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Punch Grinding on a Grand Scale

Punch grinding may seem like a niche grinding application, and it probably is. Which is not to say there are not many players — there are. Just check out any fabricating or forming magazine. But how many of them supply punches for nearly every machine builder? And how many sell aggressively into the global market? Call it a niche, but from where Exacta sits, it's a pretty BIG niche.

SCARBOROUGH, ONTARIO — Noubar Kokorian, plant manager for Exacta Precision Products Ltd., explains that the key to Exacta's success lies in technology and in inventory management sufficient to meet quick turnaround on orders — large or small. "Price, quality and delivery are all on equal footing today," he says. But delivery becomes very important, especially if you're selling into the global market. In any case, if you miss a delivery, you lose a customer. It's that simple."

Setting the pace

Exacta was formed in 1967 for the purpose of manufacturing punches and dies for the metal stamping industry. It grew from a small space in an industrial plaza to a modern 40,000 sq ft manufacturing facility, with satellite operations in Montreal, Quebec and Nashville, TN. Industries we service include the automotive and general metal fabrication (appliance, agricultural equipment, structural, consumer goods, etc). The company has experienced continuous growth since its founding and employs some 180 worldwide, with 140 at the Scarborough site, and maintains a broad cross section of manufacturing equipment, including two Studer S32 punch grinders from United Grinding Technologies (Miamisburg, OH).

The company is highly diversified and supplies press brake tools and accessories, shear blades, clamp work holders for turret presses, laser lenses & nozzles, tapping units, die springs, urethane, die supplies, IEM components carbide products, special tools for punching machines, unitized punching systems, tooling for specialized industries (cold heading tools, for example).

Typical punches are from 0.025" to approximately 4.500 " cutting diameter. We can supply almost any profile that a customer may require.

Exacta manufactures and supplies tooling from 27 different "Catalogues" including tooling for fabricating machinery (Amada,

story by Robin Bergstrum, RYB Communications
photos by Bill Houze, United Grinding

Behrens, Strippit, Trumpf, W.A. Whitney, Wiedemann, Finn Power, Euromac, Raskin, LVD, Nisshimbo, Pierce all, Haco, Pulsa, Pullmax, Iron Worker, Unitized tooling, Whitney and so on). Which is a feat few other producers of punches and dies can claim.

Kokorian says that even their major competitors may manufacture punches and dies for perhaps five or six lines. But nothing comparable to the scope of Exacta's commitment. "We're busy," he says, "and we feel we're setting a standard, one that other producers either can't or don't want to ascribe to."

The competitive edge, I

Kokorian explains that one of the keys to Exacta's competitive edge lies in a well stocked inventory, which at first glance may seem to run contrary to today's lean manufacturing philosophies of holding as little inventory as possible. However, in Exacta's case having inventory is crucial to meeting the demands of all those lines. Kokorian says that the company buys its raw bar stock, does all the required CNC machining, secondary operations, milling, turning and then heat treating. From heat treat they grind the blanks to size and put them in stock. Then, as the orders come in, they pull from stock and finish the specified point, shape or profile.

If for some reason a customer breaks a tool and doesn't have a backup, there's a very expensive fabricating machine or production line sitting idle until Exacta can deliver.

"The pressure's always on," says Kokorian, "but we're set up to be very flexible. We can quickly adapt. We can run different lines of tooling at the same time, but when you make these many lines, you're constantly busy and you've got to be very agile in production."

The competitive edge, II

As important as inventory depth and production flexibility are to Exacta, Kokorian says the real competitive edge is technology. "If we didn't have the technology we have today," he says, "we wouldn't be competitive. Technology is what gives us our efficiency and puts us well ahead."

Kokorian speaks specifically about the two Studer S32 punch grinders. We first heard about the Studer, and then UGT came in and gave us a demonstration, we talked to others who had an S32, and the technology really impressed us. We went to the super-abrasive wheel, because we feel that's the future."

Kokorian indicates that prior to the Studers, they used a different brand of CNC punch grinder. Our company has six cam grinders, three CNC servo controlled cam grinders.

