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# Today's Machining World

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The Influence of Hispanic Workers  
in American Manufacturing



High volume

# High Volume, High Precision

TODAY'S MULTI-SPINDLE WORLD – AN INTERVIEW WITH DUPAGE  
MACHINE PRODUCTS PRESIDENT DAVE KNUEPFER

**DAVE, DO YOU CONSIDER DUPAGE MACHINE PRODUCTS  
A JOB SHOP?**

We're still a traditional job shop. We run 5,000 and 500,000 pieces, but we're not always profitable doing that. I have thought about changing the mix, and we've gotten more into dedicated and longer runs, but we're still dealing with shorter runs, and I don't think we make money on those jobs. I know you want to know about the economics of buying an Index. Why would somebody spend \$1.4 million on an Index machine? The way I see it, at least for my survival, it is the only way we can survive as DuPage. We must get into a niche, and that is not doing commercial work.

**HOW DO YOU DEFINE COMMERCIAL WORK?**

I consider commercial work hardware-type parts, home appliance, plumbing; not the techy stuff that you're grinding and lapping and honing. I think hardware will be gone from this country, certainly in our lifetime. We had several million dollars worth of commercial work in fire suppression systems for restaurants, which we ran for years. It was a couple of nuts with different types of washers on them – Screw Machine 101. The customer came to us 3 or 4 years ago and said, "We're going to go to China with this thing." At one time, we shipped 100,000 of these into one of their 15 warehouses throughout the country. We said, "Listen, we will add some value. Rather

BY LLOYD GRAFF





than ship 100,000 of these for you to assemble, we will assemble, package them in your bag and identify the part number, and when the Denver warehouse needs 15, we will send them 15.” Out of sight, out of mind. That bought us about 2 or 3 more years; it finished last year. \$2 million worth of business they could buy delivered here for about \$1 million. They would have been foolish not to shift. I don’t think there is any future for that type of work in this country unless you’re interested in just getting along and not making a reasonable rate of return on your investment.

#### **YOU’VE CHOSEN HIGH-VOLUME, HIGH-PRECISION.**

It’s not all high volume to begin with. We hope it matures into that, but it is certainly high-precision. That’s how you afford an Index. We went with the Index for two reasons; one was to get that high-volume, high-precision dedicated part; and the other was to run a family of parts. We run a family of hydraulic cages, and these parts run anywhere from 500 pieces to maybe 7,000 to 10,000 pieces a week per part. Our biggest problem was the big run that ran 10,000 pieces a week. We were running 50,000 pieces and couldn’t get to the next job because we had all this production time, and everything was waiting in the queue before we ran the 50,000 pieces off. With the Index we can run 10,000 pieces or 2,500 pieces, switch over to a similar part where we run the same size stock, and it

reduces our inventory. But more importantly, it reduces that queue time, where we couldn’t get to the next job because the machine was tied up with a job and we couldn’t ship for 4 or 6 weeks.

#### **AND NOW WITH THE INCREASE IN METAL PRICES THAT MUST BE EVEN MORE IMPORTANT.**

That’s really been our struggle as an industry, and it’s been our struggle at DuPage too; the inability to raise prices. The profit margins aren’t great in any jobs today, not like they were in the ‘90s and certainly in the ‘80s. You could make a really good living at this. But you know, the profit margins are down in the single digits. Is it worth it, or should I buy the strip mall?

#### **HAVE YOUR EMPLOYEES KEPT UP WITH THE HIGHER TECHNOLOGY MACHINES?**

Some have, some haven’t. Some of the older guys that we wouldn’t even bring into that arena have not embraced the quality revolution. That has been my biggest struggle in the last couple years. I don’t want to say we’re cleaning house, but we’re cleaning out some of the people who don’t want to jump in and work and play well with others. It’s a different world today in quality. Form, function and fit is out. It’s all about print dimensions and running the print. Very rarely do you get people who will accept something because it has the proper form, function and fit. If

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it's not to print they won't take it. They're afraid they're going to have a recall. I can't blame them. It's been a real tough thing changing our people's mindset on that.

