

# ALIEN MACHINE WORX BUILDING A BETTER OFF-ROADING EXPERIENCE WITH SOLIDWORKS CAM

Case Study



Alien Machine Worx relies on SOLIDWORKS CAM machining software not only to improve the machine shop's competitiveness by keeping the spindles turning, but also to develop its own line of specialized components and accessories for off-roading vehicles.

### Challenge:

Improve machine shop and product development efficiency by integrating design, simulation, and machining solutions.

### Solution:

Add SOLIDWORKS CAM software to its existing SOLIDWORKS CAD and SOLIDWORKS Simulation installation.

### Results:

- Doubled machine shop size in two years
- Tripled machining throughput
- Cut toolpath programming time from four hours to 45 minutes
- Maximized machining uptime

Tim Fulton was just a kid in the 1980s watching “The Fall Guy” television series, about a group of stunt people who moonlighted as bounty hunters, when his passion for off-roading began. He actually started off-roading—driving or riding a vehicle on unsurfaced roads or tracks made of materials such as sand, gravel, riverbeds, mud, snow, rocks, and other natural terrain—at age 16. Fulton started off-roading in a beat-up 1970 Chevelle. His passion for the sport, which has become a lifelong pursuit and a burgeoning business, continued to grow with the Toyota truck that he got at age 17.

Fulton founded Alien Machine Worx as a machine shop in the garage of his California home in 2004, and for many years did manufacturing contract work for customers in a variety of industries. However, Fulton’s love for off-roading, combined with the help of his three sons, who work for him, and the efficiency provided by integrated SOLIDWORKS® design and machining solutions, prompted him to develop and launch the company’s own line of off-roading automotive components—ranging from differential covers, breather manifolds, and hubcaps, to billet knobs for shifters and sunshields—in 2017.

“I’ve used SOLIDWORKS design software ever since I established the machine shop because it’s easy to use and can handle just about any CAD or data formats that come through the door,” Fulton explains. “For customers who don’t have data but have sketched their ideas out on paper, it’s easy to use SOLIDWORKS to model the part and produce the data from which it can be machined. And when I decided to create, produce, and sell Alien Machine Worx products, using SOLIDWORKS to develop them was really a no-brainer.”

Alien Machine Worx’s experience using SOLIDWORKS modeling tools over many years—and SOLIDWORKS Simulation tools during the development of the company’s rugged, functional differential cover—was the reason that Fulton was one of the

first customers to purchase integrated SOLIDWORKS CAM machining software when it was released in 2018.

“I love SOLIDWORKS, so I knew that SOLIDWORKS CAM [powered by CAMWorks®] would make a dramatic difference when it comes to toolpath programming,” Fulton explains. “Having access to integrated SOLIDWORKS CAM capabilities has really made a difference in helping us launch our product line, fulfill orders quickly and cost-effectively, and improve our competitive position.”



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— Tim Fulton, Owner, Alien Machine Worx

### BOOSTING COMPETITIVENESS WITH SOLIDWORKS CAM

After implementing SOLIDWORKS CAM, Alien Machine Worx improved its competitiveness, accelerating toolpath programming and facilitating the handling of design changes. “SOLIDWORKS CAM is literally a night-and-day difference when it comes to programming,” Fulton says. “Without an integrated CAM system, it can take four hours to program a toolpath for machining. With SOLIDWORKS CAM, we can program and turn around a quote on a part in 45 minutes.

“We also can make design changes without having to re-program,” Fulton continues. “When a design change is requested to a part that has already been programmed, we only need to make a change to the model—like changing a dimension from 11 to 13 inches. With other systems, that change would require going back to square one to re-program the entire toolpath. With integrated SOLIDWORKS CAM, we only need to make the change to the model, and the toolpath programming automatically updates. This gives us a real competitive advantage because most machine shops add programming time to their quotes, when we don’t have to charge for programming time at all.”



## KNOWLEDGE CAPTURED IN TOOLING DATABASE

Another benefit the company has realized in using SOLIDWORKS CAM is the ability to capture and embed the firm's machining knowledge within the solution's technical database. "The CAM capabilities in SOLIDWORKS are not only intuitive but also enable capturing technical knowledge on frequently run or difficult-to-machine parts," Fulton notes.

"This makes it much easier for my sons to get through the software, and I can embed my knowledge within SOLIDWORKS CAM's technology database," Fulton adds. "With this capability, my sons only need to select what I've done on similar parts or a specific part and apply it to the model that they are working on. This saves time while maintaining quality."

## KEEPING SPINDLES TURNING TO SUPPORT GROWTH

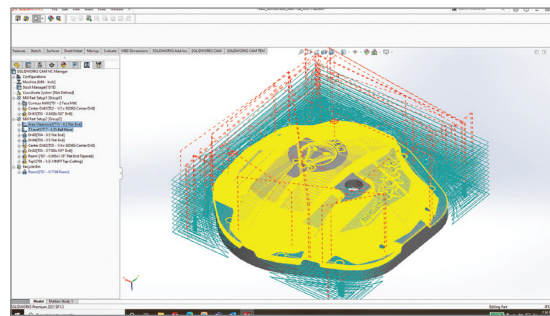
Since implementing SOLIDWORKS CAM software, Alien Machine Worx has doubled the size of its shop and tripled its machining throughput, resulting in a period of rapid business growth. "We've been growing dramatically because SOLIDWORKS CAM helps us to maximize uptime and turn quotes and parts around a lot quicker than competitors, even if it is a part that we've never seen before," Fulton says.

"For us, it's all about keeping the machines running and the spindles turning, and SOLIDWORKS CAM is helping us do that," Fulton stresses. "Our products are selling, our contract machining business is growing, and SOLIDWORKS CAM is helping us both manage and sustain growth."

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With the greater efficiency provided by SOLIDWORKS CAM, Alien Machine Worx has doubled the size of its shop and tripled its throughput, providing the bandwidth that the company needed to launch its off-roading product line, including the differential cover shown here.



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