



Release: GMTA (GERMAN MACHINE TOOLS OF AMERICA)

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GMTA NEWS OF NOTE

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Ann Arbor, Michigan – GMTA (German Machine Tools of America) represents various top-quality German metalworking machine builders companies, including Wera Profilator, K + G, Pittler, Praewema and WMZ, as well as Arnold lasers. These machines are sold to the North American market by GMTA, primarily for gear and spline production, as well as other power transmission and various metalworking applications. The company's target markets include automotive, off-highway, energy and other heavy equipment manufacturing. Machines are provided for gear honing, gear grinding, the patented Scudding® process for gearmaking, polygon milling, turning, gear tooth pointing and multi-task machining operations, as well as various laser operations or laser line integration. This newsletter is provided to our friends in the media to keep you and your readers updated on News of Note at GMTA.

In the news...

-GMTA will exhibit at several shows upcoming, including EMO in Milan and Gear Expo in Detroit. At the latter, the company will show its latest development for gearmaking, namely, the Hard Scudding process. Just a few years ago, the concept of Scudding®, developed by GMTA and its partner company Wera in Germany, left the traditional skiving method in the dust, so to speak, for internal gear production used primarily in the powertrain buildup. This process, 5-10 times faster than gear shaping, formed the surface of the workpiece through several, small enveloping cuts, providing a surface finish and part quality level that was far superior to hobbing, shaping or broaching. Scudding is a continuous generating process, meaning no idle strokes on the machine tool, as when shaping gears. Ring gears, sliding sleeves and annulus gearing, whether internal helical or spur, external helical or spur or blind spline, synchronizer parts with block tooth features and



synchronizer hubs remain among the popular products in the market, made with Scudding technology.

Today, this continuous gear cutting process is widely used in production environments for internal, external, helical and spur gears, as well as splines and other components in the powertrain world. The machining can be done without the need for an undercut or groove (clearance) and lead of the gear can be manipulated via axial motions (crown/taper). It is a demonstrably superior technology and automotive suppliers have embraced its advantages for many years now.

Impressive a technology as it is, the industry took another step forward recently with our new process known as Hard Scudding™. The conventional Scudding process provides excellent results on green or soft gears, while this new advancement enables the re-machining of hardened gears with a tooth-to-tooth composite error and total composite error in the AGMA 12, DIN 5 range and a surface finish better than 1.5 Ra.



The capital investment is minimal for shops and production departments already doing Scudding, because the same gear can be run on the same CNC machine, using a solid carbide tool to do the work. Recent testing done on various internal automotive powertrain and agricultural machinery ring gears is showing extremely positive results. Stock division calculations on the tooth position are standard technology for GMTA and Profilator, so re-cutting is quick and easy. Using the latest CNC technology to control the machine kinematics, users are able to transfer this technology to Scudding machinery that is already deployed in the field. Thus, the same part can be cut on different machines at different times, allowing for more flexibility in scheduling. With today's portable programming, onscreen or offline tool path and cutting condition simulation, plus the immediacy of call-up onscreen for all values and tolerances in real time, the busy machine shop or large production department stays flexible and demand

responsive, using this Hard Scudding technology. In some cases, this new technology is applicable on near net, pre-hardened gear blanks, allowing significant step reductions in the manufacturing process.

In operation, cutting 60-100 thousandths per flank on a tooth, the Hard Scudding process can be used on a carburized or through-hardened parts; nitriding generally does not provide enough case depth to ensure sufficient stock for "clean-up". An automotive ring gear, for example, which requires 40-50 seconds for Scudding can be produced with Hard Scudding in 25-30 seconds. This process development stands as a viable and very cost-

effective alternative to conventional grind-and-hone operations, yielding a highly attractive cost per piece and extended tool life scenario. The added benefits of reduced capital outlay and a significantly more consistent end product bode well for the automotive powertrain and other gear market segments.

STOP BY BOOTH 2109 IN DETROIT, OCTOBER 20-22 TO LEARN MORE OR CALL SCOTT KNOY TODAY!

-GMTA management will be attending EMO in Milan with its partners, then exhibiting at Gear Expo, being held this year in Detroit, October 20-22.



-GMTA is running at “light speed” with their new Arnold laser work cells. Available as single or double work cells, the Arnold systems are offered as CO2 or fiber lasers, with full integration into a machining line, either by means of robotic part articulation or other automated transfer mechanisms, most of which are being

supplied to customers by GMTA engineering. Leads from the last IMTS and the company’s aggressive ad program are already being developed into serious opportunities for the company, often in tandem with other machine tool lines and auxiliary equipment now offered by GMTA, according to company President Walter Friedrich. The most recent development is laser cladding, a process of simultaneous metal deposition and fusion, with an extremely high degree of control on the geometry. This technology has considerable application in the aerospace, medical, power gen and oil & gas market segments, in addition to the GMTA home base of automotive.



-The new Mexican office of GMTA, located in Queretaro, is reporting brisk activity, owing to the substantial procurement authority in-country now. According to VP Scott Knoy, “This contrasts with bygone days, when the decision-making and purchasing were largely centered in America and specifically in Detroit. It’s a whole new ballgame with the Mexican market today and we believe our new location (Queretaro) there is well positioned to serve this dynamic manufacturing environment.” GMTA already has a substantial installed base of machines in Mexico from all their partner companies. At the new facility, machines are in place for demo and test runs, plus the facility is fully staffed with application engineering, technical support, after-sale service and parts inventory.

-Sales continue to be brisk on the 9- and 10-speed transmission projects in the automotive market. Scott Knoy, GMTA VP, comments, “We’re seeing a lot of activity here in the

States and in Mexico, so we know our timing was right with the opening of our new facility there.”



-As part of the company’s ongoing commitment to education, GMTA Corporate Treasurer Claudia Hambleton volunteers for the Junior Achievement program in Saline, Michigan for educating K-12 students about jobs, entrepreneurship, financial literacy and work readiness in today’s competitive and changing market. She is active in the recruitment of local business people in the area to assist the program.

-The alliance with Star SU, through which GMTA is sourcing tooling locally, continues to prosper and mutually benefit both companies.

- We are proud to announce a business transaction between the Profilator Group and the Dr. Dieter Murmann Beteiligungsgesellschaft, in which Dr. Dieter Murmann Beteiligungsgesellschaft has acquired all shares of the Profilator Group, consisting of Profilator GmbH & Co. KG and the U.S. affiliate company GMTA (German Machine Tools of America Inc.). The Murmann family has long term plans with the Profilator Group to act as an autonomous business, striving for future success and ongoing technical developments. The current management team of the entire Profilator Group will remain the same, including Thomas Buchholz as Managing Director of Profilator in Wuppertal, Germany and Walter Friedrich as President of GMTA.

-GMTA is a corporate sponsor of the Smart Factory Industry Forum, being sponsored by the German American Chamber of Commerce and held at the Digital Manufacturing & Design Innovation Institute in Chicago on October 9.

For more information on any items in this announcement, please contact:

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