

# Inspection News Roundup

This section is dedicated to what's new and what's happening in the world of gear inspection and metrology. Here you will find news about products, companies and organizations, services and events affecting the gear inspection and metrology industry. For more information on any of the companies mentioned here, circle the appropriate reader service number.

## FOCUS ON THE INDUSTRY

### Mahr and Federal Merge

The merger of Carl Mahr Holding GmbH of Goettingen, Germany, and Federal Products Co., a subsidiary of Esterline Technologies (NYSE: ESL), into Mahr Federal Inc., has given the German metrology instrument maker a strategically important production site in the United States, located at the old Federal Products facility in Providence, RI. According to Mahr Federal president Joe Golemme, "By merging and expanding our product offerings, our goal is to double the size of the combined companies by 2005." According to Golemme, the integration will follow a five point plan:

- Merge and broaden the product lines.
- Create a series of resource centers across the United States and Mexico.
- Specialize the sales staff into two focused business units: Tools and Gages and Metrology Systems, hire additional sales personnel, regional managers and global key account managers.
- Broaden sales distribution to include e-commerce and high volume channels.
- Upgrade internal systems for improved order processing.

"Changing our production strategy is another important facet of our plan," said Golemme. "We will be consolidating each product's development and manufacturing at a single facility for marketing and distribution worldwide. The economies we gain from this 'Center of Excellence' concept will free up resources to develop new products and fuel additional growth."

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### Carl Zeiss IMT Opens New Technical and Metrology Centers

Zeiss has opened two new facilities in the United States: a full service technical center in Lake Forest, CA, and a training and demonstration facility at

J&H Machine Tools, the Zeiss distributor in Charlotte, NC.

The new, 4,000-square foot West Coast technical center will support regional customers, offer demonstrations and provide applications support and training services at a single location.

Zeiss' 2,500-square foot metrology center at J&H Machine Tools includes a demonstration area, a CMM training center and the latest in CNC machine tool and measuring technology.

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### New Officers Elected to ASTM Board

The American Society for Testing and Materials (ASTM) has elected a new chairman, vice chairman and Finance and Audit Committee chairman to its 2000 Board of Directors.



Harvey P. Hack

**Harvey P. Hack**, an engineer at the Northrup Grumman Corporation, Annapolis, MD, will serve a one-year term as chairman. He joined in 1978, served as vice chairman from 1998 to 1999 and as chairman of the Committee on Standards from 1992 to 1994.



Richard J. Schulte

**Richard J. Schulte**, a founder and partner in the firm of Schulte Associates LLC, of Brecksville, OH, is the new vice chairman. He has been on the ASTM Board since 1996 and was chairman of the Finance and Audit Committee in 1999.



James Bover

**James Bover, Ph.D.**, section head of Quality Assurance for Exxon Mobil Biomedical Sciences, Inc., of Annandale, NJ, is now chairman of the Finance and Audit Committee. A member since 1983, Bover joined the Committee on Standards, later chairing its Form and Style Subcommittee.

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### National Conference of Standards Laboratories

From July 16, 2000, through July 20, 2000, the Westin Harbour Castle in Toronto, Ontario, Canada, will host the National Conference of Standards Laboratories: Annual Workshop and Symposium (NCSL). The event, cosponsored by the National Institute of Standards and Technology (NIST), will include papers, panel discussions, workshops and over 140 exhibits from the top companies in the metrology industry. According to the organizers, "The key conference provides a vital forum for the exchange of ideas, techniques and innovations among those who are proactively engaged in the exciting global Measurement Science Industry." For more information contact NCSL at (303) 440-3339 or log onto [www.ncsl-hq.org](http://www.ncsl-hq.org).

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## FOCUS ON TECHNOLOGY

### Non-Invasive Testing for Gear Heat Treat Quality

Intex, Inc., has developed a non-invasive method to verify proper hardness on both case hardened and through hardened gears.

The TREC Model 421 utilizes pulsed eddy-current technology to perform non-invasive gear testing. Electromagnetic probes apply high-speed magnetic pulses to the gear under test and then detect the electromagnetic fields resulting from the transient eddy-currents induced deep within the gear (in excess of 6 mm in ferrous and 12.5 mm in nonferrous materials). Specific time-domain characteristics of those transient electromagnetic signals have been shown to be dependent upon the metallurgical properties of the gear, which, in turn, are dependent upon the heat treating process applied to the gear. Contact Intex at (800) 638-8937 or visit their website at [www.intexcinc.net](http://www.intexcinc.net).

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### Low Cost Involute and Lead Measuring Machine from Basic

According to W.F. Wolf, CEO of Basic Machine Tools, the Model #16-ILM is "an economy involute and lead measuring machine, which is the alternative to high-cost machines that are beyond the reach of many gear shops."

The #16-ILM retains the features of single disk involute machines, but it also has certain universal characteristics such

as measuring the involute profile error of any base circle diameter in common ranges, and utilizing only thirteen (13) base circle disks. For more details contact Basic Machine Tools at (323) 933-7191.

