Milling Cutter
The VFlash high-performance milling cutter features a new serrated-pocket design and direct-mount, insert-clamping system. Suitable for today's high-speed machining centers, the cutter offers safe, rigid, and chatter-free operations at speeds to 20,000 fpm (6100 m/min) for optimal utilization of tipped PCD inserts for aluminum applications, and CBN tools for other materials. System offers operators ease of installation and reduces premature tool wear, thus minimizing unnecessary tool changes, and provides higher metal removal rates and improved surface finishes. Sizes range from 2" through 12" (51–305-mm) diam and utilize Valenite's ValPro™ serrated style, PCD-tipped inserts for aluminum and nonferrous work, or CBN selections for a wide range of applications. Valenite LLC Ph: 262-781-6777 Circle 443

Management Storage Cabinet
Accu-Cab RFID cabinet is used to manage tooling, spare parts, or any indirect material at point-of-use. Driven by CribMaster software, the system consists of a heavy-duty, double-walled cabinet internally equipped with four RFID antennae and an electromagnetic door lock. Users must identify themselves to unlock the door. After the user removes any equipment, the inventory is automatically accounted. Win-Ware Ph: 888-419-1399 Circle 444

Dual Coating
TheAC410K coating, consisting of a Super FF alumina layer and Super FF TiCN layer, provides peeling, thermal, and chipping resistance, as well as improved insert stability. The coating on a carbide substrate has good wear resistance when performing continuous-to-light interrupted machining of gray and ductile cast iron. The coating is available in positive-insert styles for light-to-medium cutting applications and negative-insert styles for light-to-

rough-cutting applications. Sumitomo Electric Carbide Inc. Ph: 800-950-5202 Circle 445

Burnishing Machine
The company will demonstrate their CX-2000 external roller burnishing machine that sizes, finishes, and work-hardens cylindrical diameters. Also shown will be their new and improved Flipcut back-spotfacing and chamfering tools. Cogsdill Tool Products Inc. Ph: 803-438-0218 Circle 446

Ready-Made Blanks
Machine-ready blanks reportedly can save as much as 20% of labor costs, which can result in 15% lower overall part cost. They also allow production to start immediately. Additionally, the operator reduces time spent adjusting setups and fixture offsets. By ending prep time and minimizing setup time, operators and machines are more productive and increase throughput capacity. Blank tolerances are guaranteed to be ±0.0005" (0.013 mm) dimensionally and ±0.0002" (0.005 mm) in flatness, squareness, and parallelism. TCI Precision Metals Ph: 818-761-8405 Circle 447
Constant-Speed Tapping
Reduced-cycle-time tapping allows higher speeds through low-impact cushioned drive. Coolant system delivers higher internal coolant pressure. Constant-speed tapping increases tap life by not reducing speed in the middle of the cut. Machine spindle wear is reduced by eliminating two machine reversals per tapped hole, and the RCT uses less energy.
Tapmatic Corp.
Ph: 800-854-6019
Circle 448

End Mills
Solid carbide micro end mills are designed for micromachining applications. An innovative cutting edge combined with a slim, concave tapered neck can be used on materials including Rockwell 66 hardened steel. The tools are available in sizes from 0.2–2 mm with cutting length-to-diameter ratios of 2.2:1, 5:1, and 10:1.
Emuge Corp.
Ph: 800-323-3013
Circle 449

Direct-Drive Rotary Technology
Super-Precision direct-drive rotary systems incorporate a rare-earth permanent magnet torque motor with no mechanical gearing. This frameless motor wraps around the spindle, eliminating the need for a separate motor extension. A ±0.077 arc-sec resolution, ±2.19 arc-sec accuracy encoder is mounted on the spindle to provide accurate positioning. The direct-drive design eliminates backlash, which results in high servo stiffness, rapid accurate bidirectional response, and repeatability of ±2 arc-sec. Like all the company's rotary systems, direct-drive models have a drawbar actuator to accept multiple...
workholding devices. Various faceplates, collets, step chucks, power chucks, and scroll chucks can be interchanged.

Hardinge
Workholding Div.
Ph: 800-510-3161
Circle 450

Minimum Quantity Lubrication Drills
Company continues to promote its “Eco & Eco” Ecology and Economy concept by now offering MQL drills that increase cost performance and are environmentally friendly, as they are designed for use in minimum quantity lubrication applications. MQL drills replace gundrills that use high-pressure coolant and have inconsistent tool life. MQL drills use a controlled amount of coolant which reportedly results in less coolant expense, improved and consistent tool life, and less cost of maintaining machining centers, as well as less employee health concerns related to coolants.

Nachi America Inc.
Cutting Tool Div.
Ph: 888-340-8665
Circle 451

Magnet Finishing
Company is introducing magnet finishing to the North American market with the 305 Trend for regrinding and 305 Micro for miniature tooling. Both machines use the Siemens 840D Control and the company’s Sigs menu-driven software for ease of setup and operation. The 305 Micro includes magnet finishing for edge preparation of cutting tools and part production. The magnet finishing device is incorporated into the wheel-changing system, allowing complete grinding and magnet
finishing in one setup. The 305 Trend machine, targeted at the regrind market, includes the automatic wheel-changing system plus a five-position loading system.

Schütte TGM LLC
Ph: 517-782-2173
Circle 452

**Edge Prep Measurement**

Helicheck Pro and Plus measuring machines can now measure the edge prep (hone) of precision cutting tools. Helicheck adds the ability to automatically measure edge prep to its ability to measure most geometries, including features like corner radius, rake angle, helix, runout, and K-land. A new 1000× magnification camera and segmented LED light enables edge prep measurement to a 5 µm radius. The Plus model measures tools to 0.1 mm in diam, and the new equipment improves the unit’s ability to measure features like clearance and rake angle on micro tools. Repeatability is 1 µm.

