

Ogihara America Corporation, Finding the right mix

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Leading automotive supplier Ogihara America Corporation uses lean manufacturing and total productive maintenance to find success with its customers. Linda Seid Frembes finds out more



As a Tier One supplier to the world's best known automotive manufacturers, Ogihara America Corporation's business strategy must be flexible enough to cater to a demanding and ever-changing marketplace. The company's Howell, MI, plant is strategically placed to serve the Big Three automakers of Detroit, while its sister plant in Birmingham, AL, serves a burgeoning automotive market in the southern United States.

Ogihara America began the stamping and sub-assembly of body panels in the United States in 1987 but the company's roots go back to Ogihara Corporation, a world-renowned Japanese tool and die company for the automotive industry since 1951. Capacity and customer base have steadily grown over the years and today the parent company operates fourteen plants and business offices around the world.

Ogihara's Howell plant specializes in long-term production jobs requiring stamping and sub-assembly of Class A quality panels via robotic material handling; robotic weld, sealer, and adhesive application; automated assembly lines; and automated material transfer. These panels are the visible surfaces of finished vehicles, fenders, hoods, trunk-lids, doors, body sides, roof panels, and other areas of high visibility for the customer. Ogihara-Howell also offers its customers factory assist off-loads when their plants are over-capacity. "More and more we are seeing a big variation in demand and forecasted demand for certain automotive manufacturers," says Michael Zimmerman, director of manufacturing for Ogihara-Howell, who is responsible for all manufacturing operations, engineering, and quality at the plant. "This presents a challenge as to how we order raw materials."

Most raw materials received in Howell are blanks from supplier MMB. Various other parts including smaller stamping components, nuts, bolts, and brackets, are all brought into the facility based on the BOM for project. The operations include a receiving inspection area for blank steel, aluminum, and other purchased parts; once cleared, it is fed into the manufacturing process. "All of our stamping operations start with these blanks for the transfer and tandem lines. Some products are direct ship to

the customer and some are fed into our sub-assembly areas. From sub-assembly, it goes into inspection and then to the customer,” says Zimmerman.

The sister plant in Birmingham, AL, shares the same manufacturing structure as Howell. At both plants there are always investments in each facility. Continuous upgrades happen in Howell like the updating and modifying of manufacturing equipment in order to stay competitive with new technology. “Under our preventative maintenance program, some equipment has been maintained so well and for so long that you can’t get parts for it anymore,” says Zimmerman. “Our equipment has to be reliable and up-to-date to keep up with demand.”

That stringent preventative maintenance plan is operated under the umbrella of Total Productive Maintenance (TPM), Ogihara’s quality control and maintenance program. The TPM system combines employee empowerment with data collection and management to lower costs and eliminate waste, such as poor quality and downtime.

TPM is a maintenance program which involves a newly defined concept for maintaining plants and equipment. The goal of the TPM program is to increase production while increasing employee morale and job satisfaction. TPM brings maintenance into focus as a necessary and vitally important part of the business.

The origin of TPM can be traced back to 1951 when preventive maintenance was introduced in Japan. “Our TPM activities include daily cleaning, inspection for wear and other potential issues and lubrication of equipment. Operators conduct their TPM activities based on specific needs of the equipment,” explains Brian Kaitner, TPM coordinator for the Howell facility, who is responsible for all autonomous maintenance, 5S activities, and focus improvement activities.

Ogihara-Howell associates use a check-off sheet to complete daily checks and document any issues. The facility’s TPM activity is audited quarterly and every area of manufacturing has a TPM scorecard posted on a community bulletin board. Each area is measured against a target on safety, quality, productivity, and employee involvement. The overall manufacturing scorecard of business results is broken down into department and then to individual lines. “Our TPM program has been in existence for nearly 10 years,” says Kaitner. “It began with pilot lines and pilot areas in the press and line assembly areas, with the management team leading the involvement. This set the precedent for other areas to follow suit.”

Kaizen improvement activities are based on scorecard results for below target areas. “We integrate all the tools into how we do an Ogihara operating system. TPM is a tool to maintain the equipment. We also have a defined 5S program for standardization and visual control on the plant floor,” says Zimmerman. “We use a mix of lean and TPM to eliminate any wasted handling, wasted motion, or rework activities.”

