aids the alignment of the sawhead parallel to the bed. The mill comes with adjustable jacks for easy leveling during setup.

There are different power choices available from Wood-Mizer for the LT40 Super Hydraulic. Duke's mill is powered by a 40 HP Lombardini turbocharged diesel engine made in Italy. After running 419 hours on the engine, Duke commented on the excellent service it had provided. Comparing the 40 HP diesel engine to the 25 HP gasoline engine on his older mill, Duke said, "I can cut hardwood on my new mill like cutting pine on my old mill."

Duke said he uses about 5 gallons of diesel fuel a day. The engine operates on a governor at 3000 RPM, and there was no discernible difference in the noise or RPM in or out of the cut.

Wood-Mizer uses 19-inch cast iron wheels. The wheel face is similar to a pulley, with a 57-inch rubber v-belt used to support the saw on the wheel, which in turn really creates the face of the wheel. This sounds like a strange idea, but it may have some advantages. The 57-inch belt fits the 19inch wheels with some slop. However, Duke said the play allows you to replace the belt easily. The Wood-Mizer straining device is a hydraulic tensioner. Being hydraulic, the wheels do not move if a sliver of wood gets caught between them and the blade. In a larger bandmill, this problem is solved by the hydraulic strain system and a hydraulic accumulator. which absorb the shock when a sliver gets caught between the blade and wheel. The V-belt on the Wood-Mizer may act in the same manner, compressing when slivers get caught between the wheel and blade, preventing the blade

The LT40 Super Hydraulic comes equipped with a hydraulic log turner, log dog, two log tapering

from breaking.

(Continued on page 18)

#### LT40 DATA SHEET

#### NAME & MODEL NUMBER

Wood-Mizer LT40 Super Hydraulic

#### **MANUFACTURER & ADDRESS**

#### Wood-Mizer

8180 West 10th St. Indianapolis, IN 46214 (317) 271-1542 1-800-553-0182

#### MILL OVERVIEW

Band or Circle Mill: Band

Stationary or Portable: Portable

Standard Equipment: Hydraulic log loader, log turner, log dogs and taper dirck

Cutting Capacity: (diameter and length): 36 inch diameter and 21 foot length.

Weight: 4015 lbs.

Length & Width: 24 feet 4 inches long. 6 feet 6 inches wide

#### FRAME & CARRIAGE

Size and Construction of Frame: 4x8 inch tubular main frame, 2x4 and 4x4 inch bed frame

Tracks are Made of: Hardened Linch rod

Are the Tracks Replaceable? No

Wheels are Made of: Hardened steel

Size of Bearings on Carriage: 1 1/4 or 1 1/2 inch roller bearings

Carriage Support System: Cantilever

#### SAWING HEAD

Wheel Diameter: 19 inches

Wheel Face Width: 3/4 inch

Wheel Construction: Cast Iron

Wheel shaft and bearing size: 1 9/16 inches

Wheel Speed (RPM): N/A

Saw Speed (SFPM): N/A

Recommended Saw Blade: Wood-Mizer 1 1/4 x .045 x 158 inches

#### **GUIDES AND STRAIN SYSTEM**

Type of Guides: 2 inch Harderied blade guide rollers Strain System Used: Hydraulic Tensioner

#### SETWORKS

Method of Setwork Drive: Chain drive

Set Display: Scale boards and optional electronic

Automatic Sets?: Yes

#### ALIGNMENT

How is Alignment Done at Factory?: All customers must go through maintenance, alignment and operation training.

#### POWER PLANT

Standard: 25 HP Lincoln 3-phase electric, 35 HP Wisconsin gasoline, or 40 HP Lombardini turbocharged diesel.

#### LOG TURNER

Hydraulic

#### LOG LOADER

Hydraulic

#### LOG DOGS

Hydraulic

#### CARRIAGE FEED DRIVE

Type (hydraulic, electrical, mechanical, or manual): Electric, 12V DC

Forward Speed: 180 fpm

Reverse Speed: 200 fpm

#### TOWING

Wheels and Trailer: 15 inch wheels, electric brakes

Towing Weight: 3840lbs

# Tongue Weight: 122lbs. GUARANTEE:

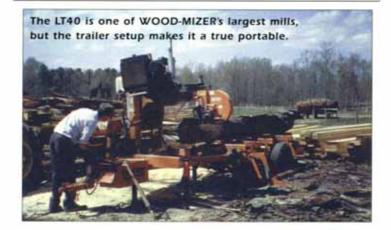
2 year on sawmilt, 5-year frame

#### **OPTIONS AVAILABLE:**

Electronic Setworks, Laser Sighting, Remote Operation, Debarker, Operator's Seat

#### LIST PRICE AS SEEN

\$27,000 to \$30,000



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(Continued from page 5)

devices and a log loader. From my observation the log loader, which Wood-Mizer calls roller toe boards, and log turner worked well. The log dog uses two hydraulic cylinders in different axes so that there are two motions to hold the log: in and out, and up and down. The up and down motion lets the sawver steady larger logs (dogging in the up position), hold a bowed cant flat on the bed (clamp the piece and then bring the clamp down), and turn small cants (using the up motion of the log dog). The log tapering devices consist of two rolls powered by hydraulic cylinders, located on either end of the frame bed. Besides using the devices for taper sawing,

Duke also uses them to check beneath cants to make sure the cant is resting directly on the bed frame in order to saw parallel faces on the cant.