Walter Grinders Inc.
Ph: 540-898-3700
Circle 453

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**IMTS 2008 Manufacturing Business and Technology Forum**

Tuesday, September 9
2:40–4:45 pm

**New Lean Tools: VR and Animation Technology for Tool and Die Shop Profitability**

If your die shop struggles with the growing price pressure from low labor cost country competitors, you’ll want to experience what a new set of lean tools for this beyond state-of-the-art application of virtual reality, animation, and process simulation can do for your costs. Taking labor and material down as much as 50% in three years is possible. Lead times can be shortened by up to 75% at the same time. Attend this session for a demonstration of current state and future state computer models of typical die shop processes with improvement result comparisons.

Sponsored by SME
Workholding
Company is a designer, manufacturer, and supplier of standard and custom-engineered workholding solutions that incorporate mechanical, magnetic, and hydraulic components. The firm is known in Europe for its innovation of technologies for typical and challenging workholding needs. Product line includes material handling devices, precision mechanical and magnetic workholding, demagnetizers, custom sine tables, custom rail milling systems, and more.
SAV North America
Ph: 888-628-8796
Circle 454

Forming Taps
Designed for high-speed tapping of stainless and carbon steels, the TiCN-coated XTF forming tap produces threads by displacing material to create the thread form. Because there are no cutting chips, higher speeds can be achieved compared to conventional cutting taps. The new forming tap’s crests are rounded to promote smooth plastic flow and prevent cracks and burrs in the root of the internal thread. Taps feature a high-cobalt HSS substrate, which improves hardness and heat resistance. Taps come in inch sizes from 0-80 to ½”-20, and metric sizes from M2 × 0.4 to M12 × 1.75.
Vega Tool Corp.
Ph: 800-228-2969
Circle 455

ER Coolant Collets
Self-sealed ER Coolant Collets prevent coolant from reaching the collet face without using plugs, disks or other hardware. The ER’s patented staggered slot design works to fully prevent coolant from reaching the collet face. For longer life, these collets are made of solid steel,
and contain no wearable rubber or silicone parts. In addition, drill insertion need not be longer than the collet length. The collets are designed for use with cylindrical shank tools (no flats), in diameters ranging from 4 to 26 mm. Coolant pressure of 1800 psi (12.4 MPa) is guaranteed.

Lyndex-Nikken Inc.
Ph: 800-543-6237
Circle 456

Chatter-Free Boring Bars
Benefits of chatter-free tools (CFT) include longer tool life due to reduced vibration. Internal Tuned Damping technology provides dynamic stability, improving machining performance. Bars reportedly outperform standard boring tools by suppressing the tool’s natural vibration. Length:diameter ratios are possible up to 14x without chatter. Company offers stock standard solid bars in 0.750 and 1.000" (19 and 25.4-mm) diam sizes and bars with a modular head connection from 1.000" diam and 10" (254-mm) long to 4.000" (102-mm) diam and 46" (1168-mm) long. Specials can range to 12" (305-mm) in diam and 10' (3.0-m) long.

Ultra Dex USA
Ph: 810-638-5388
Circle 457

Micro Reamers
Company offers 3-mm, reinforced-shank micro reamers. The reinforced shank offers the greater
stability necessary for these tools. Sizes start at 0.008” (0.2-mm) diam in increments of 0.0002” (0.005 mm) to 0.024” (0.61 mm) in carbide from stock. Products range from 0.0240 to 0.7882” (20 mm) in 0.0004” (0.010-mm) increments, most from stock. The drills’ four-flute geometry reflects a 10º left-hand spiral with a right-hand cut for pushing chips forward and creating a good finish.

Magafor USA
Div. of Hassay Savage Co.
Ph: 800-665-6734

Circle 458

Magnet Workholding
Permanent magnetic blocks and electro-permanent magnets are available. These magnets are well-suited for machining flat stock steel and allow access to five sides of the workpiece. They are designed for both horizontal and vertical machining applications and allow quick setups, and are said to offer maximum hold-down force.

Te-Co Workholding
Ph: 800-543-4071

Circle 459

Magnetic Systems
Working together, EZ-Lift material handling magnets and MagVISE magnetic workholding systems are said to reduce setup and part changeover times by 50% or more when compared to traditional material handling and workhold-
Company’s material handling magnets have a built-in safety factor of 3.5× capacity, are rated to lift up to 6600 lb (2996 kg), and come in six sizes.

Earth-Chain Inc.
Ph: 877-354-3837

Circle 460

ID Clamps
The new mild-steel ID Xpansion Clamp for VMC and HMC applications is designed to hold lathe parts from an ID. Concentricity of 0.0005" (0.013 mm) can be held because the clamp is machined to match the workpiece. Produced in ten sizes, the clamps have a full range from 0.160 to 6.89" (4.06–175 mm). The screw, with the tapered head, goes through the clamp and mounts directly into the fixture plate or pull cylinder. Once machined, these clamps can be tightened with a hex key or hydraulic pull cylinder.

Mitee-Bite Products Inc.
Ph: 800-543-3580

Circle 461

Taps and Other Tools
Company and its subsidiaries, Gaylee Corp. and Bitner Tooling Technologies Inc., will exhibit cutting tools and services. Thread tool products exhibited will include: special taps; special threading dies; special thread plug and ring gages; Tru-Flo thread-forming taps; coolant-fed taps; extension taps/pulley taps; carbide taps; Carb-I-Sert carbide insert taps; oversize taps; thread mills; DIN-dimensioned taps; metric taps; and blueprint special taps. Gaylee Corp.
manufactures ultraprecise solid carbide and carbide-tipped circular thin saws. Bitner Tooling manufactures an array of tooling, specifically subland tooling (drills/reamers), circular and dovetail form tools, combination tools, and many types of cutting tools.

