

REMAKING THE MOLD

CUSTOM MOLD & DESIGN'S CAPABILITIES MAKE IT A PREFERRED PARTNER TO ITS CUSTOMERS. BY JIM HARRIS

CUSTOM MEDIA  xclusive feature



CUSTOM MOLD & DESIGN SAYS IT EXCELS IN TERMS OF ITS QUALITY AS WELL AS THE INTENSITY OF ITS SERVICE.

Custom Mold & Design is committed to providing its customers with the highest-quality molds and machined components that the industry can offer. For the Forest Lake, Minn.-based company, this commitment begins long before starting the fabrication process. “We are second to none in our ability to provide design for manufacturability assistance,” Vice President of Sales Thomas Caron says. “We design tooling where manufacturability and performance are of paramount importance. From the machined component side of things,

we work with our customers to provide optimized part design support in an effort to reduce the costs to produce and increase part performance.”

The company is frequently involved in designing customer molds when the part is still at the “napkin-sketch level.” Early design involvement is where the most money can be saved. “We are experts in building molds that perform well, because we control all of the technologies used to produce them,” he adds. “Technologically, we are a very vertically integrated company.”

Custom Mold & Design’s expertise

in providing tooling and part design assistance provides it with a competitive advantage over other custom mold and machined component manufacturers. “We excel when it comes to the quality of our product as well as in the intensity of the service that we provide. We work diligently to assist customers in reducing their program lead times and find creative solutions to complex problems,” Caron says. “We want to be the supplier that our customers compare all of their other suppliers against because of our quality, delivery and performance.”

Custom Mold & Design / www.custommold.net / Headquarters: Forest Lake, Minn. / **Employees:** 80 / **Thomas Caron, vice president of sales:** “We add equipment and new technologies like they’re going out of style.”



COMPLEMENTARY SERVICES

Custom Mold & Design was founded in 1965 as a tool and die shop that has a reputation for designing and building some of the very best custom plastic, silicone and metal (MIM) injection molds in the industry. The company added to its capabilities eight years ago when it created CMD – Precision Manufacturing Group, a division that provides precision machined components and assemblies.

The company supplies molds and machined components to OEMs in several industries including automotive, medical device manufacturing and defense. “Whether producing high-volume products or lower-volume components, the molds that we produce are typically very complex in nature,” Caron says.

Custom Mold & Design supplies molds that span the gamut of available materials including thermoplastics, elastomers, silicones, ceramics and metal injection products.

Molds that are designed and manufactured by Custom Mold & Design are used to produce engine and lighting components used in cars; commercial components used in enclosures and consumer products such as tape dispensers and wearable products; as well as a vast array of medical industry components ranging from

disposable medical devices all the way through implantable components. The company’s molds for the defense industry are used to make products that enhance the work of military personnel. “We’re making things that minimize collateral damage or provide better communication or additional firepower for boots on the ground,” Caron says.

The CMD – Precision Manufacturing Group is currently the fastest growing segment of the company. Over the next few years, the company sees this division growing to support 50 percent of its total revenue. By identifying and developing the

proper mix of machined component and assembly business, the company will be able to focus its tooling design and fabrication efforts on those applications and customers that are the best fit for its expertise, Caron says.

“Specifically, we excel at designing and building complex molds that employ the latest technologies, as well as creating high cavitation fast cycling molds that exceed all customer expectations,” he adds. “We are moving away from designing and building tooling that does not fit into the aforementioned bandwidth.”

From the machined component and assembly perspective, the division supports a litany of different customers and industries.

“Many of our customers are automation equipment suppliers who have a high mix of low volume components,” Caron says. “On the other hand, we also excel at taking on repetitive production opportunities requiring medium to high volume quantities that involve close tolerance work and require the full complement of our technological capabilities and expertise.” »



CUSTOM MOLD & DESIGN CAN USE A WIDE RANGE OF MATERIALS SUCH AS THERMOPLASTICS, ELASTOMERS, SILICONES, CERAMICS AND METAL INJECTIONS.

» Custom Mold & Design also provides molds, tooling and machine components to its sister company Teamvantage, which is a custom contract manufacturer that specializes in plastic, elastomeric and silicone injection molding.

In addition, Teamvantage frequently performs tooling trials on molds manufactured and supplied by Custom Mold & Design.

