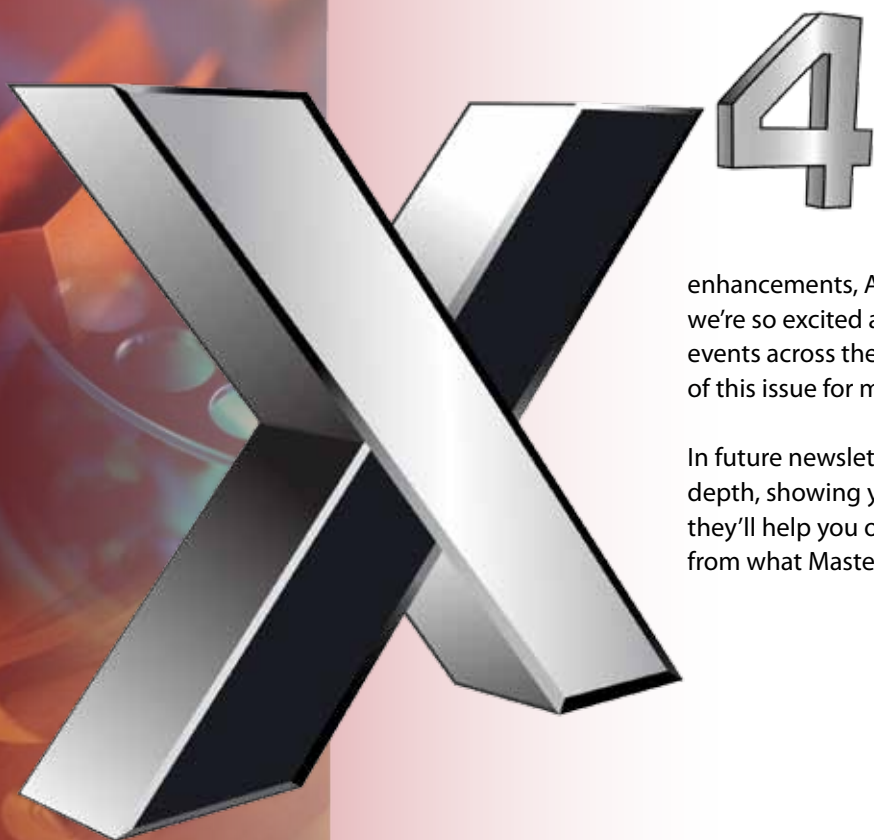


Second Quarter 2009

Mastercam[®] Notes

Customer Newsletter

Mastercam X4 About to Debut



Mastercam X4 is almost here with a new suite of CAD/CAM tools focused on delivering speed and efficiency for your machining jobs.

In this newsletter, we'll introduce you to some of the main features and improvements in Mastercam X4, including a new Dynamic Mill toolpath, Toolpath Refinement features, Nesting enhancements, Agievision control support, and much more. In fact, we're so excited about this release that we are also hosting live rollout events across the globe so you can see it in person. (See the back cover of this issue for more information.)

In future newsletter issues, we will explore individual X4 functions in depth, showing you valuable tips and tricks, while demonstrating how they'll help you on a day-to-day basis. We are sure that you will benefit from what Mastercam X4 has to offer you and your shop.

Product Highlights



Mill Feature 2-3
What's New in Mastercam Mill X4



Lathe Feature 4
Grooving Enhancements and More in Lathe X4



Wire Feature 5
New Support for Agie EDM with Agievision Controls



Router Feature 6-7
Nesting Enhancements and More in Router X4



Design Feature 8
Many New Enhancements for Mastercam Design

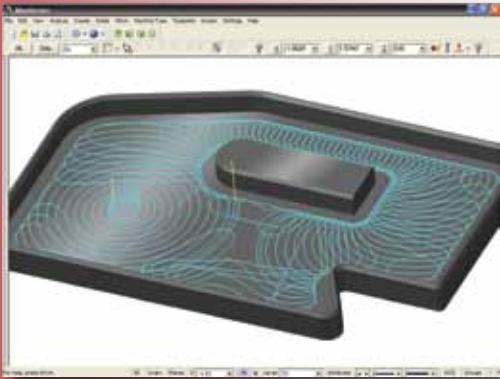


Add-On Feature 10-11
Learning Options to Get You Up to Speed with Mastercam

MILL

What's New in Mastercam X4 Mill

Mastercam Mill users will see a dramatic boost to their productivity with Mastercam X4. From time-saving tool motion and new, superior finishing to streamlined interfaces and the ability to continue work while processing toolpaths, Mastercam X4 is focused on making your job easier.



