



ASAME Technology LLC
strain measurement solutions

ASAME Target Model

Quick Strain and Geometry Data Collection

Flexible Data Display

Forming Limit Curve Tools

Advanced Equation Editor

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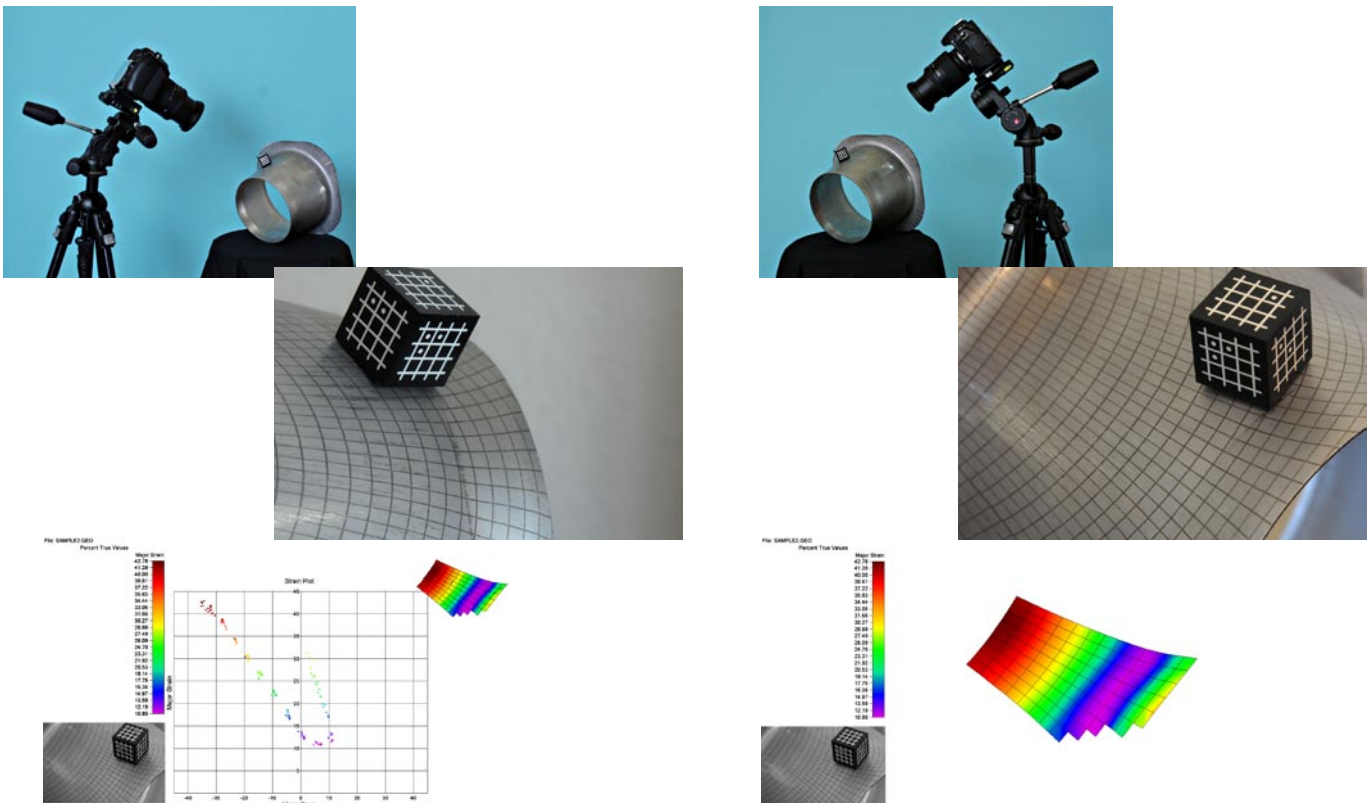
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ASAME TARGET MODEL

DESCRIPTION: The ASAME Target Model is an essential tool used by production and research engineers to solve formability issues. This ASAME system is a portable camera-based measurement tool that measures the surface geometry and strain distribution on a deformed part. A flexible system which can easily travel from site to site, the Target Model measures everything from radiator dimples to airplane wings.

