

RUSH

▶ BY MIKE PRINCIPATO

JOB

Former job shop finds success manufacturing custom gears with “impossible” lead times.

Ask harried machine shop owners what they wish for and many wistfully reply, “A product, or a product line.”

The owners of Rush Gears Inc. have been there. Five years after successfully making the transition from general job shop to a company that supplies just one product line, the family who owns the business has never looked back.

Based in Fort Washington, Pa., just outside of Philadelphia, Rush Gears has established a reputation as a leading source for make-to-order gears. Five thousand customers nationwide rely on the company’s ability to go from inquiry to order shipping in what seems like an impossibly short time. And, 50,000 American manufacturers receive an annual catalog from Rush that is considered by many to be the bible of the custom-gear business.

Perhaps most impressive of all, though, is this unique company’s track record of profitable growth through accounts that rarely order more than \$10,000 in gears annually.

Bob McGann, representing the fourth of five generations of McGanns who have owned and led Rush Gears, said the road wasn’t always so smooth. There were bumps along the way.

These challenges, though, have contributed to making his company’s story an interesting case study on what’s involved in the transition from contract

machine shop to focused manufacturer committed to providing extraordinary customer service.

Stock to Custom

Founded in 1919 as Globe Engineering Co., Rush Gears began life as a Philadelphia job shop. Just after World War II, Bob’s father, Jim McGann, took over the small company and, along with his oldest brother, George, serviced the Philadelphia market’s general machining needs.

In 1958, Jim McGann saw an opportunity to enter the gear-making business at the national level. Using then-market leader Boston Gear Co. as a model, the two brothers printed and distributed a catalog of stock gears.

“At that point, the company became known as the Globe Stock Gear Co. and focused on replacing OEM gears—commodities available from players

like Boston, Browning and others—with gears Globe machined in-house out of better, stronger materials,” recalled Bob McGann. “We targeted niche markets and sold through distributors all over the U.S. and Canada.”

By the 1970s, Globe Stock Gear had sizable backlogs for gears and general-machining work. It invested in equipment and labor and signed the necessary warehousing agreements at facilities around the country to support sales.

“Remember, this was prior to Federal Express and overnight shipping services, so the systems and inventory requirements were very different than today,” stated Bob McGann. “We needed to be close to major metalworking and manufacturing markets.”

In reaction to a price war and the turbulent economy of the late ’70s, Jim McGann decided to re-emphasize general machining. He also limited the gear-



All photographs: M. Principato

Five generations of McGanns have owned Rush Gears, including general manager Bob McGann.

making side of the business, retreating from the increasingly competitive and unprofitable stock-gear business.

But Bob McGann said that certain customers wouldn't stop calling. "Even though we knew that in a price war we couldn't support the overhead we had in place to supply stock gears, we saw a real opportunity to become the premier supplier of custom gears," he said. "Customers had come to think of Globe as 'the house of the overnight custom gear.'"

By 1991, Bob replaced his father as general manager. And, building on the elder McGann's vision, he began refining the business plan that would ultimately result in the company renaming itself, aptly, Rush Gears Inc. Bob said the name reflects the decision "to focus on the needs of our customers rather than the needs of our manufacturing operation."

From Manufacturing to Service

The wisdom of that strategic decision has been borne out by the numbers put up by Rush the past 5 years. Now bursting at the seams of a modern 20,000-sq.-ft. facility just off the Pennsylvania Turnpike, the company has 25 employees and maintains a carefully cultivated database of 500,000 customer contacts in North America.

Bob McGann wouldn't disclose sales figures, but he indicated that Rush revenues are considerably higher than the \$3 million in annual sales typically generated by a similarly sized general machine shop. And, make no mistake, Rush is no ordinary machine shop.

After stepping through Rush's front door and into the glass-walled lobby, visitors are treated to a panoramic view of the company's modern customer service and administrative offices. Computer workstations, printers, faxes and telephones are staffed by well-dressed employees. Bob McGann's office overlooks this area, which is separated from the manufacturing, warehousing and quality-assurance departments.

The overall appearance is one of orderliness and efficiency—a place for everything and everything in its place—especially in the adjacent warehouse area, where row upon row of high-bay shelving and racks are filled with specialized gear-cutting tooling.

Rush sales engineers (left to right): Jeff Gregg, Dave McGann and sales manager Stewart McGann.

"The manufacturing side of the business is where we make the largest investment," said McGann. He explained that customer orders often require highly specific tooling, and that a budgeted capital investment is made once per month to keep the company's competitive edge intact.

What's really striking about the Rush facility, however, is its minimalist approach to manufacturing. The firm applies the same intense focus to machining that it does to marketing, limiting its internal operations primarily to the actual cutting of gears.

A network of 20 vendors supply Rush, as needed, with everything from premachined gear blanks to coatings and from CNC machining to wire-ED-Ming services. McGann said this approach to make-to-order manufacturing has evolved over the company's 81-year history.

"We've already been down the road where we had every piece of equipment under one roof," he explained. "It was a huge investment for us, and very difficult to keep all of the machinery fed with work. When we made the decision to switch our emphasis from manufacturing to service, we realized that what we needed to focus on was the one machining process we know better than anybody: fast-turnaround, custom gear cutting."

Lean Machine

Once Rush Gears committed to becoming the pre-eminent manufacturer of custom gears in the U.S., company managers quickly realized that the standard work-flow systems they had used for years would not hold up.