Dynamic Mill saves cutting time.

Dynamic Mill:

Dynamic Mill is a new 2D High Speed Toolpath for Mastercam X4. Dynamic Mill gives you the ability to utilize the entire flute length of the cutting tool, while maintaining more consistent cutting conditions. This new technique saves cutting time while reducing wear on your tooling and machines.

Dynamic Mill offers a number of customizable options including “micro lift” retracts that avoid excess heat buildup and powerful entry methods, including a custom entry method that allows it to program complex shapes. Both these options support custom feeds and speeds to further enhance productivity and generate safe motion.

Dynamic Mill also offers flexible retract options to keep the tool down in smaller parts and supports rapid retract on larger parts.

Toolpath Refinement:

Now you can achieve dramatically superior finishes on complex parts with Mastercam's 3D surface toolpath refinement. This new utility gives you greater control over the toolpath finish motion, delivering smoother finishes and more optimized cycle times than conventional methods allow.



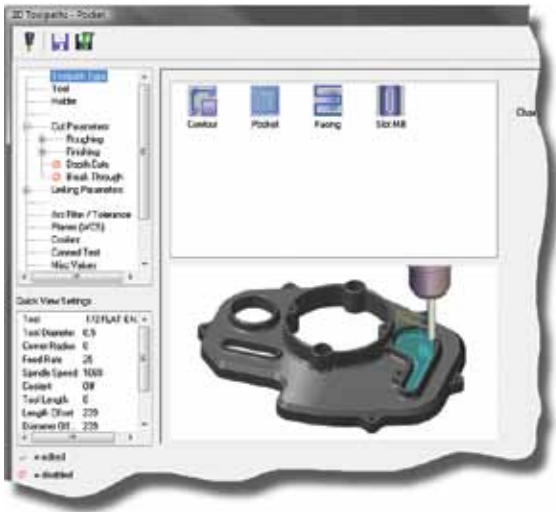
Conventional finishing



Refined finishing

Updated Interface:

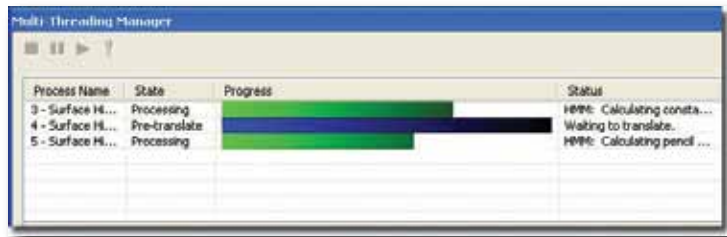
The migration to the efficient, easy-to-use tree-style dialogs continues in Mastercam X4 with the 2D toolpaths. When you select a contour or a drill operation, you will now see a new step-by-step interface.



One of the benefits of this streamlined interface is the ability to effortlessly change toolpath types. For example, if you begin a Drill toolpath (from the menu), select several points or arcs, and then realize when you begin setting parameters that Circle Mill is the better toolpath for the task, you can easily switch styles and continue with your work. There is no need to exit the toolpath and begin again because all geometry remains selected. Simply enter the appropriate parameters and process the toolpath.

Feature Based Machining (FBM):

New hole milling capabilities in FBM Mill and Drill allow you to machine holes with Circle Mill or Helix Bore cycles. FBM Mill also offers a new Slug Cutting option to reduce cutting time on vacuum tables.



Multi-Threading:

Multi-threading gives you the power to segment complex tasks in a multi-core computer, delivering faster processing as well as other benefits. Mastercam Mill delivers multi-threading support, and gives you the option to turn it on or off.

For more information on multi-threading, please refer to the 1st Quarter 2009 Customer Newsletter where we explored this topic in great depth. To view the newsletter online, please go to www.mastercam.com/Camzone/Newsletter.

