

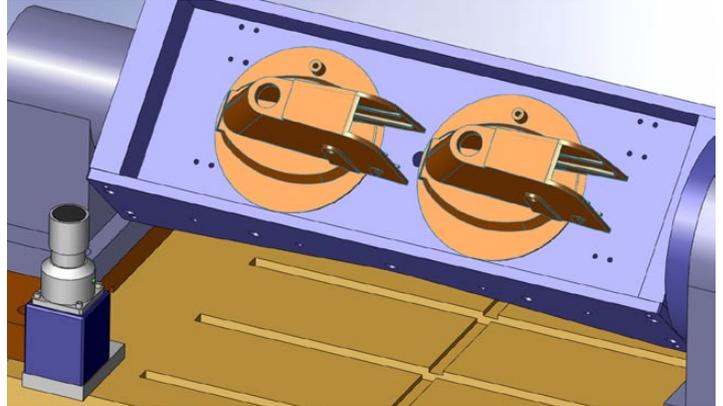
# PRODUCTIVE



## Longmont Machining Cutting Edge with SolidCAM

### Vesting in a new tooling platform yields high-tech advancements

*An investment, by definition, is putting revenue back into your operations for further growth. Not long ago, Longmont Machining spent healthy sums on upgrades and maintenance for its traditional CAM software, but Sales Engineer Kevin Curtis thought the company should be getting something more back for this investment. In terms of software, this meant getting innovative features for better visualization and faster performance.*



ATEK assembly designed by SolidWorks

“We took the time to evaluate the top CAM systems a few years ago.” Curtis recalls. “For years, we have been using MasterCAM in our 45-employee Colorado machine shop. I felt that the dollars that we spend on updating to new versions weren’t being used to re-invest in technology. The new releases didn’t seem to facilitate programming and make the application easier to use.”

Longmont Machining has grown into one of most successful shops in the region, drawing customers from the Front Range’s high-tech beltway, and attracting nationwide clients in automotive, medical, and consumer electronics: 3M, StorageTek, HP, Seagate, among others. In addition to typical “job shop” prototypes, Longmont Machining takes on large manufacturing runs – up to 50,000 units per month. Its experience and equipment to perform advanced processes like dipso technology – magnesium-based injection molding – gives its manufacturing clients a heavy-duty platform for electronic devices.

About a year ago, Longmont Machining invested its software dollars in a new CAM system.. After a thorough evaluation Curtis decided to gradually change the shop over to an entirely new tooling software platform, SolidCAM. Although such a decision appears difficult to implement, a few aspects of SolidCAM made the transition surprisingly easy.

#### **No Seams with SolidWorks**

At the time, says Curtis, Longmont Machining was making a move towards adding design

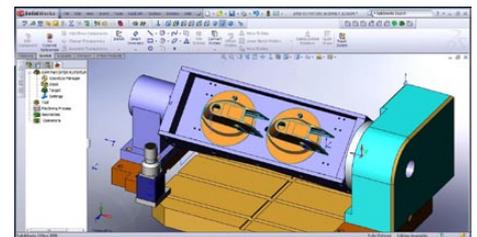
services along with its mold creation and casting. “We started to get pretty fluent in SolidWorks, which was a new development for us. Adding SolidWorks to the company started to open a lot of doors for design work. We do a fair amount of design now, offering these services along with manufacturing the product, all in a very compressed lead time,” he says. “Customers can now get everything under one roof.”

Curtis read about the innovative SolidCAM system, which is completely integrated in the SolidWorks modeling environment. “I got the demo to see how it worked. SolidCAM was a lot more intuitive. The continuity between SolidWorks and SolidCAM was very close.”

“The integration with SolidWorks meant that our learning curve for the new CAM was very short. Within one or two weeks we were off and running, and doing very complex parts,” says Curtis. “I think the reason SolidWorks modeling has had so much success and is so widely used is its ease of use. SolidCAM works on that same philosophy.”

#### **“Easy to Use” means less training**

Curtis has been very impressed by the short learning curve of the new SolidCAM system. “The person we are training now, originally only knew our traditional CAM system. Recently, we decided he should get familiar with SolidCAM; he programmed his first two or three parts on his own with very minimal support from us, just using the online tutorial. I think that speaks volumes



Machining of a complex part with SolidCAM



Finished part

for SolidCAM,” he says. “You can take a guy who doesn’t have a lot of programming experience and he can immediately understand the interface and start to use it. SolidCAM simply gives you a better picture of what the output is going to be like, before you send it to the machine tool.”

Curtis explains: “With SolidCAM, you basically have just one screen. All your information is readily available in front of you. Once you learn how to use it, you start to have a



Robert Laverentz, designing a custom trunion for a Haas rotary table with SolidWorks

strong confidence about your programming. With SolidCAM, new users are getting parts out right the first time. You have to attribute that to the software."

