

What's New in Mastercam 6.1

This release of Mastercam features the following:

[OpenGL Shading](#)

[Hide](#)

[Faster Multisurface Toolpathing](#)

[Faster Display of Trimmed Surfaces](#)

[Improved IGES support](#)

[Network SIM Support](#)

[Pocket by Depth](#)

[Spiral Pocketing Clean Corners](#)

[Verify](#)

[Wire Tabs](#)

Customer Requests

Many of the improvements listed here are a result of customers' requests. These enhancements are listed by product.

[Design](#) (including Mill, Lathe, and Wire)

[Mill](#)

[Lathe](#)

[Miscellaneous](#)

[N-See](#)

N-See

- Preview's speed has been increased significantly.
- New support for Windows NT 4.0.
- New interface lets you remove Z feeds from the stock calculation.
- Verify visualization corrected for certain surfaces. This may require 32 MB RAM on some computers.
- Cutter compensation in control has been improved.

Design

The following enhancements are included in Design 6.1.

- Added the TrueType® fonts to **Note** creation.
- Added **Letters** geometry files to the CD installation.
- **Analyze contour** no longer shares variables with Mill toolpaths.
- Allow users to break out of **chaining** if caught in an infinite loop.
- **Trimmed surface** normals automatically match those of the parent surface.
- You can now **untrim** a surface whose parent lies on an undisplayed level.
- **Ellipses** can now be created at any Z depth.
- **Limit dimension values** for Radius and Diameter dimensions have been corrected.
- There is improved interaction with modifying **point dimension** attributes before and after placement.
- Font changes now are effective when using the **PM menu**.
- **Point dimensions** between 0.0 and -1.0 in X,Y,Z now reflect the correct value.
- Edited **diameter dimensions** can now be moved through the center of a circle.
- Creation of **Notes** from a file will now reuse the last directory accessed.
- **Cross-hatch** now supports negative angles for input.
- Moving geometry with **Xform** will no longer delete parent entities.
- Using **Undo in Xform** will now only work on the last operation when performing multiple Offsets.

Mill

The following enhancements are included in Mill 6.1.

- **Multisurface Machining:** 0.0 can no longer be used for a Maximum Step Over value.
- **Multisurface Machining:** Angles cannot be less than 0 or greater than 360 in radial machining.
- **Multisurface Machining:** Finish|Parallel correctly handles fillets the same size as the tool.
- **Multisurface Machining:** Entry and Exit vector speeds are now reported accurately in the dialog box.
- **Pocketing:** Tool Change and Comp in Control are added to the *.NCI file when using Additional Finish Parameters.
- **Pocketing:** The finish pass is generated in the correct direction when using Additional Finish Parameters.
- **Pocketing:** Entry/Exit Lines/Arcs are not automatically turned on when changing from one cutting method to another.
- **Pocketing:** Finish Passes are now performed only if the Stepover is set to 0.0.
- **Contour:** Cutter compensation has been corrected when infinite look ahead is off.
- **Circmill:** Entry and exit have been corrected when using Comp in Control.
- **Circmill:** Stock to leave is now available when Comp in Control is active.

Lathe

The following enhancements are included in Lathe 6.1.

- You can now set an **origin** other than 0,0,0.
- You are able to generate **Finish** and **Roughing** passes on vertical lines when using a grooving tool.
- Overall **compensation** has been improved.
- **Canned Text** is correctly associated to the point specified.
- **LMATL.DOC** is now automatically loaded when using NC Utils and Material.
- **Manual Entry** is available on a stand-alone Lathe system.
- **Groove** cuts that are the same size as the tool will be cut by one pass instead of two.

Miscellaneous

The following enhancements are included in version 6.1.

- Edit NC now supports file extensions other than *.NC, as set in Screen|Config|Assign and within the post.
- Increased support for database allocations up to 4 gigabytes

Edit NCI

- Modified the writing of the 1024 matrix to correct toolplane rotation.
- Addressed issues with Plunge Rate and Start of File.

IGES

We continue to expand and improve Mastercam's IGES translator. In addition to speed improvements, the IGES translator features include:

- Support for IGES entity types 141 and 143 (Bounded Curves and Bounded Surfaces).
- Increased performance in reading IGES type 102 (Composite Curves).
- Enhanced handling of large IGES plane entities.
- Improved handling of Surface Normals on Revolved Surfaces and Offset Surfaces.
- Faster reading of IGES types 141 and 142 when using XYZ trimming.
- The writing of IGES Curves on a Surface is now form 0.

OpenGL® Shading

Mastercam's OpenGL shading gives you cleaner, more realistic images that you can pan, zoom and rotate in real time. It also offers special effects such as surface translucency, texture mapping and colored lights.

OpenGL® is an operating-system independent standard for displaying 3D graphics. Select OpenGL as the default shading mode only if you use Windows 95 or NT as your operating system. OpenGL shading is significantly faster than standard V6.0 shading. OpenGL shading has different features than v6.0 shading.

Mastercam Mill and Design on-line help contains more information on this feature. Either search for OpenGL Shading in the index or find it in **Menus and Functions|Screen Menu|shAde**.

Hide

For use with complex geometry, this feature lets you select the entities you want to show, thereby hiding all entities you do not want to see.

For information on using Hide, search for **Hide** in Mastercam's on-line help index.

Verify

Verify is a new backplot feature for 2D operations. It quickly simulates stock removal, allowing you to see the areas that may remain uncut, especially when using large stepovers.

Network SIM Support

For more information about the Network Hasp SIM, see the SIMS.DOC text file that is in your Mastercam directory. Use a text editor or word processor to view and print this information.

Faster Multisurface Toolpathing

We continue to improve on version 6.0 features, including increasing the speed of some Multisurface toolpathing between 200 and 400 percent.

Faster Display of Trimmed Surfaces

We continue to improve on version 6.0 features, including increasing the speed by which trimmed surfaces are displayed.

Pocket by Depth

When using Multisurf Rough to rough parts with multiple cavities, you can select Pocket by Depth to machine each pocket completely before moving to the next.

Spiral Pocketing Clean Corners

Spiral Pocketing now has a Clean Corners setting. This lets you remove material that could otherwise have been left in a pocket due to a large stepover size.

OpenGL

OpenGL® is an operating-system independent standard for displaying 3D graphics. OpenGL is a registered Trademark of Silicon Graphics, Inc. The OpenGL graphics standard is supported by many computer hardware and software manufacturers, including IBM, Microsoft, and Digital Equipment Corporation.

Wire Tabs

Mastercam Wire now supports multiple tabs. This allows you to run several contours at once, and then cut the tabs later. Skim cuts can now be run before and after the tabs are cut.

Mastercam's enhanced tab programming automatically ensures that no stock will fall through during cutting. Subprograms are also supported, and Mastercam will automatically increment subprogram numbers.