North American Tool Corp.
Ph: 815-389-2300
Circle 462

Coolant-Through Toolholders
These FID end mill toolholders feature two coolant paths that run the bore’s length, evacuating around the tool shank, providing coolant-through capability the manufacturer says is affordable. “Techniks Certified” FID end mill holders are factory-balanced to 10,000 rpm. Each holder is lab tested for bore accuracy, taper accuracy, and balance. Bore is guaranteed accurate to an HS standard, and the taper ground to AT3 specifications for maximum spindle contact. According to the company, for every 0.0001” (0.003 mm) improvement in TIR, tool life is extended 10%. Full lab report documenting test results is included with each holder.

Techniks Inc.
Ph: 800-597-3921
Circle 463

One-Touch Axial-Adjustment Toolholders
New SDM toolholders feature one-touch drill-length adjustment. Drill projection length can be adjusted by hand-rotating the knurled guide ring on the outside of the toolholder. Axial adjustment range varies from approximately 10 to 25 mm, depending on the size of the toolholder. These toolholders use the company’s FDC collet system, which provides
guaranteed run-out accuracy within 5 µm at 4xD (for AA-Class collets). FDC collets are available from stock in sizes ranging from 0.5 to 22 mm.

To prevent cutting tools with tangs from rotating within the toolholder, units include a preset screw.
NT USA Corp.
Ph: 615-771-1899
Circle 464

Air/Hydraulic Pump
Designed specifically for workholding applications, the model 3000 air/hydraulic pump has flow rates as high as 4 L/min. A maximum air inlet supply of 120 psi (8.3 bar) dispenses 3000 psi (200 bar) of operating pressure to drive your workholding system. Available in both standard and metric models, the pump can be used in workholding applications worldwide.
Vektek Inc.
Ph: 800-992-0236
Circle 465

Boring Bars
Company will display its new heavy metal boring bars engineered specifically for extended-length boring applications (from 4:1 up to 6:1 diam-to-length ratio). Units
function equally well in finishing and medium-machining ID turning, grooving, and threading tasks. The systems feature a hybrid heavy metal construction with brazed steel heads, offering more rigidity for greater extended-length capability compared to steel bars, while being less expensive than carbide boring bars. The design also supports the insert better than heavy metal alone, reducing failure possibilities while in use. The bars are available in a variety of sizes, including 8, 10, 12, 16, and 20 mm, and 3/8, 1/2, 5/8, 3/4, and 1”.

Kennametal Inc.
Ph: 800-446-7738
Circle 466

Big-Bore Rotary Tables
Company will showcase its line of Tsudakoma RTV-Series Big Bore series rotary tables that feature oversized through holes from 6.3” to 10.6” diam (160–269 mm) and are particularly suited for use in machining rock bits. Rotary tables feature large clamp torque via dual-disc hydraulic clamping and cross-roller bearings. The tables deliver indexing accuracy of ±7.5 arc sec and repeatability of ±2 arc sec, and are available with a full range of options including rotary scales and hydraulic or pneumatic rotary joints. Units generate a torque-transfer efficiency to 85% by utilizing an oversized, dual-lead worm-wheel/worm-spindle drivetrain with deep tooth engagement.

Koma Precision Inc.
Ph: 860-627-7059
Circle 467

High-Productivity Cutting
The 3P Sumo Line features Sumo Tec, a new series of premium tungsten-carbide grades for drilling, milling, turning, and grooving applications. These tools and inserts feature a new substrate and Sumo Tec coating technology. Sumo Tec grades feature advanced coating using the CVD and PVD processes. The PVD process is composed of AL-TEC coating
technology. The CVD process is based on Alpha-Tec technology, which improves tool life, and ensures low insert surface stresses and an evenly coated top surface. The even surface contributes to smooth, uninterrupted chip flow, less generated heat, and less friction. The new process improves toughness and chipping resistance, reducing friction and built-up edge, increasing tool life.

Iscar Metals Inc.
Ph: 817-258-3200
Circle 468

DIN Shrink-Fit Toolholders
DIN-style shrink-fit toolholders feature 4.5° nose angle, longer bearing surface, and materials certified and traceable to NIST standards. All shanks are traverse-ground to ISO-9001 AT3 taper tolerance. Toolholders are available with coolant-through bore tooling in HSK 63A, V40, and V50, with stub, standard, and extended lengths.

Briney Tool Systems
Ph: 800-752-8035
Circle 469

Indexable Drilling
The Revolution drill is engineered to drill from solid without need of a pilot hole by using an “over-center” cutting geometry for the indexable carbide inserts and the single adjustable
cartridge. The cartridge, which is removable for quick replacement, allows the diam to be adjusted up to 5.1 mm, permitting a hole-size range of 1.875 to 4.0" (47.6–101.6 mm). Also to be demonstrated is the GEN3SYS high-penetration drilling system with a range of 12–32 mm with 3x, 5x, and 7x drill depth-to-diam ratios. The Opening Drill, which has the ability to remove large amounts of material in one pass, even with low-horsepower machines, will be exhibited.

