

Strength On and Off the **water**

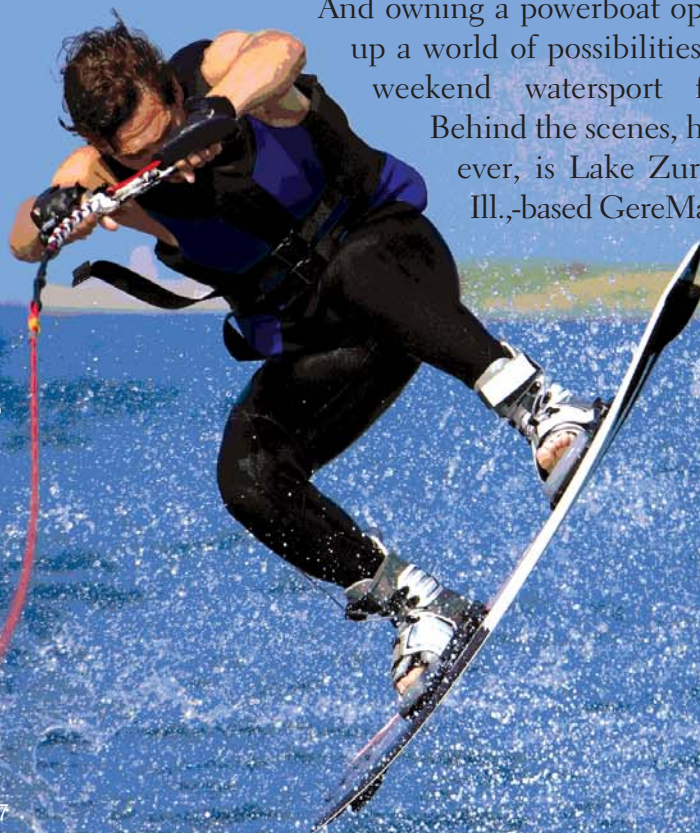
Improved sawing methods help **GereMarie** cut production costs

There's something about a boat. The possibility of shoving off and setting out on a great adventure is always there—even if you can still see the shore.

And owning a powerboat opens up a world of possibilities for weekend watersport fun.

Behind the scenes, however, is Lake Zurich, Ill.,-based GereMarie.

GereMarie produces a tower whose primary purpose is to provide a rigid tow point for waterskiers and wakeboarders.



GereMarie makes aluminum parts for the powerboat industry.



The company makes thousands of different primary aluminum parts for the powerboat industry. It was founded in 1996 by Jim Schultz, a Mastercraft boat owner, who had previously worked as a product development engineer focused on the layout and design of his former employer's manufacturing facilities. He started the business on the side by purchasing a multitasking machine and sub-leasing space for it in a sheet metal shop. Schultz obtained some subcontract machining work through an agency but continued to work his day job for approximately 18 months. At this point, he had enough business to quit his job and operate the contract machining business full time.

Soon after, Shultz decided to design a product that he could advertise in water-skiing magazines. He redesigned the traditional board rack with several significant improvements and presented it to Mastercraft. After several versions, he won a large order from the boat manufacturer.

Since then, GereMarie's product line has expanded to include speaker housings, light bars, towers and other parts. Schultz purchased more machines and hired operators for them. The company has expanded to the point where it now produces several thousand products that are sold both to boat manufacturers and directly to boat owners. It employs about 150 people and operates in a 40,000-square-foot facility. One of the company's best-known products is a tower whose primary purpose is to provide a rigid tow point for water-skiers and wakeboarders. The tower is also frequently used to hang accessories such as audio speakers, spotlights and board racks. In its role as a tow point, the tower is one of the most highly stressed and critical components of a powerboat.

Moving out of the past

Before the upgrade, the company used three bandsaws manned by a team of five operators on two shifts to cut aluminum extrusions and plate. But the sawing oper-

ation was still the bottleneck that limited the company's output. Many of the parts produced by GereMarie have complex three-dimensional shapes and are produced on multitasking machines. Many others, however, are essentially two-dimensional components that are produced either by cutting their profile out of aluminum plate or by purchasing extrusions with the proper profile and cutting them off to the right thickness. In the plant, these cutoff operations tended to cause bottlenecks, regardless of which way the two-dimensional parts were produced. The waterjet machine originally used to cut parts out of plate held very close tolerances but was also very slow. The company later tried a plasma machine, which was faster but had difficulty holding the required tolerances. Cutting with plasma also required that the edge of the part be finished on a milling machine. Cutting out other parts that were extruded to the desired shape provided other challenges. And the company's three bandsaws were



GereMarie has both 8 inch and 12 inch Metlsaw machines.

just too slow for the volume of parts required. Three operators worked on the day shift and two worked at night. Operators often worked overtime and on weekends because the machines couldn't keep up with the workload.

