Concepts NREC

The Experts in Turbomachinery

Case Study

CAM Software Helps Launch Successful Startup

CAM Case Study: Kinner Manufacturing, Olivehurst, CA .

Only two years after starting Kinner Manufacturing, Ray Kinner is pleased to announce his business is successful – and growing. Considering his shop only machines blades, Ray's direct approach to entrepreneurship is an excellent example of how a small manufacturing startup using specialized CAM software can quickly begin producing quality parts.

My strategy assumed the obvious," claims Ray Kinner. "First, I knew that quality-oriented companies with bladed products needed sources for more parts at the best cost. I've seen companies grow and sometimes survive on the quality and price of parts provided by their suppliers. Second, I also knew that I had to immediately impress these companies, and to do that, I needed the best CAM software developed specifically for machining blades."

That perception proved to be correct. "Acquiring a 5-axis mill and MAX-5™ machining software gave us the confidence and the security to take on some pretty tough jobs in addition to routine work," Ray explained, "and our customers have kept coming back for more."

Ray Kinner grew up in the machining business. In the 1960s, his father started a shop in the San Francisco Bay area, and years later when the business was sold, Ray briefly joined the new owner. "I had had ten years experience running MAX-5 toolpaths on 5-axis mills," according to Ray, "and I knew how to make the best possible blades with good cutting-cycle times." So with the encouragement and help of friends, Kinner Manufacturing was launched in 2007 with one 5-axis mill, a one-year license for MAX-5 CAM software, and a plan to attract customers wanting quality machined blades for fans, compressors, pumps, and turbines.

"I was pleasantly surprised at how easy it was to get started," claimed Kinner. "For basic hardware, we began with a lathe and a balancer to complement the 24-inch mill, and I chose MAX-5 software because it is simply the best CAM software for blading. All other CAM programs I have used may hit the same points and be in tolerance, but MAX-5 software has by far the best blending between points and clearly produces the nicest blades."

To attract customers, Ray looked at industries that used the type and quality of bladed parts he had been machining. It also made sense to seek out customers who were using Concepts NREC's Agile Engineering Design System® software because of its direct integration with MAX software. "Our first customer was a major OEM supplier of turbomachinery components for locomotive and marine

CAM Software Helps Launch Successful Startup, continued

applications who had been my dad's customer," Ray explained. "They were using Concepts NREC design software and wanted a seamless link to a manufacturing supplier for precision ruled-surface impellers."

Quality bladed parts machined by Kinner Manufacturing using the full suite of MAX-PAC™ CAM tools.

"Another of our early customers designs and manufactures superefficient fans using Agile design and CAM software. They have their own high-end, in-house machining capability but wanted to farm out some part work – especially to a shop running MAX toolpaths so there would be no data translation issues. We began producing prototypes that gained the customer's confidence, and we expect to also machine the production parts."

Now satisfied that he is producing the best possible machined blades, Ray continues to reduce cutting-cycle times by using different cutting strategies supported by MAX features. "This software is very versatile," claims Ray, "and we found the support from Concepts NREC to be excellent. Their CAM developers and in-house users clearly relate to what we're doing."

As Kinner Manufacturing enters its third year, Ray reports they are running at capacity and ready to add a second 5-axis mill. Kinner has also licensed the full suite of MAX-PAC™ tools that cover flank milling, point milling, and milling one-piece shrouded impellers. "The need for rotating bladed parts is increasing as I expected," says Ray. "We're meeting that demand with the trifecta of turbomachinery design — better parts in less time at lower cost."

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