The LT40 Super Hydraulic is equipped with a pair of 2-inch, hardened roller guides. The outboard guide is remotely adjustable using an electric motor. This is a very handy feature to ensure accurate sawing. The closer your guides are to the cut, the more blade stability there is. The blade is water lubricated in order to avoid resin buildup. When sawing resinous wood, Duke says he mixes some Pine Sol with the water. His mill is equipped with a debarking saw, which scores the log immediately in front of where the band blade is entering the cut. This is

extremely helpful in extending blade life. The blade on the debarking saw is carbide tipped, and Duke says he has changed it only once since he received the mill.

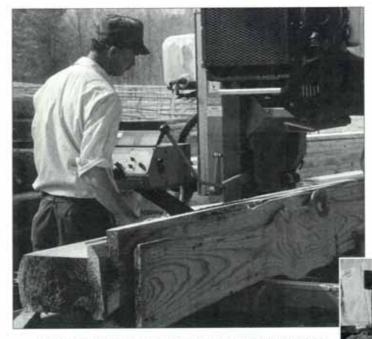
Duke said he gets five to 10 sharpenings per blade. He sharpens before he sets the blades using sharpening equipment supplied by Wood-Mizer, Duke is a firm believer in using the wider 1 1/2 versus 1 1/4 inch blades, saving he can saw more accurately with the wider blades. Duke favors 0.045 inch thick blades as well, and changes blades every 1,000 to 1,200 board feet. On his old mill, Duke said the blade life between sharpenings was 700 to 800 board feet, a difference that shows the value of the debarking saw on his new mill. Duke grinds the gullet completely during each blade sharpening in order to avoid gullet cracks. This is accomplished by dressing or shaping the grinding stone to the correct shape, and by grinding the saw twice. Taking off too much metal at one time during sharpening tends to overheat the blade, resulting in lower performance, Duke says. As a final piece of advice on saw blades, Duke stressed the importance of

changing blades before they get dull.

There is a lumber sweep, or board return in Wood-Mizer lingo, to help off bear the mill in the direction of the operator's station. This is an arm that comes down and pushes the top board to the rear as the bandsaw head is returned. Wood-Mizer recommends that two people operate the mill, even when using the board return, for safety reasons.

I asked Duke what he does to maintain his machine. He said he changes the oil and filter on the engine as prescribed, and also greases the mill every 40 hours, except for the bearings on the guide, which he greases at every saw change. Duke said he has had very few maintenance problems. His only problem, other than routine maintenance and replacement of worn parts, was that the throttle cable broke. When Wood-Mizer was made aware of this problem, they corrected it with a redesign. Duke was very complimentary of Wood-Mizer's service department and technicians. He said the technicians were excellent in resolving technical problems over the phone, and that he can get parts the next day if he calls by 3 p.m.

I also asked Duke about his production and work-load. Normally he saws every day. When I visited during the last week in March, though, he had not sawn since January due to poor weather. Duke said he saws an average of 2,000 to 2,500 board feet a day with an actual sawing time of 6



Duke demonstrates how he uses the sawmill itself as an edger by lining up boards alongside the cant he is sawing. With a little prior planning, this method can save a sawyer time. Inset:Wood-Mizer offers a debarker on the LT40 Super, something Duke says extends his blade life considerably.

#### MANUFACTURER'S COMMENTS:

Wood-Mizer's LT40 Super Hydraulie is capable of cutting speeds up to 60 feet per minute in 12-inch wide red oak. Engine options include a 40 HP turbocharged industrial diesel, 35 HP gas engine or a 25 HP electric motor. The mills are available in portable or stationary versions and can cut any log up to 36 inches in diameter or 21 feet long.

The Super Hydraulic's faster, heavy-duty log turner quickly rotates full capacity logs. Extra-wide, hydraulic roller toe boards compensate for log taper and allow easy log positioning. An innovative "two-plane" clamp on the Super Hydraulic simplifies

to 7 hours each day. He has cut up to 4,000 board feet per day with his LT40 Super Hydraulic, From my observations, it looked like board handling consumed a great deal of time. Duke admitted that to really run the mill at its full potential you need two assistants. He believes he is faster with 1 inch boards instead of 2 inch, and shorter boards instead of longer because of all the handling. The most unusual job

Duke has had so far was cutting two 16 foot pine logs that yielded 1,504 board feet of lumber.

Duke uses the mill itself as his edger. Once he has four-sided the cant, he places the jacket boards on edge next to the cant. In one pass he removes a board from the cant and edges one side of his jacket boards. He then turns the jacket boards over and takes another pass, which produces another board

from the cant and completes the edging of the jacket boards.

Seventy five percent of Duke's custom jobs are for 2.000 to 3,000 board feet. requiring one or two days at a job site. Duke's largest job was sawing 45,000 board feet. He charges by the thousand board feet produced, with a slightly higher rate for hardwoods. He adds a setup charge to his price for sawing below a minimum amount, or for hitting nails or traveling beyond a certain distance from his home. Over the years Duke has seen competition increase. When he started there were no other bandmills in his county. and now there are five.

I asked Duke why he

bought a Wood-Mizer. He said he likes the quick and easy setup and believes the mill cuts well and is easy to work around. He has had good success with Wood-Mizer and feels he has gotten a good mill both times.

Expectations...did the Wood Mizer LT40 Super Hydraulic live up to all the hype? As a mill aimed at the high end of the portable bandsaw market, and for the buyer that is serious about sawing, the Wood Mizer LT40 Super Hydraulic certainly fills the bill.

Joe Denig is a Wood Products Extension Specialist at North Carolina State University's College of Forest Resources. He is author of "The Small Sawmill Handbook, Doing It Right and Making Money."



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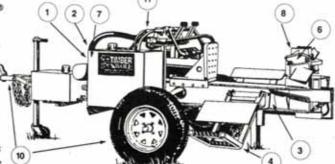
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