



LASER SCANNING SAVES MONEY AND INCREASES EFFICIENCY

PROJECT SUMMARY

A mold maker company sought to re-qualify used molds and improve its process time from mold design to production. Previously using manual methods to take measurements, a 3D laser scanning process was introduced. A considerable amount of time was saved using the new method, as well as cutting the process cost in half.

SYSTEM DESCRIPTION

Under the old system, gages and instruments were used to manually measure a mold's dimensions and locations. The measurements would then be compared to a 2D drawing and a resultant report of discrepant items would be generated. The engineers then decided which of the discrepant items were due to processing of the mold and which had to be corrected in the tooling. With this system, a single part could take up to ten or more weeks, not including production time, and cost \$10,000 per application.

OPPORTUNITY

Upgrading the methods in which the molds were scanned, measured, and thus modified would allow for improved efficiency and time savings, improved quality control and accuracy, and increased lifecycle value.

APPROACH

By shifting the mold making process over to high-speed 3D laser scanning, the labor intensive manual hand measurement process for mold creation and modification could be streamlined, as well as using non-obtrusive methods to prevent damage to the molds.

3D scanning expedites parts' production exponentially. A color-coded inspection report (or point cloud data for CAD modeling) is quickly generated that provides more information about the part's acceptability.

SOLUTION

The digital scan data allowed the mold maker to correct the CAD model so that it matched all the dimensions of the drawing. The scanning setup is saved as a template; having this part data immediately available will insure that future inspections will be fast and efficient when the same part is inspected. Molds can be qualified in just hours and at regular intervals by laser scanning inspection techniques.

BENEFIT

Based on the scan data, the mold maker could quickly be certain that the new refurbished equipment met the criteria of the 2D drawing with acceptable standards. Reduction in time amounted to approximately 200 work hours (10 weeks) per mold to roughly 2 hours to scan each part plus time for generating inspection reports (3-4 days). Utilizing High-Speed 3D Scanning over manual measurement lowered the cost from \$10,000 to less than \$5000 per mold.