

ADVANCED COMPANIES

Quality assurance 'an absolute' at Owasso's Advanced Cos.

Complex, automated machinery fills the production floor here at Advanced Plastics and Advanced Machining and Fabricating, creating precision-engineered parts for the aerospace and oilfield industries.

"We deal within thousandths of an inch," said Advanced Plastics President Scott Shortess as he guided me through the production space of the two companies. "Some of our tolerances are about one fourth of a human hair."

Advanced Plastics and Advanced Machining and Fabricating are sister companies that share 20,000 square feet of production space across three buildings.

Advanced Plastics was founded in 1979 by Scott Shortess' father, Steve. Advanced Machining was founded two years later.

Today, the companies operate as contract manufacturers for the energy and aerospace industries. Kim Parrish is President of Advanced Machining and also an officer with Advanced Plastics.

The companies' 55 employees were busy on this recent morning operating the complex machines as they cut and milled parts to precise specifications.

Overhead throughout the facility were a series of video monitors that provide real-time updated information on the status of the machinery.

"The more measurement we can do the better off we can run our business, make continuous improvement decisions and ultimately make a better living for our people," Shortess said. "We've got to make decisions based on what we are seeing every day, every minute."

The Advanced companies follow the Lean Manufacturing philosophy of eliminating waste in the process. They have been assisted in its implementation by the Oklahoma Manufacturing Alliance.

"The OMA has been a critical part of our continuous improvement efforts dating back to 2007," Shortess said. "They bring new ideas to us that we don't see so that we can make better decisions."

Shortess stopped at a display shelf and pulled off a titanium machined part of about 12 inches in length that contained many angles and cuts. The part helps open and close thrust reversers on the back of a jet engine.

For aerospace customers, it is critical that each piece is flawless when it leaves the Advance Machining production floor, said Parrish, who was an aircraft mechanic for the Navy before joining Advancing Machining in 1983.

Quality assurance is an "absolute," he said.



“As our customers have told us, ‘we fly people, and it’s critical to us,’ “ he said. “We make a quality product that meets their requirements, and we have no escapes that leave our facility; we have to catch it.”

The companies serve a mix of local and regional clients with rigorous production requirements, Shortess said.

“The requirements that flow down from our customers is growing,” he said. “The tolerances are getting smaller. The technology of the equipment is growing at such a rate that we have to stay ahead of the curve instead of behind the curve.”

So, where is this heightened degree of precision leading? More automation, said both Shortess and Parrish.

The Advanced companies are pursuing implementation of advanced automation techniques to further modernize their operation to meet those tougher requirements.

“Automation is the future of manufacturing,” Shortess said. “It is not a reduction in workforce. It is maintaining the workforce that we have and with the ability to grow the workforce around automating.”

Parrish described an eye-opening trip to Germany where the pair saw how automated operations enhanced a factory’s production capabilities. Enhanced automation techniques would enable the Advanced companies to quickly shift from job to job while maintaining expected production quality.

“What we’re trying to do is build what we consider to be a world class operation and put some things together that no other manufacturer in this region has,” Parrish said. “That is the ability to turn around a good quality product at a reasonable rate at a cost that is below our competitors and the quality to exceed what our customers expect.”

Despite the quest for more automation, the Advanced companies continue to value the people who operate the machinery, Shortess said.

“I’m most proud of the number of families that are supported by the work that we do,” he said. “The decisions we make on a daily basis affect kids at home. They are depending on us to make the right decision.”

And that’s the bottom line.

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