

SPRING 2011

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## In With the New

**Stafford Manufacturing's major improvement efforts have revitalized the entire operation.**

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## STAFFORD MANUFACTURING CORP.

[www.staffordmfg.com](http://www.staffordmfg.com) / HQ: Wilmington, Mass. / Employees: 40 / Specialty: Shaft collars

Arthur Stafford, president and founder: "There was a pressing need to do something."

# IN WITH THE NEW

STAFFORD MANUFACTURING'S MAJOR IMPROVEMENT EFFORTS HAVE REVITALIZED THE ENTIRE OPERATION. BY STACI DAVIDSON



CELL-BASED MANUFACTURING, NEW EQUIPMENT AND EXTENSIVE TRAINING ARE HELPING STAFFORD GROW.

**When Arthur Stafford opened** Stafford Manufacturing Corp. in 1975, he recalls he was "starting on a shoestring." He launched the company about a year after his previous employer – a shaft collar manufacturing operation – had been purchased and moved from Massachusetts to Connecticut. Stafford didn't want to make that move, and after some encouragement from his friends, decided he could compete with the large entity in Connecticut.

"I had a good relationship with the vendors who worked with my former employer, and they didn't want to lose the business, so they gave me very favorable terms when I got started," he explains. "I didn't have much at first, but they helped me stay in business."

The small operation grew, he says, by proving it had the ability to manufacture a wide range of products, providing engineering support and hands-on customer service. The first few years were a struggle, however, because Stafford didn't have the resources to invest in a lot of equipment that would enable high-volume production.

"I couldn't compete with the companies that were doing the high-volume production of standard products," he explains. "My main interest was in customers who needed special orders. I knew my customers, understood their needs, and knew my competitors weren't interested in the specials area.

"As I met my customers' needs, I reinvested the profits into the company so we could constantly improve our equipment and methods."

**'A PRESSING NEED'**

Stafford Manufacturing invested in a lot of quality equipment, but much of it was used, some even having been built for production during World War II. Additionally, Stafford built new, multi-station equipment which was designed to provide high-volume production of standard products. At this point, Stafford was truly a full-line source for shaft-collars and shaft-couplings.

Over the years, however, "Our market has changed dramatically," Stafford says. "There has been constant pressure to provide a broader range of more sophisticated products, while at the same time the run quantities for standard products have steadily trended down."

Although its equipment could meet the company's needs, continuous

**"WE'VE ALWAYS TAKEN THE LONG-TERM APPROACH — WE LIKE DOING THE RIGHT THING BY OUR CUSTOMERS AND MAKING A BUCK IN THE PROCESS."** *-Arthur Stafford*

investment was necessary to maintain it and ensure it could hold the necessary tight tolerances. That machinery was great for high-volume production and long runs, Stafford says, but more and more, the company needed to produce smaller quantities and a greater variety of parts.

"The old way of doing things was increasingly difficult," Stafford says. "Those machines had long set-up times, and re-tooling for new products

was expensive and time-consuming. We have high-quality standards, and it was hard to maintain our production and quality with the old equipment.

"We realized we could either spend a lot of money to re-engineer the equipment we had in order to make it more flexible, or we could change the entire way we produce items."

Stafford Manufacturing went with the second option and changed its operation to cell-based manufacturing in early 2009. Stafford explains five circumstances occurred around the same time, which made the change to cell-based processing more necessary:

- > Borrowing demand was down, so rates "had never been better," according to Stafford.
- > Demand for CNC lathes and machining centers was down, so the





SOME OF ITS EQUIPMENT DATES BACK 60 YEARS, BUT STAFFORD KEPT THE BEST OF IT DURING ITS IMPROVEMENT EFFORTS.

dealers were happy to negotiate very attractive terms and prices.

> Stafford Manufacturing's own demand was slower, so it could take advantage of the dip in production to make major changes without adversely affecting customer service.

> The operation had a "critical need" to become more competitive by being more efficient, flexible and cost-effective.

> The cost and risk of potential extended equipment down-time had become unacceptable – it was "imperative that our equipment be reliable and easy to maintain."

"There was a pressing need to do something," Stafford explains.

### RETAINING THE BEST

Stafford Manufacturing acquired most of its new equipment in early 2010, and spent most of the rest of the year integrating it into the process and training its employees.

"Our staff is filled with capable and loyal individuals, but they did not as

yet have many of the skills required for operating the new equipment," Stafford says. "It was in everybody's best interest to retain and retrain. This effort has paid off in many ways, one of which is that highly knowledgeable individuals are able to stay with a product through the entire process. In a sense, they own every part they make."

The company scrapped some of its older equipment, "but we retained the best of it and rejuvenated it," he says. With its rejuvenated machinery and new cell-based processes, Stafford Manufacturing has realized improvements in its productivity, throughput and costs, while maintaining and even exceeding its high-quality standards. Also, Stafford notes, the new processes allow the firm to produce parts that are more involved and have tighter tolerances, so it's more effectively producing more complex parts in smaller runs.

"Due to the changes we've made, our lead times are greatly dimin-

ished," he says. "Our inventory levels are lower, but we're still doing a better job of keeping our customers happy. We are seeing lower work-in-process levels because products don't hang around on the production floor for very long before they become a finished part. We've also established just-in-time delivery of our raw materials – our vendors worked with us on that. All of the savings we've made are helping pay for our new equipment."

### A LONG-TERM APPROACH

Stafford Manufacturing's new cell-based structure has created surplus capacity in its high-volume production, which also is making the company more competitive there. It can go after the high-volume markets more, Stafford says, because it can provide those capabilities at better prices.

The company has always prided itself on its specials work, however, and going forward, it plans to produce a broader range of custom products at more competitive prices, Stafford notes. It also is adding to its standard products – such as more parts that perform multiple functions or ease design issues for customers.

The key, Stafford says, is that the company no longer has to reject a product because a customer requires a low production volume. It can produce a complex part in a low run and still be competitive in the pricing.

"Our approach to our customers and to our specials business will continue to drive us forward," Stafford stresses. "We've always taken the long-term approach – we like doing the right thing by our customers and making a buck in the process.

"We also take a long-term approach to the people who work here because they are loyal, well-trained and highly motivated to succeed," he adds. "We have a mutual respect for everyone we work with, and that sets us apart." **mt**