

# SmartCAM FreeForm Machining™ v2014

Experience Powerful, Flexible, Affordable...SmartCAM

Generate fast,  
gouge-free,  
multi-surface  
machining  
toolpath from  
solid or surface  
models.

## SmartCAM FreeForm Machining

SmartCAM FreeForm Machining™ is the most powerful milling solution in the SmartCAM® family of applications. It builds on the strength of SmartCAM Advanced Milling™ by adding multiple-surface capabilities for a full range of parts from 2-axis work to complex 3-axis molds, dies, and prototypes. It is one of the fastest machining systems available. All SmartCAM applications are designed to help you reduce your programming time and more quickly deliver your customer's parts.

## Ease of Use

SmartCAM applications operate on Microsoft Windows 7 Professional, Microsoft Vista® Business, Windows XP® and Windows 2000 operating systems. The user interface uses manufacturing terminology and logical operation sequences that even first time users will find familiar and experienced users can apply quickly.

## Shorten Part Delivery Times

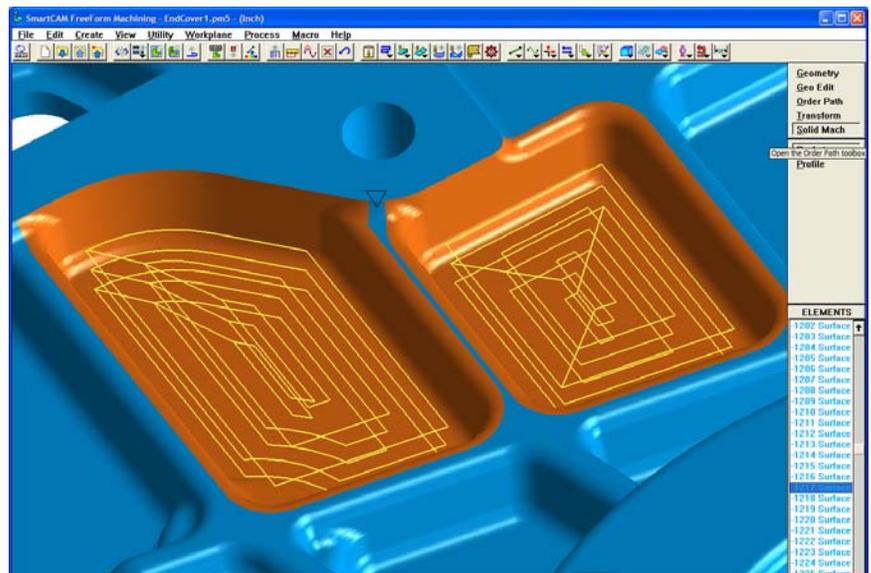
FreeForm Machining offers a variety of rough and finish machining strategies providing the flexibility to manufacture the way you want, and helping you shorten manufacturing time.

- **Solid Model Pocket Roughing**  
Create pocket roughing toolpath on

solids for pocket features containing both prismatic and complex surfaces.

- **Solid Model Profile Finishing**  
Create finish and multi-pass, semi-finishing toolpath from solids containing prismatic features and complex surfaces.
- **Surface Creation & Editing**  
Create Spun, Translated, Draft, Ruled, Lofted, Coons or From-Mesh surfaces. Editing tools support trimming, punching, and splitting surfaces.
- **Z-Level Contour Rough and Finish Machining**  
Provides efficient and accurate roughing and finish toolpath for faster cycle times.
- **Parallel Plane Machining**  
Includes straightline machining across multiple surfaces, uphill-only cutting, and z-increment roughing, with climb and conventional cutting options.
- **Containment Boundaries**  
Parallel plane machining supports a single or group of user defined toolpath containment boundaries for maximum toolpath control.

- **Pencil Milling**  
Remove material left over from previous machining operations along fillets and surface intersections.
- **Projection Machining**  
Automatically project any toolpath on to a group of surfaces for maximum efficiency when machining mold cores, detail work, or lettering.
- **Intelligent Pocketing**  
Select from spiral, linear, or zigzag routines. Freeform Machining automatically calculates correct toolpath, recognizing multilevel islands and open profiles.
- **Regenerative Toolpath**  
Process parameters are held in Containers so that the process and resulting toolpath can be easily modified and regenerated to meet new machining requirements.
- **Automatic Hole Making**  
Holes can be automatically grouped by size or location to apply single or multiple hole-making processes such as spot drilling, drilling and tapping.