Allied Machine & Engineering Corp.
Ph: 330-343-4283
Circle 470

Powerful Clamping
PowRgrip PG 32 uses a toolholder and collet to clamp tool shanks to 1" (25 mm) in diam with clamping force said to be the highest in the industry while maintaining a TIR of less than 0.0001" (0.003 mm). The toolholding system is well-suited for high-speed machining applications, offering an extensive taper selection including CAT, BT, HSK, and TC versions. The PG 32 is balanced by design, improving part quality and surface finish, and lowering manufacturing costs. These toolholders use the mechanical properties of the holder material rather than heat or hydraulics to generate gripping force.

Rego-Fix
Ph: 317-870-5959
Circle 471

Aggressive End Mills
Z-Carb solid-carbide end mills are said to improve productivity up to 30 times and achieve a 100% increase in radial width of cut over conventional four-flute end mills. In testing, feeds were increased up to five times and speeds up to 50%. The end mills have increased axial depth of cut 275% without chatter, while improving surface finish and increasing material removal rates up to 10 times. Z-Carb-HTA features geometry for machining high-temperature alloys, such as Inconel, Waspaloy, Hastelloy, Rene, A0286, and Stellite, among others. Z-Carb-MD produces chatter-free, high-speed machining and smooth finishes in mold and die applications.

SGS Tool Co.
Ph: 330-686-5622
Circle 472
Dedicated Manual Fixtures
Amrok ready-to-use dedicated manual fixtures are designed and built from the ground up for HMCs, VMCs, and other CNC machinery. Tombstones can be designed to customer specification with edge locating, hardened and ground wear pads, center locating, or just mounting holes. Fixtures can be designed with plain faces, with or without any special machining, hole patterns, with precision bushings, and threaded inserts or with precision T-slots. Also shown is the Triag modular workholding system for clamping small parts in high density by attaching the clamp modules to rails.

Advanced Machine & Engineering
Ph: 815-316-5277
Circle 473

Coated Insert Grade
The TP1500 is the newest addition to a line of coated grades produced using the Duratomic process, which manipulates the crystalline structure at the atomic level to produce a durable coating. It meets the mechanical and physical demands required for turning steels at high cutting speeds without sacrificing the toughness needed for reliability, as well as machining a wide range of cast iron applications, especially involving ductile and compacted graphite iron. Used in conjunction with the new MR6 chipbreaker, TP1500 produces longer tool life, increases productivity, and lowers cost.

Seco Tools Inc.
Ph: 800-832-8326
Circle 474

Precision Collet Holders
The CBER boring system converts precision ER collet holders into a precision boring system. CBER fits into ER20, ER25, ER32, and ER40 collet holders and uses CB-style insert holders and bar holders. The system is capable of boring holes as small as 0.035" (0.89 mm) in diam to as large as 1.7" (43 mm) in diam. All CBER sizes have a standard 0.001" (0.03 mm) on diam direct-reading adjustment dial. All sizes will be available in standard and short lengths.

Criterion Machine Works
Ph: 949-631-5444
Circle 475
Workholding Components

Workholding and machine tool components will be showcased including clamping, gripping, locating, positioning, and support products. Demonstrations will feature a variety of Imao side clamps that generate simultaneous lateral and downward clamping forces to 10,340 lb (4.7 t) to the sides of the workpiece, providing unobstructed access to the entire top surface. Other products to be shown include Fairlane Products grippers, rest pads, Swivots positioning components, Quick Release ball-lock pins, rollers, and bumpers, Kipp spring plungers, OK-Vise clamps, and Mitee-Bite edge, slot, uniforce, toe, low profile, and expansion clamps.

Fixtureworks
Ph: 586-294-1188
Circle 476
Precision Tooling
EWN digital boring heads offer diam adjustments of 1 µm that can be seen on a high-contrast LCD display. EWB-UP heads will be shown with inch graduations with division of 0.00005" (0.0013 mm) on diam. Two new angle heads include the ONBS and the compact angle head that combine vertical, horizontal, and angular operations on one machine will be shown. The Mega ER 16 and ER 32 collet chucks will be shown with the BIG-Plus tooling system. The benchtop Magis presetter for tool measurement and presetting will be displayed, as well as the expanded lines of Sphinx Micro Drills and Phoenix drills for cutting extra-hard materials.
BIG Kaiser Precision Tooling
Ph: 847-228-7660
Circle 477

Balancing Act
Spin Tru CAT and BT taper end mill toolholders and collet chucks are balanced to 20,000 rpm at g 2.5. Toolholders are made from 8620 alloy steels with AT3 Class accuracy to ISO 9002 quality control standards. All of these balanced toolholders come with certification. They increase accuracy and repeatability due to less vibration and chatter, and can help improve spindle bearing life and improve surface finish, as well as allowing faster speed and feed rates.
US Shop Tools
Ph: 800-243-7701
Circle 478

IMTS 2008 Manufacturing Business and Technology Forum
Tuesday, September 9
9 am-12 pm

Advanced Automotive Body Manufacturing
With the rise of globalization and advanced technologies, new strategies for body manufacturing are emerging. OEM and supplier participants in the federally sponsored Digital Body Development System project will highlight some of the new technologies being implemented and the strategies they enable. Speakers will present insights into the automotive industry at large, as well as the future direction of metrology and software. The industry is rapidly changing and organizations at the forefront of technology and innovation will become the industry leaders.
Sponsored by CAR
**EDM Tooling**

Tooling compatible with the requirements of mold makers includes holders, chucks, and indicating spindles. Used tooling acquired from companies changing systems is also available.

Sunspot Tooling Systems  
Ph: 586-755-5820  
**Circle 479**

**Machine Covers, Conveyors**

Protective coverings and chip/coolant management systems will be exhibited. Products include telescopic steel covers, chip conveyors, Chip Disc Filtration (CDF) systems, bellows, Flex-Protect systems, machine endosures, roll-up and flexible apron covers, wiper systems, telescopic springs, and repair and refurbishing services.

