



**Brian Van Steenwyk, CNC operator, shop foreman at B&Z's 5-axis, 20-pallet Kitamura Mycenter Super cell 400. The machine has a TIVO box on it that permits setting up a week's work in advance. The machine is one of 19 Kitamura's operated by B&Z.**

# The Power of Precision

## ***A Silicon Valley Job Shop Succeeds in Hard Times by Specializing in Ultra-precision Machining.***

*Story and photos by C. H. Bush, editor*

**T**he story of the mail room clerk who works his way up in a giant corporation is a cliché in Hollywood movies. Not so common is the story of a teenage chip-sweeper, machine-cleaner in a machine shop who works his way up to become the owner-president of a highly successful silicon-valley machining job shop.

But if such a cliché existed in the machine shop business, Dennis Kimball, president and co-owner of San Jose, CA's B&Z Manufacturing Co., Inc., would fit it perfectly. B&Z occupies an 18,000 sq ft facility in San Jose and another 6,000 sq ft in Arkansas. The company employs 56 people and specializes in ultra-precision machining for such companies as Hewlett Packard, Agilent and Honeywell.

"My Mom was a secretary at B&Z back in 1965," Kimball says. "Then in the summer of 1970, when I was 14 years old, I got a job here to clean machines. When I was 15, I started running machines during the summer and

on weekends. It was probably illegal to hire me, but back then kids could still work like that."

After graduating from high school, Kimball went away to UCLA to study economics.

"I continued working part time in the shop at B&Z when I wasn't in school," he recalls. "When I graduated, I sent out resumes, hoping to land a management position somewhere. But the owner of B&Z had a different idea. He flew down to Westec in my senior year and offered me a vp position I couldn't refuse. He wanted me to come back and run the shop at a pay level most of my fellow students couldn't match anywhere. That was thirty years ago and, as they say, the rest is history."

### ***Company Face Lift***

That history, according to Kimball, has been very interesting, eventful and challenging.

"B&Z had been started by a couple of guys who hung

**B&Z president Dennis Kimball (right) and Truyen Vuong, discuss deburring requirements on a lathe part.**

out at backyard barbecues with Hewlett and Packard,” he recalls. “They got a machine loaned to them by HP and started work in their garage at night. Finally, they decided to go for it on their own. When I got here, the shop was basically captive to HP. Our equipment was old technology, like Slosyns, running punch tapes, that kind of thing. So, when I took over the shop in 1977, I decided to modernize the company.”

Kimball brought in the first CNCs at B&Z.

“At that time Hewlett Packard’s philosophy was that their vendors had to be ten times more accurate in how you measured a part than what they wanted on their prints,” he says. “We were having a hard time holding our tolerances with the machinery we had, the Bridgeports and what have you. I brought in a Bridgeport with a CNC controller, but for production work I decided to go for Bostomatics. At that time the Bostomatics were jig-boring machines converted into CNC. They were extremely accurate, but they were also really slow. We bought quite a few of those during the following years. They had three spindles and three tool changers on them, which was necessary to get the production we needed.”

Kimball learned to program the Bostomatics using their Camit software.

“Funny thing was, when I was learning Camit, I also was learning Mastercam,” he says. “I learned later that Camit was really Mastercam under a different name, so when Bostomatic dropped Camit, they told us to use Mastercam. They were virtually identical.”

### **Ultra-precision Reputation**

During the years under Kimball’s stewardship, B&Z gained a reputation for being a source for ultra-precision multi-axis milling and turning.

“Our reputation is that we do our work right the first time and on time,” he says. “We produce parts from hyper nickel to HyMu80 to Kovar and Invar with super-high precision. We operate 31 CNC machines. We have two Zeiss CMMs and two more on the way. Today our company is ISO 9001, 2000 certified. We have eight shop people who have multi-years of experience running their own shops. Basically we combine advanced technology equipment with highly experienced people. We believe that’s the combination that has let us survive and thrive.”

### **Buy American Philosophy**

Another thing Kimball inherited when he took on the job of managing B&Z was an entrenched “buy American” attitude.

“Our philosophy back then was that all our equipment had to be American,” he says. “The only problem was that demand was growing, but so was competition. Our equipment was too slow. We needed faster machines.”

In 1985 a friend of one of the B&Z owners had bought a Kitamura Mycenter 0, but couldn’t take delivery because



he had fallen on hard times.

“We took the machine off his hands,” says Kimball. “And it was just a dinky little machine. It was a Mycenter-0, kind of a refrigerator-size machine with something like 12" x 10" x 12" travel. Right away, everyone in the shop got mad. Someone put a red circle on the machine with a red line through it, like a no-smoking sign. Gale Hogue of Hogue Precision, the Kitamura dealer, was embarrassed, and so was I. But that all changed once the little Kitamura started running.”

The Mycenter-0, according to Kimball, won the hearts of the B&Z employees within 6 months.

“That little machine just kept running and running,” he says. “It held pretty close tolerances. The tool changer was so fast we had to slow it down. The machine was extremely accurate because it was a small machine. Very small thermal expansion. It wouldn’t do a circle as well as a Bostomatic, but it would hold point to point really well. It was a great little machine. The main thing was that it just kept going and never went down and never needed any



**Brian Van Steenwyk, CNC operator-shop foreman, at the Kitamura Super cell 400 load station.**



**Steve Knight, QA manager-CNC machinist, checks parts in one of several B&Z Kitamura cells.**

repairs. After about four or five months our guys started wanting to run it. It had good tolerances and it was fast. That really was the end of our only buy American policy.”

Some time later, B&Z got a job to produce wave guide parts for Agilent (still HP at that time)

“We knew we needed a machine that could hold tolerance,” he says. “So we had Hogue Precision quote us on a Kitamura MyCenter-3. They brought it in, and we bought it with the stipulation that it could produce a circle within less than two tenths. Well they set it all up and it did. And, even more important, like the little Mycenter-0, it just ran and ran and kept on running. Today, 19 of our 31 CNC machines are Kitamuras. Our most recent purchase was a 5-axis, 20-pallet Kitamura Mycenter Super cell 400. It has a TIVO box on it that let’s you set up a week’s work on it. Each pallet has a chip ID which talks to the machine controller, telling it what it’s supposed to do with the parts on that pallet. It’s pretty amazing stuff really.”

### **From Machine Cleaner to President**

In November 2000 Kimball and his partner, Tom Simpson, concluded a buyout deal with B&Z’s remaining owner.

“Tom and I had talked about having our own place some day,” says Kimball. “So, we made the owner an offer and he accepted. He was 70 and wanted to retire. Selling to us was the most sensible thing he could do, really. Tom had

been foreman and I had been general manager for years. We had built the company and it was only logical for us to do a buy out. When I think back to the days when Tom and I were cleaning the floors and the machines, it seems like only yesterday, but it’s been more than 30 years. Wow!”

Where does Kimball and Simpson want to go with the business in the future?

“We believe our future lies in staying at the cutting edge in producing precision parts,” he says. “Right now about 70 to 80 employees sounds about right to us.” ■



**Eddy Luna, QA inspector at a Seebrez vision-touch probe combination system.**