



A whole new cut

BY JOHN LOOS

BTM Saws looks to change band sawing mind-sets
with its double-miter technology

The 120.70 SA is the largest member of a family of high-performance, semi-automatic band saws from BTM Saws North America.



There are those technologies, like Laserdiscs and Betamax tape players, that enjoy the limelight ever so briefly. They exist in a vein of engineering that is constantly evolving and quickly usurped by newer, more cutting-edge technologies. Almost as soon as they make their debut, they're rendered obsolete.

Then, there are other technologies, like staplers and ball point pens, that are slow to change and thus their time in popular usage is seemingly endless. Ball point pens, for example, have remained mostly unchanged in their basic design since the 1960s.

Band saws unfortunately fall into the latter category. Band saw technology in North America hasn't changed much in the past few decades, and if it has, it's been minimal. Compared to other types of cutting equipment, many band saws bought today are remarkably similar to those purchased in the late 1980s.

There are reasons for this. For one, the technology, although aged, still seems to suffice for the production requirements of today's job shops. On top of that, band saws are largely considered a necessary annoyance, something a company needs to have rather than wants to have.

BTM Saws North America, Woodstock, Ontario, has a different perspective. Just as most music aficionados stopped jamming to cassette tapes long ago, BTM feels companies should rethink using band saw technology that's just as old and start to re-imagine the machines as integral, profit-making sections of their shop floors.

Leading the company's charge to reform long-held preconceptions about what a band saw can accomplish for a company is the BTM 120.70 SA, a high-performance, semi-automatic double-miter cutting machine.

Doubly innovative

BTM is no stranger to innovation. Founded in early 1980, the company was the first to introduce band saws equipped with automatic cutting parameters in 1986, where the saw's speed and feed settings would change moment to moment in relation to the section of the material being cut.

Today, the company is still looking for ways to innovate a concept that is historically slow to change and hopes to make a big impression with its new family of double-mitering saws, the patriarch of which is the 120.70 SA.

"If you look at the competition, a lot of their designs are from the 1960s, 1970s and 1980s," says Ian Tatham, president of



BTM. "No one in North America has really come up with anything new in the 1990s or in this century. They're basically building the same thing. With this technology, we're introducing new, advanced techniques in the manufacturing of the product that directly relates to the output, throughput and performance of the machine in the marketplace."

Along with its noted automatic cutting parameters, the 120.70 SA can double miter at 60 degrees in both directions. It has a 15-horsepower motor and can cut rectangular beams as thick as 1,200 millimeters by 700 millimeters at 90 degrees, as thick as 700 millimeters by 700 millimeters at 45 degrees in either direction, and 500 millimeters by 500 millimeters at 60 degrees in either direction. For rounds, it can cut material 750 millimeters in diameter at 90 degrees or 45 degrees and 500 millimeters at 60 degrees.

Most machines have a head that swings away from the fixed vise. The guide arm can end up as far as two feet away from the

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vise, resulting in copious amounts of unsupported blade material, increased vibrations and shortened cutting life. The 120.70 SA is designed with a table and vise that moves with the head so the blade is always clamped on both sides. This greatly reduces vibration and increases sawing performance.

Another unique aspect of the 120.70 SA is in its manufacturing,



Nucor Building Systems' facility in Brigham City, Utah.

which takes place at its Bergamo, Italy, facility. A typical band saw magnifies cutting vibrations through its head, which is usually made of stressed-out steel. This results in a distinctive and unpleasant squeal resonating across the shop floor. The 120.70 SA, however, absorbs the vibrations in its head, making the sawing process remarkably quieter. It's able to do this because, during its manufacture, once all the weldments are in place, each part of the saw is placed in a heat oven where the steel gets heat stress relieved. And it's not just the operator's ears that benefit; the controlled vibrations help in significantly extending blade life, increasing output and creating smoother surface finishes.

"Any more life a company can get out of its blades means tool costs will be dramatically reduced and uptime will be greater," says Tatham. "Instead of shutting down the machine, putting on a new blade and breaking in the new blade, you're just running production. And that's a dramatic change."

Overhauled outlook

Not just content with innovating the band saw itself, BTM is hoping to innovate the mindset of an entire industry that's unenthusiastic about band saws in general. With its increased functionality and cost-saving attributes, Tatham envisions production environments where the band saw is considered not a crude necessity but rather a money-making arm of a fluidly run body.

"If you could take the technology of a machining center and put it into a band saw, it's just night and day," says Tatham. "And that's what BTM is doing. It's pushing the envelope of sawing up into the realm of machining centers and other operations that are automated profit centers. A guy doesn't buy a machining center and think of it as a necessary evil, he thinks, 'I'm going to make money on this. That's a profit center for me.' And that's where we're taking sawing as well."

Naturally, BTM's perspective on band saws would be attractive to a company known for innovation and expansion.

Raising expectations

Such a company, Nucor Building Systems, found the functional advantages attractive and purchased the first 120.70 SA saw for its new Brigham City, Utah, facility. A leading manufacturer of metal building systems for the industrial, commercial, ware-

house, residential and agricultural market, NBS cuts an enormous amount of steel beams each day, so its band saws, while not the most glamorous part of its shop floor, are intrinsic to daily throughput. Attracted by its double mitering capabilities, NBS purchased the "big daddy" of BTM's new family of saws and began running it in its facility in late February.

"We had other saws in other divisions that weren't BTM saws that we weren't getting the best service out of," says Steve Thomas, structural supervisor for NBS. "We thought we would get service after the saw was in production, but didn't."

Promisingly, BTM was there to help NBS set up the saw and to answer questions regarding its implementation into its operation.

"Everything went well," says Thomas. "They were here the following day. The only real regret about getting the saw was getting it from Italy. It took forever to get here. But once it got to our facility, BTM was here the next day to help us get it set up."

Although it's still early, the company doesn't regret the decision to go with BTM.

"I'd say it's done a good job for us so far," Thomas says. "We've gotten all that we expected out of it."

Some technologies stay the same because they're close to or already perfected. Most, however, fail to progress because of complacency both in the marketplace and at the engineer's drawing board. Band saws, BTM believes, still have plenty of room for growth, which it's hoping to demonstrate with the 120.70 SA, a saw it hopes will be not only cost-saving for its users, but profit-generating.

"With band saws, a lot of people say 'Oh, well, that machine is \$100,000,'" says Tatham. "But a lot of people don't realize that in the life of that machine, the actual initial cost of the machine is minor. The money that goes into the blades over the life of the machine is where the big investment is. So, if you can utilize more out of the blade, get longer blade life and a smoother finish with faster cutting time — which gives you more throughput — it's a win-win." ■

BTM Saws North America, Woodstock, Ontario, 519/539-0450, fax: 519/539-2210, www.btmsaws.com, e-mail: info@btmsaws.com.

Nucor Building Systems, Brigham City, Utah, 435/919-3100, fax: 435/919-3101, www.nucorbuildingsystems.com.