Hennig Inc.  
Ph: 815-636-9900  
**Circle 480**

**Tooling Systems**

Reven Recojet-1 advanced oil-mist separation system for applications including machining centers, CNC lathes, Swiss-type CNC lathes, EDMs, and cut-
Kitagawa X and MR series rotary tables, including tilting models with built-in rotary joints, are known for durability and accuracy, within 15 or 20 sec in most models. MST Rite Angle attachments combine high-speed capability with accuracy up to 6000 rpm with 0.0002” (0.005-mm) TIR at the cavity. The Kiriko automatic chip compactor reduces the volume of cutting chips to briquet sizes from 2.76 to 5.12” (70–130 mm) in diam depending on compression pressures.

Tecnara Tooling Systems
Ph: 562-941-2000

**Advanced Chuck Designs**
The Big Bore Spring Clamp (BB-SC) chuck uses internal spring packs instead of compressed air to safely clamp and hold jaws. Spring packs on the BB-SC reduce cycle times through fast actuation. Jaws open and close in 1–2 sec, rather than the 11 sec characteristic of standard chucks, significantly reducing the setup process. The new TX Pull-Down chuck is well-suited to secondary machining operations where high levels of accuracy and paral-
High-Precision Power Chucks
Line of high-precision power chucks (PPC models) feature a dual-actuator design that provides increased clamping force and higher rpm capability. The design achieves greater rigidity, resulting in improved accuracy at high draw-tube forces. Increased chuck life is also realized because the internal clamping load is distributed over twice the surface area of the original PPC design. Patented QC precision jaw locating system, which maintains 0.0002" (0.005 mm) maximum workpiece run-out after change without re-machining top jaws, is standard on all PPC-D models. Dead length, pullback, low profile subspindle, and self-contained front-actuated models will be exhibited.

MicroCentric Corp.
Ph: 800-573-1139
Circle 483

Drill Advances
High-performance carbide drills in the RT 100 X Point series incorporate a faceted-style point geometry with a completely new flute profile. The point design optimizes the chip formation characteristics of most materials while reducing the amount of tool wear caused by thermal and
mechanical forces. Also, the RT 100 X Point features the new generation of micro-thin (3-5 µm) PVD hard coating called nano-Firex. This new coating is a TiAlN-based multi-layer coating that can be used in a wide range of applications, improving wear resistance and extending tool life.

Guhring Inc.
Ph: 800-776-6170
Circle 484

**Threading Toolholders**
The Jet-Stream through-coolant system is designed for both turning and threading applications, and is available in multiple (inch and metric) geometries. The system’s control coolant volume and pressure with patented Thru Coolant Dor-lock clamp and interchangeable coolant nozzles. The coolant stream is aimed a close range of 6 mm onto the cutting edge of the insert at high velocity, lubricating the cutting edge and reducing the coefficient of friction, and preventing chips from adhering to the insert. Insert life can reportedly be extended up to 200%.

Dorian Tool
Ph: 800-627-0266
Circle 485

**Diamond Tooling**
Products to be shown include diamond wheels that improve material removal rates, reduce machine cycle times, and significantly reduce costs when grinding round tools on CNC equipment. Also being displayed are single-layer, direct-electroplated wheels that offer a cost/performance advantage in the form grinding of alu-
minimum oxide and the cutoff grinding of glass-filled polymers. Also being shown is a vitrified diamond wheel made specifically for the manufacture and re-sharpening of PCD cutting tools.

Greenlee Diamond Tool
Ph: 866-451-3316
Circle 486

Four-Axis CNC Drill Sharpener
The fully automatic four-axis CNC XPS-16, is designed for shops that demand precision, simplicity, and productivity. A user interface that’s described as easy to learn reportedly makes it possible for anyone in your shop to quickly learn to use the equipment. A new collet-chuck version of the auto sharpener allows the user to accurately sharpen most end mill shank drill bits as well as double-margin drill bits. Users can sharpen pre-programmed points, or program their own custom points. For carbide, there’s an automatic cycle to hone the cutting edge. Machine can sharpen HSS and carbide drills.

Darex
Ph: 800-547-0222
Circle 487

IMTS 2008 Manufacturing Business and Technology Forum

Friday, September 12
1–3:30 pm

How the ‘Software as a Service (SaaS) Model’ Adds Value to Contract Manufacturers
Small to medium-sized contract manufacturers or job shops are focused on spending their capital dollars on equipment to satisfy customer requirements, grow their sales revenue, and maximize their profitability. Traditionally, they have not spent large sums of money on computer rooms and servers (with a useable life of 3–5 years). The investment in a computer room and server is only part of their costs. Who will manage and run this computer system? Do they hire an IT professional or two machinists that can produce a more immediate revenue stream. This has been an easy decision for this group of companies. With today’s SaaS applications, advanced computer functionality is within reach of even the smallest job-shop owner. Sponsored by AMT
Burnishing Tools
Cat's Eye burnishing tool line with quick-change diamond-tip, and single roller Superoll SR Type burnishing tool line will be exhibited. Cat's Eye is designed for long life when working materials ranging from $R_C$ 45 to $R_C$ 60. It can create microfinishes on ID, OD, end surfaces, tapered surfaces, $R$ surfaces, and spherical surfaces on a complete family of parts. Superoll tools have reportedly been known to change an 80 microfinish to an 8 microfinish in one pass. They are intended for microfinishing materials rated below $R_x$45 and can be used on IDs, ODs, and end surfaces.
Sugino Corp.
Ph: 888-Sugino-1
Circle 488

