Mario Periscone, tooling shop manager/programmer, checks a part in preparation for scheduling the cell controller on the 17-pallet Matsuura H.Plus 300, 4-axis horizontal. The system has a 20-hp, 15,000-rpm spindle and a 240-tool automatic changer.

Tombstone Real Estate

How a Fresno Entrepreneur Uses Creative Business Practices to Build a Highly Successful Machining Job Shop.

Story and photos by C. H. Bush, editor

Dave Counts, founder-president of Fresno, CA's PNM Company, a busy, successful job shop, learned manual machining in his grandfather's garage machine shop. It was also there that the bug to have his own business bit him. On the other hand, while serving as manager for a public company that made lightweight sports wheelchairs, he learned to apply very powerful business practices that have helped him toward his goal of building a "world-class" company.

"I started Precision Numeric Machine in my garage in 1976," Counts recalls. "A very ordinary startup. I bought a tool and cutter grinder and started grinding cutting tools and doing special grinds. Then I started doing some small machine repair parts. There were a couple of companies in town that had some small job work they farmed out. I think we were the first company in the Fresno area with a CNC vertical mill. We were doing okay, you know. We had customers in the aerospace industry. We had some medical customers. A little bit of everything. And then we had a lot of guys who would come in with product ideas, and we'd help them along. In fact, that kind of prototype work was pretty much becoming our niche."

Wheelchairing and Dealing to Success

But before prototype work could become a very big niche for the young company, fate intervened and changed the course of Count's life.

"One of those customers, who ended up as a real good friend of mine, was making lightweight sports wheelchairs," he says. "He came to me for help, like any other customer, but in this case, his project took over my life for several years."

Count's customer had been building hang gliders before getting into the wheelchair business.

"We had done some machining for them on their hang gliders," Count says, "but then one of their good friends, a woman, crashed a glider and ended up in a wheel chair. Back then all they had was heavy stainless-steel chairs, so

John Owen, left, director of operations, and Dave Counts discuss scheduling on the new Matsuura H.Plus300. The cell controller is shown in the background.

their friend said, 'Could you guys take some of the technology from hang gliding, lightweight aluminum tubing, and use it to make a wheel chair?' They were fascinated by the idea, so that's what they did."

In the beginning, Count helped with the wheelchair design and producing most of the prototype parts.

"What we didn't realize at first was that we were making a wheel chair that was easy to control," he says. "Very lightweight. A parapeligic could get in this chair and not only play tennis in it, but could move around very easily and quickly without getting tired. It was amazing."

The Power of Little Changes

In 1986 Count's friends sold their business to a company that wanted to go public. The company they sold to was buying a group of medical device manufacturers, including the wheelchair company.

"They were taking it all public," he recalls. "What happened was that when the president of the company saw the value I added to the wheelchairs, he bought my company, too. It turned out he really wanted me and the wheelchair tooling, but not my equipment and not my customers. So I joined them to manage production of the chairs, and kept my company going on the side under the name PNM."

Counts says this was a very exciting time in his life.

"I was in my 30's," he says, "and all of a sudden I was going to real-life business school. I was learning how real businesses think. I got to see the good thngs and the bad things that were brought up. The president of that corporation spent a lot of time and money training us and to get us to think about new ideas. That was back when Tom Peters was just starting out, and when the Japanese kind of manufacturing principles were starting to come into the U.S. I got a chance to go to one of Tom Peters early seminars, and I went to Japan to tour some of Toyotas facilities. That was really an eye-opening experience."

What opened Count's eyes was the concept of making hundreds of small, incremental improvements.

"I was touring the facility of a supplier to Toyota, a company with two or three thousand employees," he recalls. "While there, I noticed one employee making some little changes and then jotting in a notebook what he had done. I asked the tour guide what he was doing. He said, 'He's making an improvement.' I asked, 'Does he do it on his own?' The guy said, 'Oh, yes. We train our employees to do it on their own, make little improvements, do things a little faster, more efficiently. All our employees are required to make an improvement at least once a week and pass the information on to others."

The mathematics of the idea hit Counts later on that day.

Counts: "I went back to my room and started thinking. They have 2,000 employees, and each one of them every week gets a little bit better. It was mind boggling. They weren't saving an hour at a time, just a few seconds here and there, small improvements, but there were 2000 of them going on every week, 40 every hour. They were getting 40 little improvements an hour. They didn't have to have big improvements, because 40 times even a few seconds ultimately adds up to major improvements. I thought to myself then that General Motors was in deep trouble."

Back to PNM

Counts brought what he had learned back to the wheelchair company and to PNM, his machining job shop.

"It's amazing the power we can get from our associates on the shop floor," he says. "They know what the real issues are, and if we're smart enough to listen, we can learn so much from them. I started teaching those ideas to my employees at PNM by introducing a small version of the plan, a process improvement program we called PAID. I did that, because I knew that my time with the wheelchair company eventually would end and when it did, I wanted PNM to be headed in the right direction."