Multiaxis Improvements:

Dialogs for Drill 5-axis and Curve 5-axis are also converting to the tree-style, streamlining the programming process and saving time.

Circle Mill 5-axis is a new multiaxis toolpath added to Mastercam X4. This toolpath creates circular pockets normal to a surface for inserting fasteners and similar features. It can also generate round holes at any orientation where drilling is not desirable.

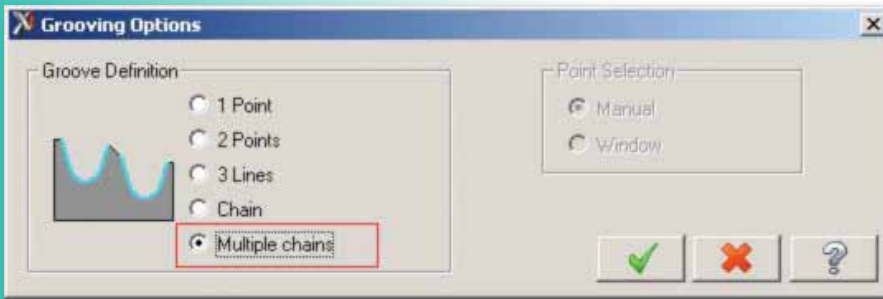
The new Minimum Tilt option lets you control tool motion when the tool or holder encounters a potential collision with a selected surface. You can limit the amount the tool will tilt when a collision is detected with the tool or holder. ☒



LATHE

Grooving Enhancements and More in X4 Lathe

As with Mastercam Mill, Mastercam X4 Lathe sees a suite of new features aimed at boosting your productivity.



Mastercam now allows the selection of more than one groove chain.

Multiple Groove Chain:

This allows selection of more than one groove chain. Because the grooves can be different widths, the only overlap function that will be available in the new Multiple Groove chains toolpath will be the new middle overlap.

Dwell on Grooving:

A corner dwell has been added to the Groove finish parameters page. The dwell will be engaged at the intersection of wall/corner geometry to a flat bottom groove.

Independent Feed Rate for First Plunge:

An option to set feed rate specifically for the first plunge move has been added to the Groove rough parameters page.

Different Settings for Rough and Finish Groove:

There are new feed and speed options for finish passes on the Toolpath parameters page for groove toolpaths. These settings output a separate feed rate and spindle speed for the finish groove passes.

Tool Inspection Position:

Mastercam X4 now provides a way for an operator to inspect the tool based on conditions set in the new option. The options available are between grooves, after first plunge, after each depth cut, and after a specified number of plunges. (Note: Post customization is required for this new feature.)

For more information on Mastercam Lathe, please visit www.mastercamlathe.com. ☒

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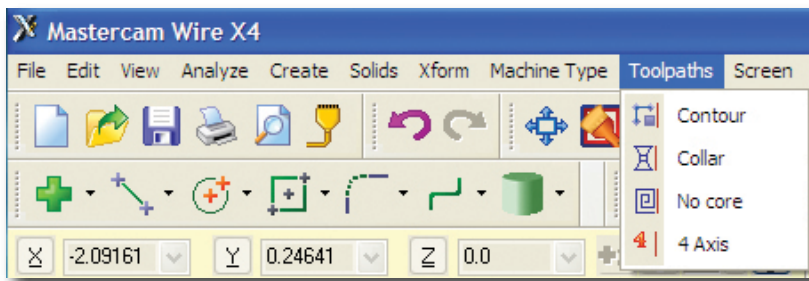
WIRE

New Support for Agie EDM with Agievision Controls

Mastercam X4 Wire has all new support for Agie EDM with Agievision controls. This new Agievision support includes a new interface and a complete set of machine definition/control definition/post processor files.