Designing a solution

As a result, Ken Testolin, vice president of operations, worked to improve the company's efficiency by purchasing a high-speed, high-precision cutoff saw from Metlsaw, Benicia, Calif., designed especially for cutoff operations up to 8 inches thick. The new saw worked so well that the company identified the opportunity to convert other parts that were currently being cut by waterjet or plasma methods to extrusions that are now being cut from another 12-inch-capacity Metlsaw machine that GereMarie added to its operation.

The new saws cut at much higher speeds and feeds, providing increased efficiency and superior cuts. The two new cutoff saws and two operators have now replaced three bandsaws and three operators, plus much of the work done on the waterjet and plasma machines. "The new saws make it possible to produce a wide range of parts at a considerable cost savings," says Testolin.



Rear view of the 32" blade cutting a 57#PF custom extrusion.

He was familiar with the Metlsaw cutoff saws because he had previously worked in the steel industry. These saws deliver the three main requirements of cutoff operations, which are precision, production and durability. Metlsaw builds every saw at its factory in Benicia, where it is able to closely control all processes, including steel cutting, welding, machining, painting, assembly and final testing. Testolin worked closely with Metlsaw's engineers to develop a custom solution for GereMarie's cutoff applications. The company needed to saw large extruded shapes, and Metlsaw built cus-

tom clamps for two of its highest-usage parts to ensure proper tolerances.

Immediate benefit

The first saw that GereMarie purchased was built to cut material up to 8 inches thick. The company chose this size machine because it was able to cut the largest extrusions used. "We could see the benefits of the first saw immediately," Testolin says. "Within a week, we were able to eliminate one of our bandsaws. We eliminated a second bandsaw two weeks later. We redirected the operators of these two saws to other positions. The output of the

Metlsaw was so much higher than the two bandsaws that it replaced that we were able to eliminate cutting on the second shift and utilize the operators in other areas of production.”

The success of the new machine also spurred some out-of-the-box thinking on Testolin’s part. “Up to this point, we had always cut our larger parts out of plate rather than using extrusions,” he says. “But I realized that we had done this primarily to avoid increasing the backlog of the cutoff operation. Now that we had finally found an effective cutoff method, it made sense to rethink some of our previous process decisions. Extrusion is inherently more efficient because it requires less machining, uses less material and minimizes secondary operations. I looked at each of our larger parts and concluded that it would make sense to produce many of them as extrusions if we could obtain a larger cutoff saw and the required extrusions. We checked with Metlsaw and our extrusion suppliers and got a yes from everyone involved.”

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The company also purchased a Metlsaw machine capable of cutting material up to 12 inches in height. GereMarie now cuts aluminum extrusions as heavy as 97 pounds per foot on the saw. The new machine has replaced the last bandsaw and more than half the workload of the plasma machine. In addition, it has elim-



GereMarie improved efficiency by purchasing a Metlsaw high-speed, high-precision cutoff saw.

inated the secondary operations that were necessary on the plasma-cut parts. GereMarie uses extrusions for all two-dimensional products except for those that are too large to extrude.

The new cutoff saws are much faster than the bandsaws they replace. For example, one mainstay of GereMarie’s product line is made from a 58-pound-per-foot extrusion. When the company uses a bandsaw, it takes more than three hours to cut a bar into individual parts. The Metlsaw cutoff saw, on the other hand, reduced the time required to only 70 minutes. The flatness of the pieces produced on the new saw is also much better than those produced with a bandsaw. A key reason for the higher speed and greater accuracy of the Metlsaw is the greater rigidity of the blade.

The company’s research has paid off. More efficiency at GereMarie means that more powerboat owners will have high-quality parts on their vessels, meaning they can sit back, relax and enjoy their time on the water. ■

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