As it turned out, Counts made the decision himself to leave the wheelchair company.

"In 1996 I realized I wasn't waking up in the morning eager to go to work," he says. "We had grown the company and my role had changed to become more office-oriented, which didn't really make me happy. They're a good company and we still do work for them. We do job shop work and they buy a few products from us that we developed for the wheelchair industry."

Once Counts turned his full-time attention to PNM, the company started growing.

"Back then, PNM had ten employees working in a 7,000 square-foot facility," he says. "One in the front office and the rest in the shop. I had two employees who really grabbed onto the improvement program and they're still with me today. Using the PAID program we were able to quickly become more efficient. It's amazing really. As an example, one thing we noticed was that one good employee was making 30 parts an hour. Another good employee was making 35 of the same part an hour. When we looked at them, we discovered that the only difference was that the more productive guy was bringing two parts over and getting them ready to go. As soon as the machine stopped, he had them positioned to just pop in. Not a big improve-

PNM calls itself a Matsuura shop, because it operates six Matsuura vertical RA dual-pallet machines, along with 4 Matsuura vertical CNC machines without pallet changers, a Matsuura 11-pallet horizontal system and its newest machine, a Matsuura H.Plus300, four-axis horizontal with a 20-hp, 15,000-rpm spindle and a 240-tool automatic changer.

ment, but it added up. We showed that to the first employee and he jumped on the idea."

Continuous Improvement

Counts had good people, including John Owens, director of operations, in his shop, who handled the day-to-day business of production, shipping and other shop chores.

"Having good people left me free to concentrate on building and improving the business," Counts says. "Most of our old customers started coming back, because we were offering to reduce our prices on a yearly basis. I figured that if we had a part for a year, we'd better figure out how to make it cheaper, and we did. We can't do much about material costs, but our labor always comes down. I passed those savings on to our customers and they like that. Today we're in our own building. We have 54 employees in 20,000 of space and we serve most of the local industry here in Fresno, including medical, lighting, electronics, automotive and the pump industry. Very little aerospace."

Equipment a Key Component

Counts applies his continuing improvement philosophy not just to people and systems, but to his equipment as well. As a result, he has amassed an impressive arsenal of advanced technology machining equipment.

"I guess you could call us a Matsuura shop," he says. "We have six Matsuura vertical RA dual-pallet machines. We have 4 Matsuura vertical CNC machines without pallet changers. We have a Matsuura 11-pallet horizontal system and our newest machine is a 17-pallet Matsuura H.Plus300, four-axis horizontal with a 20-hp, 15,000 rpm spindle and a 240 tool automatic changer."

PNM also operates a Makino dual-pallet horizontal and several Haas mills, but the bulk of his investment has been in Matsuura.

"People ask me why I buy Matsuura," he says, "and the answer is that I like to get maximum bang for my dollars. We've been working with Matsuura from the beginning. We know what the reliability is. I have machines out there that are 1989 vintage, and they're still going. I have Matsuura's that have been running three shifts for years, and they're still outstanding. Service is a big thing for us, too, and we've always got fast response when we needed help. As a result, Matsuura is always our number one pick when we need new equipment. Service is a big thing."

Tombstone Real Estate

Counts has been so impressed with the capabilities of his new Matsuura H.Plus 300 that he has come up with some new creative new ideas to better service his customers.

"A big thing for us on this system was how the cell manager worked," he says. "The software is all Windows-based, which allows us to interface with our central server. This allows us to remotely make changes quickly and easily in our daily production schedules. Now I've set a new goal for us. I eventually want to allow customers to use the internet to manage some of their own production schedules. We're adding another H.Plus300 and another 16 pallets, so my plan is to set up tombstones more or less permanently for repeating business. It's kind of like renting tombstone real estate to them and giving them the ability to decide what will run next. The idea is still in the formative stage, but with the H.Plus300, it's a real possibility."

Another advantage of the new system is its ability to slash setup time, Counts says.

"The new system has helped us significantly cut throughput times," he says. "Cycle times are 45-50% faster and setup times have almost become neglible. We're getting finished parts in one set up now, where before it might take two or three."

World Class Goal

Counts makes no bones about his ambition to become a world-class company.

"Actually, we haven't quite figured out what that is," he says, "but we do know a few things. First, we want to achieve sales of $200,000 per associate, and we're getting close. We know a world-class company takes care of its employees, so we offer profit-sharing bonuses quarterly based on the shop's ability to increase productivity. We know that family men make the most reliable employees, so we pay a high percentage of their health insurance costs, including their families."

Operating expensive, sophisticated equipment requires intelligent, responsible employees, so Counts has his own in-house training program.

"We believe we have the equipment needed to be a world-class company, but equipment alone won't do it," he says. "You also need skilled people. There's a shortage of those in the Fresno area, just as in other places, so, our shop people got together and designed a three-stage training program to take people off the street and turn them into machine operators. So far it has worked fine. We have great people." ■