## WHAT ABOUT RUNNING AUTOMOTIVE WORK?

We do a little bit of automotive work. Our sales guys have been telling me for 2 or 3 years now, "The only way we're going to take the next big leap is to get into automotive." We had a TS consultant come in and go through everything; tell us if we're TS compliant or how tough it would be to get there. There is a little tweaking we would have to do, and we would be TS compliant. So, it is not a big financial cost for us to take that step from a quality point of view. But I'm really at a crossroads. The volumes are terrific, but if you stub your toe once, you're dead. We're doing a very large job on a Hydromat for a client, and it has been terrific. But when you play with those guys, it is the real deal. If you shut them down, they will think nothing of handing you a bill for \$400,000. Control plans, we have them. You need a living document on the plant floor when you're dealing with automotive. You follow that control plan to the spec, and if you deviate one bit from it, you have to answer to somebody. We had a little catastrophe here a couple years ago where we got a pretty hefty bill from one of the automotive guys. We negotiated until it was, I don't even want to say, palatable.

## A BUSINESS EXPENSE.

Yes, bigger than I've ever had. That's the downside to automotive. The upside is the volume. We have been dabbling in it only for about a year, bidding on large automotive contracts. We have been competitive on some, but I don't really see margins in it so far. My sales guys tell me I haven't seen enough parts yet. There is some truth to that. Some of the industries that we're serving right now have matured with the volumes, and we have to keep looking to move forward.

## STAYING IN THE MULTI-SPINDLE BUSINESS, HOW CAN YOU EXPAND MARGINS?

The only way to expand margins is to bid the part upfront. You cannot take a part and expect to raise the price over time. In the '70s and the '80s and the early '90s you could do that. You cannot do that today. It has to be a part that is difficult, where you can drop it off complete where somebody else has second operations. If you can price that right, you can get a pretty decent margin out of it, and justify that \$1.2 million machine.

## CAN YOU DO SOPHISTICATED WORK WITH UNSOPHISTICATED MACHINES?

I think not. There are some of my competitors out there who will tell you that they can do anything I do on an Acme, but they are fittings guys. We had good New Britain people back in the '80s, and we couldn't do it back then. We made and shipped parts, and our customers accepted them. But were we sophisticatedly capable? I think not. And I'm not saying we shipped defective parts to our customers. Those machines are not specifically capable of producing that part day in and day out for today's specifications. Plus or minus .005 used to be fine. Now it is plus or minus .002. Why? Well .002 is better than .005 isn't it? That's another thing, Lloyd – it has nothing to do with multi-spindles, but it is the kids today, the young guys who are in engineering today. They're bright, probably brighter than the guys that came out 30 years ago. I don't question that, but they don't really visualize things like some of the older guys. They think tighter tolerance means a better part. It does, but at what cost? The older guys could conceptualize things a little better. The newer group wants prototypes.







**IF WE'RE TALKING COMPETING TECHNOLOGIES, YOU HAVE HYDROMAT, YOU HAVE STATE-OF-THE-ART MULTI AND YOU HAVE CNC SWISS, ANOTHER CATEGORY BUT WHICH COULD BE COMPETITIVE ON SOME OF THESE JOBS.**

The CNC Swiss are competitive, but they're slower. They don't have quite the output, but they are less expensive machines.

**BUT YOU COULD RUN THEM LIGHTS OUT, THEORETICALLY, AND PUT FOUR OF THEM SIDE-BY-SIDE, AND THEY WOULDN'T BE AS EXPENSIVE AS EITHER A HYDROMAT OR THE INDEX.**

I could put eight of them side-by-side.

**SO WHY NOT?**

Good question. I think a lot of people are skinning the cat that way. You can get all the attachments for the Swiss CNC, and put four of them together and do that.

