

Small-Town Machine Tool Company Competes on WORLD Stage

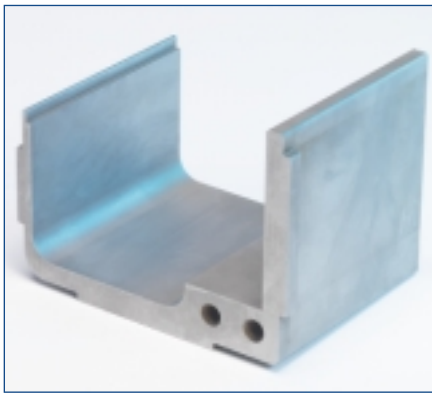
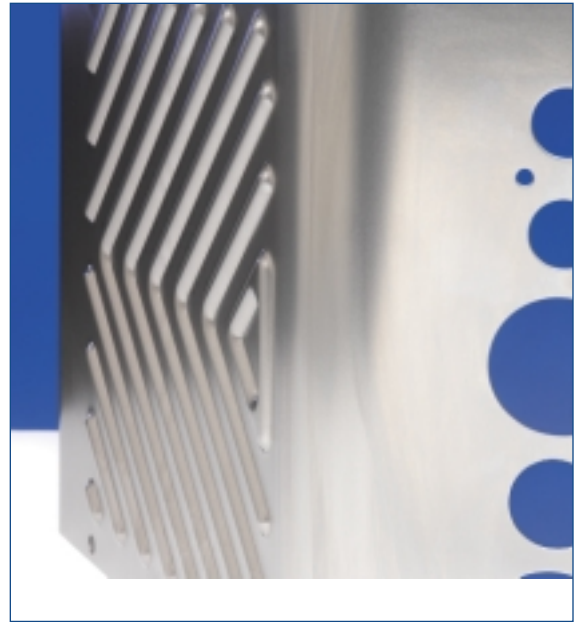
It's a story that has been repeated thousands of times across North America — a small shop in a small town finds itself struggling to compete against overseas competition. But one shop, New Bremen Machine and Tool, is fighting back.

"I don't know of a manufacturer, especially in the die/mold business, that hasn't lost work to the Chinese — the simple stuff that anyone can do is quickly leaving North America," said Bob Roth, New Bremen's vice president of manufacturing. "Fortunately, we've found that the complex dies and parts, the things that are time sensitive or too difficult for inexperienced shops, can drive our business."

Experience and Talent

New Bremen relies on its experienced toolmakers, many working with the company for 30 years or more, and new technology to propel the business. Since 1928, the family-owned and managed company has been turning out quality progressive, hand load, and transfer dies for the consumer appliance and automotive industries.





The company's success is deeply rooted in the character and dedication of its employees, pride in their work, honesty, and mutual respect.

Since opening its doors, New Bremen Machine and Tool has expanded three times to new locations, all within the town of New Bremen, Ohio, a 175-year old industrial city that got its start as an integral part of the Miami & Erie Canal. This association led to increased commerce and industrial development in a formerly agricultural community. Today, Randy and Jay Bergman, whose father took over the company in 1975, along with Bob Roth, whose father-in-law also owns a stake in New Bremen, run the company.

The company handles die making, wire EDM, CNC machining, production stamping fixtures/gages, detailed machining, and grinding for companies throughout the world. It specializes in

complex stamping and form work for the automotive and appliance industries. About 50 percent of the business is focused on designing and producing stamped products and their required tooling in-house. The remaining half is dedicated to producing tooling for outside companies.

Recently, New Bremen has been tasked with tooling that requires complex finish-machining and contoured edges, which often requires wire EDM work with poor flushing conditions.

"Steep slopes and odd shapes, along with dies and punches that have tough-to-get around clamping setups, have made my job much more interesting," said Jim Heinfeldt, wire EDM operator for New Bremen who is celebrating his 30th year with the company.

Randy Bergman explains what is involved in producing a typical part.

"We like to do the whole part, from tooling design down to final pressing of the stamped parts. These parts can be produced in stainless steel, mild or high strength steels, and even fiber-board or sheet brass," said Randy. "But we also produce tooling for companies who need something more complex than they're prepared to manufacture themselves."

"Once the specs come in for the part, we design the tooling, which is then approved by the customer," he contin-

