

## DUALL PART 2: DUALL PRECISION DIVES INTO MAJOR STREAMLINING PROJECT TO KEEP UP WITH GROWING DEMANDS

In early 2007, decomagazine visited DuAll Precision in Addison, Illinois, USA. The company was transitioning from multi-step processing to a more modern, single-setup manufacturing organization. Their nine Tornos Deco machines had been cutting hydraulic parts non-stop, six days a week since they were purchased in 2002.

And they were just installing two Tornos Sigma machines to handle simpler geometries, freeing up time on the Decos for their most complex parts. Back in 2007, Mike Butler, DuAll President, predicted that Tornos was going to play a very major role in his company's future. He was spot on.



Bogie Bartel, Manufacturing Engineer (and part-time scuba dive and ski instructor), has seen a lot of changes in the seven years he's been part of the DuAll team. He's actually coordinated many of them. Recently, decomagazine sat down with Bartel and DuAll President Mike Butler, to talk about the impressive changes they have implemented since we last spoke.

*"We grew a little bit,"* states Bartel modestly. *"Actually we grew enough that we had to find another building. We added about twenty people and ten Tornos machines."*

Last year, DuAll engineered a plan to split their machining operations into two buildings – one space with all their CNC conventional equipment, and the other dedicated to their Swiss machines. Says Bartel, *"We moved all the bigger machinery over to the other space at the end of 2011. The other building is about 30,000 square feet. So there is a really big potential for growth. If our customers give us more orders... we're going to grow with them."*

Preparations to get the building ready for move-in took a little over three months. Then, DuAll transferred two machines at a time so they could

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The new Tornos stations in DuAll's Swiss building optimize operator comfort and efficiency.



maintain production demands being managed by Stanley Boksa, DuAll Vice President. The move was an amazing team effort from everyone at DuAll. Bartel orchestrated the relocation tasks of taking pairs of machines offline, moving them, aligning them and setting them up, and then getting them running before beginning with the next pair. Altogether DuAll migrated 12 machines. *"But I got very impatient,"* says Bartel. *"One day we put in six. It was the end of the year and a lot of companies shut down; but we kept working throughout the holiday. We wanted to move everything to the new facility so we could start in January full swing."*

Never ones to shy away from a challenge, the DuAll team's list of recent accomplishments is amazing. Under Bartel's supervision, they began by overhauling the shipping/receiving department – Bartel utilizing his teaching skills to help train that team to act as the final inspection for the company. Bartel also worked with Tornos to create a "400 Level" Advanced TB Deco training program for their Swiss operators (and he's working on a preventive maintenance certification program too). The team also organized the tool crib; implemented traceability systems on the machines and parts inventories; rearranged all the company's machine tool stations to optimize operator comfort and efficiency; installed all new bright, energy-efficient lighting and a state-of-the-art mist



DuAll's inspection department advancements include fast optical scanning equipment necessary to keep up with the high productivity and extreme precision of the Tornos Swiss parts being made at DuAll.



Examples of complex hydraulic parts being made at DuAll.



DuAll Partners Mike Butler and Stanley Boksa (right to left).



collection/air quality system; resurfaced all the floors in the facility; and even found time to update the company website and secure a new corporate logo. But the biggest change of all was creating the dedicated Swiss facility, and moving their entire CNC machining operation down the street into the second building.

### Time for change

To illustrate the transformation DuAll has seen over its 20-year history, Bartel directs the tour to the far side of the Swiss building. *"Let me show you how DuAll started. We began with cam-driven equipment making simple parts. With these old cam machines, it's all about timing."* The line of cam machines stands in stark contrast to the line-up of brand new Tornos machines across the aisle. Like Bartel's favorite place to scuba dive, Bonne Terre mine, where divers can see history preserved, (the old mine an abandoned, yet interesting relic with sticks of unlit dynamite waiting for fire that will never come) the cam-machine aisle at DuAll offers visitors an opportunity to marvel at the past as they cruise by and then surface to see what amazing things technology allows them to do today.

*"There's no market for this old cam equipment,"* Bartel laments. *"That was the past..."* he motions to the cam machines. *"This..."* he pauses dramatically and smiles, *"... is the future,"* he says pointing to all the gleaming blue and white Tornos single spindle machines.

### Business was increasing... and increasingly complex

The use of hydraulics continues to be the industry standard for creating a lot of power; and one only need ask Butler, Boksa, or Bartel how business is going to verify the health of the market segment. But things are changing for hydraulics; and DuAll is seeing big advancements taking place. Customers are combining parts — what used to be two pieces that fit together are now single-piece part designs which are far more complex. DuAll has faced the challenges head-on; and, as a result, continues to have more and more work directed their way.