Solid Carbide Threadmills
Company will introduce their high-helix solid carbide threadmills for up to 2.25× depth versus diameter applications. The threadmills feature a unique geometry and substrate for deeper reach and exotic materials, UN and UN Acme are now standard with blueprint specials in between. This tool has proven effective at reducing side-load pressure in the cut, the leading cause of failure in deep-depth-diameter applications with traditional thread-milling tools. Rather than using specialized tools, these new tools have been shown to provide for a more ‘aggressive’ approach to the threading process, according to the manufacturer.
Advent Tool & Manufacturing
Ph: 800-847-3234
Circle 489

Drilling for Inclined Surfaces
Drilling workpieces at an angle represents a challenge for cutting tools. The new pilot drill CrazyDrill Crosspilot was developed to meet such challenges, and can be used for cutting angles with an inclination to 65°. It reduces the formerly required three machining steps (flat milling—centering—drilling) to only two operations (pilot drilling—long drilling), and guarantees a higher precision because of
Modular Fixturing for Welding

The Demmeler modular fixturing system features accurate five-sided welding tables made of high tensile strength steel. Angles, spacer blocks, clamps, positioning and clamping bolts, and universal stops can be assembled into a ready-to-use welding fixture in a matter of hours. It’s described as well-suited for prototypes, spares, and other short-run jobs.

Bluco Corp.
Ph: 866-DR-BLUCO
Circle 491
**Mineral Cast Chuck**
The new TOPlus hexagonal mineral cast chuck offers up to 25% more clamping force, central lubrication, improved dampening characteristics, and a clamping head that is fitted free of joints to the chuck surfaces. The clamping head is said to lie full-surface in the chuck body, even with large workpiece tolerances. In addition, this design ensures the chuck is less susceptible to contamination than previous chuck/clamping head solutions. Concentric precision is 0.015 mm. The chuck is well-suited for raw material, cast parts, and forged parts.  
Hainbuch  
Ph: 414-385-9550  
Circle 492

**Titanium Milling Tool**  
CoroMill 690 is a long-edge cutting tool developed to provide high productivity in 2-D profile milling of titanium components. The tool resists axial forces and uses four cutting edges to provide productive machining. Optimized chip flutes reduce chip jamming, and each insert pocket contains a threaded coolant hole to deliver high pres-
sure coolant directly to the cutting edge. Tool is well-suited for circular interpolation from a predrilled hole, square shoulder milling, and edging and contouring. It integrates the iLock interface, which maximizes insert security. The tool is compatible with Coromant Capto toolholders. Sandvik Coromant
Ph: 201-794-5223
Circle 493

Rail-Milling Magnets
This type of magnetic workholding is used in the manufacture of rail crossings and switches. Its main advantage is the ability to mill all parts of the rails: head, foot, and web, in one clamping, and even to make the through-going holes in the foot or web of the rails. Rail Milling Systems only require electricity during the magnetization and demagnetization cycles. The user can remove the power supply during operation and still maintain full holding power.

Walker Magnetics
Ph: 800-962-4638
Circle 494
Cutting-Tool Measurement
This cutting-tool measurement system (CTMS) is a noncontact system for measuring the effective cutting diameter of fluted cutting tools such as end mills, drill bits, step tools, reamers, and router bits. It uses a rotary drive and “zero-error” carbide V-blocks, along with the company’s Z-Mike laser micrometer, to eliminate errors caused by typical gage mechanics. It’s capable of diameter and TIR measurements with an accuracy of ±0.00003" (±0.0008 mm). An adjustable slide allows the tool to be positioned anywhere along the length and displayed on-screen with 0.0005" (0.0127-mm) resolution.
Beta LaserMike Inc.
Ph: 937-233-9935
Circle 495

Live Tool for Gear Hobbing
Design of this gear hob tool allows the user to produce gears or spline shafts on most major turning centers in one operation. Standard or special hobs with single or multiple starts can be used. Many arbor sizes are available in either inch or metric sizes. The holder can be adjusted for angles to 25°, and can make spur gears, bevel and helical gears, splines and worm gears. The hob holder will accept a hob up to a 3.000" (76.2 mm)
diam by 3.000” (76.2 mm) long Two different models will be on display.
MD Tooling Inc.
Ph: 877-91-tools
Circle 496

High-Performance Drill
This carbide-inserted high performance drill, designated the I Dream drill, comes in sizes ranging from 0.472 to 1 1/4” (12–31.75 mm) diam. It is available in 3× diameter, 5× diameter, and 7× diameter drilling depths. The drill is said to provide smooth and accurate holes in many materials, including steel, stainless, titanium and nickel-based alloys. It features an insert located in the “V” which is secured with one screw that prevents movement and increases stability and accuracy, and a flanged shank that prevents the tool from being pushed back during drilling.
YG1 Tool Co.
Ph: 800-765-8665
Circle 497

Thread Mill
The new TMSD multiflute, single-point thread mill reportedly produces deep hole threads at economical rates. Utilizing Vardex U and A-style low-cost single-point inserts (for large and small pitches, respectively), the mill covers a wide range of applications. With up to six cutting edges, TMSD is available in 16 to 4 TPI.
Vardex
Ph: 800-828-8765
Circle 498

Laser Turning
The LaserTurn is a dedicated motion subsystem for cylindrical laser processing applications. The system includes an automated, pneumatically activated three-jaw gripper or ER collet for part holding. The three-jaw gripper has a clear aperture for product feed-through and can be configured for OD, ID, or odd-form gripping with various jaw geometries.
The ER collet chuck also has a clear aperture for product feed-through and can support tubing diameters from 0.5 to 30 mm. System utilizes direct-drive noncontact motor and encoder technology for both the linear and rotary axes. Direct-drive motors exhibit significantly higher throughput and maintenance-free operation when compared to gear and screw-driven technology. Linear and rotary encoders coupled directly to the load have a high level of system accuracy and repeatability over the operating lifetime of the stage.

