

## What's New in SmartCAM Advanced Production Milling V11

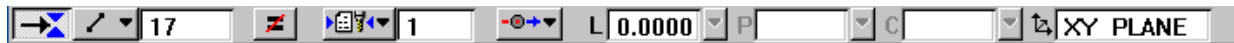
SmartCAM<sup>®</sup> v11.0 includes the new features and changes described below.

**Application Name Change** With the release of v11, the name of the Advanced 3-D Machining product has been changed to SmartCAM Advanced Production Milling<sup>™</sup>. This change was made to reduce confusion in the market about product capability and to more accurately reflect the product's position in the SmartCAM line.

### Graphic View Improvements

The v11 SmartCAM applications offer a marked increase in the graphic view area. The control panels are condensed and display a picture of the icon function in the upper left corner. Many include a Parameters button to control settings that are not frequently used. The next immediate differences are the removal of the Insert and Group toolboxes from the workbench, and enhancements to the icon bar. The tool list, on the workbench, increases its display of three to five modeling tools, depending on your screen resolution. See the prodinfo subdirectory, on your application CD, to view Screencam video examples of the new improvements.

### Insert Property Bar



The Insert Property bar replaces the Insert toolbox. Now you can immediately set and change the Insert functions while remaining in an open control panel. The Utility menu contains a configuration menu to change the position of the bar in the graphic interface.

The Insert Property bar is structured with icons that you can easily recognize and select. See the Insert Property bar Help for complete details.

### Group

The Group toolbox is eliminated from the workbench in the v11 release. The Group Arrow tool, located in the read-out line, provides easy access to most of the original Group functions. The Group tool palette and the Group pop-up menu, also contain the Group tools. See the Group Help for details on using the group tools.

*NEW* The read-out line displays the number of elements as you pick them and includes a box with a running total of the active elements currently displayed. Depending on your screen configuration, the total number of elements in the model is also displayed.



### Icon Bar

The icon bar includes several new features for ease of use. See the Icon bar Help topics for details.

- In the Configure Icon Bar dialog box, you can now adjust the icon size (small, medium, large).

- The number of icons you can view depends on your monitor size and resolution. To view all of the icons in a specific bar file, reconfigure the icon bar to the Float position. This is a floating palette that enables you to view all of the icons in a specific bar at once.
- The Utility--Icon bar menu includes a Save As option to save a customized icon bar file under a new name.
- New icon bar files are divided into icon groups in order of use. Each file includes a Switch to Auxiliary bar icon that enables you to easily customize your own icon bar. The SmartCAM library file name is changed from the smartcam.bar to iconbar.def file.

*NEW* Separator icons are included in this release. As you customize an icon bar file, you can separate groups of related icons by choosing the predefined icon button named "SEPARATOR".



### Process--Rough Toolbox Changes

- The new Profile modeling tool, is added to the Rough toolbox; and creates centerline tool path for a single cutting pass. The centerline represents the drive point of the tool, typically the center of the tool radius.
- The Cavity modeling tool, adds a Wall Parameter setting that specifies the amount of residual stock material to remain on the sides of pockets and islands for a finishing operation.

**VDA-FS File Type in Import and Export** The Import/Export functions can now translate from VDA-FS format and translate back to VDA-FS using CAM Connection. VDA-FS, a millimeter-only format, is Verband der Automobilindustrie, the German-developed standard (DIN 66301) for exchanging surface model data for the European automotive industry. The FS is for the Surface Data Interface. The version supported is v2.0, 1 January 1987.

**IGES Surface Import** The Import function can now translate both surfaces and wireframes from the same IGES file in a single translation using CAM Connection, using the "IGES" file type. Attributes such as Work Planes, Layers, and Entity Names are also converted for IGES surface models. The IGES color numbers can optionally be mapped to SmartCAM layers for use with I-DEAS models. There are some current limitations to the surface conversions. Some types of models may import with better quality surfaces by using an IGES Surfaces file type, which runs SmartCAM's existing embedded IGES surface translator. To change the setup to import wireframe only, open the IGES Input Options dialog box in the CAM Connection, enable the Surfaces check box, and save the setup file.

