

Camand[®] Machinist

for Microsoft[®] Windows NT[™] and UNIX[®]

Provides 3-axis simultaneous toolpath with 4th and 5th axis positioning, plus wireframe and full surface modeling.

Camand Machinist

Camand[®] Machinist software is a superior surface machining solution. It provides integrated machining and modeling capabilities that enable you to import data or independently create complex 3-D surface models, produce color-shaded images, and generate gouge-free toolpaths for NC/CNC machines with 3-axis simultaneous motion and fourth or fifth rotary positioning axes.

Numerical Control

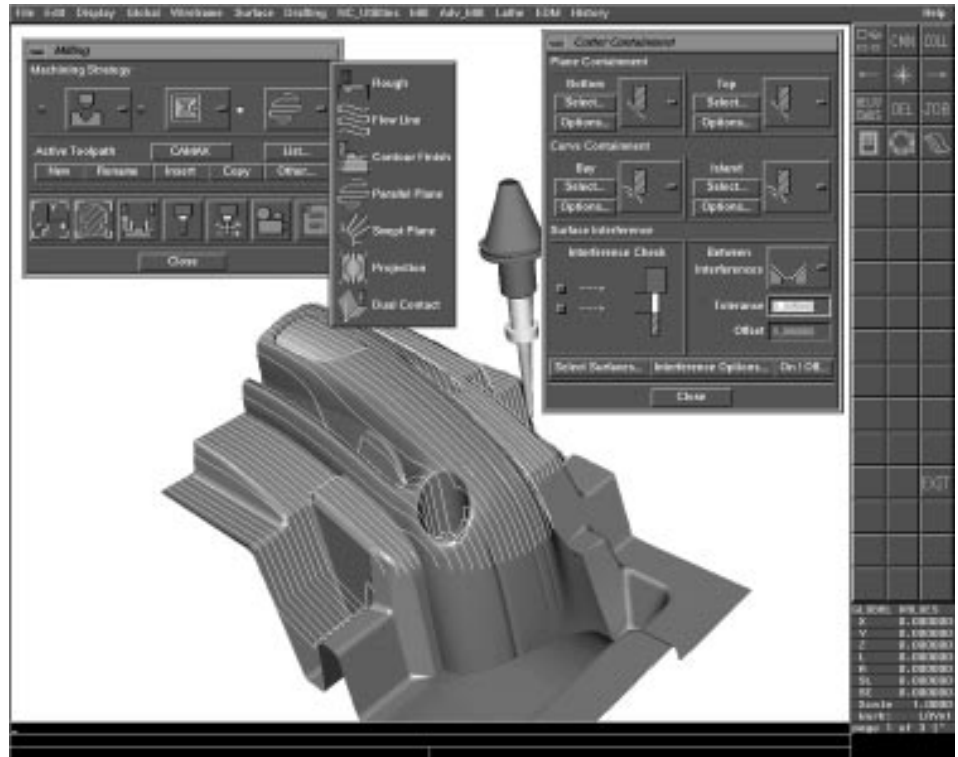
Camand Machinist offers interactive graphic NC programming for even the most complex parts. The standard software provides a dynamic 3-D display of toolpaths, cutter, shank and holder, part, stock, and fixture geometry during toolpath generation, or subsequently, in dynamic simulation modes. Simulation can be as simple as tool motion animation or may involve the entire machine tool environment.

3-Axis Surface Machining

NC programs can be created in Camand Machinist with collision avoidance. The software checks interference against the cutter, shank, and holder. Toolpath associativity is also supported, so when a design change requires reprogramming, the software helps identify the toolpaths that need rework. Camand Machinist gives you the confidence to make your first cuts directly into steel. Multiple entry, exit, and transition options provide full control over the cutter. And Camand Machinist's toolpath visualization shows you the accuracy of your program before it goes to the shop floor.

Multi-Surface Machining

Multi-surface machining is done with several types of machining methods: 1) Roughing, which removes the material between the defined stock and the surface model; 2) Parallel Plane Machining[™], which moves the cutter in a parallel, straight-line motion; 3) Swept Plane Machining, which moves the cutter in a straight-line motion that is not parallel; 4) Projection Machining, which defines the cutter motion by projecting user-defined curves or surface parametric curves onto the surface model; 5) Contour Finishing, which keeps the cutter in constant Z planes as it machines the contour of the surface model; and 6) Dual Contact Machining, which keeps the tool tangent to two sets of surfaces.



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These remarkably fast machining options generate toolpaths over any number of trimmed or untrimmed surfaces, with concurrent gouge detection, correction, and collision avoidance. The software checks interference against the cutter, shank, and holder. Multiple entry, exit, and transition options provide full control over the cutter.

Toolpath Editing

Programming shortcuts, design changes, or unusual situations often require direct access to the computer-generated toolpaths for editing and customization.

When these situations arise, either during or after toolpath generation, Camand Machinist gives you the advantage with its graphic toolpath editing. Toolpaths can be split, regrouped, reordered, linked, or relocated with ease.

Post Processing

The Camand post processor uses toolpaths created within the system to produce instruction files for virtually any CNC machine tool. The Camand post processor uses "option files" to interpret the specific instruction format expected by CNC controllers. A variety of option files already exist within the Camand post processor, or you can customize them.

Surface Modeling

Camand Machinist offers a set of freeform and constructive NURBS surface types so you can interactively create an accurate representation of the part's shape. Surface types supported by Camand Machinist include revolved, tabulated, and ruled constructive surfaces, as well as swept, patch, lofted, mesh of curves, blend, constant, and variable radius fillet surfaces.

Surface shading is fully integrated into Camand Machinist for fast and convenient viewing. Users can control lighting and display

density of the models for quick previews that help identify surface continuity and smoothness. Solid models can be easily imported into Camand Machinist, where they are represented as trimmed surface models.

Surface editing functions include automatic surface trimming and untrimming, blending between surfaces, forcing tangency between surfaces, splitting surfaces along iso-parametric curves, automatic generation of parting lines, and local deformation of surfaces. Surface smoothing and data reduction are also available.

Precise Toolpaths

When you combine Camand Machinist's automatic gouge checking, collision avoidance, graphic toolpath generation display, and machining simulation, you know your NC programs are accurate before they go to the shop floor.

Productive Coexistence

Since Camand Machinist exchanges data with virtually any other CAD system, you can expand your modeling and manufacturing options by integrating Camand Machinist into your operations. Through IGES, VDA, DXF and other direct translations, Camand can leverage the investment made in geometric models created on other systems. Your existing CAD/CAM/CAE environment remains intact to protect your investment in software, hardware, and internal operations.

Customization

By using the Camand user programming language (CPL), you can create and enforce processes that address your company's machining standards and even automate repetitive functions. The system's cutter library lets you create your own "tool crib" within the system. You can customize Camand Machinist into a system that is programmed for your manufacturing operations.

Call Today

For more information on how Camand Machinist can contribute to your productivity and profits, call your local CAMAX dealer. For dealer information, contact CAMAX at (800) 394-5300 or (612) 854-5300.



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