

PHOTOS COURTESY OF DAN'S PRECISION

Precision by Dan's

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This “typical job shop” in Ontario is anything but

THE PROBLEM

Short on space, customer demand rising, but no desire to move to a new facility.

THE SOLUTION

Invest in CNC machine tools with compact footprints and advanced capabilities.

With rents going up and real estate costs seemingly increasing by the minute, manufacturers throughout Canada are looking for ways to fit more equipment into less space. This was the case recently for Dan's Precision Tools Inc., a small shop just outside Ottawa. In early 2018, president Daniel Surprenant decided to purchase his sixth CNC machine tool from GF Machining Solutions LLC (GFMS), a brand known for its compact size, extreme accuracy, and superior metal removal capabilities.

The Mikron HP 450U is a five axis vertical machining centre (VMC) with a 20,000 rpm spindle, 120-tool ATC, seven pallet APC, and a Heidenhain iTNC 530 control. It sits alongside another fairly recent five axis Mikron, this one a UCP 600 Vario, also with seven pallets.



The ease of use of the Heidenhain control on this Mikron UCP 600 Vario is one of the reasons Daniel Surprenant is a GF Machining customer.

MACHINING | Milling



Making the most of available floor space is an important factor in Dan's Precision's success.

Staying in the game

The results have been predictable. Dan's Precision supplies precision machined components, tooling, injection moulds and moulded plastic parts, as well as "simple everyday jobs" to the electronics, military and medical industries. And in part because of the new machinery, the company now brings in more work and earns additional revenue, all of which is good news for Surprenant and his employees. It's the reason behind these investments, however, that may surprise you.

"If you were to draw a circle around my shop one hundred miles in diameter, you'd find that there hasn't been a new shop opened in the past fifteen years, but plenty of them that have closed," says Surprenant. "That's an indication of how things have changed over the years. You're no longer investing in equipment to make a bunch of money or attract new business, but rather investing just to stay in the game. The ones that haven't done so are all gone."

One man, one machine

Many job shops, perhaps even the majority of them, begin in the owner's garage. A manual mill, an engine lathe and maybe a surface grinder and you're off and running. As the business grows and space becomes tight, a facility is leased or a building built to accommodate the need for additional equipment and the machinists to operate it.

Surprenant has largely avoided this path.



Surprenant thanks technology for his ability to increase production and to remain competitive against larger operations.

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Twenty-seven years ago, he left his job as a tool and die maker and went into business for himself, starting in the outbuilding behind his house. And like other small business owners faced with the scenario just described, he soon found himself wondering how he was going to shoehorn in yet another machine tool.

But faced with getting into the truck every morning and driving to an industrial park somewhere, never mind the expense of investing in a new facility, Surprenant chose to make the most of his available space by filling it with space saving yet world class equipment from his local GFMS distributor and service provider, Machine Tool Systems Inc.

Smart growth

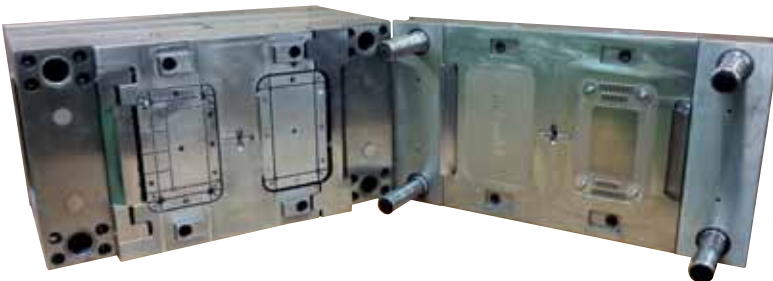
Granted, he's expanded his shop since those early days. The original two car garage is now a 464 sq m building (5,000 sq ft), but it's still behind the house, not far from the swimming pool and the deck where Surprenant enjoys his Ontario summers. And the 12 employees he once had are now down to six, though the company has continued to increase production since the day it was opened.

Surprenant thanks machine tool technology for this, technology that began with the purchase of his first five axis machining centre in 2006, this at a time when few shops were prepared to grapple with the complexity of multi-sided machining, let alone teach themselves how to program and operate such equipment. But that's exactly what he did.

"That first five axis machining centre was my third piece of CNC equipment," he says. "We went from conventional three axis milling to



Another recent machine, the UCP 800, was purchased to accommodate larger five axis work.



Shown here is a plastic injection mould, one example of the broad array of products made at Dan's Precision Tools Inc.

THE MACHINE: HPM 450U

Work Area (XYZ): 600 x 450 x 450 mm
(24 x 18 x 18 in.)

Table diameter: 450 mm (18 in.)

Max. table load: 150 kg. (330 lbs.)

Spindle rpm: 12,000 std. (20,000 opt.)

Tool magazine: 30 std. (up to 220 max opt.)

Max feedrate (XYZ): 15 m/min (590 ipm)

Rapid traverse (XYZ): 22 m/min (866 ipm)

3+2 work and now do five axis simultaneous as well. It takes a different way of thinking, but the result is that you have much less work sitting around waiting for the next operation. You can also be much more flexible to changing customer needs. Five axis got the company moving forward. It was definitely the right thing to do.”

Since that time, Dan's Precision has continued to invest in five axis technology. What was a disparate collection of manual equipment and ten CNC machining centres is now five machining centres and a sinker EDM, all from GFMS. Aside from the HP 450U and now three UCP 600 Vario five axis machines, there's also a UCP 800 Duro for the larger work.

Fierce competition

Surprenant and his employees enjoy the Heidenhain control's ease of use, which in addition to the quality of the equipment has been a big factor in his repeated purchases of GFMS equipment. He says the pallet changers have made it possible to set up one job while another is running, greatly reducing downtime and increasing flexibility. The machines' spindle probing further shortens setup times as well as supporting lights out production. It's the automation, however, that has had the biggest impact on shop profitability.

Says Surprenant, “we now have two pallet changing machines, each with 120 tools. That's what allows us to operate round the clock six or seven days a week, much of it unattended, and why over the years we've been able to reduce headcount while greatly increasing our output. It's allowed us to keep up with tighter cost demands and tighter deliveries, while the machines deliver the higher performance that we have now come to expect. What's left of the competition around here is fierce, and you have to give yourself an edge everywhere you can. That's what these machines have done for us.” SMT

www.dans-precision-tools.com

www.gfms.com

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