

Explore the World of Gearing from *A* to *Z*

GT advertisers display their wares in Detroit.

Forty of Gear Technology's pre-show and show issue advertisers will be exhibiting a wide range of goods and services at AGMA's Gear Expo '93. The exhibition will be held October 10-13 at Cobo Conference & Exhibition Center in Detroit, MI. Below is an alphabetical listing of these advertisers and a preview of what can be seen at their booths.

Amarillo Gear Co., Booth 437, is a manufacturer of spiral bevel gears and right-angle gear drives. Spiral bevel capacity is from 3 to 100 inches pitch diameter. Applications for drives include vertical pumps, cooling tower fans and frost protection wind machines.

AGMA, Booth 322, is the sponsor of Gear Expo '93. AGMA is the trade association which represents the interests of the American gear industry both here in the U.S. and abroad.

American Metal Treating Co., Booth 621, will be displaying segments of induction-hardened gears featuring single-tooth contour hardening and single-tooth submerged hardening. Stop and discuss the solution to your heat treat and distortion problems with their experts.

American Pfauter Limited Partnership, Booth 601, offers a comprehensive line of gear cutting machines, including gear hobbing, shaping, grinding, inspection and shaving machines. For more details and for assistance

with your specific gear manufacturing application, visit the American Pfauter booth.

Ash Gear & Supply Corp., Booth 323, has the largest "in stock" supply of gear cutting tools anywhere — hobs, shapers, single cutters, broaches and more! Sharpening and tool modification service are available in its new shop. The new GCP-1 gear calculation program will be "in action" to solve your gear problems. Bring your part data and watch!

Basic Incorporated Group, Booth 451, is the national distributor for Wolf gear machines. Its product line includes shapers, shavers, hobbers, honers, test equipment and more. Basic also offers service for Wolf gear machines and other makes. Stop by their booth to see a program-controlled hobber, a 20" shaper, a 12" honer and various test equipment.

CIATEQ, A.C., Booth 345, will feature DISENG gear design software, an innovative program created for PCs, which allows the user

to design external spur and helical gears dynamically and easily, according to his individual requirements.

Contour Hardening, Inc., Booth 446, will have on display the MICROPULSE® induction system for rapidly hardening gears. MICROPULSE® Type "A" contour hardening differs from other induction. It utilizes large power supplies which permit extremely short heat cycles, minimizing distortion. AGMA 6002-B93 classifies Type "A" contour hardening and carburizing as comparable processes. MICROPULSE® Type "A" significantly exceeded carburized results in standard SAE bending fatigue testing performed by GRI (Project #C-1717).

Diamond Black Technology Inc., Booth 424, manufactures Diamond Black Coating™, a patented low-temperature amorphous process of chemically inert boron carbide applied under 250°F at 2 microns ($\pm 5\%$). Low coefficient of friction is improved through natural wicking of presented lubricants, and high temperature resistance over 2200°F. Non-transferring submicron wear characteristics virtually eliminate system contamination.

Fellows Corp., Booth 521, offers a full range of CNC Hydrostroke gear shaping machines from 180 mm (7") to 2,500 mm (100"). Also offered are the Fellows/Mikron CNC gear hobbing machines in horizontal sizes 100 mm (4") to 200 mm (8") and vertical sizes 220 mm (8.6") to 550 mm (21.6") along with the Fellows/Mikron CNC gear grinding machine. Stop by the booth for a shaping and hobbing demonstration.

Fette Tools Systems, Inc, Booth 436, is the U.S. subsidiary of a German manufacturer of multi-gash high tech hobs; indexable insert hobs with exchangeable segments for roughing, finishing and skiving; skiving hobs for pre-grind hobbing and hard finishing; specialty hobs and cutters for machining rotors, worm gears, sprockets, belt and chain pulleys; and custom form milling and circular type cutters.

Gear Technology, Booth 518. Meet the editorial and advertising staff of the only

English-language magazine devoted exclusively to the subjects of gear research, design, development, engineering and manufacturing. *Let us show you how Gear Technology can be an important fixture in your gearing "tool box."*

The Gleason Works, Booth 533, invites you to its expanding world of parallel axis gear manufacturing products, including the 125GH gear hobber, a revolutionary concept, with a small-footprint design; the TAG 400 grinder, an affordable threaded wheel grinder for high-volume production; the Fassler D-250-C gear honing machine, and the GTR 250VG flexible, compact chamfering and deburring machine.

