

surfcam

BJB Enterprises

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Surfcam is a market leading computer aided manufacturing (CAM) system for NC part programming. With unparalleled ease of use and sophisticated toolpath generation, it's the only CAM system you'll need for milling, turning and mill-turn machining.

BJB Enterprises

Casting and Mold-Material Specialist BJB Enterprises Eliminates Outsourcing and Increases Efficiency with Surfcam Traditional

Eliminating outsourcing removed a production obstacle for BJB Enterprises, a producer of casting and mold-making materials and components that adopted CNC machining to cut out the middleman.

"Most of the components that we make we would have to send out to job shops," says CNC Programmer Joe Castillo of BJB Enterprises, based in Tustin, Calif. "Without the outsourcing, turnaround time is a lot faster, and we don't have to count on someone else to come through."

Founded in 1970, BJB is an ISO-certified leading manufacturer and supplier of thermosetting polyurethane, epoxy and silicone systems. The company also manufactures hand-held and production meter-mix-dispense equipment, vacuum pump systems, and rotational casting machines — all of which can be customized to meet specific needs.

Serving a laundry list of industries — including aerospace, automotive, electronics, medical, rapid prototyping, production manufacturing, foundry/pattern, sports, and arts and special effects, among others — BJB has carved a niche serving both professionals across the board.

BJB eliminated outsourcing in 2011, when it purchased the Surfcam Traditional computer-aided-manufacturing (CAM) solution, by Vero Software, and acquired a Haas VM3 mill and a Haas ST-20 lathe, both of which are programmed and operated by Castillo. Prior to using Surfcam, he had never used CNC software or machinery.

"Coming in with zero manufacturing experience, the learning curve was challenging for me," says Castillo, who received training for Surfcam Traditional and was able to quickly grasp the art and science of programming. "Once I understood Surfcam, I was able to make it do everything that I need it to do."

Among components manufactured by BJB are replacement parts for dispensing equipment, some of which are used to mix and meter dispense materials. The company also manufactures manifolds and lids for dynamic material mixers, and lightweight components for race-car fuel tanks.

BJB most commonly machines components in materials such as aluminum, hardened steel, and Teflon, but also works with softer materials and, surprisingly, wood.

"What we machine just depends on what needs to be done around here," Castillo says.



About The Company:

Name: BJB Enterprises

Business: Worldwide manufacturer and supplier of thermosetting polyurethane, epoxy and silicone systems, hand-held and production meter-mix-dispense equipment, vacuum pump systems, and rotational casting machines

Website: bjbenterprises.com

Benefits Achieved:

- Elimination of outsourcing to machine shops
- Ease of interoperation with CAD software makes it simple to incorporate design changes
- Increased overall efficiency and ability to respond to the shop's diverse needs

Comments:

"Once I understood Surfcam, I was able to make it do everything that I need it to do."

Joe Castillo, CNC programmer

"We make replacement stuff for everything we have. For some things, you can't get parts because they don't make them anymore, so it's great that we can make them."

To perform design work for equipment that the company uses in house, Castillo uses the SOLIDWORKS® computer-aided-design (CAD) solution, by Dassault Systèmes. Castillo is able to easily open a SOLIDWORKS file from within the CAM interface, a time-saving feature that makes for a seamless integration between the two systems.

Due to the powerful associativity between CAD and CAM, changes made to SOLIDWORKS design models are automatically identified by Surfcam Traditional, which offers to regenerate the affected toolpaths within the Surfcam Operations Manager.

"When I open up Surfcam, I can just go into the folder where the SOLIDWORKS parts are and bring it right into the software, but I also have the option to draw in SOLIDWORKS or to use the design capabilities of Surfcam to draw."

Surfcam Traditional's 3-axis milling capabilities include the Z-level roughing strategy, a cycle that performs tool movements along the X and Y axes, using Z-axis increments to remove large amounts of material.

Many users also take advantage of Surfcam's Z Finish toolpath, which is capable of cutting multiple surfaces by using a 2-axis (X and Y) contour cycle in Z-axis increments. The Z Finish cycle is best utilized for cutting surfaces or areas that are steeper or close to being vertical.

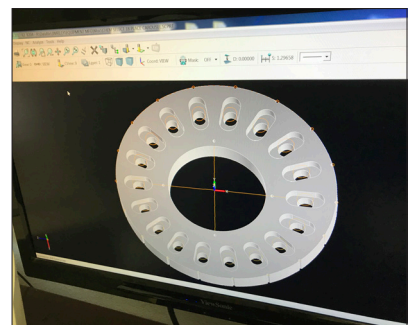
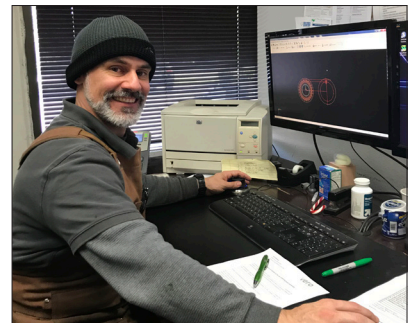
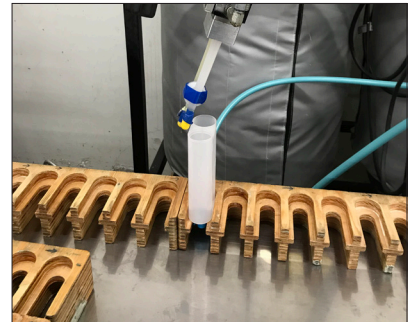
"I'm always trying to be faster, because time costs money and the time spent machining could be spent doing other things," says Castillo, who consistently reprograms the company's older parts to ensure efficiency.

Reprogramming older parts also helps to ensure a high level of standardization and repeatability, and users of Surfcam Traditional can take advantage of tools within the software to establish and enforce company standards.

Surfcam Traditional's custom-tool creation function is a tool that helps to implement standards and increase efficiency. This tool allows users to define any custom tool profile with simple 2D geometry. Once saved, custom tools are represented as 3D cutters and can be used in the graphical toolpath editor — a feature that allows programmers to graphically edit toolpath — back-plotter or verification, allowing for accurate material removal simulation with custom tools.

At BJB Enterprises, a mission to continuously integrate new methods for greater efficiency is an ongoing challenge that Castillo is more than happy to meet.

"We always have new challenge, which means that it's not the same thing every day — and that's why I'll never leave."



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Joe Castillo
CNC Programmer
BJB Enterprises

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