

CUTTING TOOL ENGINEERING

July 2010 | Vol. 62 | Issue 7
www.ctemag.com

No Drilling Zone

Holemaking alternatives
for times when drills
won't work effectively



Plus:

Extended-reach toolholders
can be indispensable

New way to calculate milling
machining power

Software advances drive better
machine tool maintenance

Riding herd on runout

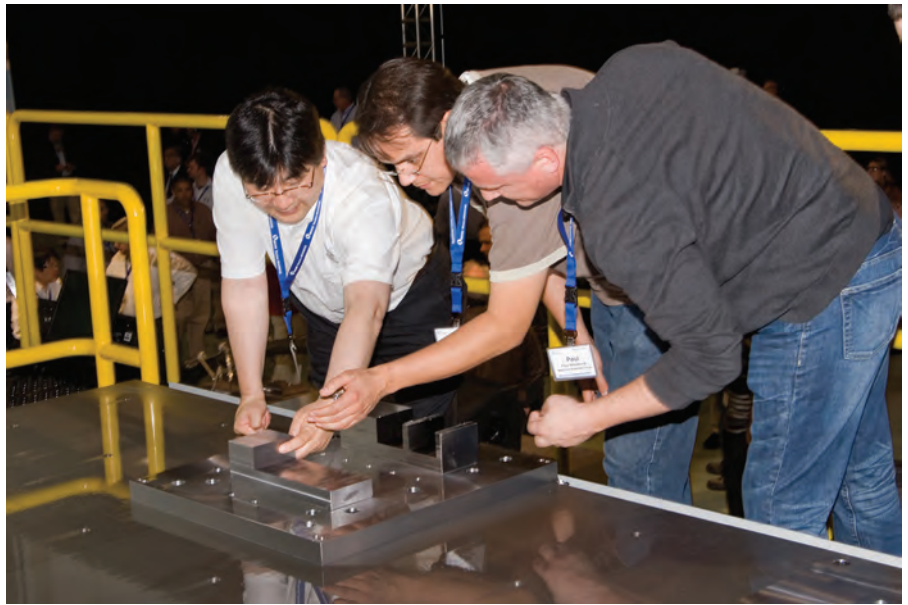
■ Makino hosts Global Titanium Day

Titanium offers numerous benefits for metal parts operating in challenging environments, including high resistance to heat, oxidation, corrosion, fatigue and fracture. With a higher strength-to-weight ratio than aluminum, titanium components are replacing aluminum parts in airplanes and rotorcraft to save fuel by reducing the overall weight while increasing interior space.

To unveil its latest titanium machining development, ADVANTiGE, machine tool builder Makino Inc. hosted Global Titanium Day May 20 at its Mason, Ohio, facility. ADVANTiGE is a group of five technologies capable of quadrupling productivity and doubling tool life compared to conventional titanium milling, according to the company. Technologies include an advanced spindle; high-pressure, high-flow coolant application; a vibration-dampening system to reduce chatter and vibration; an advanced coolant delivery system to extend tool life; and rigid machine construction, which suppresses vibration to reduce tool chipping and improve metal-removal rates. (CTE will present detailed information about ADVANTiGE in the August issue's Look-Ahead section.)

The event also celebrated the company's designation of the facility as Makino's Global Titanium R&D Center. "The Mason, Ohio, facility was chosen based on the increasing importance of titanium in the aerospace industry, which is centralized here in North America," said Tom Clark, Makino vice president. "Titanium machining is very process-driven, meaning the machine tool, cutting tools, machining process and coolants must all be developed and integrated specific to titanium's material properties."

About 250 people from five countries and 22 states attended the event, which included equipment demonstrations, vendor exhibits and presentations about the ADVANTiGE technologies, Makino's new T-series 5-axis horizontal machining centers and industry forecasts and trends.



Makino

Attendees at Makino's Global Titanium Day examine a titanium part machined on the company's T4 5-axis horizontal machining center to demonstrate the ADVANTiGE titanium machining technologies unveiled at the event.