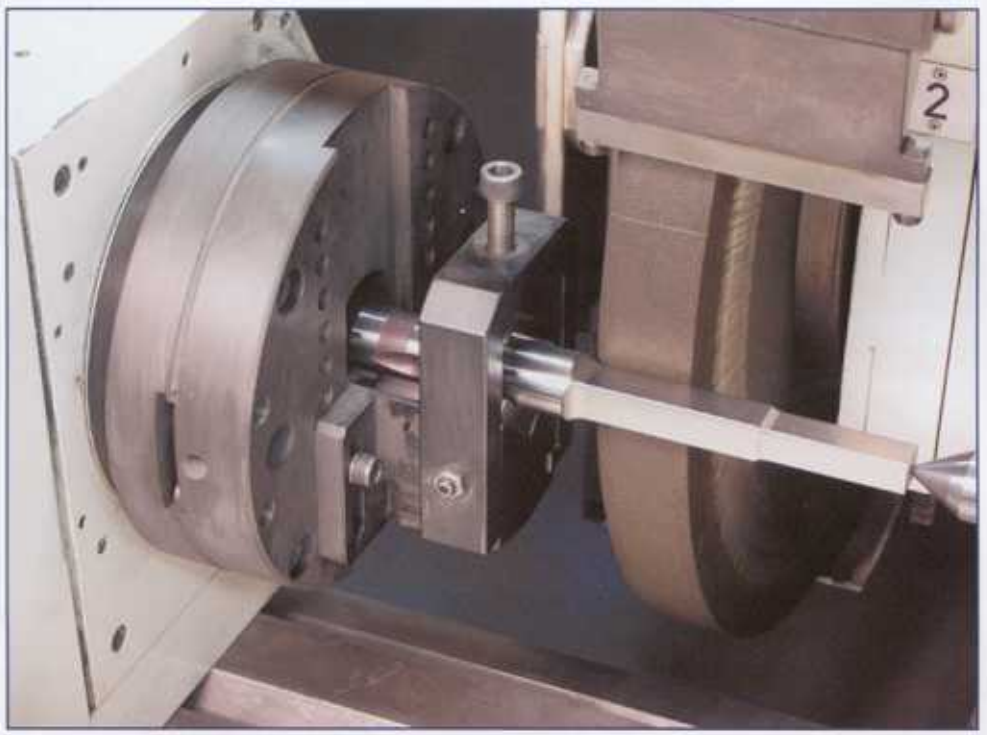
"But since we got the Studers," Kokorian says, "we have reduced our production time by half. And because of the super-abrasive wheel, we have reduced downtime tremendously.

He notes that for a regular CNC punch grinder with aluminum oxide wheels, they'd change the wheel every three days. Downtime was about 45 minutes. "Every three days, we'd have downtime of 45 minutes," says Kokorian. "With the Studer, one wheel lasts about seven months. That means we've reduced our downtime by 34hours. In that 34 hours I can grind many extra punches."

Kokorian also says that due to the S32's special coolant tank with magnetic separator, they don't have to clean the coolant like they do other

machines. The coolant is kept clean all the time, he says. With other machines, they'd normally have to clean the coolant every three weeks, a process that consumes 1-1/2 hours. So, here are further time savings.

And then there is changing the diamond. "With the previous machines, every time we'd change a wheel, we'd change the diamond," Kokorian says. "With the Studer, we don't change the diamond. The Kaiser has been on the machine since we bought it — seven months ago. So if previously a diamond lasted us a week, you're looking at changing 28 diamonds in that seven month period."



He also notes that with the previous machines, they'd have to dress the wheel 0.0050" at every dress, with the Studer, they take about 0.0004" each day and with continuous dressing they don't lose downtime — production — dressing the wheel.

Flexibility

Kokorian says that the Studers have allowed them to tackle jobs more efficiently than previous equipment. Let's say, he says, that they've got a punch with a profile that's about 4" long. They set the part up on the Studer, center it and grind. But not in the usual fashion. They step grind the part. "You see," he says, "the wheel on the Studer in 1.50" wide. The profile is 4". So what we do is plunge, move over, plunge, move over — until we've ground the full profile length. Then the machine is programmed to oscillate, blending the grinding out so that the surface finish is very fine and smooth. We couldn't do this successfully prior to the Studer." The grinding routine for this process is right in the control, Kokorian's stock inventory, is run at the same time as short runs. If the need arises, a long run can be interrupted for a rush job, and then put back on the S32 when the rush job is done — all in a matter of minutes. The Studers are proven production workhorses.

The global issue

An interesting aspect to the Exacta manufacturing strategy is a kind of reverse outsourcing. Many of the parts like those made by Exacta, standards for example, are ideal candidates for outsourcing, especially if delivery is not an issue. Kokorian admits that he's seen a lot of this kind of work going overseas to the Pacific Rim and China. But, he says, we will keep our options open but we will compete on customer service and fast delivery on special tooling.

"We compete in the global marketplace," he says, "and we're very successful. We have representation in Denmark, Germany, Turkey, Sweden, China and Australia, just to name a few. And the orders that come from those countries have just as short delivery demands as the orders generated locally or in North America. We're price/quality competitive."

He notes the value of the Canadian dollar influences his global competitiveness. As long as the Canadian dollar stays relatively steady, Exacta is very price competitive. If the dollar strengthens against other currencies, that will have an expected negative impact. But, Kokorian notes currency fluctuations are just that: fluctuations. Currencies rise, dip and rise again. They're not predictable in the long term.

What is predictable, Kokorian says, is utilizing best technology and a sound manufacturing strategy give Exacta a sizeable competitive advantage, regardless of currency fluctuations.

"We know what we can control," Kokorian says. "Our production

methods, processes and the technology investments we've made. It's this and our employees, not the value of a currency, which has kept us growing every year since we were founded. Those who refrain from investing and in training their employees and advanced technology and don't have serious management and production strategies, as well as developed inroads to the global market, simply won't be competitive in the long run."

Deo Persaud, H.A. White and Noubar Kokorian stand in front of their newest Studer S32.