Aerotech Inc.
Ph: 412-967-6854
Circle 499

Toggle Clamps
Company has introduced a variety of new toggle clamps with safety locks. Latch-action toggle clamps are available in five sizes, from 360–7500 lb (1.6 to 33.4-kN) holding capacity, with a threaded U bolt for adjustability and a matching latch plate. Vertical-handle toggle clamps are available in three sizes, from 150–500 lb (0.7 to 2.2-kN) holding capacity. These compact hold-down clamps have a finger-grip T handle and an open arm that provides adjustable spindle location. Horizontal-handle toggle clamps are available in two sizes, from 500–750 lb (2.2 to 3.3-kN) holding capacity. Low-profile hold-down clamps also have an open arm that provides adjustable spindle location. All toggle clamps have a handle grip, and are made of high-grade steel (also available in stainless).

Carr Lane Mfg. Co.
Ph: 314-647-6200
Circle 500
Integrates Automated Indexing System
A robot, multistation workholding, indexer, and gage with process control will be shown to demonstrate the capabilities of the company’s new Engineered Systems Division. The system includes a Fanuc LR Mate 200iC six-axis robot interacting with a four-axis indexer and a Kurt gage. Tower will be modified and plumbed for double-acting hydraulics to allow sensing positive movement when the workholding closes and opens. Fully automated gage will measure and record features on the part; recorded data for process control, product traceability, and process capability studies will be captured.

Kurt Manufacturing Co.
Engineered Systems Div.
Ph: 877-226-7823
Circle 501

High-Performance Drill
Company has extended its 2x D series platform to include a series of deep hole drills. The 2x DCE (Coolant Fed Extra Long) is a high-performance drill series that will allow drilling 12 to 25x diam deep, depending on the size of the drill. Developed to drill water lines in molds, the drill reportedly works well in all deep-hole-drilling applications.

Kurt CTHDM6 hydraulic tower mounted to a Haas HRT310 four-axis indexer and a Kurt gage. Tower will be modified and plumbed for double-acting hydraulics to allow sensing positive movement when the workholding closes and opens. Fully automated gage will measure and record features on the part; recorded data for process control, product traceability, and process capability studies will be captured.

Kurt Manufacturing Co.
Engineered Systems Div.
Ph: 877-226-7823
Circle 501
applications. With the 2x D drilling geometry, this drill provides productivity increases and reduced cycle time by eliminating the need for a peck-drilling cycle.

Ph: 800-553-8024
Circle 502

Performance Tooling
Company will showcase several of its EWS-driven tools and static-tool-holder lines. EWS-driven tools and static toolholders are available in both VDI and BMT styles. Within the extensive driven-tool and static-tool-holder lines is the EWS’ proprietary “Varia System,” which is a quick-change system with a simplified, single-clamping-point connection system available for driven, static, and special-application EWS products. The benefits of the Varia system include significant reduction in setup and changeover time with its single clamping point. The system is designed so the tool head is changed with a 210° turn using a standard Allen key. Preset tools can be staged at the machine to further reduce downtime.

Command Tooling Systems LLC
Ph: 763-576-6910
Circle 503

IMTS 2008 Manufacturing Business and Technology Forum
Friday, September 12
10 am–11:30 pm

Greenleaf-Expanded Application of Ceramic Cutting Tools
Ceramic cutting tools are often used to machine difficult-to-machine materials like heat-resistant superalloys and materials hardened above Rc 45. Greenleaf Corp., the manufacturer of whisker-reinforced ceramic grade WG-300, continues to expand the application range of this product by producing highly successful applications using WG-300 ceramic in processes once thought not possible with a ceramic tool.

Sponsored by NTMA
Milling Tools
Company will exhibit its 3-D profile milling tools as well as the company’s steel tool bodies with replaceable carbide inserts. The product line includes ball nose finishing and roughing tools, flat bottom and backdraft finishing tools, and button-cutter shell mills. Tools are offered in both US and metric sizes. Special carbide grades and coatings are available to maximize insert life in individual applications, including the cutting of hard alloys such as Inconel. Company specializes in highly accurate, competitively priced profile-milling tools for 3-D applications including aerospace, automotive, defense, medical equipment, and other industries.
Sterling Edge Inc.
Ph: 248-889-4080
Circle 504
**Diamond Drills**
Company will showcase its newly expanded line of diamond-coated aircraft drills. These drills are said to provide the most cost-effective and efficient way to drill holes in high-performance composite materials. Most common rivet sizes are in stock and custom diamond-coated tools for specific applications are also available.
Crystallume
Ph: 800-789-4322
**Circle 505**

**Swiss-Type Tooling**
Specialized high-precision tooling and accessories for Swiss-type turning machine include Utilis Swiss-made inserts providing repeatability of less than 0.0004" (0.01 mm) for turning work 1" (25 mm) in diam and below. Thread-whirling system features 12 cutters for higher bone-screw production rates. The PCM rotary broaching heads with no center-indicating for faster setup in the tightest tooling area, plus a new line of aftermarket spindles for Tornos machines will be shown. Other special tools

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**IMTS 2008**
**Manufacturing Business and Technology Forum**
Thursday, September 11
2–3:30 pm

**MT Connect**
AMT will be showcasing MTConnect, a new communication protocol standard for passing data between devices, equipment, and higher level applications. To help introduce this standard there will be a session providing an overview of the standard itself followed by in-depth presentations on how to develop an adapter for retrieving data from a device or piece of equipment, as well as an overview on the Software Development Kit (SDK) for applications to data for use. The SDK to be reviewed will be for Microsoft.NET users.
Sponsored by AMT
include micro-sized, solid-carbide slitting saws, floating reamers, holders, and micro reamers, compact straddle knurling tools, and axial-feed knurl dies for small parts.