For example, a typical machine shop the size of Rush might field around a dozen inquiries a day, converting, perhaps, one-third to one-half into orders. Rush's eight inside sales engineers review five to 10 times that many requests-for-quotation a day.

And, in the time it takes for a typical machine shop to process and issue a quotation—usually from 24 hours to 5 days—Rush may have quoted, drawn,



produced and shipped a custom gear to a customer.

"For our customers, and for us, time is literally money," said Bob McGann. "Our systems are set up for speed, and it's against company policy to use the word 'late' at Rush."

He's only half-kidding. Four teams of two sales engineers each receive inquiries by fax, e-mail and, sometimes, in the form of a sample gear that's often in less-than-stellar condition. Using a standard costing model, the two-person team faxes a formal quotation within one hour, offering the customer a choice of lead times and prices.

Rush refers to this as a "matrix quote," and, according to McGann, it's one of the features that customers like best about dealing with the company. The matrix quote provides prices on custom gears tailored to the urgency of the customer's need.

As McGann explained, "There are emergencies, and then there are *emergencies*. The matrix quote allows the customer to decide which situation really exists." Rush's fax quotation form lists gear prices in five delivery categories, ranging from "standard" (one week) to "crisis" (same day).

Once a team of sales engineers receives an order, the customer's credit information is reviewed and entered in one of Rush's 22 networked PC workstations. Next, an order-routing form is generated. Then, while one team member researches raw materials, tooling requirements and subcontracting options, the other prepares a production drawing using Autodesk Corp.'s AutoCAD.

The net impression one gets while visiting Rush's operation is a continuous stream of activity. Overnight parcels steadily flow in and out of the building;



Mary McGann, another member of Rush's sales team, prepares a "matrix quote," which provides prices on custom gears tailored to the urgency of the customer's need.

sales engineers move from telephone to workstation to fax and back again; and manufacturing and warehousing employees set up, produce, inspect and ship finished products. It's a living, breathing example of well-controlled chaos.

The "control" aspect is redundancy. "Our entire strategy is based on redundancy," said McGann. "We have a backup plan for everything. Most of our software we developed ourselves to support our specific needs. We have 22 PCs on our network, and every staff member has Internet access, which we constantly use for e-mails and research. Even our faxes are on a central server."

This level of service doesn't come cheap. A Rush custom gear costs, on average, 10 times more than a similar stock gear. The company's customers aren't usually shopping price when they call Rush Gears, though. They have an emergency, and an appropriate commodity gear either isn't available or durable enough for their application.

McGann said: "If a customer simply needs a stock gear that's a common size or grade of material, we're not the best first choice. We have, however, positioned ourselves to be the best source of custom gears, and the prices we need to charge for a single gear aren't high

when compared to the cost of a production machine or an entire line being down at a customer's site."

John Boyle Enterprises LLC, based in Emmaus, Pa., came to the same conclusion recently, when it needed a custom gear made from a virtually unidentifiable sample.

"We provided Rush with what was left of the gear our customer gave us," said JBE Production Engineer Hans Hoefflein, "and we got a matrix quote immediately. Our customer didn't care about price. They just wanted a new gear—yesterday."

Hands-Off Selling

Rush Gears doesn't have a traditional sales force. And although the company is customer-focused, Bob McGann rarely meets with customers. This approach makes sense, given that Rush receives and ships 20, 30 or more orders per day, each of which averages well



Now that's commitment. Sales manager Stewart McGann's license plate.

under \$1,000. Once shipped, it's unlikely Rush will receive another order from the same customer anytime soon.

"Our idea of a repeat customer is one who orders once every 2 years," McGann said.

The Rush catalog, over a half-inch thick, is the company's major sales and marketing tool. The catalog is mailed to 50,000 customers and prospects annually and is more than just a comprehensive listing of gear sizes and types. It's a promotional tool that creates and reinforces Rush's image as a service-oriented shop that knows its market.

The first few pages of the catalog contain a thorough explanation of the company's services, products and, of course, its unique matrix quote. It also features the image of Randi Rush, a fictional cartoon character.

"Randi Rush is a character we created after a company brainstorming session," said McGann. "We feature her in ads and in a lot of our sales-promotion materials."

Randi is one of three central themes visible in virtually every aspect of Rush's literature, Web site and packaging. Another is the company's bold red, white and blue logo. It appears on everything from staffers' business cards to the wrapping tape used on shipping cartons, along with the tag line "Made-To-Order Gears When You Need Them!"

McGann added that Rush was an early participant in business-to-business use of the World Wide Web, launching a comprehensive, but static, site well before they became popular (www.rushgears.com). The site has been highly successful in generating leads and receives thousands of hits, according to the company's marketing director, Susan Roebuck.

The company plans to roll out a fully interactive, e-commerce-enabled Web site in early 2002. "Customers will be able to generate their own quotations and check the status of their orders in real-time with the new site," McGann said.

Given e-commerce and the many other changes occurring in the way business is conducted today, does Bob McGann worry about new competitors snagging a piece of the custom gear business?

"Of course," he said. "But it would be tough for a new player to compete with 81 years of experience and our focus on service."

About the Author

Mike Principato is a regular CTE columnist and the owner of Synergetics Corp., an Easton, Pa., machine shop.