“AT THE END OF THE DAY, WE’RE PROVIDING EXTREMELY WELL-DESIGNED AND BUILT TOOLING THAT IS CAPABLE OF MEETING ALL [CUSTOMER] PERFORMANCE AND DIMENSIONAL REQUIREMENTS.” - *Thomas Caron, vice president*

“[Teamvantage] is a nice complement to what we do, because it gives us the ability to provide complete turnkey manufacturing solutions,” Caron adds. “Most tooling shops have limited or no capability to sample a mold. Conversely, we have access to a state-of-the-art, world-class company that employs scientific injection molding methodologies to develop robust manufacturing processes, and who has significant metrology horsepower to perform complete process validation services to support the custom tooling we’re providing to our end-customers.”

In addition to Teamvantage, Custom Mold & Design is a corporate sibling of Paradigme Engineering LLC, which the company’s owner acquired in 2017. Paradigme operates a 15,000-square-foot mold design and fabrication facility in Becker, Minn.

MANUFACTURING CAPABILITIES

Custom Mold & Design manufactures molds and machined components in a state-of-the-art 42,000-square-foot facility in Forest Lake, which the company refurbished three years ago. The company is ISO 9001 and AS9100 certified as well as International Traffic in Arms Regulations (ITAR) registered.

From the tooling perspective, “Once we have a properly designed part, our team comes in and designs/fabricates the tooling that produces the best molded components in the industry,” Caron says. “At the end of the day, we’re providing extremely well-designed and built tooling that is capable of meeting all performance and dimensional requirements.”

Core to the company’s success is its state of the art hard milling equipment. The company has several 3, 4 and 5-axis YASDA and Makino CNC milling machines as well as multi-axis mill turn machines including a 12-axis Nakamura. Other machines on Custom

Mold & Design’s floor include wire and sinker electrical discharge (EDM) machines, graphite milling machines and multiple Swiss lathes.

In the past five years, Custom Mold & Design has added automation capabilities to its 5-axis milling equipment, sinker EDM and graphite milling machines.

“We can load up these machines and run them around the clock unattended,” Caron says. “[Automation] increases our quality and throughput and decreases our costs to produce.”

The company uses lean manufacturing methods such as 5S throughout its operations. “Lean is an integral part of what we do here,” he adds. “We work toward continual improvement in everything that we do.”

The next step in Custom Mold & Design’s continuous improvement process is the Entrepreneurial Operating System (EOS) it is putting in place throughout its operations. “This is a means for us to clearly cre-



THE COMPANY MAINTAINS A STRONG REPUTATION BY INVESTING HEAVILY IN ITS EQUIPMENT EACH YEAR.

ate a company vision and set of values by which we drive our organization and flow information down through every level of our company so everyone is clear about what we're doing and where we are going," Caron says. "This system will give everyone proper ownership and responsibility for what they do."

TECHNOLOGY FOCUSED

Custom Mold & Design is constantly investing in new technologies such as conformal cooling and additive manufacturing. "We have a specific technology road map," Caron says. "We identify and test different technologies and put steps in place to bring that technology into our organization and use it to the benefit of our customers."

Custom Mold & Design invests heavily in equipment each year. "We add equipment and new technologies like they're going out of style," he says. "Our passion for constantly finding new and better equipment truly sets us apart."

"When other companies were cutting back because the economy was down, we were buying more equipment to further differentiate ourselves from the competition," he adds. "We don't want to be a me-too organization, we want to be on the cutting-edge."

INTERNAL INVESTMENT

Equipment is just one ingredient of what Caron calls the company's "secret sauce." "We're proud of the people we have running the equipment and the culture of teamwork and respect we've established here," Caron says. "We want to make sure our people have the very best training and the ability to run the state-of-the-art equipment we invest in."



"Our owner and top management care about our employees and do the right things to make them successful, including providing product, equipment and job-specific training," he continues. "We want our employees to thrive and enjoy what they do here every day."

The company's training programs include EOS and machine training as well as mathematics skills and blueprint reading courses.

"We want to provide an appropriate

level of training through all levels of our organization and give ample opportunities for advancement to anyone who chooses to take advantage of those," Caron says.

Custom Mold & Design's dedication to its customers and culture has enabled it to grow.

"We've enjoyed an average annual growth rate growth of 15 to 20 percent per year for the past five years, which is a testament that our culture seems to be working," he adds. **mt**