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### New Large Volume Portable CMM

Metronor Inc., announces the first portable coordinate measuring machine to handle volumes up to 45 cubic feet, exhibit 2-sigma sphere test accuracy of

less than 0.002" and a 3D length accuracy (bias) of 0.004", and cost under \$70,000 as a complete, turnkey system.

The SOLO machine uses a high-resolution charge-coupled device (CCD) sensor and Metronor's smart-LED Light Pen to make direct feature measurements throughout the sensor's field of view. SOLO is unique in having no moving mechanical parts, which offers excellent, long-term stability and reliability. "From the start, SOLO was designed to be rugged, reliable and easy to learn and use," said Dr. Alf Pettersen, vice president of Technology at Metronor. For more information, contact Metronor Inc., at (248) 353-3100.

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### New Gear Inspection System from AST

American Stress Technologies, Inc. has introduced an off-line audit inspection system used to detect grinding damage, some heat treat qualities, and residual stress from manufacturing processes. The Gear Inspection System automatically scans the ground surface of the gear, sending test data to a Rollscan central unit where it is analyzed, displayed and stored. An operator can then examine the data and make process adjustments. For more information, contact American Stress Technologies, Inc. at (412) 963-0676 or by e-mail at [ast@sgi.net](mailto:ast@sgi.net).

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### New CMM from Giddings & Lewis Controls

Giddings & Lewis Controls, Measurement and Sensing, have introduced the Endeavor Series coordinate measurement machines, which are designed to provide inspection lab precision (volumetric accuracy to 0.008 mm,

Process Equipment Company Introduces The...

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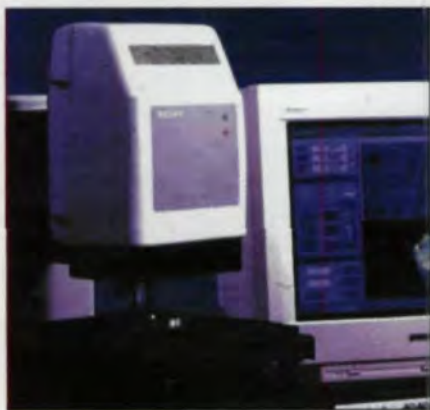




0.0025 mm repeatability) in a lower cost, shop floor machine.

The Endeavor features real-time temperature compensation to guarantee accuracy over a 5° C temperature range, a granite table for added thermal tolerance and a firm, vibration resistant foundation. Other design features include a brushless, linear motor direct drive system and a kinematic design featuring a rigid, lightweight moving structure supported by five optimally positioned bearing points to reduce stress on the drive system and enhance overall accuracy. For information contact Giddings & Lewis at (800) 348-9510 or log onto [www.giddings.com](http://www.giddings.com).

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### Sony launches New Non-contact 3D CMM

Sony Precision Technology America, Inc., has introduced its YP10 3D coordinate measuring machine for close tolerance parts applications. This system combines non-contact, auto-focusing optical/laser sensing technology and PC-based computer numerical control to provide 3-dimensional inspection, measurement and analysis of microscopic surface features on integrated circuits, printed circuit boards, computer hard disks and machined materials.

CNC movement within all axes is a closed loop controlled by the unit's 450 MHz Pentium II PC, which provides fast movement and reading response at all specified measuring points. Resolution in all three axes is 0.1 microns and Z-axis positioning repeatability is  $\pm 0.2$  microns. For information on the YP10 3D CMM, call Sony at (949) 770-8400 or visit [www.sonypt.com](http://www.sonypt.com).

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### Fowler Offers CMM Probes

The Fred V. Fowler Co., Inc. announces a range of touch-trigger probes and associated equipment to meet a variety of probing applications on most coordinate measuring machines.

The P1-5A probe is a 5-axis CMM touch-trigger probe whose small size and rugged construction permit use for many applica-

tions, as does the P1-5BS probe with integrated body and shank. Both have 0.5  $\mu$ m repeatability, employ a stylus force of 9 grams, are designed for operating 5 axes:  $\pm X$ ,  $\pm Y$ ,  $\pm Z$ , and travel over  $Z+5.0$  mm. For further information, contact Fowler at (800) 788-2353 or visit their website at [www.fvfowler.com](http://www.fvfowler.com).

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## Universal Testing Instruments from Shimadzu

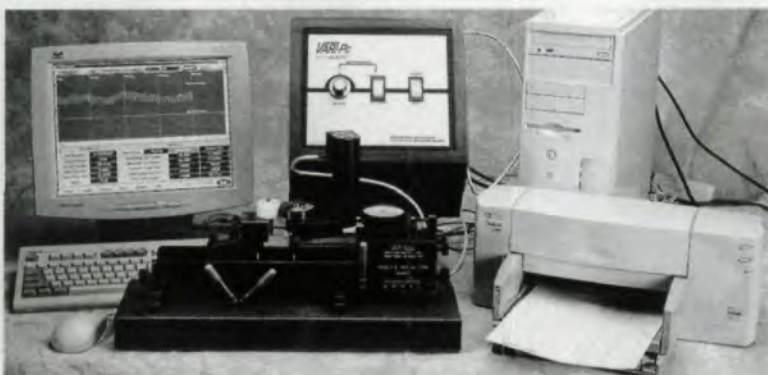
Shimadzu Scientific Instruments has introduced the Autograph AG-1 Series of universal testing instruments. Available in seven load ranges from 1kN (200 lbf) to 250kN (50,000 lbf), the high precision AG-1 testers provide a full range of completely automated test functions. For maximum accuracy, Trapezium software for Windows 95/98 and NT 4.0 enables

test data sampling at 1.25 ms intervals with a test force precision of  $\pm 0.5\%$ . Test speeds from 0.00002 in/min to 40 in/min provide flexibility to accommodate a variety of testing needs.