PROCEDURE: A pattern of square grids is applied to an undeformed blank. The sheet metal or plastic part is then stamped. With the knowledge of the original undeformed grid size, the ASAME Target Model can measure the surface geometry and strain on the part using digital image correlation, where two or more views of an area on the part are photographed at different positions. These offset view are then digitized in two dimensions and photogrammetry principles are applied to determine the three-dimensional map of the area. Based on the known undeformed grid size and the three-dimensional data for each deformed grid, the surface strain is calculated.

CAPABILITIES: Powered by two patented technologies, the software has enjoyed more than a decade of improvement resulting in a sophisticated measurement and data-analysis package. ASAME presents the full 3D part with color data and photographic overlays. There are a variety of tools, such as forming limit and section line plots, which allow quick identification of critical areas. In addition, an image of the measured region is stored along with all process variables and any additional user input, providing complete documentation of a measured part in one package. A powerful equation editor enables customization of the data display.



TYPICAL APPLICATIONS

- Evaluate critical areas
- Forming Limit Curve generation
- Material analysis & selection
- Process analysis & comparisons

SOFTWARE

- Custom measurement, display & analysis software
- Automatic strain calculation
- 3-D part geometry with color strain contour
- Extensive strain display and analysis feature set
- Comprehensive Forming Limit Curve tool set
- Full featured equation editor

PERFORMANCE

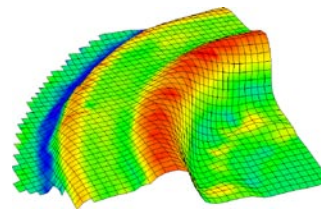
- Maximum squares or circles per measurement: 1600 (recommended per measurement: 600)
- Grid size range with 8mm, 15mm, and 25mm targets: 0.5 mm - 8 mm
- Typical measurement time: 5 - 20 minutes
- Accuracy with two photos: $\pm 1.5\%$ strain
- *Accuracy improves with more photographs (includes an assumption of an estimated $\pm 0.5\%$ error in the undeformed grid, a non-system factor)

SYSTEM COMPONENTS

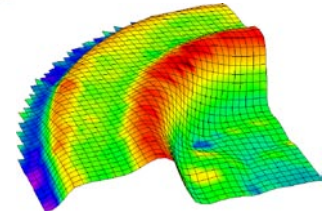
- ASAME 4.120 measurement and display software
- Precision photogrammetry targets - two sizes
- Nikon D300 with autofocus zoom lens
- Professional tripod
- *computer/monitor not included with system purchase

MINIMUM COMPUTER SEPCIFICATIONS

- Standard Intel Duo or AMD Turion desktop or laptop
- 2GB SDRAM, 100GB harddrive, DVD drive
- Two available USB 2.0 ports
- Windows XP (32-bit)

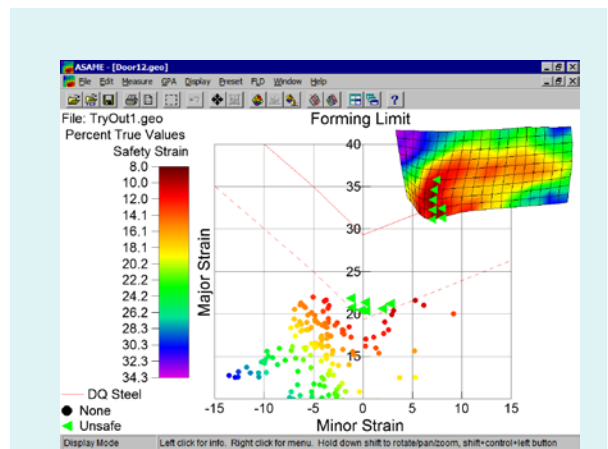


Step 3

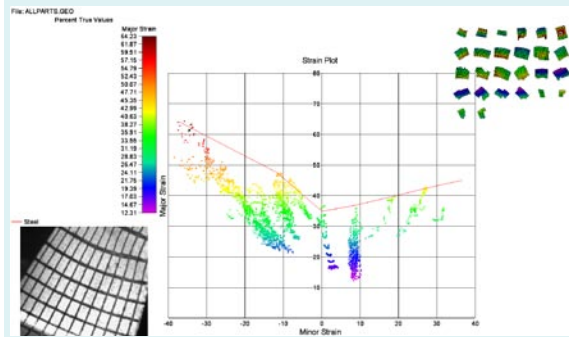


Step 4

Visualize strain change in multiple stage process



Evaluate trouble spots during preproduction



FLD data collection and display