*SmartCAM FreeForm Machining*  
*Pocket Roughing Directly on the Solid Model*

#### ▪ Subroutine Support

Create efficient and compact programs that take full advantage of your CNC controller's subroutine capability when machining repetitive parts and features.

#### ▪ Automatic Toolpath Optimization

The *Optimize* function allows you to experiment with the toolpath order to find the most efficient machining cycle time.

### Eliminate Surprises

Visual verification capabilities improve product quality and save you machine time and material costs.

- 3D Cut Verification – ShowCut™ simulates the tool motion while cutting the part from a stock model, just as it will happen on your machine, letting you verify your program before generating toolpath.
- Dimensioning and notes capabilities help with shop floor documentation
- Custom tool graphics help you visualize special tools as well as the standard ball, bull-nosed, and standard tools supported by the software.

### CAD Formats Supported

Import, export, display, and machine from solid, surface or wireframe CAD data using SAT, STEP, IGES, DXF or DWG formats. SmartCAM files may also be exported as STL surfaces.

Additionally, two native file data translators are available for purchase that read SolidWorks® .SLDPRT and Autodesk® Inventor® .IPT files.

### Capture Your Manufacturing Expertise

#### ▪ Job Operation Planner

The Job Operation Planner is a unique SmartCAM function that helps you organize and store tooling and machining operations information so you can capture proven machining methods and reuse them.

#### ▪ Customization

Almost everything about SmartCAM applications — from the user interface to the way code is output — can be customized to streamline your work. SmartCAM applications put you, not the computer, in control.

### The SmartCAM FreeForm Machining Advantage

SmartCAM applications are the best value in the CAM marketplace. That means you get maximum return on your investment. And as your business grows, the SmartCAM family of applications for 2½-through 3/2-axis milling, 2- through 6-axis turning, 2-through 5-axis Wire EDM and fabrication will continue to meet your competitive needs.

### DNC & Editing Software

Every license of SmartCAM now comes with Predator CNC Editor for SmartCAM™, an OEM version of the industry-leading standard version from Predator Software, Inc.

It is the most popular 32-bit CNC code editor available on the market, is extremely easy to use and includes many features to improve the day-to-day productivity of CNC machine tools. Predator CNC Editor for SmartCAM is the ideal choice for the CNC editing and DNC needs of all SmartCAM users.

Features include DNC in the background, Math Operations including trigonometry functions, Color Highlighting of the NC program and more.

### System Requirements

#### Operating System

Recommended: Microsoft® Windows 8® Professional, Microsoft Windows 7® Professional, Microsoft Windows Vista® Business, Windows XP Professional or Windows 2000

#### Processor (CPU)

Minimum: Intel Pentium® IV or AMD Athlon® XP  
Recommended: Intel Pentium® IV or AMD Athlon® XP, Intel DuelCore or higher

#### Physical RAM

Minimum: 128 Mb  
Recommended: 2 GB or greater

#### Hard Disk Space

Minimum: 25MB for installation

#### Network Card

Ethernet or NIC card.  
Motherboard embedded with NIC are NOT recommended. The network card does NOT need to be attached to a network; it is used with SmartCAM software licensing.

#### Video Display

Minimum: 1024x768 display resolution with True Color, 32 MB display RAM; hardware-accelerated OpenGL v1.2 (or higher)

Recommended: 1280x1024 display resolution with True Color, 256 MB display RAM; hardware-accelerated OpenGL v1.2 (or higher)

#### Devices

Digitizers must be configured as a mouse. 3D Mouse supported.

### More Information

For more information on how SmartCAMcnc's SmartCAM products can contribute to your productivity and profits, go to:

#### [www.SmartCAMcnc.com](http://www.SmartCAMcnc.com)

Or email:  
[info@SmartCAMcnc.com](mailto:info@SmartCAMcnc.com)

Or call:  
541-344-4563

(For dealer inquiries, please email:  
[dealer.inquiries@smartcamcnc.com](mailto:dealer.inquiries@smartcamcnc.com))

# SmartCAMcnc

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