

# Design for Manufacturability at Badge Machine



**Badge Machine Products, Inc., a 24,000 sq. ft. facility located in Canandaigua, New York**

Badge Machine Products Inc, Canandaigua, NY, provides “Design for Manufacturability” (DFM) services for medical, aerospace, business imaging, recreational and other industries requiring precision machined parts and electro mechanical assemblies.

“DFM helps our customers improve their designs for efficient manufacturing costs,” said Grant Oberdorf, Vice President of Operations, Badge Machine Products. “We work with our customer’s design team to investigate and understand the cost drivers and unit costs and the process of manufacturing seeking to drive down costs and increase efficiency. We have the ability to predict precise process capability (Cpk) values well before any chips are made. We create a Six Sigma process based on best practices. Our Unigraphics NX2 software and CAD system allow us to view, manipulate and print parts, assembly and drawing files,” said Mr. Oberdorf.

Badge Machine doesn’t stop at assisting customers with ‘Design for Manufacturability.’ The company works at improving its own manufacturing and assembly efficiency with the purchase of new equipment and implementation of lean manufacturing practices.

“Our recent manufacturing equipment purchases have provided from 40% up to 300% improvement in productivity,” Mr. Oberdorf explained. A new Multi-Tasking CNC turning center was installed and has reduced setup times and number of operations. “This machine produces a complete part in one setup where multiple machines were needed in the past,” he said.

“Badge also needed to expand its Machining Department with a high-end horizontal mill that had to

meet exacting requirements in quality, delivery and support. To help provide a manufacturing solution, I called upon the assistance of Morris Tri-State’s Account Manager, Don Miller. Don, along with his capable colleagues of professionals at Morris TriState, took our job requirements and expectations and came up with the machine solution that would ‘best fit’ our current and future needs. The machine we chose was an Okuma MA-500H and so far, it has exceeded our expectations in both quality work and precision parts,” said Mr. Oberdorf.

“This new Okuma HMC boosted productivity on a current part by 30%. This expanded capability has opened new doors and opportunities to serve our customers. Since the purchase of the Okuma horizontal machining center we have purchased another Okuma machine, the MC-V4020 vertical machining center. This machine has great quality, pricing and is very accurate. The Okuma control is very friendly to use as well as powerful.”

“To be competitive in today’s manufacturing market, you need to separate yourself from ‘me too’ shops. You need the best people, best suppliers, and of course, the best machines,” said Mr. Oberdorf.



**Left to Right: Kathryn Flugel, Vice President of Marketing ; Grant Oberdorf, Vice President of Operations; Francis Flugel, Quality Assurance Manager, Christian Flugel, Corporate Officer**

Badge Machine has capabilities for all types of contract manufacturing. The company can begin with product design and proceed from DFM to precision turning and milling, welding, soldering, quality inspection, adhesive bonding, to climate-controlled assembly for class I medical devices.

An environmentally controlled quality assurance room at Badge Machine is designed for optimum

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**Francis H. Flugel, Quality Assurance Manager, Badge Machine Products, Inc. strives for Six Sigma quality.**



**Grant Oberdorf, Vice President of Operations, on shop floor at Badge Machine Products, Inc.**

measuring and quality control. A new Zeiss Prismo coordinate measuring machine with a VAST Gold scanning probe head and the latest software gives Badge a measuring volume of 10.4 cubic feet, a capacity of 2,640 lbs. and accuracy to .000008". "In some instances we have been able to cut inspection cycle time from 50 min. to 5 min.," said Fran Flugel, QA manager. Badge also operates other coordinate measuring machines, optical comparators, height gages, profilometers and measuring devices for quality assurance.

The Badge quality assurance department also plays a part in the DFM process. The upgraded Calypso software utilized by the Zeiss Prismo CMM is capable of extensive measuring capabilities. Company engineers can also perform reverse engineering on a part to create a part drawing and a CAD file.

The company is certified to the ISO 9001:2000 Quality Management System. Fran Flugel said that he expects to see positive results from the certification process. The company has also registered with the FDA as a medical device contract manufacturer.

The "lean" process at Badge is also enhanced by Epicor Vista ERP software. Supply chain management is optimized and through working with vendors the lowest costs are procured.

Badge Machine Products, Inc. has been a woman-owned company since 1990. Gail Flugel became owner

when her husband Richard passed away. Her sons, Chris in the manufacturing department and Fran in charge of quality assurance, work in the business as well as daughter Kathy Flugel, Vice President of Sales and Marketing.

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