For more information call Shimadzu Scientific Instruments, Inc., at (800) 477-1227 or visit their website at [www.shimadzu.com](http://www.shimadzu.com).

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## New In-Line Rockwell Scale Hardness Tester

Newage Testing Instruments, Inc. has developed an automatic, in-line Rockwell testing machine, which can be customized to accommodate many types of parts. This tester, called the Versitron, can perform 500–600 tests per hour without any operator involvement.

The Versitron's hopper automatically fills a vibratory bowl, which orients and feeds the parts into a feed track. At the tester, pneumatic actuators move each part into the test fixture. The test cycle is initiated automatically and the part is pushed out of the fixture by another actuator. An escapement system drops out-of-tolerance test specimens into a separate box at the end of the line. Sensors verify proper part positioning and system operation. Touchpad controls provide an operator interface for running the system.

The Versitron senses and compensates for wear, dirt build-up and test specimen deflection under load. A nosepiece surrounding the indenter senses the surface of the test piece at the preload position. If the specimen deflects under load, the nosepiece compensates while maintaining a good reference point for the test measurement. For more information contact Newage Testing Instruments, Inc., at (215) 657-6040 or visit [www.newageinstruments.com](http://www.newageinstruments.com).

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## New Hardness Testing Software from Krautkramer

Krautkramer's new UltraHARD software transfers files from Krautkramer's MIC 10 DL or DynaMIC DL portable hardness testers to a PC. UltraHARD simplifies the process of testing, documentation and statistical analysis for



more efficient and thorough results with detailed analysis of the measurement data, linear display of measurement sets for hardness curves, and statistical evaluation of individual measurement sets or the total number of measurement readings over all the measurement sets. Simple data management is guaranteed by the integration into the Windows and MS-Office world. Contact Krautkramer at (717) 242-0327 or visit their website at [www.krautkramer.com](http://www.krautkramer.com).

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### New Range of Lenses for Optimet's Conoscope Probe and Systems

Optimet, a division of Ophir Optonics, announces a wide range of new interchangeable lenses for their Conoprobe 1000, Conoscan 2000 and Conoscan 3000 systems. No matter what Optimet probe or system is in use, the ability to quickly and easily change the lenses to create new measurements is now available. From microns to millimeters, a single sensor can now be used just by changing the objective lens. This flexibility eliminates the need to purchase separate sensors. For further information, contact Optimet at (800) 383-0814 or visit their website at [www.optimet.com](http://www.optimet.com).

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#### Tell Us What You Think ...

If you found this column of interest and/or useful, please circle 227.

If you did not care for this column, circle 228.

If you would like to respond to this or any other article in this edition of *Gear Technology*, please fax your response to the attention of Charles Cooper, senior editor, at 847-437-6618 or send e-mail messages to [Charles@geartechnology.com](mailto:Charles@geartechnology.com).

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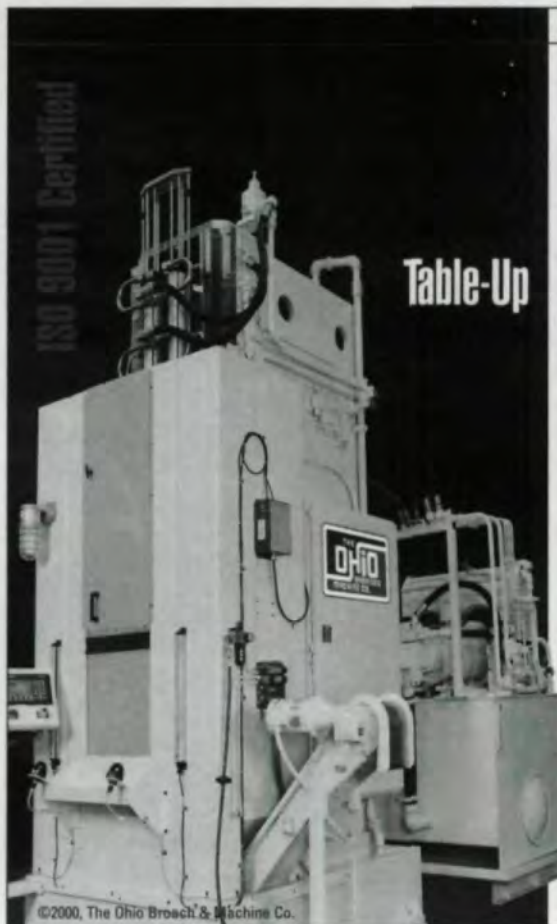


Table-Up

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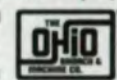
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