

CAM Software Helps Shop Eliminate the Middle Man

As the saying goes, when one door closes, another opens. Such was the case for Steve Molina and Jeff Krause, who, when they anticipated its imminent failure, left their previous employer to start their own business in Santa Barbara, California. From their work experience, the men knew they would need to invest in GibbsCAM software by 3D Systems (Moorpark, California) to enable their new company, GizzMoVest, to reduce lead times and grow.

In 2011, Mr. Molina, a manufacturing engineer, became president and CNC programmer at GizzMoVest, and Mr. Krause, a design engineer, became the vice president and lead designer. The men leased a 4,000-square-foot facility, designed a front office intended to impress, began hiring coworkers from their recent past employment and installed the equipment necessary to become a one-stop producer of drop-protection cases for sensitive and valuable instruments. With orders in hand from pre-testing their product, the shop soon filled with welders, vertical and horizontal band saws, drill presses, polishers, grinders, fixed grinders, glass-bead polishers, compressors, laminators, thermo-forming presses, hand tools,

and even industrial sewing machines. The cornerstone was a Haas VF-2 machining center, which they soon traded for a Haas VF-3 Super-Speed with a 24-tool changer and 40-by-20-by-25-inch work envelope to accommodate larger products.

Mr. Molina chose GibbsCAM to drive the machines largely based on his experience searching for CAM software for his previous employer. There, he had identified an opportunity for major lead-time reductions and profit growth, so he proposed moving all outsourced moldmaking in house and began a search for CAM software. At the Westec trade show, he spoke with CAM vendors who later visited the company and presented canned demos on their laptops. Unsatisfied with their sales pushes and inability to answer complex questions or requests, Mr. Molina says he wanted the vendors to program a part. None did this until a GibbsCAM representative came and read a part file into GibbsCAM, created a program that included tool changes and machined the part on a three-axis Bridgeport with Accu-Rite control. "I was impressed," Mr. Molina says.