The Toolpaths menu now shows the following wirepaths:

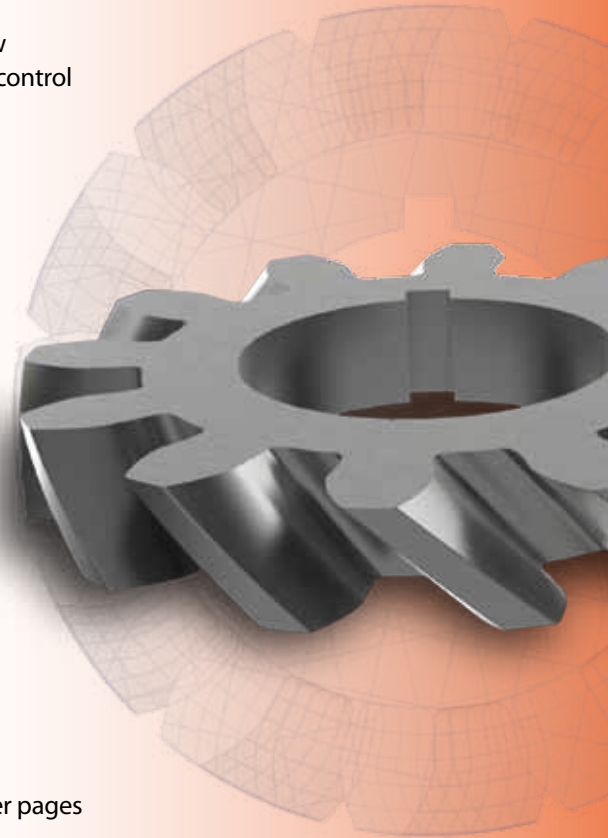
- Contour
- Collar
- No core
- 4-Axis



The new Toolpaths menu showing four different wirepaths.

Simply choose an Agievision AWF Wire Machine Definition, and you'll see the parameter pages that anyone familiar with Agievision will instantly recognize.

For more information on Mastercam Wire, please visit www.mastercamwire.com. ☒



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ROUTER

Nesting Enhancements and More in X4 Router

Mastercam X4 Router continues the trend of faster, more efficient programming with a suite of new features that will be welcome in any shop.

Automatic Toolpathing (ATP):

Generic Mastercam ATP will now let you process multiple materials. Use the *Add Material* button on the toolbar to specify a new material.

Nesting Drag-and-Drop Support:

Mastercam X4 allows you to perform automatic nesting with just enough manual intervention to achieve the best possible result in the least amount of time.



The Drag button lets you move parts around on the sheet. This action supports the drag, rotate, and snapping functionality. As you move the mouse over individual parts, the part highlights as a visual cue. Clicking on the highlighted part either moves the existing part or creates a copy of the part, depending on which mode you are in. You can then place the active part in any open area on the sheet.

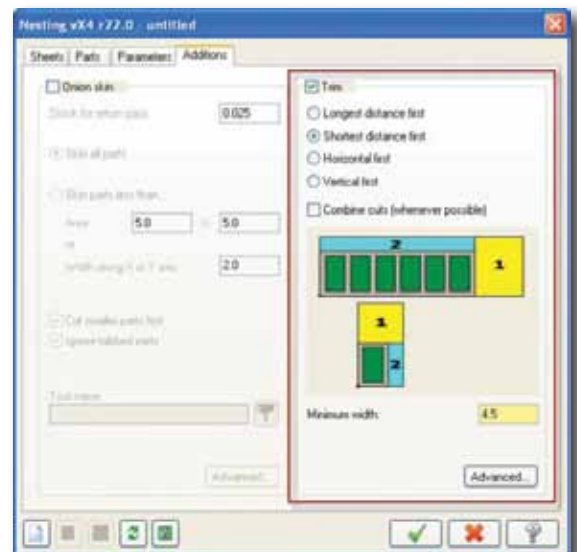


The Nesting Results dialog box.

Vertical/Horizontal Cut-Off Options in Nesting:

Mastercam X4 adds a new feature to automatically generate a toolpath for vertical and horizontal cut-offs. This will preserve rectangular remnants for future use.

For more information on X4 Router, please visit www.mastercamrouter.com. ☒



The horizontal/vertical trim check boxes are used to specify which cuts to make.



D&J Cabinet Expands Business with Mastercam

Dave Erznosnik, owner of D&J Cabinet Company (Salt Lake City, UT), wanted to improve productivity at his custom woodworking shop. So he purchased a router along with Mastercam. Dave insists he is computer illiterate, but that did not stop him from learning the basic capabilities of his new equipment and Mastercam very quickly.