GMI-Fhusa, Booth 401, is a manufacturer of high-quality, Class "A" and "AA" hobs, which makes solid, shank, worm, inserted blade and hard skiving hobs for all applications. "Line of Action" inspection charts are normal, along with standard charting. They can design and manufacture hobs and cutters for special design applications not suited to standard hob configurations.

GMI-Kanzaki, Booth 401, is a manufacturer of precision machine tools, including hard gear finishing machines, gear shaving machines, horizontal tool changing and multi-spindle drill head machines, gun drilling machines, and transfer-case machining machines. On display will be a new hard gear finisher capable of giving super surface finishes to eliminate noise and make tooth modifications. Full 5-axis, CNC control FANUC/O-MC.

Guehring Automation, Inc., Booth 635, will be exhibiting the new Frenco Universal Rotational Measurement (URM) machine for complete inspection of gear and spline shaft profiles in as little as 8 seconds. Inspections include DOP, runout, roundness, spacing error, lead and taper. Other Frenco products include spline gages and workholding devices. Frenco is also exhibiting HDT hydraulic expansion arbors for gear hobbing, shaving and inspection.

ITW Components & Tools Division, Booth 215, is a manufacturer of precision gear hobs, shaper cutters, master gears, Gerac® dies and Illinite tooling for superior performance.

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They also make engineered systems utilizing ITW Spiroid® gearing. ITW is serving the industry with their widely recognized gear training program, "The Gear School."

ITW Heartland, Booth 215. For over 70 years, ITW has been a world leader in the design and manufacture of gear inspection systems. They offer innovative high-speed, high-production burnishing machines as a complement to this product line. They will feature the model 2290 Dimension-Over-Pins unit and a sample of computerized analytical gear inspection.

James Engineering, Booth 351, "deburring and chamfering specialists," provides a full line of deburring and chamfering systems for processing parallel axis, bevel, and hypoid gear and cylindrical parts geometries. The feature attraction at their booth will be the Model 962ADS fully automatic system with automatic tool changing and other salient features to assist high-volume gear producers.

Koepfer America Limited Partnership, Booth 551. Since 1867 Koepfer has served fine to medium pitch gear manufacturers throughout the world. Koepfer CNC and mechanical hobbing machines, as well as HSS and carbide cutting tools, are considered the quality standard in many plants. Flexible automation systems provide the highest possible output. Full technical support is provided from Elgin, IL.

Liebherr, Booth 142, is a manufacturer of bevel gear cutting and grinding machines, gear hobbing and gear shaping machines, parallel axis grinding machines, gear measuring centers, hob sharpening machines and gear cutting tools.

M & M Precision Systems Corporation, Booth 131, will introduce the QC 1000 basic gear inspection system, an automatic CNC gear inspection machine offering well-known M & M quality, reliability and support. Also featured will be the QC 3012 and QC 3025 universal gear inspection systems, providing universal gear testing for most cylindrical parts. Double-flank gear rollers, functional spline

gages and master gears will also be featured.

Merit Gear, Booth 218, is a full-service gear manufacturer with an internal heat treat department. Company services include prototype, replacement-breakdown and production quantity runs. They are a builder of complete O.E.M. enclosed drives. They grind gears and want to be your "in-house gear department," meeting your power transmission needs.

Mitsubishi Machine Tool USA, Inc., Booth 201, is the only manufacturer to offer a complete line of gear machines up to one meter. This offers the user the convenience of a single controller and common programming for all hobbing, shaping and shaving applications. This commonality will also make maintenance a much easier task.

National Broach & Machine Co., Booth 100, is featuring seven machines this year, offering a full complement of gear roughing and finishing machines. Hob, chamfer and broaching machines will be displayed along with gear grinding, honing, shaving and rack rolling machines. Red Ring's new line of hob and shaper cutter tools will also be on display.

Niagara Gear Corporation, Booth 422, is a contract manufacturer of precision ground spur and helical gears to AGMA Class 15.

