



Cho Ly, lathe operator, loads a 15' steel cylinder into Puma 700 CNC Lathe. Cycle time on the 15-ft cylinders is 5 or six minutes, including loading and unloading. The Puma 700 is a true 45° slant bed lathe. The bed is a one-piece casting with both the saddle and tailstock guideways in the same plane to eliminate thermal distortion. A heavily ribbed torque tube design prevents twisting and deformation. The lathe is highly rigid to ensure no deformation during heavy cutting.

Big Cylinders, Big Money

How a Company Turned Machining Big Cylinders into Big Profits.

Story and photos
by C. H. Bush, editor

Like many successful companies, Fresno, CA's Hydratech, Inc. was started in a garage by a man with a good idea. In Hydratech's case the man was a cropduster mechanic named Frank Vasquez. The idea was a way to allow cropdusters to fly at night.

"The way it was back then, when it got dark, the pilots had to stop work," says Tony Ormonde, recently retired Hydratech president who is now under contract as a manufacturing and design consultant to the company. "The Fresno area is farming country, so Frank kept hearing the pilots complaining about having to shut down their operations after dark. He was a creative guy and came up with an invention that increased the output of the alternators on their crop dusters. That, in turn, allowed them to put more lights on their planes. He got a patent on the device and started making the pulleys and components in his garage

on a manual mill and a lathe. The original company was called Fresno Machine and Manufacturing."

In 1975 the fledgling company began making hydraulic cylinders for a local "belly dump" manufacturer.

"You've seen those big trailers loaded with dirt and gravel," Ormonde says. "They pull up to a location, then the bottom of the trailer opens up and dumps the load right where they want it. That's a belly dump. Soon after he started making cylinders for those, he began making cylinders for cargo handling equipment. That's when he realized there was good money in making cylinders. He figured he ought to have a company name that sounded more like cylinders, so he changed the name to Hydratech, and that's the way it's been ever since."

Ormonde, who obtained an engineering degree from Cal Poly, San Luis Obispo, CA, after graduation worked in var-



Tony Ormonde, recent Hydratech owner-president, discusses quality procedures with Hydratech QA manager, Gabriel Rubio.

ious jobs in the trailer manufacturing business before joining Hydratech in 1985.

“We built trailers for utility companies, and we built overhead aerial cable pullers and underground cable pullers, all of which gave me a lot of experience in hydraulics and with hydraulic pump motors, valves and cylinders. I joined Hydratech in 1985 as an engineer/draftsman. I’ve been with Hydratech ever since.”

Growing Together

Ormonde’s career with Hydratech grew steadily right along with the company.

“They put me to work on projects to improve production,” he says, “basically moving me into mechanical engineering and production control. From there I became production manager. I did that for a couple of years, and then in 1990 they promoted me to vp production, where I really more or less ran the business for the owner. In 1995 I became president. During this time, a partner of mine and I slowly acquired ownership and finally bought out the other partners. That made us sole owners.”

In April 2006 Ormonde and his partner sold the company to Ligon Industries, a privately held American manufacturing company whose hydraulic fluid cylinder divisions manufacture a variety of small-bore to large-bore welded hydraulic and pneumatic cylinders that are sold to OEMs.

“We were a perfect fit for their acquisition philosophy,” Ormonde says, “mainly because we were in the same business, but also because we had become very efficient in our production capabilities. Ligon buys companies they think will be good for the long haul.”

5-1/2" diameter, 15-ft long steel piston rods waiting to be machined on Hydratech's Doosan Puma 700 slant-bed lathe.

At the same time that Ormonde was growing within the company, the company was growing within its industry.

“In 1988 the company had about 60 employees,” he recalls, “but our sales kept increasing until in our heyday between 1998 and 2000 we had about 180 people. It was pretty hectic back then. Right now we have about 85 people doing almost as much work, mainly because we have become much more efficient.”

Custom Production

Hydratech designs, builds and sells custom hydraulic cylinders for a broad variety of applications, but mostly for OEM equipment manufacturers.

“Our customers build equipment mainly for the construction industry,” Ormonde says. “We design and produce cylinders for man lifts and telehandlers, which are a type of a forklift. Many of them build equipment that is rented out to contractors and others, so the machines take a pretty good beating, including our cylinders. These people tailor their equipment to specific needs, and we have to do the same thing. We don’t build anything that you could consider off the shelf.”

Why so much custom work?

“Well, our customers want to keep the weight of their machines down as low as possible,” he explains. “They’re constantly working to make their machines lighter, so they can get better performance out of the same horsepower. They’re always trying to maximize the geometry on their machines, which means they’re either looking for a longer cylinder and lower pressure, or for a shorter cylinder and higher pressure. And that’s where Hydratech comes in. They come to us with their problem, and we will design a cylinder solution.”

Hydratech products are not just used by OEM equipment makers, however.

“Over the years we’ve built cylinders for places you’d never think to look. Our cylinders are in places like the water curtain at the MGM hotels in Vegas, the Back to the





Joe Hernandez, Hydratech machine operator, sets up a recently purchased Doosan Infracore HP-5100 horizontal machining center. The HP 5100 sports a 50-hp spindle motor, dual pallets capable of handling a 1100-lb load, and a 60-tool changer.

Future ride at Universal Studios, and the Treasure Island Ship in Vegas. We never know what will come in next.”

Production Efficiency

Because their work is mostly custom, Hydratech’s cylinders can range from small to 18-foot long, so the company needs a variety of equipment available for production.

“When I became production manager, I set out to find bottlenecks in our process flow,” he says. “I also went looking for equipment that would give us a lot of value for the dollar. My goal was to buy equipment that would give reliable service for twenty or more years. And, if you think that’s unrealistic, I can tell you that I have equipment in the shop that’s a lot older than that.”

Hydratech does a lot of welding in its production, but Ormonde says the bottlenecks were always in the CNC departments.

“We do welding, grinding, honing and painting inhouse,” he says. “Sometimes welding can be tough, but most of our problems have been in our milling and turning operations. To help solve those, I have bought a lot of equipment over the years.”

Today Hydratech runs Mori Seiki long-bed lathes, and some Mori Seiki Mills, but the company recently has been buying Doosan equipment, too.

“The Mori Seikis are great machines, but we needed a lot of new equipment, and the Moris were a little pricey for

our budget. On several occasions I bought some low-priced machines, but got burned. They broke down fast under the beating we put them through. In 1995 I finally bought a Daewoo Puma 250 to give it a try. I was pleasantly surprised. The machine gave us precision, speed, and it was extremely reliable. It’s still going today.”

Ormonde was impressed enough with the Daewoo reliability that he subsequently purchased 8 more Doosan Daewoo Infracore machines from his distributor CNC Solutions.

“In addition to the smaller Doosan’s we now have two Doosan HP-5100 horizontal machining centers, and a big Doosan Puma 700 slant-bed turning center. This lathe is one of the biggest in the country, I believe, which was perfect for our big turning jobs. It’s very precise and rugged, which is what we need, but to be frank, another reason I bought the Doosans was because of the service I got from Jim Selway at CNC Solutions. When I need help, they don’t ask why. They just say when. In our business we can’t afford downtime.”

How does Ormonde feel about selling out his company to a bigger outfit?

“To be honest, Hydratech is my baby, and I’m going to miss it,” he says. “But even after my contract runs out here, I’ll know I left the company in good shape, and that makes me proud.” ■