Challenge:

To become more competitive by adding value to custom products and to generate new business opportunities by creating set art pieces that can be incorporated into furniture designs and specialty products.

Solution:

Mastercam Router and Art

Benefits:

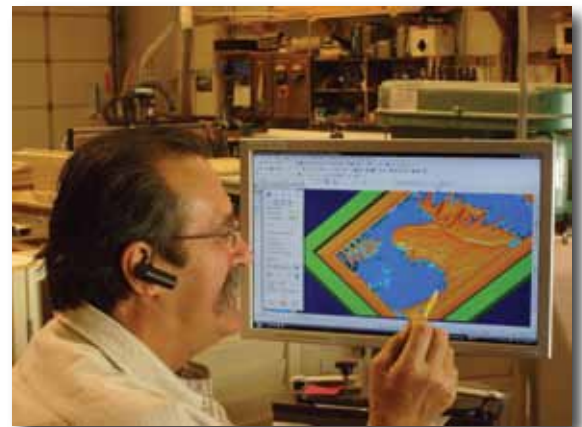
- Mastercam improved cabinet-making productivity.
- Free educational module on Streamingteacher.com (a Mastercam business partner product) helped learning Mastercam.
- The Mastercam license included support when needed from a responsive dealer.
- Mastercam allowed control of Art projects in fine detail.



In His Own Words:

Dave Erznosnik, owner of D&J Cabinet Company, tells how Mastercam is helping him find new opportunities to expand his custom woodworking business.

Go to <http://tinyurl.com/dgjyl5> to listen to Dave's audio clip. 



Dave Erznosnik of D&J Cabinet Company uses Mastercam to become more competitive and generate new business.



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DESIGN

Many New Enhancements for Mastercam Design

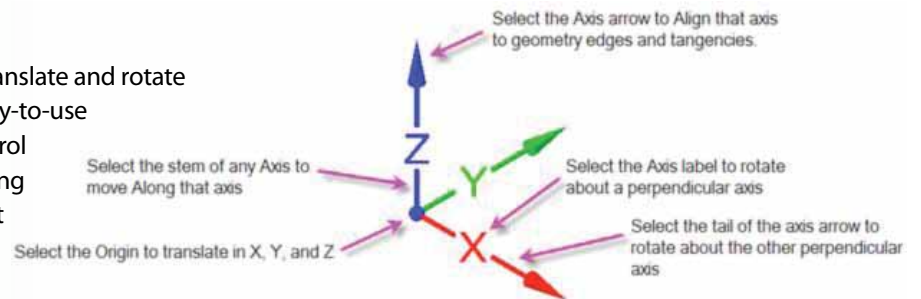
Whether your shop gets files from an outside source or designs them in-house, modeling tools are an essential element in prepping a file for machining. Mastercam X4 Design delivers efficient new tools to the entire Mastercam product line.

Dynamic Planes:

Dynamic planes are a new method of defining planes, Cplanes, Tplanes, and a Work Coordinate System (WCS) in Mastercam. You can now define the desired plane using an interactive graphical gnomon to establish the plane's origin and orientation.

Xform Dynamic:

Imagine being able to translate and rotate geometry in a single, easy-to-use function, where the control is right on the screen along with your geometry. That is what the new Xform Dynamic and Dynamic Planes functions offer!



Wireframe Feature Recognition in Chaining:

It is common to encounter a wireframe part that has so many similar chains mixed in with other geometry that it isn't possible to use the Window chaining method. Chaining can become a tedious error-prone and time-consuming manual process. With Wireframe Feature Recognition, you only need to chain an example of the geometry that you want to use, and then click a button. Mastercam automatically finds and chains all other occurrences of the geometry.

Trimming Visual Cues:

To help you predict the result when working with the Trim, Extend, and Break function, Mastercam X4 provides visual cues so you can see what will happen before selecting the transformed entity.