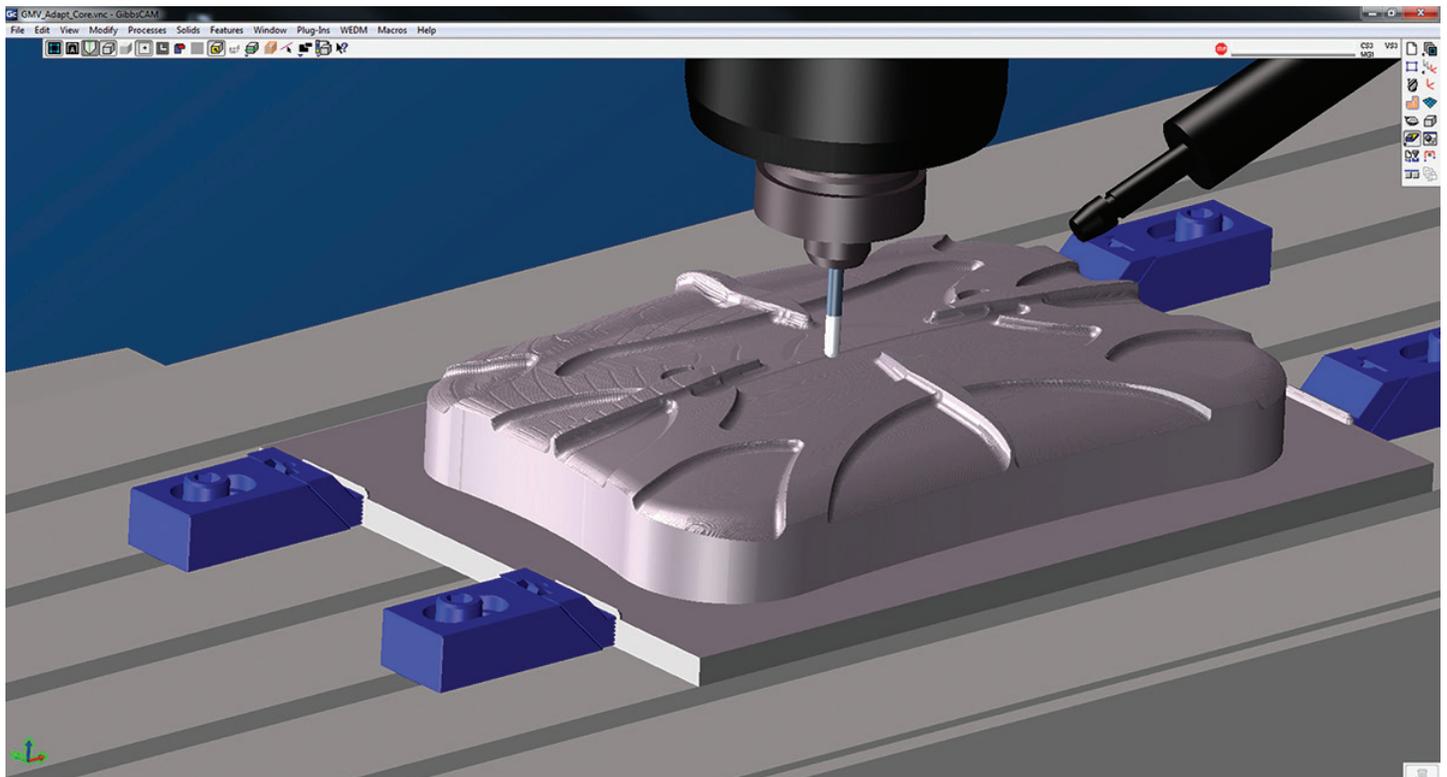
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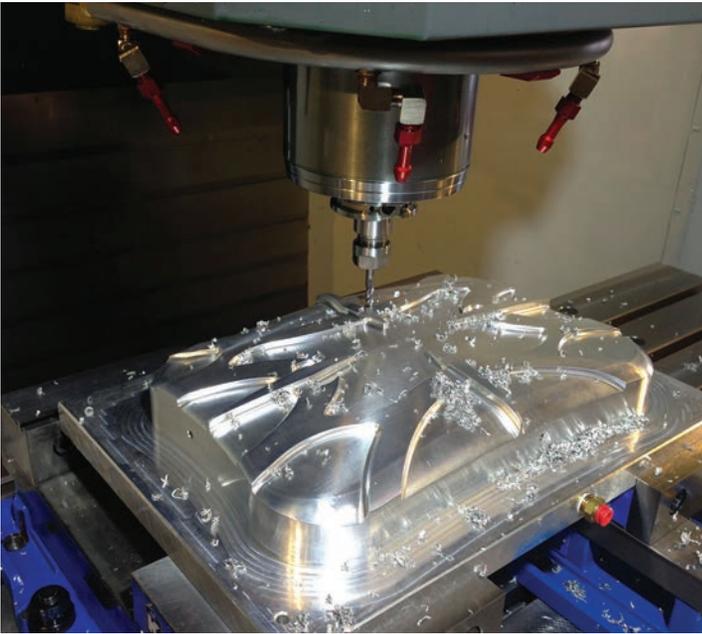
PROBLEM Needed to reduce lead time for company growth

SOLUTION GibbsCAM software by 3D Systems

RESULTS Enabled unattended machining, reduced lead time

Steve Molina never does test cuts. Instead, he relies on the accuracy and reliability of GibbsCAM Cut Part Rendering, which verifies tool paths, shows surface finish, and is executable for individual tools and operations, groups of these or the entire job. Here, the rendering shows making a second pass on a section of GizzMoVest Adapt case mold core.



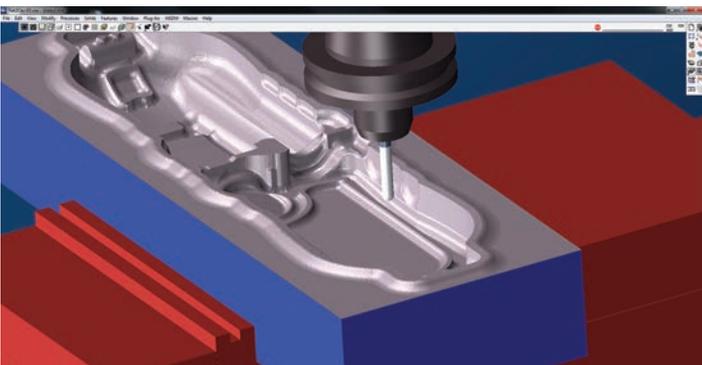


This aluminum mold core for the Adapt case was machined lights out on a Haas VF-3 Super Speed in 19 hours and 20 minutes.