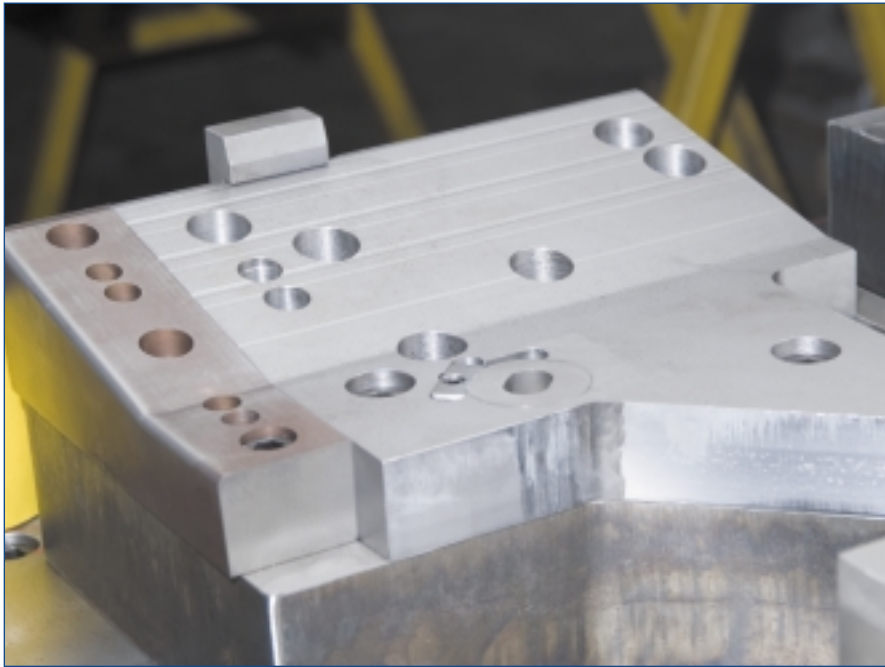
ues. "Once it's approved, we machine the tooling, then finish the tooling details in the wire EDM. Most tooling requires slopes, intricate hole work, or interrupted cutting in A2 and D2 tool steels. After Jim finishes the tool, we go to the press to run a test batch."

"Any required changes are made and we re-machine or wire EDM the fixes or any inserts that are required for part changes from the customer, and then we start the production run."

"I'm the final step before the parts get out the door or to production," adds Jim. "If the wire EDMing isn't done right and quickly, the whole system breaks down."

"Absolutely," continued Randy. "When we had issues with our previous EDM it caused major problems in our production."





Problems Lead to a New Solution

New Bremen Machine and Tool has several machines in its arsenal, including an 800-ton Bliss press and a 10-ton crane, but it relies on its wire EDM machine to finish off the most complex part details. Last year, the company experienced serious problems with a wire EDM machine.

“We purchased an EDM machine in 1995 and paid a premium price for it,” said Roth. “It was supposed to be top of the line. It was always breaking down and couldn’t hold the required tolerances. Three different techs looked at it, but they couldn’t keep it up and running.”

After a great deal of frustration and many parts not meeting specs or deadlines, the company began looking for a replacement.

“We have a Makino EC3040 that we purchased in 1988 that we still use everyday,” explains Heinfeldt. “Over 20 years and we’ve never had a problem with it. It is a true workhorse.”

The company was impressed with the Makino’s longevity and reliability and turned to Makino once again. This time, New Bremen Machine and Tool opted for the Makino SP64 EDM with HEAT (High Energy Applied Technology).

The Makino SP64 wire EDM is designed to provide high-speed and tight-tolerance part production for a variety of applications. It is ideal for New Bremen’s work in

stamping dies with interrupted cuts, awkward clamping requirements, and difficult to machine punches containing contoured features.

“We wanted an utterly reliable machine to run large parts — at least 20 inches on the X-axis,” said Heinfeldt. “In addition, we often use the wire EDM to make last-minute production changes. Inserts are sometimes necessary to modify parts, or holes or details need to be modified, so we wanted an accurate, fast machine to make those changes quickly and correctly.”

Thanks to improved flushing capabilities, HEAT reduces cutting times by up to 40 percent, while maintaining exceptional part straightness and one- or two-pass cutting accuracy.

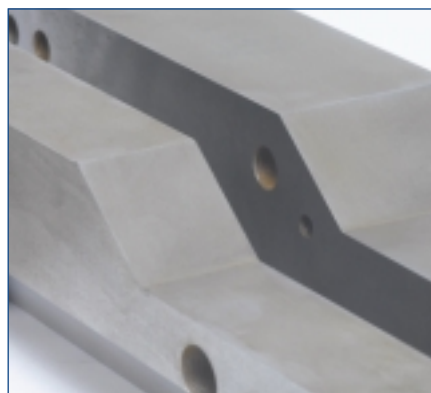
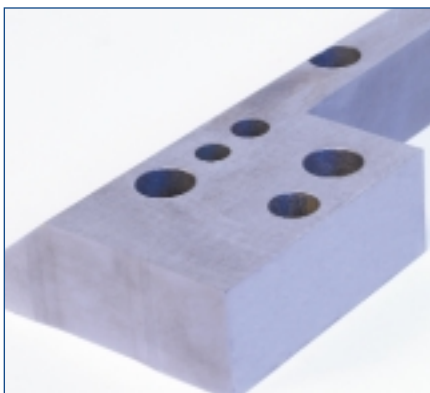
“After seeing it in action, I wouldn’t buy a wire EDM without HEAT,” said Heinfeldt. “It drastically speeds cutting, improves quality, and reduces skim passes. Parts with complex contours create a variety of flushing problems. HEAT eliminates those problems.”

