



Talent and relationship building key to success at **SCHULLER MACHINE & TOOL**



Above: The Mori Seiki DuraVertical 5100 vertical machining center at work on the Schuller Machine & Tool shop floor.

Left: The full Schuller Machine team on the shop floor.

Schuller Machine & Tool (www.schuller-machine.com) could probably be seen as the quintessential Ontario machine shop. The Scarborough, Ont.-based shop is a family business that was launched in 1956 by the father of current owner John Schuller to primarily serve the general machining and die making needs of the automotive industry. Over the years, the company has diversified its customer base and has found new ways to differentiate itself in a changing marketplace.

One of the benefits the shop has is the longevity of its staff. Schuller runs a tight ship, with only five machinists on the shop floor, managing seven CNC machines and a selection of Bridgeports, engine lathes and surface grinders. But when you have a lot of accumulated knowledge in that group, it keeps the floor running smoothly. As Schuller notes, some of the machinists have been with the company for 20 years or more. His pride in the work that his

team does is clear.

And like so many shops, finding new machinists has been a challenge, which makes those that remain that much more valuable.

“We hired someone just last year,” Schuller says, “but it’s harder to find people than machines. It took us about six months to fill that spot. What is great about this new hire is that he is eager to learn and he’s teachable. He’s also someone who can think on his own, and you always need people who can problem-solve on the go.”

That ability to think on your feet is essential when you are as diverse a job shop at Schuller’s is. It provides machining expertise to large and small companies in the Greater Toronto Area, serving the medical, pharmaceutical, automotive, and packaging industries. And the shop works in everything from aluminum, brass and copper, to tool steel and plastics.

“Some plastics are so abrasive that nothing

but a coated carbide drill will penetrate it,” notes Schuller. “And then there are plastics that cut like butter. Others provide big challenges. For instance, some are so thin they have to be properly fixture to get the right finish.”

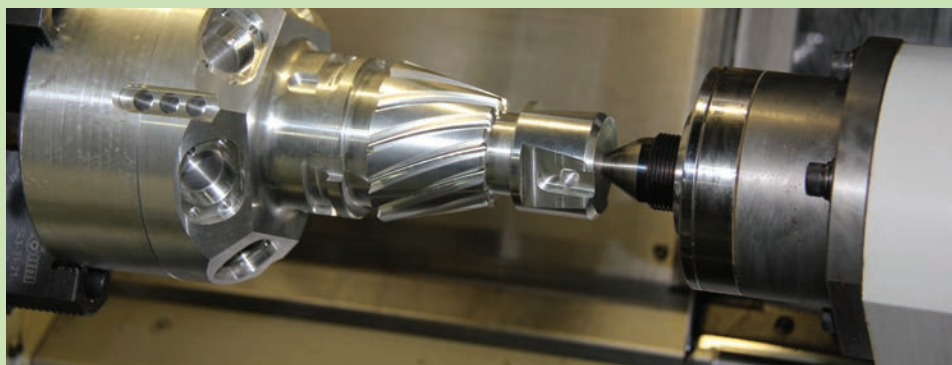
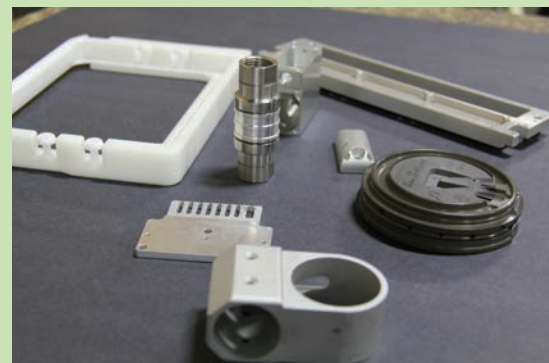
Schuller Machine has just come off its best year ever, and John Schuller really puts it down to the balanced customer base they maintain.

“Automotive is still probably around 10 percent of the work that we do. Food packaging dies probably makes up about 30 percent of our work. And cosmetics – doing anything from lipstick molds to powder pressings. I probably know more about lipstick shapes than most guys,” Schuller jokes. “At some stage, one customer might slow down, but another picks up. Medical has probably been the biggest growth industry for us.”

On the medical side, Schuller has been providing parts for an MRI machine that was developed in Toronto but has since been

Left and right: Examples of products produced at Schuller Machine & Tool. The company works in materials as diverse as aluminum, brass, tool steels and plastics.

Bottom: A part underway on the company's Mazak Integrex 5-axis CNC machine.



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purchased by a U.S. company. Schuller has been providing parts for the machine since it was first conceived and maintains a good relationship with the manufacturer.

Being in on the ground floor with client products has been valuable for Schuller.

"We do a lot of prototype work," says John. "We don't do the design work, but we help with the machining aspects of it – we help customers consider how things can be machined best to keep costs down. That back-and-forth process with the client really helps us develop a relationship with them."

But Schuller and his team don't stop there. Generally, on the shop floor they will take that extra bit of time determining fixturing, to help create further efficiencies in the manufacturing process. "We put a bit of extra time and effort thinking through that part of the process," says Schuller. "When you are using a five-axis machine, like the Mazak Integrex we have, that's not as big a concern. But on all of our other machines, it pays to take that effort and make it just right." And whenever they can help a customer modify a part to improve efficiencies in the process, they do that as well. Again, having a team that has worked together for a while and can communicate these ideas effectively is a definite plus for the shop.

Schuller also invests in new technology regularly, to ensure he can meet his clients' needs.

"That is why we bought our first CNC machine back in the 1980s – we started making more and more complicated parts. And really, the only way to make those parts is using a CNC machine," says Schuller. "Now, we generally invest in a new machine every two years."

Schuller has been partial to Mori Seiki and Mazak machines over the years. His most recent purchase was Mori Seiki's DuraVertical 5100 vertical machining center.

The DuraVertical 5100 vertical machining center is an easy-to-use vertical machining center with a large Y-axis – according to the company, the largest in its class. Dura Series machining centers offer accuracy, power and durability, and have a Direct-Drive Rotary Table (DDRT) for full 4th axis machining. It is also equipped with a 40-taper, high-torque spindle, heavy-duty linear guides and rigid construction. In fact, the machinist operating the Mori when I toured the shop commented on the rigidity of the machine. It also has a relatively small footprint (107.9 x 94.5 in.), which is valuable in any shop setting.

It features an X-axis travel of 41.5 in., Y-axis travel of 20.9 in., and Z-axis travel of 20.1 in.

It has a 30-tool storage capacity, and runs at 12,000 RPM.

"The new Mori is a great machine," says Schuller. "We picked it primarily for maintaining our capacity. One of our older CNCs was acting up and just couldn't be relied upon for the precision we needed, and we knew we could get the quality and precision from this machine." Having a fourth axis was also considered a valuable addition. The machinist operating it during my visit also noted that the mill machines tapers quite easily, and the index head is quick.

Asked about his investment in the Mazak Integrex, Schuller says, "the five axis was to increase our ability to do new jobs. With the Mazaks in general, we like the conversational programming for simpler parts – it's quick and easy to program, and we can get the machine up and running fast. However, for more complex parts we use EdgeCAM, which allows us to post a job to whichever machine we want it to go to."

Schuller Machine is still finding new opportunities in the marketplace. In fact, the company recently completed its first job for the aerospace industry. With the right people, and a keen attention to detail, those opportunities will no doubt continue to come to their doors. [MP](#)