



Leonel Lozano, CNC grinding department supervisor, sets up one of four Studer grinders operated by The Maroney Company.

Designer's Dream Shop

How a 53-year-old Job Shop Became a Designer's Ideal One-Stop Production Shop.

The story is that Northridge, CA's The Maroney Company was founded with one lathe back in 1955 by a man named John Maroney, along with one mixed-breed Doberman pinscher-German Shephard watchdog named Reject. Since then the company has grown and earned a reputation for its ability to handle projects at the very extreme end of difficulty.

"To give you an idea of what we mean by extreme difficulty," says John Cameron Maroney, son of the founder and now president of the company, "we were selected to produce and assemble several hundred parts for the high-gain actuator antenna on JPL's Mars Pathfinder project. The most critical aspect of the design was that it was a conglomeration of several hundred fabricated and purchased parts that had to mate together and be perfectly in tolerance after assembly. We took on that job and did it successfully, and we're very proud of that."

Maroney says that his company's reputation as a shop

that can do anything a designer throws at them was enhanced by something said by Bevin Cutler, manager of JPL's machine shop during the Pathfinder project.

"Bevin Cutler called me one day," recalls Maroney. "He said, 'John, I have about 300 drawings here on my desk and I have a program manager who needs to build extremely critical parts for the high-gain actuator antenna that will send back all the pictures from Mars to Earth. I want to bring these prints over to your shop, and I want that project done at the Maroney Company.' Then he asked me, 'Do you know why I want the project done at Maroney?' I said, 'Well, we have a good shop, good equipment and good people.' He said, 'It's more than that, John. Not only do I need the parts to be accurate, but I need them to be controlled throughout the process, so that in the end we get exactly what we need. Your shop is exactly what JPL's capability should be and isn't.'"

Maroney says his company's niche always had been

John Cameron Maroney, president, (left) and Steve Reynolds, shop foreman, discuss shop work loading.

servicing companies that require critical accuracies and diversified capabilities all in one house.

“We normally don’t get requests for quotes to produce routine parts,” he says. “We get projects that require extreme accuracy and the ability to control a part’s progress through the shop from one process to the next. People know about our really wide in-house capability, so when engineers sit down to come up with a concept, a critical application project, like going to Mars or going to drill comets in outer space with different devices, they have no room for error. Failures cost them millions of dollars and huge amounts of time, so they need to find machining sources that are capable of taking the project from the concept stage through completion and controlling all the different applications, which is what we do.”

Equipment Diversity

How is it that this job shop, which occupies a 12,000 sq ft facility and has only 17 employees, has been able to gain such a reputation?

“It’s a combination of our equipment and our know-how,” Maroney explains. “All under one roof we have six sinker EDMs, three Charmilles and three Mitsubishi Wire EDMs, five Bostomatic 4-axis mills and one Bostomatic 5-axis mill. In our lathe department we have nineteen lathes, including two Daewoo Pumas and numerous others. In our lapping department we have two Lapmasters, a DoAll 15 Double Face, and a size control roll lapper. In our inspection department we have ten different measuring machines, including a Tesa Scan 50+ non-contact gaging system and two Brown and Sharpe CMMs.”

But, according to Maroney, one of the things that really sets his company apart is his grinding department.

“In our grinding department we operate two Studer S33 CNC grinders, one Studer S35 grinder, and a Studer RH750 Universal Grinder, and ten other machines, including jig grinders. By combining our EDM and grinding capabilities, we’re able to work in a tolerance zone that’s much less than a thousandth of an inch. In fact, we’re able to meet tolerance requirements in the millionths of an inch and do so quite often.”

Studer Grinders Critical

Maroney says he is able to grind round parts that spin in turbine generators at 65,000 rpm.

“We grind Inconel, which is a hard-to-machine material, shafts of all kinds,” he says. “We grind and lap roundness within ten millionths of an inch, so our tolerance for error is ten millionths. Getting down to that type of accuracy requires a combination of spe-



cific capabilities, which we have here. The Studers will get us down to 50 millionths, which on most jobs is great, but when we need even greater accuracy, we take the parts from the Studers to the lapping department to go the rest of the way down to ten millionths. We couldn’t do that without our equipment diversity.”

The Maroney Company has used Studer grinders since 1960, Maroney says.

“We started out with a manual Studer Grinder,” he says, “Studer always had a reputation for making the finest grinders available and my father always wanted what he considered the best. Since that first machine we’ve purchased three more Studers. Today our Studer representative is Jay Davis who works with DMark and gives us excellent service when we need it. He’s very knowledgeable and has been a big help to us over the years.”

Studers Part of a Machine Team

Maroney says that his equipment isn’t always busy, but that it is the company’s philosophy to have the right equipment available when it is needed to complete a project.

“The best way to understand our way is to give you an example of how a job flows through the shop,” he says. “Let’s take a medical application for the largest pharma-



Kevin Miller, CNC mill operator, sets up to machine a turbine mill on a Bostomatic 505 5-axis CNC mill.



Juan Choy, EDM operator, and Ed Valadez, EDM department supervisor, at work in the Maroney company EDM department.

ceutical company in the world. For this part, which is precision tubular part for dispensing powered medication, we get a long bar of raw stock material. Then we saw the bars, bore and rough machine them. From there they go out for heat treating. When the bars come back, we do some finish lathe work on the Daewoo Pumas. From the Daewoos, the bars go to our lapping department for rough honing on the IDs. After that they go back for a rough OD grind on the Studers. From there they go to the EDM department where we put in highly precise orifices. This sounds like a complex process, and it is, but the reason we get projects like this is because we have all the capabilities we need in-house. These little dispenser tubes have to be lapped and polished concentric within two-tenths over almost a foot of material. There can be absolutely no defects in the orifices. The surfaces are polished to a number 4 finish, which is tough, but we do it.”

Markets Served

The Maroney Company built its reputation for handling tough projects in the defense and aerospace industries, but has since diversified into the medical and commercial industries.

“On the commercial side we do a lot of different kinds of things,” Maroney says. “We do work for companies in the alternative energy field. We service the motion picture industry. Panavision is one of our main customers for all

the moving parts in their cameras. Basically, if a customer is not defense, aerospace, or medical, we call them commercial. Even so, we mostly get the projects other shops without our diversified equipment can’t do.”

Diversity No Accident

Maroney says that having the ability to do all critical processes in house has always been his father’s business philosophy.

“I guess I inherited his attitude, because I’ve seen what we can do with our tremendous diversity,” he says. “it’s pretty tough for a customer to hit us with a project we can’t do. I guess that, if there’s a down side to the kinds of complex projects we do, it’s that they are all pretty time consuming. They have a lot of different processes, which take time to go through the shop. In turn, that tends to limit how many different jobs we can do at a time. Still, we like it this way.”

Where does Maroney want to take the company in the future?

“Well, we’re very profitable,” he says, “but I’d like to grow. I’d like to add more people and machines so we can serve more customers. We’ve never had a layoff since our founding so we’re doing something right. I sure wouldn’t want to change that. We have a happy family here and I want to keep it that way.” ■