**HOW DO YOU DECIDE? DO YOU HAVE ANY ARBITER WHO SAYS, "HYDROMAT, INDEX, EUROTURN, SWISS?" WHO MAKES THE DECISION ON WHICH WAY YOU'RE GOING TO GO?**

We don't have enough Index machines in here right now to really have the luxury of saying, "We will run this here



or there." We have dedicated our Index multis to several different parts right now, but when we get 6 or 8 or 10 of them in here we will make those decisions. In my view it involves the type of part, sometimes the volume and certainly the setup. We are doing changeovers on the Hydromats on similar type parts in five to ten hours.

**THAT'S DAMN GOOD.**

Yes, on a family of parts. I'm not talking about significant changes. We're moving some heads but not doing a lot of that. We're doing changeovers on the Indexes in four hours or less. We don't change the collets.

**ARE YOU DOING MUCH PROTOTYPING ON THE SWISS; MOVING THE JOB TO THE INDEX MACHINES AND THEN RAMPING UP TO THE HYDROMATS?**

No, we haven't done that. When you spend \$1.5 million on a machine like a Hydromat, you try to utilize that machine as much as you can, so you really try to look for long running jobs that you can dedicate that machine to.

**THEN THE JOB RUNS OUT. IT'S SUPPOSED TO RUN EIGHT YEARS, AND IT RUNS FOUR.**

We have had that happen. I have a Hydromat stand-

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ing right now. We thought that baby was going to run through 2008. Well, guess what? At the end of 2005, the job's gone, and I've had it standing for four months. We kind of got caught with our pants down. What I'm probably going to do in the interim is spend about \$150,000 and tool the thing to run similar type parts that we're running now on multiple pieces of equipment.

**WHEN YOU BUY THE NEW INDEX MULTI, ARE YOU BUYING WITH A PARTICULAR FAMILY OF PARTS IN MIND THAT YOU THINK WILL RUN FOR TWO, THREE, FIVE YEARS?**

The Index work we think will run for five to ten years because it's a running contract, and it's not an automotive thing where they'll tell you, "This is through 2008." Usually, when they tell you that, it doesn't extend much past that. We've taken work that we had here in-house. We have a track record of making it, and we understand what it takes to make it, understand the customer and know it has two or three subsequent operations on it. We throw this thing on the Index, drop it off complete in 10 seconds, and away we go. We don't have the ability to raise the price because we're putting it on the Index, but we try to work the math so it makes sense, and if it does, we do it.

**YOU WILL STILL BUY A USED 5/8" WICKMAN. WHERE DOES THAT FIT INTO YOUR VIEW OF THE MULTI-SPINDLE SCREW MACHINE BUSINESS? HOW WOULD YOU DEFINE THAT BUSINESS?**

I do believe we are job shop producer of precision turned parts. I do believe we are on the upper end, not the commercial side, of parts. The parts we're making on those 5/8" Wickmans are not commercial. They have some sophisticated tolerances on them that those machines are capable of handling. I haven't had any trouble with them. I bought two more Wickmans because the parts that I drop off them go into an assembly now, and I just couldn't keep up.

**BUT WHY COULDN'T YOU ENVISION YOURSELF HAVING A BUSINESS BASED ON THAT KIND OF WORK?**

It's a little different in our business. The parts I'm making on a Wickman go into a three-piece assembly. One of the three pieces needs to be made on my Euroturn. It can't be made on an Acme or a New Britain, with all due respect to my competitors. There is a sophisticated part that goes into that assembly.

**SO YOU'RE SAYING YOU HAVE A MIX, AND TO PUT THAT ON A CNC SWISS.....**

Would be overkill, yes. So it's a less sophisticated part in a more sophisticated assembly, and that's why I'm doing it. The other reason is when I had two less Wickmans, I had







to run them day and night, and if one thing went wrong, I fell behind. I figured with a couple more machines, the pressure wasn't on me to run them day and night. I do try to do that, but if I lose one for a half a shift or a day, it's not the end of the world. I have a little more capacity.