*"With that complexity came greater precision,"* explains Bartel. *"Where we used to talk +/- one tenth, now we're talking millionths. All of a sudden +/- 50 microns became the norm."* DuAll relies heavily on their fleet of Tornos Deco machines to get the job done. Bartel continues, *"As we're talking about faster cycle times, faster machines, and faster*

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turnaround times, we need to talk about much quicker inspection methods too."

"We rely more on statistics all the time to control our processes," adds Butler. "We've expanded our quality control department to meet larger demands." The new Hommel optical scanning equipment installed at DuAll can measure 40+ dimensions on a part in about 15 seconds. So all those complex parts being produced in lots sizes of 25-50,000 on the Tornos machines can be quickly and very accurately inspected and shipped off to the customer.

"Tornos remains a major force for us," explains Butler. "It's a very modern company and they build a great machine tool. They have good vision. The company has been a tremendous contributor to our abilities to give the customer the quality parts they demand."

Bartel agrees, then says, "We've been talking about the machinery here; but another aspect which is very important to us is the technical support that Tornos has provided. They have very knowledgeable service technicians and sales managers that work closely with the application engineers. Andy Stemler and Roland Schutz in particular have been very good to us. Roland's got all the answers that we don't. The Tornos machines don't break down; but when we've needed a technician, Tornos has one here within the next 24 hours. It's not just a great product that we're talking about; but also a great team of people supporting the product. And that is very valuable to us."

### Dipping Their Toes into the Multispindle Market

Lst fall, DuAll travelled to Germany to get a first peek at the revolutionary new MultiSwiss single/multi-spindle hybrid in Hannover. And that visit got them thinking.

"That's a very interesting tool," Butler states with a smile.

"We're toying with the idea of adding a MultiSwiss," Bartel adds. "We're doing research to see if it's the right machine tool for us... researching the applications that we have. Particularly the one we want to run on it. We're working closely with Tornos Engineering – sending them parts for evaluation. And so far the feedback has been very good. It seems we have a good application for the MultiSwiss."

"When we think of multispindle equipment," explains Butler, "it's a market that we're not normally serving. But more and more we find with our Swiss machines that we're actually in the market. Some of our order sizes have grown to numbers that now lend themselves to multispindle equipment."

With bigger demands coming from customers, DuAll wants to be sure they don't have to turn anyone down. To stay competitive in their marketplace, they



Mr. Bogie Bartel, Manufacturing Engineer, part-time scuba dive and ski instructor.



Like Bartel's favorite place to dive, Bonne Terre mine (shown here), visitors to DuAll can see history preserved alongside the modern, Tornos Swiss machine lineup.

need equipment that can produce the highest quality, precise parts in slightly larger quantities.

Bartel elaborates. *"The DuAll philosophy here is to stay with the medium-sized orders – we don't want to go to a million parts a year. We are in the range of maybe 25-50 thousand now. And, looking at this multispindle, I like the quick-change flexibility to go from one application to another... especially when, as a job shop, we have to accommodate a couple different customers. With the MultiSwiss, it looks like we can run very fast, five to ten thousand, and then switch to a different job. And that could help us with our turnaround on parts."* After all, as Bartel points out, that's all they do – sell machine time.

And since the MultiSwiss uses the same TB Deco operator interface as all the Tornos single spindles on their floor, they won't have to dedicate a lot of resources to multispindle training. Which is a big plus for DuAll. They currently cross-train all their Tornos operators on setups and programming. So their team is quite efficient with TB Deco.

*"Our team is very good with TB Deco. And we use it to get the cycle times when we're quoting too. This is a very big advantage. The MultiSwiss seems like a perfect fit for us. Because we don't have to do any extra training – we're going to be pretty much, in my opinion, ready to start using that machine right away."*

DuAll also likes the compact footprint of the MultiSwiss. Even though they've added another building to their operation, they still want to maximize the use of their space – so that, according to Bartel, they can get as many machines as possible.

Butler agrees and summarizes, *"We're always making an attempt to keep our technology up to the very latest industry standards. And the MultiSwiss technology is very attractive to us because of the footprint, the quick changeover capability, and the ability to keep up with our increasing order sizes."*

Butler adds one final observation, *"The ergonomics of the machine tool are also very attractive to our technical people. They like the accessibility of the machining area. They're interested in it. They think it's a very nice looking tool and it excites them."*

Stay tuned for DuAll Part 3. What role will Tornos MultiSwiss play in this successful company's future? Coming to decomagazines near you in 2013...



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