Viewsheets Improvements:

With Mastercam X4, you can save every option on the status bar (except for Groups) as part of a Viewsheet. Use the Settings option to specify exactly which of the status bar functions to save in the Viewsheet and which ones to ignore. ☒

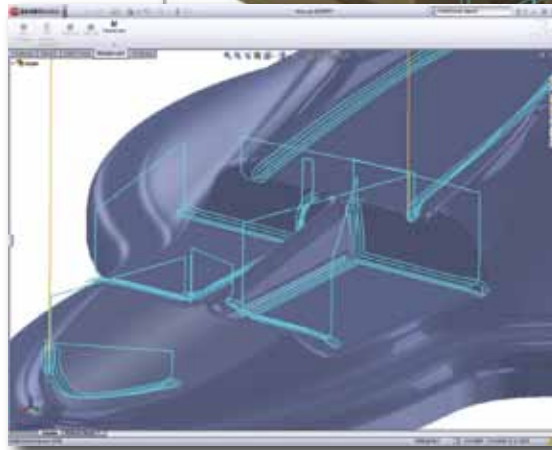
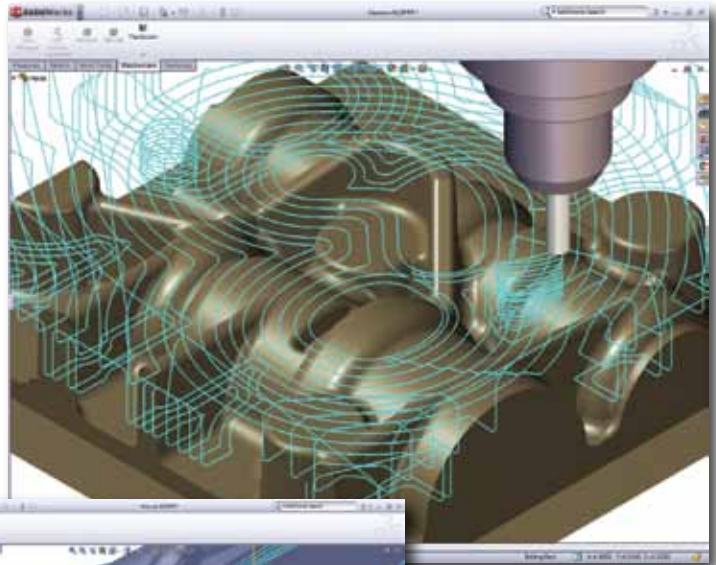


Mastercam® for SolidWorks®

Mastercam for SolidWorks brings the world's leading modeling software together with the world's most widely-used CAM software. SolidWorks users can now program their parts directly within SolidWorks using the toolpaths and machining strategies preferred by most shops around the world.

Mastercam for SolidWorks includes a suite of the most sought-after cutting strategies, including High Speed Machining toolpaths. It also delivers a powerful set of automated cleanup toolpaths, letting you get parts off the machine faster and with little or no handwork.

Mastercam for SolidWorks will debut shortly. Watch for a feature on this new product in the 3rd Quarter Customer Newsletter. ☒



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ADD-ONS

Learning Options to Get You Up to Speed with Mastercam

We are proud to announce that there are many options for getting your shop up to speed with Mastercam X4. Here is a quick overview of a few products. For more information on learning tools for Mastercam, please visit www.mastercam.com/Partners/Addins/LearningTools.



Mastercam University:

MastercamU.com is the perfect solution for anyone looking to learn Mastercam. With Mastercam U, you learn tips and tricks at your own pace, in your own time, and from experienced corporate Mastercam trainers. Use these new online classes to get up to speed quickly, and keep your skills sharp.

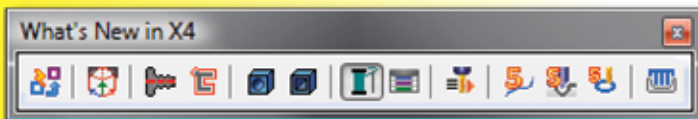
In this application-based training, you learn Mastercam by designing and programming toolpaths on real-world industrial parts. It covers important concepts and shows you how to program more efficiently. Courseware is delivered in over 180 videos that use proven industrial programming techniques, allowing you to learn at your own speed.

Mastercam U is open to anyone with internet access and can be purchased through your local Authorized Mastercam Reseller. For more information, please visit www.mastercamu.com.