Genevieve Swiss Industries
Ph: 413-562-4800
Circle 506

**Automatic Gear Chuck**

This diaphragm automatic gear chuck is designed for ID grinding and facing. It’s a modular system for production of small lot sizes. The unit offers repeatability and accuracy below 3 µm, gear-present gaging, and angular regulation of locators and pre-locators for flexibility. Maximum OD clamping is 215 mm, and the chuck device comes with an adaptor flange for quick changeover. On the flange, a high-precision diaphragm chuck is mounted, and all the clamping tooling and locators are fitted on the diaphragm chuck. The clamping tooling and the pre-locators for the gear orientation may be angle-adjusted to clamp gears with different numbers of teeth.

CMT Tubertini
Ph: 973-248-0099
Circle 507

**PCD Drill for CFRP/Ti**

Company claims the first successful use of a PCD drill for drilling CFRP/Ti using patented Vein Technology. Series 86 PCD-veined drill is intended for drilling CFRP/Ti, CFRP/CFRP, and CFRP/Al. Vein technology reportedly allows drills to have positive cutting geometries at smaller sizes than conventional PCD drills. Drills are manufactured by grinding a slot in a tungsten-carbide blank, and
filling it with diamond powder. Unit is cycled through a PCD sintering process using a high-temperature/high-pressure press. End product is a tungsten carbide blank with a PCD vein. This vein configuration may be ground to any necessary geometry.

Precorp Inc. Ph: 801-798-5425

Circle 508

Workholding
Company is a designer, manufacturer, and supplier of standard and custom-engineered workholding solutions that incorporate mechanical, magnetic, and hydraulic components. The firm is known in Europe for its innovation of technologies for typical and challenging workholding needs. Product line includes material handling devices, precision mechanical and magnetic workholding, demagnetizers, cus-
Deep-Hole Drill
Helios 15, 20, and 30 times diameter high-speed, steel-cobalt drill uses patented technology that gives it the ability to process deep holes without the use of internal coolant supply. Advanced flute design improves chip evacuation, making it feasible to drill without pecking. According to the company, thrust may be decreased nearly 50%, when compared to competitors.

OSG Tap & Die
Ph: 800-837-2223
Circle 510

IMTS 2008
Tooling and Workholding

TargetED Training: Empowering Your Workforce
Each department of a company has specific goals that impact the structure of a training program. This session will outline Kennametal Inc.’s deployment of education as a strategic weapon within their corporation. Learn how training helped them achieve their goals in the areas of marketing, improved sourcing, and customized content.
Sponsored by Tooling U
Multipart Clamping System

The Civi 2000 multipart clamping system is a modular workholding system that allows clamping multiple workpieces in a space in which it’s said that typical workholding devices can only clamp one workpiece. System consists of interchangeable bases, movable jaws, and fixed supports. Bases come in standard lengths from 250 to 630 mm, and come with one fixed support. Additional fixed supports and moveable jaws can be added to create a customized workholding solution. System can be used as a vise on existing machines, on a customized tombstone, or together with the company’s Combidex indexing tables.

OML SpA
Ph: 847-705-9632

Circle 511
**Cases and Tools**
Company now offers a new range of 13 Dura Cases. Included also are 11 heavy-duty broach sets for popular keyway combinations. The broach sets come in both English and metric sizes and handle all keyway repairs from 1/16 to 3/8” and 2 to 8 mm. These tools come in molded polypropylene cases with carry handles.
Hassay Savage Co.
Ph: 800-247-2024
**Circle 512**

**Boring Head**
Digital model B4035 boring head has an optoelectronic adjustment measuring system and digital display with 0.0001” (0.003 mm) accuracy in the diam range 0.118 to 4.882” (3–124 mm). Maintenance-free automatic balance compensation and flexible Screw Fit connections make this tool well-suited for all spindle adaptations. Basic head can hold multiple tools, like solid carbide boring bars that cover the range 0.079–0.394” (2–10 mm) and various indexable-insert boring bars for ranges 0.394 to 2.677” (10–68 mm). For larger diameters, from 2.677 to 4.882” (68–124 mm), there are two lightweight bridges made from aluminium.
Walter
Ph: 800-945-5554
**Circle 513**
Don’t Forget Workforce Development

MTS 2008 will address workforce development via the NIMS Student Summit, which combines an interactive Career Development Center (CDC) with a self-guided tour of the technology and manufacturing exhibition. Field trips to the show are encouraged for students from middle school through vocational college levels, and admission to IMTS 2008 will be free for educators and their students.

The summit is sponsored by AMT and the National Institute for Metalworking Skills (NIMS). Its main goal is to generate interest in precision manufacturing among young people by exposing them to industry professionals and state-of-the-art technology. At IMTS 2008 students will see advanced technologies that will be the platform for precision manufacturing in years to come. Parents can visit the show during the weekend using the admission pass issued to students by the Summit, and see demonstrations of manufacturing equipment and technology.

As part of the CDC, all students who attend IMTS 2008 will experience an event orientation during which they’ll find out what they can expect during their visit to the show. Students will find out how their experiences relate to career opportunities, and hear from young manufacturing professionals. Graduating high school and college students are invited to bring resumes, including contact information, to the CDC to give to participating companies to review for entry-level job openings.