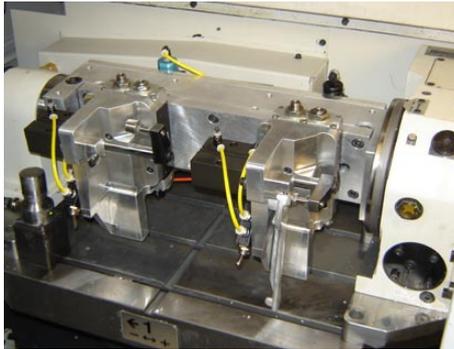
### **Full Associativity reduces errors**

Today SolidCAM is used for 100 percent of Longmont's operations by its four full-time programmers and serving 17 machine tools. The CAM system's integration with SolidWorks does not just give the company an easier programming method, but is also speeding up production cycles.

For the manufacturing of complex parts, Longmont Machining utilizes a Mori-Seiki SV-50 machine tool, with a Haas HRT-210 rotary table linked to the controller. In order to do multiple angled operations without refixturing, the parts can be loaded on an Atek assembly. The assembly is a custom design of Longmont, with a Chick 4" vise mounted on top. This type of setup gives the capabilities of a horizontal mill, with the simplicity, flexibility, and cost-effectiveness of a Vertical Machining Center.

Curtis comments: "It is the combined capabilities of SolidWorks and SolidCAM that allow us to ensure the tools and fixturing will work correctly together, as well as using the verification abilities of SolidCAM to ensure the part will be correct when complete. The visualization aspect that comes with SolidWorks/SolidCAM makes complex parts and setups manageable".

He continues: "The associativity between SolidWorks and SolidCAM is pretty significant in terms of increasing the pace of production. When you have to make a change to a design, you don't have to re-program the CAM," says Curtis. "We had programmed a series of different molds for production in Mexico and they came back a month later with some changes to the design; all



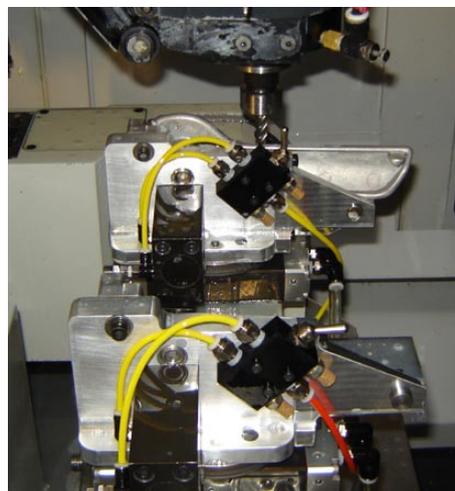
Moriseiki SV-50 machine tool in action, programmed by SolidCAM

I had to do was import the model back into SolidWorks and SolidCAM re-generated the program for the tool paths. It was seamless; make a change in the SolidWorks model, and you get the corresponding changes to the SolidCAM mold setup."

### **High Tech Investment**

Has SolidCAM given the technological advancement Curtis was looking for from his investment? "Definitely yes" he says confidently. "We'll be buying more units of it. By the end of the year we'll purchase SolidCAM Lathe."

Curtis says that not only did SolidCAM offer more innovative product features, the package came with more responsive support and services. During his initial introduction to SolidCAM, he could always reach a helpful SolidCAM technician over the phone at 8 or 9 in the evening to guide him through the implementation. "Recently we had an urgent need for SolidCAM to create a custom Post Processor for us. They got behind us and



Longmont-specific trunion for a Haas rotary table

provided it quickly, which has been a new experience for us, since we never had that kind of support before."

Longmont Machining's reputation for having state-of-art tooling capabilities is quickly spreading, even to other manufacturers. "When we're approached by big companies to build design and fixture concepts, we'll perform the design work and programming and run a capability study to validate it. They'll take the programming and run it at their own facility."

**Author: Brett Duesing, Strategic Reach**

## **Longmont Machining**

With a 14,000 square-foot facility in Longmont, Colorado, Longmont Machining provides concept-through-production services, encompassing the needs of component design, tooling, and high-volume production. Equipped with the latest in design and manufacturing technology, Longmont Machining offers high-speed milling, injection molding, thermal forming and stamping, and welding

For more information, please visit:  
[www.longmontmachining.com](http://www.longmontmachining.com).

## **SolidCAM**

Founded in 1984, Emil Somekh, SolidCAM provides manufacturing customers with a full suite of CAM software modules for 2.5D and 3D Milling, High-Speed Machining, Multi-sided Indexial 4/5 axes Milling, Simultaneous 5 axes Milling, Turning, Turn-Mill up to 5-axes and WireEDM. SolidCAM has the Certified Gold-product status from SolidWorks and provides seamless, single-window integration and full associativity to the SolidWorks design model including parts, assemblies and configurations. SolidCAM has today more than 14,000 seats installed. The company has been on a very rapid growth path since it implemented the SolidWorks integration strategy with annual growth rates over 30%. SolidCAM is sold by a worldwide reseller network in 46 countries.

For more information, please visit  
[www.solidcam.com](http://www.solidcam.com)