In-House Tutorials:

Mastercam tutorial books offer comprehensive, step-by-step curriculum courseware for all your Mastercam training needs. Each tutorial contains projects with step-by-step instructions that guide you from geometry creation to G-code generation. Helpful hints, tool and material libraries, as well as toolpath parameter descriptions are included in the General Notes chapter. Each tutorial has additional drawings to challenge you to practice what you have learned.

For more information on the tutorials, visit www.emastercam.com.



Mastercam's Help System:

Of course, an excellent way to keep up to date with Mastercam is to use the tools that are shipped with the software itself. Mastercam's robust help system delivers insight into functions new and old, and can even step you through the process of finding a specific function you want to access. And, to make using new functions even easier, a "What's New" toolbar loads with each install containing only icons for new features, ready to use.



Streamingteacher:

Streamingteacher.com provides subscription-based delivery of training materials online in the form of streaming audio/video. Students are given the ability to learn at their own pace, from any location (work, home, school). With quality streaming video and crystal clear voice-over, it's like a Mastercam instructor by your side

24 hours a day, 7 days a week for the duration of your subscription.

The Mastercam courseware covers such topics as interface, data entry, geometry creation, geometry editing and manipulation, solids, drafting, toolpaths, and much more. For more information, please visit www.streamingteacher.com.

Tips For Manufacturing:



TipsforManufacturing.com brings you professional training tools to help you learn Mastercam. Learn first by seeing and then by doing when you follow the examples provided in these comprehensive tutorials. The Tips For Manufacturing training tools were developed by a veteran machinist, CNC programmer, and teacher. These tools will teach you a logical procedure for your everyday programming and design problems. It's the perfect way to learn and practice without ever leaving your chair.

Please visit www.tipsformanufacturing.com for more information on Tips For Manufacturing. ☒

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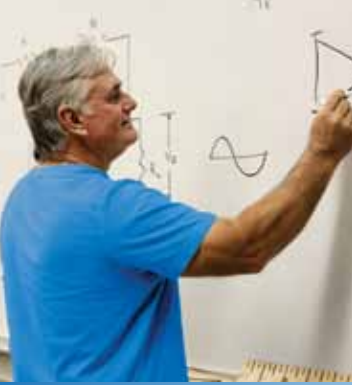
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EDUCATIONAL NEWS

Mastercam's Innovator of the Future Competition



2009 IOF Winner Justin Amos with his winning gas cap entry.

The 2009 Mastercam Innovator of the Future challenge was to create a one-of-a-kind gas cap using Mastercam. The celebrity judge was Jim Quinn, with the help of Jason Pohl, of Orange County Choppers. It is clear that the entrants rose to the challenge, displaying exceptional aesthetic and mechanical creativity. With many excellent entries, competition was fierce. After careful consideration, Jim has made his selections:

Winner: Justin Amos

Vincennes University, Vincennes, IN

This cap featured an F-16 soaring over a compass design with a spinning brass arrow. As a pilot, Justin has always enjoyed the jet bikes made by the OCC team.

1st Runner-Up: Brian Flenar

Vincennes University, Vincennes, IN

Inspired by a class trip to the Indianapolis Motor Speedway Hall of Fame, Brian decided to create a vintage style cap featuring both brass and aluminum.

2nd Runner-Up: Gregg Nemec

Dunwoody College of Technology, Minneapolis, MN

Gregg's clean, practical design features an old school OCC style dagger. Gregg designed his cap so the inset design can be easily rotated, so the rider can orient it with a flick of the wrist.

Congratulations to the winners and participants on your incredible entries! This marks the fourth consecutive win for Instructor Doug Bowman and Vincennes University, highlighting their superior Advanced Manufacturing Education program. We would also like to recognize Instructor Brian Nelson from Dunwoody College for his exceptional program.

CNC Software would like to thank Jim Quinn and OCC for their support of Mastercam IOF and their dedication to manufacturing education. It has been a pleasure working with Jim. View more photos from this year's competition, and keep an eye out for the IOF 2010 announcements at www.mastercam.com/IOF. ☒

Mastercam Summer Teacher Training

Mastercam's Summer Teacher Training program is designed with the instructor in mind. Not only will we teach you to use Mastercam—you'll learn how to teach your students to use Mastercam effectively.