Fast, Reliable, and Efficient

According to Heinfeldt, the company experienced several benefits from the SP64.

“The machine is fast, reliable, and efficient,” he explains. “Other wire EDMs require constant adjusting to keep the wire from breaking and generally cut more slowly in complex parts.”

Heinfeldt is passionate about the machine’s reliability, because his name is on the line.



“Everything depends on the wire EDM being accurate. All touch-offs have to be correct,” he says.

“Everything must be in proper relationship and line up correctly, so it’ll work when they go to use the die or punch.”

“If a part is late for delivery or production, it’s my fault, since I’m the last step before the part is complete. The wire EDM has to be up and running. I want to hit the start button and be confident that the machine will work as I programmed it to. With the Makino, that’s not an issue.”

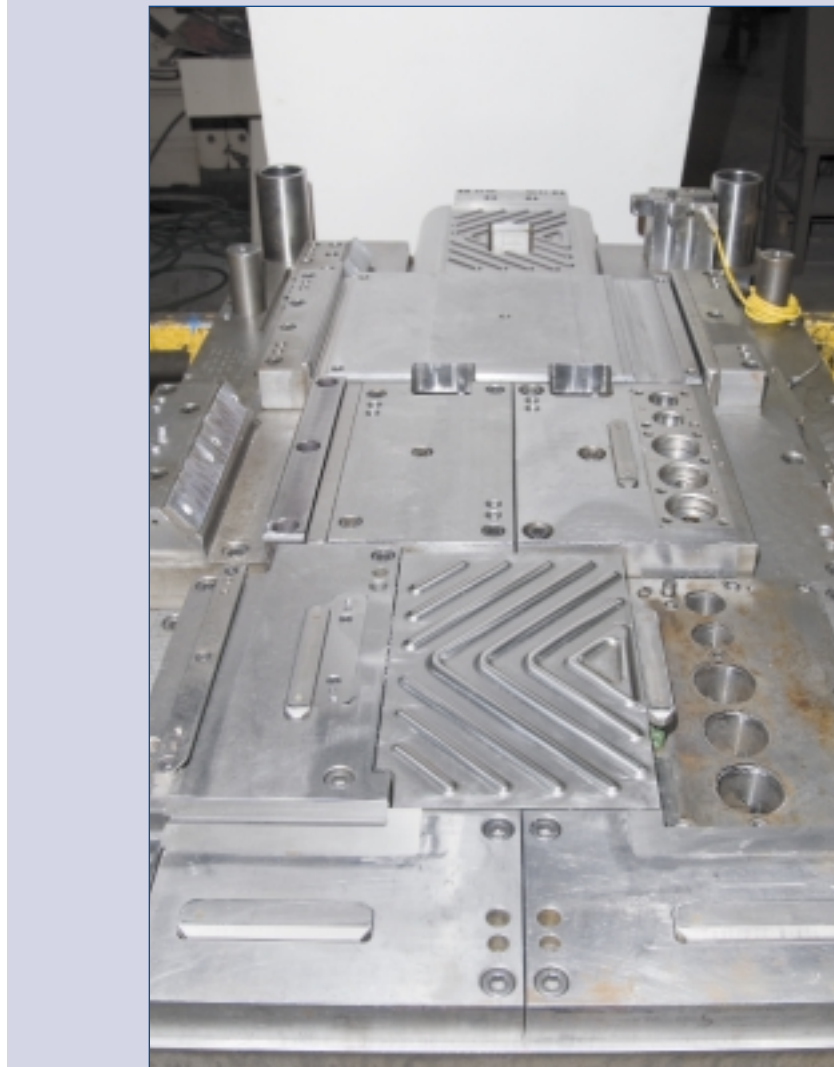
The SP64 easily handles New Bremen’s thickest parts, which are 4-inches plus. It also uses about half the wire as Heinfeldt’s previous machine. Considering the cost of brass, saving wire translates into significant overall savings per job.

“Our maintenance has been greatly reduced,” said Randy Bergman. “Jim tells us that the V-guides on the SP64 are better than the round wire guides on the machine we replaced — they’re much easier to clean. The machine, overall, requires less maintenance and is up when we need it.”

Competing on the World Stage

The New Bremen Machine and Tool Company doesn’t hide from its small-town persona, even though they are competing on the world stage.

“Good, honest people stand behind their products,” says Jay Bergman. “When something leaves this plant, no matter where it is going, our name is on it and you can be sure we’ve done everything we can to produce the highest-quality part possible.”



With more and more contracts heading overseas, U.S. machine shops have to differentiate themselves in order to compete. New Bremen Machine and Tool believes having a good work ethic and taking pride in their craftsmanship are keys to success.

“We can’t stop the simple work from going overseas,” continues Jay.

“But we can treat our customers with honesty and respect while turning out the highest quality tooling and products. With technology that improves our production, combined with our team of experienced toolmakers, we’re fighting back.”

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