While it may seem that Ogihara has invested in TPM, the company has always had a lean philosophy. Zimmerman adds: "TPM was one of the tools we chose to help with the lean implementation and make improvements on the processes. TPM was a way to involve the associates in making improvements in the business."

One of the strengths of Ogihara is the constant drive to try an improvement process. The management team has no issues with trying different methods until something works. "We customize what we learn. We take the basic philosophy and fit it to the way we do business," says Kaitner.

The company strategy is first to stabilize its processes and then work on continuous improvement. However, supplying to the automotive industry is a difficult task to stabilize since off-loads interrupt the production schedule. Off-loads are always introducing change into the production schedule and the types of jobs that the facility can run. "Our answer is to standardize all of our processes down to the letter. Our process-based tactic to take an off-load eliminates issues before they hit the manufacturing floor," says Zimmerman. "Every time we do an off-load, we also do a 'lessons learned' review to refine the process for next time."

Off-loads and shutdowns are becoming a more common occurrence in the automotive industry. Several factors influence this fluctuation in demand including more frequent model-year changes and the move away from producing high volume vehicles. Instead, there are several hundred types of vehicles that a consumer can purchase, as opposed to the several dozen models of decades past. Ogihara-Howell must remain flexible in their scheduling since the facility typically only gets one or two weeks notice of a manufacturer's shutdown. Ogihara-Howell received an average of one off-load every two weeks last year; and notification of the off-load comes only two or three days in advance.

TPM and lean are also used as initial control. All the lessons learned in manufacturing are used as feedback into the engineering group to update product specifications. This eliminates any repeated issues.

In order to stay competitive and flexible, Ogihara-Howell's 445 employees work on a flexible schedule and each are cross-trained in other departments. The goal of a well-rounded employee starts in the hiring process, which is geared toward finding those who would work best in their environment. New hires go through a two-week training plan with an emphasis on safety; detailed HR orientation; how the Ogihara operating system works; an overview of the entire company, TPM, and lean and how it relates to business (and how they relate to the business goals); and specific machine training. This training is all completed before the employee steps in front of an assembly line.

Ogihara-Howell also uses an employee-based feedback system. This incentive-based system uses suggestions from production associates on engineering standards. The suggestions are quantified

based on impact to safety, productivity, and cost. Associates receive a monetary reward representing a portion for the savings.

Other employee incentive programs are tied into the quarterly TPM audit. The TPM Champion award is based on quarterly audits; the winning line receives a denim jacket. For every month without a quality issue on a line, that line receives a company-paid lunch of their choice. The safety incentive includes a drawing for associates with no injuries in a year.

Besides rewards to spur feedback, the company has also built an effective meeting structure. The company holds “home team” meetings where associates meet regularly with their direct supervisor as well as monthly meetings with their department manager. “This is a good structure for pass up and pass down communications,” says Zimmerman.

There is also an annual plant-wide meeting. As a supplement, every quarter they conduct “skip meetings” where the associate can sit down directly with Zimmerman and Pat Cassady, head of human resources, with no involvement from direct managers. This allows the associate to freely communicate directly with upper management.

Ogihara-Howell recently branched out from the automotive industry in its research and development department. The company worked with CogniTens Inc. to play an instrumental role in helping NASA subcontractor United Space Alliance streamline the measurement and manufacturing of space shuttle tiles. The combined team provided technological expertise to help speed the measurement, manufacturing, and replacement of thermal protection tiles on United States orbiters, including the recently landed space shuttle Discovery.

Based on their observations, engineers from CogniTens and Ogihara developed a digital process that replaced the conventional methods utilized by United Space Alliance, providing substantial time reduction, increased accuracy of tile fit, and overall process efficiency.

Ogihara America has garnered several recognitions in recent years. In 2004, it was awarded the DaimlerChrysler Gold Award and an award for its Total Productive Maintenance program. In 2001, the company achieved ISO/TS 16949 and ISO 14001 certifications which are globally recognized by its customers.

“Our mix of TPM and lean is working now but that can always change,” says Zimmerman. “And when it does, we’ll be ready to change with it.”