Collaborative, hands-on training lets you experience the projects in much the same way your students would. In addition, classes are kept small so we can focus on the needs of group.

Attending Mastercam Summer Teacher Training will give you an opportunity to learn Mastercam without the typical distractions. Interact and network with other Mastercam teachers from across North America. A small sampling of courses being offered is Mastercam Fundamentals, Basic Projects, Intermediate Projects, and much more.

For more information on registration, courses offered, and course descriptions, please visit www.mastercam.com/stt. ☒





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Does Mastercam University (MastercamU.com) look like a tool that could get you up to speed with the latest Mastercam software? Would you like a chance to win a free Mastercam University trial subscription?

We will be giving away 10 seats of Mastercam University to show people how useful it is and to demonstrate how easy it is to learn Mastercam.

To enter the drawing, please visit <http://tinyurl.com/cuosav> and fill in your Customer Number (located on your newsletter), name, address, and e-mail address. Ten names will be drawn at random and you could win a trial subscription to Mastercam University. Good luck!



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OTHER NEWS

Want to Help Your Fellow NC Programmers?

Do you know an NC programmer who is looking for work or a shop that is looking for an NC programmer? CNC Software can help. Head over to the Employment section of www.Mastercam.com. You'll find it on the right side of our home page, under the CAM Zone sidebar.



The employment page lists open NC programming jobs from shops across the country as well as job opportunities at CNC Software. CNC Software offers many opportunities and we even have our own on-site machine shop. If you know an NC Programmer looking for work, this is a great place to point them.

If your shop has an opening, the Employment section is also an ideal resource. Just click the link under **Free Job Listings for Your Shop** and fill out the form. We'll post the job opening to the Mastercam community. ☒

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Upcoming Mastercam Events and Trade Shows

Trade shows are a great way for us to stay in touch with our customers, as well as to make new contacts in the machining world.

Coming soon (May 19 – 21), we will showcase Mastercam X4 in booth #5245 at EASTEC Advanced Productivity Expo, located right in our backyard at the Big E Fairgrounds in West Springfield, MA.

After EASTEC, we have about a two month break, until July 15 – 18, when the Association of Woodworking and Furnishings Suppliers Fair (AWFS) will open at the Las Vegas Convention Center in Las Vegas, NV. This is the biggest woodworking trade show in the United States, and we can't wait to showcase Mastercam X4 Router in booth #3313.



July 15 - 18
AWFS (Woodworking)
Las Vegas, NV
Booth #3313

November 19-21
ACTE (Educational)
Nashville, TN
Booth #441

August 17-19
AMMO Show
Las Vegas, NV
Booth # TBA

December 3 - 4
Midwest Industrial
Woodworking Expo
Indianapolis, IN
Booth #408

September 1-7
World Skills (Educational)
Calgary, Canada

December 10 - 12
PRI
Orlando, FL
Booth #4619

October 6 - 8
SOUTH-TEC
Charlotte, NC
Booth #6050

November 3 - 6
SEMA Show
Las Vegas, NV
Booth #TBA

Mastercam LIVE events will be also be taking place at various locations around the world during the month of June. Please visit www.mastercam.com/X4Rollout for more details.

For a comprehensive list of Mastercam's corporate shows, as well as events, seminars, user groups, and shows sponsored by our Authorized Resellers, please visit www.mastercam.com/events. ☒

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No, it isn't a rock concert. It's Mastercam X4 Live!, and it's coming to a location near you. This worldwide rollout delivers information-packed sessions demonstrating what Mastercam X4 can do for you and your shop.

For more information and to find a rollout location, visit www.mastercam.com/X4rollout.

Many Resellers are hosting more than one rollout, so you can even get an encore if the first time wasn't enough! ☒

CNC Software, Inc.
Corporate Headquarters
671 Old Post Road
Tolland, CT 06084 USA
(860) 875-5006
mcinfo@mastercam.com
www.mastercam.com

Educational Division
5717 Wollochet Dr. NW
Gig Harbor, WA 98335
(253) 858-6677
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