Laying the part on his boss' desk, Mr. Molina won approval for GibbsCAM. Aside from quick results, he says he was impressed by GibbsCAM's interface, because his work stayed on the same page, on the same screen. "Any time tools, machining styles or design modifications were needed, my part stayed right there. No opening screens, flipping pages or confusion. Menus dropped down when I clicked on what I needed. The rendering, the tool changes and the toolpath verification were all right there. It was very easy to use. I was able to finish jobs in minutes. The experience was fully positive. I knew I could make money for my boss," he says.

Weeks later, emphasizing the success, Mr. Molina told his boss, "Even while sleeping, you are making money, running machines with lights out."

Now, he continues to achieve positive results with GibbsCAM at GizzMoVest. Companies accustomed to outsourcing molds, thermo-



GibbsCAM Cut Part Rendering verifies tool paths and displays surface finish at one step of the machining process in making a smaller mold. This one is for the front and back of a case for a GPS and dog-tracking device. Many GizzMoVest cases incorporate a living hinge formed by the near-center high features in the molding process.

forming and assembly can send all that work to GizzMoVest, which can provide finished cases in three weeks, sometimes two, he says.

With longer projects, Mr. Molina takes pleasure in receiving a final mold design from engineers who have worked for weeks perfecting a product and showing them a finished mold cavity 16 hours later. "They give me finished designs at the end of the day, and think they'll keep me here all night," he says. "But I am so efficient with GibbsCAM that I quickly program a job, get it on the Haas, hit 'start,' turn the lights off and go home. GibbsCAM truly lets me sleep at night."

Efficiency comes from his expertise with GibbsCAM. For example, the machining processes used for any project can be associated with specific tools or machining styles, and reused. When needed processes or tools are nearly the same as a previous job, Mr. Molina loads the new part model on the saved file, makes changes, clicks "redo" and is done. Sometimes he can complete programming only minutes after an engineer gives him a SolidWorks file.

Although all the company's molds are aluminum, getting smooth finishes and sharp corners can take hours. On smaller molds, radii are tiny, Mr. Molina says. "When you're down to a 1/32-inch ball end mill, you kill time, especially engraving customer logos, which need to be sharp. They are nearly always on a curve, often a 3D surface. When they curve in two directions, there goes cycle time."

GizzMoVest makes up time by never taking test cuts. According to Mr. Molina, his machines have never crashed, he has never broken something, and he has never cut across his part. He starts a job on Friday evening and comes back Monday morning to a finished part, with the machine off and in the home position, and the last tool back in the changer. He considers GibbsCAM's Cut Part Rendering toolpath verification utility as his test cut. Since it is always available, he can run it for single-tool operations, multiple operations or the whole job. "If I could not see the finished job on screen, I would have to stand by the machine all the time," he says.

Half of GizzMoVest's business is from device manufacturers, with the balance coming from consumer sales and military work. Serving as both protective and presentation enclosures, OEM products include cases for Lockheed Martin drones, Q-Optics medical binocular-loupes, equine ultra-sound veterinary equipment from Sound, and Mr. Speakers' professional audio headphones. Direct and distributed products include cases for Garmin, Flir, Delorme and SportDog GPS devices; hoverboard cases; and the all-purpose, briefcase-sized GizzMoVest Adapt Case.

With 10 employees, and many jobs in prototyping, Mr. Krause says the company will double in size within 18 months. He says its refusal to compromise on quality is a key advantage, along with fast delivery and doing everything in house with fully empowered employees.

Haas machines and GibbsCAM software continue to be central to success. "My experience with GibbsCAM remains fully positive," Mr. Molina says. "I cannot quantify what it has done for us. Because of it, we do not outsource, so I could say it cut weeks, even months, off delivery, and helped us achieve and maintain quality. For sure, GibbsCAM lets me go home at night. I could never recommend anything else." ■

GibbsCAM by 3D Systems, call 800-654-9399 or visit gibbscam.com.