■ Sandvik Coromant sponsors contest

Sandvik Coromant Co., Fair Lawn, N.J., recently sponsored a contest at Vincennes (Indiana) University where 21 students from the school's Advanced Manufacturing Program used Mastercam CAD/CAM software from CNC Software Inc., Tolland, Conn., to design and machine a NASCAR-style gearshift lever and knob. The inspiration for the competition came from Mastercam's Innovator of the Future event, a national student manufacturing contest.

"Although our students participate in the national event each year, we wanted to host a contest that would showcase their talent and ingenuity to the local Vincennes community," said Doug Bowman, associate professor and director of the Haas Technical Education Center at the university.

Vincennes University's HTEC is housed in the school's Technology Center and includes 13 Haas machines.

Judges from Sandvik Coromant, Mastercam and Haas evaluated entries based on originality, practicality, style and quality of workmanship. The top three



Sandvik Coromant

Students from Vincennes University's Advanced Manufacturing Program pose with their winning projects.

overall finishers—Seth Cook, Mike Weisman and Tom Nuckol—received Sandvik Coromant tooling certificates valued at \$1,500, \$750 and \$500, respectively. Other winners were Justin Small (most original), Wes Eberhardt (best racecar shifter), Branden Updike (best show car shifter) and Heath Berry (best presentation).

Chair Bill McClister, Veolia Environmental Services North America Corp., Milwaukee. “Twelve companies have signed up to demonstrate waterjet cutting, waterjet pumps, waterblasting, tube and bundle lancing, paint/coating removal, pipe cleaning, industrial vacuuming and testing the effectiveness of safety equipment.”

The Expo Boot Camp Sessions will provide attendees with information about new business ideas, safety recommendations and tips and techniques to improve workforce productivity.

To register online or obtain additional information, visit www.wjta.org, e-mail wjta-imca@wjta.org or call (314) 241-1445.

■ Expo focuses on waterjet applications

The 2010 WJTA-IMCA Expo, the inaugural meeting of the WaterJet Technology Association and the Industrial & Municipal Cleaning Association, takes place Aug. 17-19 at the George R. Brown Convention Center in Houston. The exposition is dedicated to high-pressure waterjet technology.

“We are bringing together product and equipment manufacturers and suppliers, contractors, and representatives of municipalities, industrial plants and machine shops to see and compare new and innovative equipment and products for all facets of high-pressure waterjet technology and to hear direct, practical information that can improve a company’s bottom line,” said Expo Co-Chair Pat DeBusk, Inland Industrial Services Group LLC, Houston.

According to event organizers, high-pressure waterjet technology is used successfully in a variety of industries, such as industrial and municipal cleaning, waterjet cutting and excavating for the installation of underground utilities. Waterjets are also widely used in the construction, pulp and paper, mining, aerospace, automotive, quarrying and shipyard industries. Applications range from manually operated equipment to robotic systems.

To give machine shop representatives an opportunity to see how effective waterjet cutting can be, Jet Edge Inc., St. Michael, Minn., a manufacturer of waterjet systems for cutting, surface preparation and coating removal, will perform cutting demos on its 8'x13' mid-rail gantry waterjet.

“Live demonstrations are the most effective way to show people how this equipment works,” said Conference Co-

www.mapal.us

Proven performance: machining cast iron with 787 SFM and 392 in/min.
Efficient, cost effective production: tool life 10 times increased.

Reaming | Fine Boring | Gun Boring | Drilling | Milling | Actuating | Turning | Clamping | Customer Services

HPR reamers with replaceable heads from MAPAL using the highly accurate HFS® connection allow reliable machining of complete contours - without the additional cost of setting.

MAPAL's state of the art technology ensures absolute concentricity, guaranteeing long tool life with easy handling. The result: considerably reduced tool change times and maximum surface quality with high feed rates. When you want the highest precision and economic results for individual machining solutions, MAPAL is your worldwide specialist.

IMTS 2010
VISIT US | Booth W1410

MAPAL Inc. | 48060 Port Huron (MI)
Phone: 810-364-8020 | info@us.mapal.com

MAPAL
Perfectly yours.