**CAN YOU BE SUCCESSFUL RUNNING 10 HOURS A DAY, 5 DAYS A WEEK?**

No, I need two shifts; 20 hours a day. I couldn't be successful running one shift. I have too much overhead to cover. And I'm a low overhead guy. For the size volume we have, our competition has many more employees than we do. I can show you financially the difference that our night shift makes. It is significant. We have to have a second shift in our business.

**IF YOU BUY A \$1.4 MILLION INDEX, HOW IMPORTANT ON THAT JOB IS THE DIFFERENCE BETWEEN A \$12 AN HOUR VERSUS A \$25 AN HOUR GUY IN CHICAGO IN THE TOTAL SCHEME OF THINGS?**

It's relatively insignificant. It's a small part of the equation. The key on an Index, and I learned this the hard way – you don't want to take that screw machine guy and put him on a CNC Index. You don't want some guy who's



used to taking a brass hammer to the machine. That includes the Euroturns. The first Euroturn I brought in (I have 25 now), the guys put it in, installed it, were running it and I saw a cross slide on the bench. They replaced the slide, had taken out the micrometer adjustment slide and put on another slide that they could hit with a hammer. I said, "Guys, that's what we're paying for."

**LET'S TALK ABOUT YOUR WORKFORCE. WHERE ARE YOUR PEOPLE COMING FROM TODAY?**

Most new people coming in here are Hispanic.

**WHEN YOU SAY HISPANIC, ARE THESE GENERALLY PEOPLE BORN HERE?**

No, they're all immigrants.

**WHY IS YOUR WORKFORCE INCREASINGLY BECOMING HISPANIC?**

Because those are the only people who want to go into this trade or into this industry. The young American white male shows no interest.

**DID YOU HAVE ANY PEOPLE WALK OUT ON MAY 1ST TO ATTEND CHICAGO'S IMMIGRATION RALLY?**

We had some people attend the rally downtown. I allowed that. I encouraged them to take a vacation day if that is what they wanted to do. We had seven or eight employees, although one of our customers had several hundred.



**IN THE REAL WORLD IT WOULD BE CATASTROPHIC IF WE SENT EVERYBODY HOME.**

It would be, but I will tell you that I know of no one in our plant who is illegal. We do a good job of policing that. Once we hire them, we check with Social Security. We had a problem about 10 years ago with eight employees. Social Security came to us and said, "You have eight guys whose numbers don't match," and we cleaned them out. They were some of our best workers. Our Hispanic managers are American citizens. Most of our workers are from Mexico, some from Guatemala, some from El Salvador, and we have a few Asians.

**DAVE, KNOWING WHAT YOU KNOW NOW, IF YOU HAD A PILE OF MONEY TO INVEST TODAY, WOULD YOU PUT IT INTO A BUSINESS LIKE THIS?**

I think guys would think twice about investing in this. I think there is money to be made in it today. I think it's more difficult than ever to do it, and I don't think the margins are as great as they used to be, so I think you have to offer something more than the average run-of-the-mill company to be able to have a plant like we have here.

**I WILL REPHRASE THE QUESTION. A) WOULD YOU GO INTO THE MACHINING BUSINESS? B) WOULD YOU RECREATE THIS BUSINESS?**

I would recreate this business for sure if I went into the machining business, because what we have here is a niche where we feel we can do things that other people cannot do. And I think we have an employee base to get it done.

**THIS IS AS NICE A MACHINING PLANT AS I'VE EVER SEEN.**

We've worked hard to get there, but you're not going to get there on a 7% return.

**HIGH-PRODUCTION, HIGH-SOPHISTICATION BUSINESS IS THE BUSINESS THAT YOU LIKE AND THAT YOU THINK HAS A FUTURE?**

It's our future. It's not the high-volume commercial type work and certainly not the low-volume work. It's the high-volume precision work that not everybody can do, and that puts you in a class by yourself.



**THANK YOU, DAVE.**

