



# RECORD

National Tooling & Machining Association



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**Contents**

Attendees Rate NTMA/AMT Joint Conference a Success! ..... 3

Chairman's Corner ..... 6

Welcome New Members ..... 6

Photos from the Annual NTMA/ AMT Joint Conference ..... 9

2009 NTMA Executive Officers Elected ..... 10

Insurance Corner ..... 10

NTMA Government Affairs Team Chooses New Leader ..... 11

Foundation Names John Ness Recipient of the Burgess-Greenbury Award ... 12

NTMA Volunteer Leaders Make Things Happen ..... 13

A Technology Gap ..... 14

Members in the News ..... 15

Calendar of Events ..... 15

Penny Wise, Pund Foolish — What Your Cheap Coolant Really Costs ..... 16

Focus on PJAM...Meeting the Challenge of Workforce Development ..... 18

Couragous Leadership Tip #148: Demolish Stress - Boost Profits ... 19

In Memoriam ..... 19

## First NTMA Technology Awards Presented



Eric Kurzhal and Herb Homeyer.



Eric Kurzhal and Jim Huddy.

NTMA member companies manufacture an amazing array of parts and products every day, using modern methods and techniques that are world-class. The NTMA Technology Team recognizes that our own members are the best source for learning how to use technology to gain a competitive advantage in the global economy.

The team recently created and launched the NTMA Technology Award program. The award honors NTMA member companies that have implemented a manufacturing business or technology solution delivering a significant positive business impact. The first two NTMA member companies to receive this award are Homeyer Tool and Die Co. of Marthasville, Mo., and Tell Tool Inc. of Westfield, Mass.

Herb Homeyer of Hoymeyer Tool & Die and Jim Huddy of CGTech (standing in for Chris Haddad of Tell Tool) presented the award-winning technologies at the 2008

Fall Conference Technology Team Roundtable and received their awards at the General Membership Meeting from Eric Kurzhal, Manufacturing Technology Team Leader.

Homeyer Tool & Die Co: The U.S. military had a problem. Gears that made up part of the aiming system for a Howitzer were originally made from a bronze casting, which was conventionally machined using lathes, mills, and broaches. The problem was that the bronze gears were cracking in service and needed to use a harder material. They turned to Homeyer Tool & Die for their solution.

Homeyer Tool combined a new harder material and their Agie Progress 2 wire EDM with a System 3R WorkPal to solve the military's breakage problem. Utilizing the robotic loading system, the job has a machine hour:operator hour ratio of 16:1, making labor cost a small percentage of total cost. This helps to keep Homeyer competitive with low wage countries. The parts pictured are 5 1/8" diameter by 2 1/8" worm wheel gears in various stages of completion.

Due to the customer's satisfaction with the new part, Homeyer received additional work from this customer. With the man-

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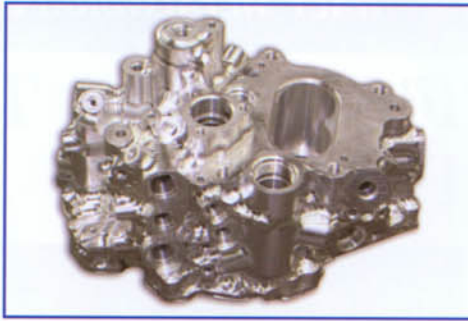
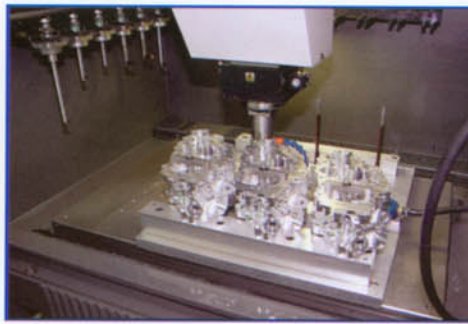
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Pictured from left to right: Part after water jet and heat treat, part after lathe turning, part after wire EDM, and finished part.



ufacturing procedures now established, profitability on this job has increased. Hoymeyer Tool & Die is one company that is definitely on the cutting edge, especially when it comes to accuracy and automation.

Tell Tool Inc: Tell Tool manufactures parts much differently today than they did just a few years ago. In the past, Tell Tool was forced to rely on a lot of complex castings for their fuel-control units. Technology has evolved to a point that they can create very complex parts from a solid block of material. They exemplify a company that uses all the latest technology available to operate as efficiently as possible. The fuel-control units that they produce are very complicated, yet they have developed a unique process that allows them to create the parts from a solid billet instead of a casting - without a design model of the final shape!

When customers contract Tell Tool for a fuel-control unit, there is often no design model of the final part shape. To create the outer shape of the control unit, Tell Tool reverse engineers the unit from the inside-out, using internal-part specifications such as fuel-control-housing dimensions and the minimum wrap-stock requirements around each feature. They start out with a full block of aluminum and cut 20-30 percent of the outside to create the first operation. After running it in VERICUT they make an STL model to import into the CAM software as a stock model. They then use the software's Model Export capabilities to output an STL file after each operation. This allows the programmers to know exactly what the part will look like in order to program their next set-up. After the part is programmed and run through VERICUT again, there is an in-process model of the entire shape of the fuel-control housing. This finished shape is then

converted to an STL file that goes back to the customer for approval and is the final inspection method for Tell Tool.

Innovative use of technology is being used by NTMA members every day throughout the U.S. Continued use of current and future technologies is imperative to the continued health and growth of domestic manufacturing. NTMA members are leaders in many uses of today's available tools and methods, and are often very willing to share their hard-earned knowledge.

Companies are invited to submit a nomination for the NTMA Technology Award. Please provide your project background, including a short description of the project itself, the rationale and objectives behind the project, and the project results. Include a description of what business processes were improved (and how) and ROI benefits and metrics. To submit your nomination or to nominate a fellow member company, please download and complete the nomination form at [www.ntma.org/eweb/docs/Technology/Tech\\_Award\\_Nomination.pdf](http://www.ntma.org/eweb/docs/Technology/Tech_Award_Nomination.pdf).

Please e-mail, fax, or mail your nominations to:  
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