

# The art of machining

WENDY HELFENBAUM  
SPECIAL TO THE GAZETTE

**A**mélie Chiasson began designing and sewing her own clothes at 9, and dreamed of a career in high fashion. But at 17, she had an epiphany.

"I realized that fashion design wasn't a very stable field, so I asked myself how else I could work creatively with my hands. I figured if I could follow a sewing pattern, I could follow a pattern to make parts of an airplane," Chiasson said.

She enrolled in l'École des métiers de l'aérospatiale de Montréal (ÉMAM)'s two-year machining-techniques program and, right after graduation, she landed her first job as a machinist for Jermac Précision, a Brossard-based provider of machined parts to leading companies such as Pratt & Whitney.

"One of the things I love about being a machinist is we can make parts for all kinds of industries — aerospace, trucking, or the paper industry," Chiasson said.

"The drawings I follow as a machinist are similar to sewing patterns. Machining is similar to woodworking, but using steel or aluminum. Wood is soft, so you can hammer it into place, but you can't do that with steel; you have to be very precise to be sure the parts fit together. We work with one-tenth of an inch precision, which is thinner than a piece of paper."

Chiasson appreciates analyzing a part's complexity and being able to make it from scratch.

"The parts we make for the aerospace industry are often very complicated, otherwise they'd use a mould to make 1,000 of them," she explained. "But a steel or aluminum part made from a mould might have air bubbles in it and won't hold together — especially if a part vibrates. When we make parts for the industry by hand, the walls are really, really thin."

Chiasson spent four years working on a variety of projects for different industries while at Jermac Précision before becoming a machining-techniques instructor at ÉMAM.

When Chiasson attended 16 years ago, one student out of 20 was female. Today, Chiasson is delighted to see more young women among the new generations of machinists.

"I really enjoy explaining things, passing along my passion for what I do, and helping students learn by showing them the precision required and how to use different technologies, such as Computer Numerical Control machine tools," she said.

Chiasson also works with aerospace employees on site at companies like Bombardier and Pratt & Whitney, training them on new machines. She said craftsmanship is at the core of every project she takes on.

"When I tell people what I do, they might not see it as art, but machining is very creative work — choosing which angle to begin with, how to shape the final product. You have a lot of freedom."



COURTESY OF AMÉLIE CHIASSON

Amélie Chiasson is a machining techniques instructor at ÉMAM (l'École des métiers de