

# GLOBAL SOLUTIONS

GLEASON CORPORATION • KEEPING THE WORLD IN MOTION™

## Less guesswork, better gears with new SBG Software Package from Gleason-M&M Precision



**A** new software package from Gleason M&M Precision holds the key to helping manufacturers of spiral bevel and hypoid gears take much of the costly and time-consuming trial and error out of the production process.

Days, even weeks can typically be spent while a manufacturer sets up bevel gear cutting and grinding machines to produce a new spiral bevel or hypoid gear set with the optimum contact pattern on the tooth flanks. The first gears are often cut using a mating master pinion and then run on a roll tester. Frequently, still more refinement and testing is needed before the gears are perfect and full production begins. For even the best, most experienced manufacturers, the entire process has always involved considerable guesswork.

But Fairfield USA, one of North America's largest and most experienced producers of spiral bevel and hypoid gears for off-road, heavy truck,

construction and mining applications, has never been content with the status quo. Their investment in a new Spiral Bevel and Hypoid Gear Inspection (SBG) Package from Gleason-M&M Precision Systems Corporation, and two Gleason-M&M Sigma 10 CNC Gear Inspection Systems, will help reduce cycle times and guarantee higher quality, says Larry Delp, Fairfield Manufacturing engineer.

“Using the Gleason-M&M software and inspection systems, we can digitize a master gear and create a map of extremely accurate grid points on the tooth flanks that we then can compare to a production part,” says Mr. Delp. “We can optimize gear and pinion tooth geometry much faster and more reliably versus other traditional methods.

The new SBG Package is designed to work seamlessly with Gleason's Automated Gear Evaluation (G-AGE) correction program, which

automatically calculates the machine corrections needed to optimize the gears. These changes can also be reverse engineered by Gleason's CAGE 4WIN application software, which allows customers to design, analyze and manufacture bevel gears more efficiently.

The new Sigma 10s join eight other Gleason-M&M inspection systems at Fairfield. The Sigma 10 Inspection Systems can accommodate workpiece lengths up to 1000mm, and feature quick change 3D probes, linear motor direct drives, and 4-axis generative motion, making them ideal for performing the analysis required by the new SBG software, including:

- Face root cone and cutting depth
- Measuring cutting depth
- Measuring face cone of blank
- Measuring root cone angle to spec.
- Quick 2-flank contact inspection
- Point to point and scanning modes
- Support face milling and face hobbing geometries
- Resolution from 9 x 5 to 1000 x 5
- Support AGMA, DIN, GB and JIS flank form standards

The recent acquisition of metrology leader Gleason-M&M Precision Systems Corporation expands Gleason's range of products to include:

- **The new In-Process Gaging (IPG) product line:** available in three distinct variants, including the IPG-150AT, offering a complete 100% turnkey inspection solution with full material handling for high volume applications.



- **The Sigma Series of Analytical Inspection Systems:** New model Sigma 5 with 475 mm diameter capacity joins the Sigma 3 (350 mm diameter), Sigma 7 (650 diameter) and Sigma 10 (1,000 mm diameter) systems. All feature a small-footprint, modular platform offering several vertical measuring and tailstock lengths to accommodate a variety of applications.

- **Micro-top Gear Inspection System:** full four-axis inspection capability in an affordable turnkey system. This full capability gear inspection system delivers generative motion accuracies in a compact, robust package.

For more information, contact:

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