



Case Studies: Dimensional Measurement Success

May 14, 2007

Ogihara America Corp. (OAC, Howell, MI) is a subsidiary of the Japanese Ogihara Corp., a large independent automotive die manufacturer. The company motto is "Comply or surpass our customers' most demanding quality requirements."

OAC is a Tier 1 supplier known for its automotive class A parts, assemblies and related body panels. OAC operates in the United States from two major centers in Howell, MI, and Birmingham, AL. Ogihara's production facilities provide critical parts and assemblies to General Motors, Ford and DaimlerChrysler as well as to several Japanese transplants across North America.



Ogihara engineers review a stamping die after the machining process. Source: CogniTens

As part of the Ogihara tradition both OAC facilities, along with more than a dozen other Ogihara facilities around the world, share common processes for ensuring lean and streamlined operation. Common processes help Ogihara develop and manufacture more cost effectively while ensuring the best quality for the customer.

The Challenge

In 2001, as part of the ongoing effort to improve operational performance, Ogihara conducted a thorough evaluation of their quality processes and systems. Ogihara's objective was to raise their quality standards higher by transforming reactive quality processes to proactive ones, thus considerably lowering customer reported quality issues and maintaining best quality ratings. As a result of this evaluation, Ogihara's engineers developed a process to be fully integrated into their product development and manufacturing program.



Ogihara personnel remove a tryout operational panel from the die for dimensional measurement using Optigo. Source: CogniTens

This new comprehensive quality process called for an advanced noncontact dimensional measurement system that could be easily operated in a shop floor environment and help resolve quality concern using root cause analysis methodology. However, it initially seemed that there was no product that could fully meet the various Ogihara requirements.

The Solution

Following a long period of evaluations and benchmarking, Ogihara identified CogniTens' (Wixom, MI) Optigo as the only noncontact measurement system capable of meeting the demanding Ogihara criteria. Throughout tests and trials Optigo's performance proved it was suited for versatile operation on the engineering and production floor, and useful in supporting multiple measurement activities from die tryout to assembly tool adjustment and quick quality analysis of parts and sub-assemblies.



Ogihara uses CogniTens Optigo to support key quality and engineering operations. Source: CogniTens

Initial implementation of the CogniTens products in the Howell, MI, facility took a couple of months to complete. Then a joint team consisting of Ogihara, CogniTens and customer representatives worked together to further integrate this new solution into dozens of business processes based on Ogihara quality process guidelines. As a result of this joint effort, within a year the new quality process was further enhanced and fully implemented in daily plant operations using CogniTens products.

Following the successful implementation in the Howell, MI, facility, Ogihara expanded its use of CogniTens Optigo-based solution to the Birmingham, AL, plant producing stamping parts and sub-assemblies for a large OEM assembly plant. CogniTens' solution was rapidly implemented in the Birmingham facility based on the experience garnered during the first stage and maintained the Ogihara tradition for

process commonality and standard methods between the two facilities.

Combining Ogihara's processes and quality methodologies together with CogniTens' dimensional measurement platform and software products achieved the Ogihara vision for a fully proactive quality system.

The Results

Today Ogihara uses the Optigo-based solution throughout the die build and tryout process, in supporting part approval for production (PPAP) activities and standard data submittals to the OEMs, for re-engineering an existing part or tool to support vehicle "face lifts" as well as in assembly processes.

Using Optigo, a fully portable dimensional measurement platform, and CogniTens software products, the quality department has developed a functional build process to filter out possible assembly problems even before building the tools for the actual assembly operations. "Optigo's full surface measurement, virtual assembly analysis and highly accurate feature measurement opened countless applications which CMM just could not support," says Steve Peca, executive manager, quality systems, Ogihara North America Corp. "Using CogniTens' full 3-D measurement and meaningful CoreView format results, we can also see where the forming and assembly tools are deteriorating and schedule maintenance checks and upgrades."

Ogihara reported several benefits in using the CogniTens dimensional measurement solution. They reduced time to measure a panel and compare results to design intent from a full day using a coordinate measuring machine (CMM) to a couple of hours using Optigo. Ogihara also realized cost savings in root cause assembly quality analysis, and resolved customer quality concerns in less than half the time compared to a CMM by using Optigo's CoreView results for effective communication, analysis and resolution. They accelerated time to deliver first production batch for new products, and optimized tool maintenance operations using proactive quality evaluation of both tools and produced parts and assemblies.

With the new system, they were able to quickly identify the cause of a problem and resolve it, which helped tighten and strengthen relations with OEM customers.

Benefits

- 60% time savings in resolving customer quality concerns.
- Accelerated time to deliver first production quality batch.
- Improved relations with OEM quality community.