MANUFACTURER COUNTERS LABOR

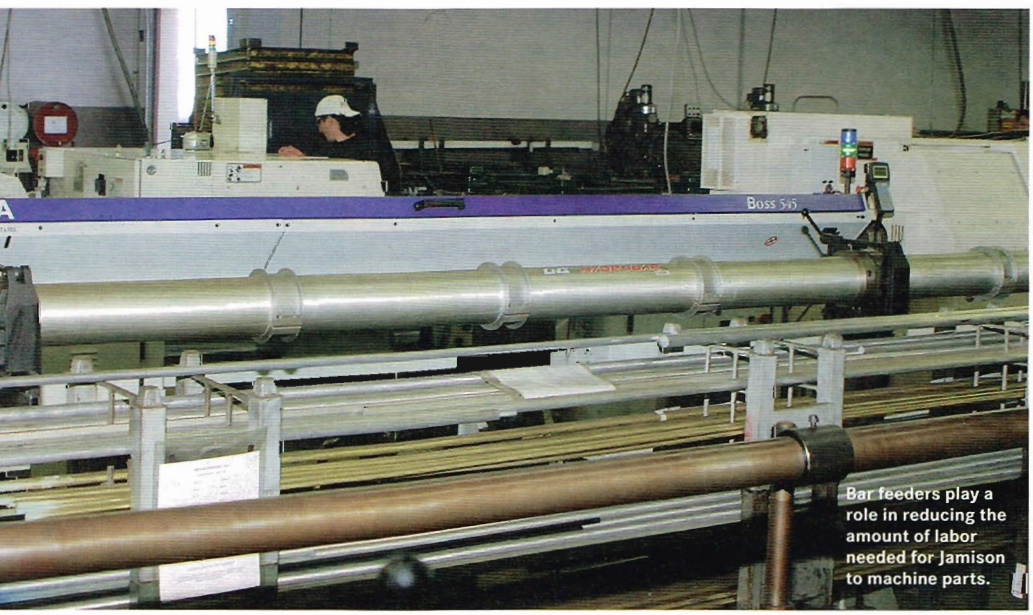
SHORTAGE THROUGH SUPPLIER EXPERTISE

Machine shop in Taylor, Michigan, relies on Sandvik Coromant to help stretch man-hours by stabilizing processes.

PHOTO: ROY WILLIAMS

ON AN INCREASINGLY regular basis, manufacturers are being forced to deal with the reality of America's current skilled labor shortage. While pundits vary slightly in their explanations as to the exact cause of this phenomenon, very few dispute its existence. Fortunately, the philosophy of lean manufacturing through automation has well equipped many manufacturers to grow without requiring vast increases in their workforce. Additionally, many shops have found success by turning to suppliers to share expertise in addition to providing products. Jamison Industries of Taylor, Michigan, is one such company.

Gene Jamison, Jr., founded Jamison Industries in 1981. A downturn in the automotive industry had caused him to fall prey to downsizing and, rather than search for a replacement job, Jamison decided to apply his knowledge and expertise to an entrepreneurial endeavor. Initially, the one-man company operated out of his basement, producing parts with a borrowed drill press. Nearly a quarter of a decade later, the shop occupies a state-of-the-art 10,000 sq. ft. facility.



Bar feeders play a role in reducing the amount of labor needed for Jamison to machine parts.

For Jamison, the current skilled labor shortage began to become apparent at the close of the 1990s. With steady growth in production quantities, the company knew it would need to find ways to maximize the pool of available skilled labor in the area. In part, this was accomplished through higher levels of automation and relying on the expertise of cutting tool supplier Sandvik Coromant.

"We knew we wanted to get to the point where one operator could simultaneously tend to several machines," says Gene Jamison, III, current shop manager at Jamison and son of its founder. "This meant making sure that our processes were as stable as possible and taking steps to eliminate labor from individual jobs. Working with reps from Sandvik Coromant has really helped us to stabilize processes and maximize our productivity."

JAMISON SERVES a variety of industries, including automotive, defense and general mechanics. On one particular job, the shop was producing an aluminum fuel injector tip used in four stroke engines for smaller vehicles, such as snowmobiles or jet skis. The small

Sandvik Coromant helps Jamison's operators get the most out of its machines.


A successful past has allowed Jamison to expand into a state-of-the-art 10,000 sq. ft. facility.

component usually runs in daily lots of 1,000 and required tolerances down to .0003 inch. In a typical week, Jamison was, on average, losing approximately 5.6% of the quantity produced to scrap.

"We kept experiencing vibration and poor chip control which would cause the boring bar to break," explains Jamison, III. "Not only did this end up producing scrap, it made the entire process very inefficient. Every time we had to replace the boring bar, we had to manually reset the center height of the tool, which is a very time consuming thing to be doing on a regular basis." Jamison contacted Sandvik Coromant for advice.

"When I first looked at the processes on this job, I realized that miniscule inaccuracies in the position of the boring bar being used were causing the issues with tool breakage and scrap," says Sandvik Coromant representative, Don Doyle. "As an alternative, we implemented the CoroTurn XS, a tool with a unique design that causes it to automatically set itself on center."

Switching to the CoroTurn XS eliminated nearly all of the scrap from the production of the fuel injector tip. Annually, this reduced scrap by $20,000. More importantly, it greatly reduced the man-hours required by the job, stretching Jamison's resources.

"The design of the CoroTurn XS improved the way we produce that part in two ways," says Jamison, III. "It reduced the amount of time we spent on centering the tool, as we now simply loosen the screw, remove the old tool, insert the new one, retighten the screw, and we're ready to go. On top of that, the self-centering design increased the accuracy of the process, eliminating chatter and breakage that were running up scrap."

WORKING CLOSELY with its supplier has benefited Jamison in a plethora of other situations as well. The stability of threading operations greatly improved after Sandvik Coromant suggested switching to a different type of insert. Previously, a competitor's partial profile insert was used in threading. The insert failed to control chip flow adequately, often resulting in long, stringy chips that would become wrapped around the part or tool. By switching to a full profile insert from Sandvik Coromant, Jamison was able to increase chip control to the point of eliminating the problem.

On another occasion, Jamison was experiencing problems producing a small component used in the steering systems of automobiles. The part required a 1 in. deep by .950 in. diameter hole and was taking too much time.

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"I was running the part by drilling out the hole with a regular drill and then using a boring bar to flatten out the bottom," recalls Jamison, III. "Our customer was asking for 600 parts a day and with my method, we were peaking out at being able to produce 480, so I called Sandvik for advice."

After examining the job, Sandvik Coromant suggested switching to a flat-bottomed CoroDrill 880 drill. This eliminated the need to use two tools and greatly reduced the part's cycle time, which dropped from nearly two minutes to just under one.

"When they first put the drill in and gave me the feeds and speeds, I thought they were joking," says Jamison, III. "We started running it at 550 surface ft./min. and .004 in./revolution and it worked perfectly. We doubled our capacity on the job and are easily meeting the required demand."

By working closely with knowledgeable suppliers, Jamison Industries has succeeded in offsetting potential pitfalls arising from a decline in America's current skilled labor. Additionally, suggestions made by Sandvik Coromant have helped to stabilize processes and minimize the amount of labor going into individual parts, stretching man-hours further. By following this path, Jamison plans on continued success for generations to come.

JIM MAY