**High Speed Machining** A new arc fit tool, called Polyarc Fit, has been added to the Create--Curves toolbox. Use PolyarcFit to convert polyline data to line/arc data for NC applications or as a general curve fitting tool to reduce large data sets. This functionality enables you to optimize your tool path by controlling accuracy, sharp transitions, and flatness features of the resulting polyarc. Polyline curves are fit with a profile of arcs and lines. These curves are used directly by the machine controller, resulting in smoother part surfaces and higher feed rates. The amount of data required to drive the machine tools is significantly reduced.

**User-Definable Tool Description** A new input field named User Description has been added to the Planner. This field can be used to add information to the Description display and customize the tool description. For more information about customizing the tool description, see the Customizing Format Files chapter in the SmartCAM Customization Guide.

**New Utilities** Several new utility programs are installed with the SmartCAM Typical and Custom setup. These include Measure Angle, Angular Dimension, and Arc Grouping. These utilities are installed in the Utility subdirectory under the SmartCAM install directory. See the utility.txt file in the utility directory, and the install.txt file in the subdirectory for each utility for instructions on installing and using the utilities. While these utilities are unsupported, we would appreciate your feedback. You can email any comments and/or suggestions for these utilities to [freeware@camax.com](mailto:freeware@camax.com).

If you complete a Compact installation and later decide to install the Utilities files, use XCOPY to copy the Utilities directory from the release CD-ROM to a Utilities directory in your SmartCAM directory. Be sure to use the /S parameter to get all subdirectories in the Utilities directory tree.

**Code Generation Compatibility with New Macro String Functions** The following functions can now be used within #EVAL() commands and in conditional tests. They should behave the same in code generation as they do in the macro system.

- STRLEN (string) - returns the length of 'string.'
- STRSUB (string, start, length) - returns the substring of 'string' from 'start' spanning 'length' characters.

**Code Generation Debugging** The following flags, which control code generation debug output, now can be entered directly in the @DECLARE section of the code file instead of in the smartcam.ini file.

- #OUTCND outputs conditional status
- #OUTSEC outputs @section names
- #OUTERR outputs processing errors
- #OUTRPT outputs an error report file

#CALL Stack Improvements include:

- A new #EXITC command returns processing to the calling @section after processing any pending conditionals. Also, the pending conditional level has been expanded from 3 deep to 6 deep.
- There can now be one #REPEAT active for each @section in the #CALL stack, instead of one for the whole stack. The maximum number of repeats is also expanded from 1000 to 100000.
- #TBL words and #Switches now behave similar to strings when used on the right-hand side of a string expression, and as an argument for control words like #CALL.

**Visual CTK** The SmartCAM Visual Customization Toolkit is now part of the standard SmartCAM application suite. This utility enables you to create custom control panels and dialogs that can be displayed within your SmartCAM applications. These panels, when used in conjunction with SmartCAM's macro system, enable you to build your own specialized tools within SmartCAM. SmartCAM Visual Customization Toolkit is installed automatically when you perform a Typical installation. You can also select it as an option when performing a Custom installation.

**User Guide** There is a new online SmartCAM Advanced Production Milling User Guide that replaces the reference manual. The User Guide contains conceptual material and illustrations that supplement the online Help. It is organized to reflect the work flow in a production environment and tell you why, when, and how to use the software. You can view this new manual by selecting Online Manuals from the Help menu.

**Training Files** The Exploring SmartCAM Advanced Production Milling manual uses numerous model files that are included on your SmartCAM CD. In the past, these files were available in only English units, but SmartCAM v11 has been expanded to include Metric unit versions of all training files. The Metric unit files are stored as follows: cddrive\train\application\_m, where cddrive is the path to your CD and application is your type of SmartCAM application, for example, mill\_m is the location for all Metric unit milling files. The English unit files are stored as follows: cddrive\train\application\_e, where cddrive is the path to your CD and application is your type of SmartCAM application.

**Utility Macros** A new parting line macro (prtyline.mcl) creates a silhouette parting line on groups of surfaces. A new mill slice macro (mslice.mcl) creates polylines at constant Z-level increments on a solid or single surface. A new compensation code macro (compcod.mcl) adds @empl or @empr user commands to profiles. This macro is used to declare cutter compensation offset control for tool center toolpath. All of these macros are explained in more detail in the Sample Macros and Files chapter in the SmartCAM Customization Guide.