Nixon Gear, Inc., Booth 419, a member company of Gear Motions, Inc., houses one of the nation's most modern fleets of Reishauer gear grinders — highlighted by the RZ301S and the RZ300E. Gear Motions combines a diverse group of specialized custom gearing shops into a single organization. Member companies include Nixon Gear, Oliver Gear and Rawling Gear.

Normac, Inc., Booth 231, will be showing a CNC gear grinder for form grinding spur and helical gears and a CNC wheel profiling center.

Pfauter-Maag Cutting Tools Limited Partnership, Booth 601, is a manufacturer of cutting tools, including hobs, shaper cutters and milling cutters. The company also provides coating, sharpening and heat treating services.

Presrite Corporation, Booth 433, offers innovative ways to meet your gear needs with high-quality, closed-die forgings. Capabilities include forged parts up to 300 lbs. and 18 inches in diameter, near-net and net shape capabilities, micro-alloy capabilities, a Total Quality Management System, and a state-of-the-art metallurgical lab.

Profile Engineering, Inc., Booth 637, specializes in Fellows model gear measuring instruments and offers complete rebuilding, design updates, recorder retrofits, field service, mechanical and electrical repairs, parts and special requests, and gear inspection service. They are introducing a computer analyzing system for Fellows gear composite red liners.

Redin Corporation, Booth 338, designed and built the first gear deburring machine in the U.S. in 1950. In 1991 Redin designed and built the first ten-axis, CNC, programmable, automated gear deburring machine. Stop by the booth to discuss Redin's latest designs and future plans.

Reef Gear Manufacturing, Booth 530, is a manufacturer of spur and helical involute gears and splines, with volumes from 50 per day to 3,000 per day. They are Q1 at Ford and certified at G.M., Chrysler, Luk, Lucas, Navistar and Rockwell. The company has 45+ years of gear manufacturing experience.

Reishauer Corp., Booth 645, manufactures precision gear grinders to 880mm capacity, thread grinding machines to 2,000mm length, and tap grinding machines to 25mm diameter. On display at the show will be the company's new gear honing machine with capacity up to 250mm.

Roto-Technology, Inc., Booth 227, will show a RC-400 Roto-Check CNC gear inspection system, which is IBM-compatible and fully automatic. The basic system includes inspection of index, pitch, space variation, lead and involute profile, and it provides a printout. Many options are available — inspection of hobs, cams, crankshafts, etc. Inspection sizes range from tiny gears to large 40" ring gears.

Schmitt Industries, Inc., Booth 734. Schmitt's SBS Dynamic Balance System is a dynamic balancing device used on gear grinding machines which substantially improves the quality of work, reduces cost and setup time and extends grinding wheel life. Schmitt Industries balance systems are the premier automatic balancing systems available in the marketplace today.

Star Cutter Company, Booth 501, a leading manufacturer of cutting tools and tool grinding equipment will feature precision hobs and milling cutters, shaper cutters, gun drills, gun reamers, PCD tools and CBN and diamond-coated tools and dressers. They will be demonstrating their new UTG600 machine, developed for precision grinding of cutting tools.

SU America, Inc., Booth 515, provides a full line of gear cutting tools, plus chamfering and grinding machines, resharpener of shaving cutters and CNC thread grinding.

Therm Alliance Co, Booth 251, engineers and manufactures heat treating furnaces for gear carburizing. New technology will be presented which achieves high quality case depth across the root, pitch and top of gear teeth, reduces distortion, shortens carburizing time dramatically, requires no endothermic gas generator, is environmentally cleaner and costs less to operate.

WMW Machinery, Inc, Booth 309, will spotlight the new Niles gear profile grinding machine, the only profile grinder to feature two independently CNC-controlled grinding wheels. The 8-axis CNC control with CNC dresser ensures grinding any profile. Niles will demonstrate programming and setup, the operator guidance system and time studies in Booth 309.

Carl Zeiss, Inc. IMT Division, Booth 331, is a leading supplier of high-quality CNC gear inspection centers, coordinate measuring machines and related products and services. IMT offers Hofler gear inspection centers and Zeiss high-precision manual and CNC coordinate measuring machines. ■

GEAR WEEK, 1993

*Gear Expo '93
October 10-13*

*Fall Technical Meeting
October 14-15*

*Show Hours
9:00 a.m. - 5 p.m.
Sunday through
Wednesday*