

Quebec camera accessory designer and manufacturer solves a problem that many would like to have

In Focus

THE PROBLEM

Rapid growth with no end in sight

THE SOLUTION

Expand production capabilities with a horizontal machining centre

PHOTOS BY DAVID AFRIAT



SHAPE uses quick-change vises from Chick to keep setup times low on the Okuma machines.

Thirty percent growth year after year. An ever-expanding customer base. High marks from the community you serve. These are a few of the goals shared by all manufacturers, but when there's not enough capacity to keep up with demand, action must be taken lest those customers turn elsewhere.

This was the situation faced by Jonathan Brouillet, manufacturing director at SHAPE wlb Inc. It was nothing new. In his five years with the company, he'd repeatedly dealt with the challenges and opportunities that come with rapid growth, and the choice was simple: subcontract the work to others, or invest in yet another machine tool to keep it in-house. Brouillet and the team opted for the latter, an Okuma MB-4000H

horizontal machining centre from distributor EMEC Machine Tools.

Pleasant problems

As long as there are movies to make and interesting things to take pictures of, people will want high quality cameras and camera support equipment to take them with. Yet holding a camera hour after hour can be tiresome work, which is where SHAPE comes in; the company offers a wide array of specialized camera equipment and accessories that make video and photo cameras easier to operate.

Unless you're a professional filmmaker or photographer (or have a moderately expensive hobby), you probably won't recognize many of the



The SHAPE brand is also popular among "prosumers" looking for affordable yet professional-grade camera rigs and accessories.

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products made by SHAPE's team, accessories like the Patented Revolt Push-Button Magic Arms, the Top Handle Hot Shoes, and the Camera Bridgeplate with Sliding Dovetail Riser. In all, SHAPE makes more than 1,000 unique parts, and supports most of the professional grade video and photographic equipment on the market. Camera stabilizers are big with SHAPE, as are the rigs and mounts, grips and baseplates produced by this 10-year-old company.

Thanks to substantial investment in its three horizontal machining centres (HMC) and the tooling needed to support it, the company has managed to bring a fair amount of its work in-house. Its most recent machine tool—the Okuma MB-4000H—is a 15,000 rpm, 400 mm pallet HMC, and the second machine at SHAPE sporting the Okuma logo. “Our first one was an MB-5000H, which we purchased a little over three years ago from EMEC in Mississauga,” Brouillet says. “Then, we moved to a new 15,000 sq ft facility in Chambly last summer. That gave us more floor space to work with, and with business continuing to grow, we decided it was time for another machine.”

From The Last Hope to Fury Road

It all started on eBay. President Mylène Girard together with co-owner and husband Charles Vallières began designing and selling camera supports out of their basement. “Neither of them had any manufacturing experience,” Brouillet explains. After encountering an equipment problem while shooting a documentary “À hauteur d’homme,” the couple took a few days off from their jobs to build a prototype for a new kind of camera support, using plumbing parts and other materials from their local hardware store. The director and crew tried it on location and were very happy with the stability and comfort of the rig. Word quickly spread and others in the industry began asking for their own rigs. SHAPE wlb (short for Shoulder Handle Adjustable Portable Equipment together with their three children's initials, William, Léa and Bianca) was born.

“It grew from there,” he says. “Girard and

Jonathan Brouillet says he selected the Okuma machines because they can handle the complex work required to produce his camera accessories.



SHAPE's Okuma machines boast 15,000 rpm, 64 tools, and through-the-spindle high pressure coolant.



SHAPE wlb manufacturing director Jonathan Brouillet.

Vallières soon realized they were onto something, and decided to pursue it full-time. Every year, their customers asked for more and more. Back then, everything was subcontracted to other machine shops, and then five years ago we bought our first machine tool.”

Today, SHAPE employs 30 people. It sells its high end camera equipment and accessories to both amateur and professional camera operators in film and TV production around the globe. Filmmakers used a SHAPE Shoulder Rig in the filming of the Peter Williamson drama “The Last Hope” as



SHAPE wlb has designed and regularly machines more than 1,000 unique part numbers.

well as in the documentary “À hauteur d’homme,” from the cinematographer Jean-Claude Labrecque. The dark comedy “Furieuse” used a customized DSLR camera rig from SHAPE, and the dialogueless television series “LOL” uses a SHAPE 8000 V-Lock Quick Release Baseplate and VCT Tripod Plate for filming. And for fans of “Mad Max”, SHAPE Telescopic Handles with ARRI Standard Rosettes helped make the movie “Fury Road” possible.

Breaking the vertical mould

Many shops opt for a vertical machining centre as their first machine, thanks to a lower price tag and greater availability of operators familiar with their use. So, why the decision to jump feet first into horizontals?

“I sold CNC machine tools before coming to work here, so I’m very aware of the benefits that horizontals bring to the

shop floor,” he says. “The cost is not much higher than a vertical machining centre, and the pallet changer and 4th axis is already built in, easily offsetting the price difference. You get so much more for what, maybe \$50,000? The spindle availability is far greater because you can load parts while the machine is running, never mind a more robust, accurate machine construction. Why buy a vertical? I just don’t get it.”

SHAPE’s horizontals run around the clock. Most of what they produce is made of 6061 or 7075 aluminum, which makes tool management much easier, as well as providing a more hands-off operation—for the most part, only one person is needed to keep all three horizontals running, Brouillet says, and the 64-tool magazine carries enough tools to machine everything produced in-house.

Keeping it simple

Each of the machines is equipped with Chick quick-change vises that were designed specifically for horizontal applications. Hydraulic or milling chucks are used for the most part, along with ER collet chucks for drills—Brouillet says he prefers Sandvik tooling, but uses whatever is most appropriate for the job. Production quantities are typically in the low hundreds, although some of the company’s larger parts might require a full 24 hours to machine a lot of 40 pieces. High pressure coolant (HPC) is also used, with the two Okumas operating at 270 psi, and the third horizontal boasting 1000 psi, allowing small holes to be drilled up to 20x diameter “with no deflection” at feedrates of 3,500 mm/min (140 ipm).

“I like to keep things simple,” he says. “We looked at shrink fit tooling, but that’s probably overkill for what we do here. The same with offline presetting. I ordered the machines with enough capacity that we don’t have to change tools very often. And, I always go with high end tooling. If you buy a cheap end mill, it’s going to break at the worst possible time. It’s pretty easy to do the math. That’s why we bought the Okumas.” SMT

THE MACHINE:

Pallet Size:	400 x 400 (15.75 x 15.75)
X Axis Travel:	560 (22.05)
Y Axis Travel:	560 (22.05)
Z Axis Travel:	625 (24.61)
Rapid Traverse:	60 m/min (2,362 ipm)
Spindle RPM:	50 – 15,000 (20,000 opt.)
Spindle Power (Cont./Inter.):	26/18.5 kW (30/22 hp)
Tool Capacity:	48 std. [64/110-218 opt.]

www.emecmt.com
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