

MOLD and DIE

ONLINE

HELP

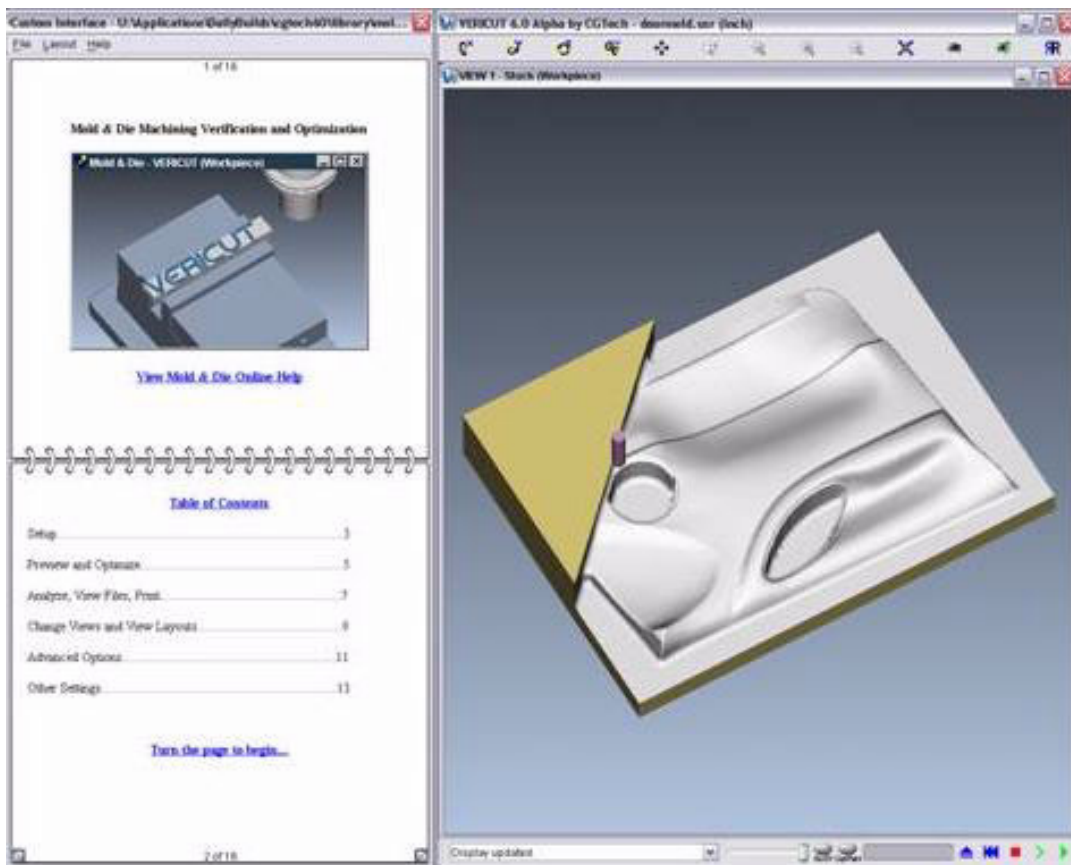


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MOLD AND DIE HELP

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Getting Started with VERICUT Mold and Die

Introduction to Mold and Die Online Help

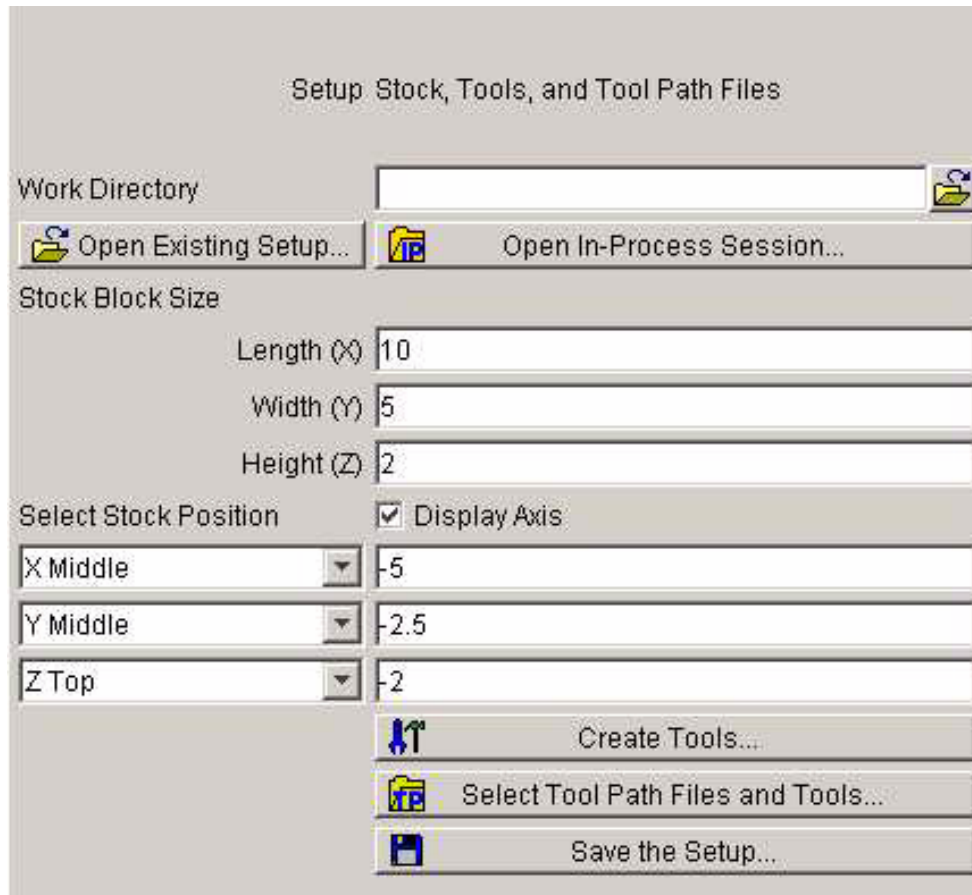
The Mold and Die product consists of a subset of the functionality that is available in standard VERICUT. The Mold and Die Online Help provides information specific to the features that are available in Mold and Die. Most topics have a hyperlink into the standard VERICUT Online Help which will provide additional information about the feature.

Once inside the VERICUT Online Help, the top level topics that pertain to both Mold and Die and standard VERICUT will show you how to locate the feature in both products. As you get into lower level topics, especially in the "see how" and "how to" sections, the discussions are directed toward the standard VERICUT interface. The concepts will apply to Mold and Die, but how you access the feature will be different.

In most of the "see how" and "how to" sections, the first step tells you how to access a particular feature in standard VERICUT using an icon in the toolbar or showing the menu picks in the main menu that will get you to the feature. The menu pick is of the form **ABC menu > XYZ feature**. In most cases, using the **ABC menu > XYZ feature** hyperlink will take you to the high level topic. If the feature applies to Mold and Die, it will show you how to access it in Mold and Die.

VERICUT Mold and Die Features

Setup Your NC program Simulation



Work Directory — The "Work Directory" is the directory where VERICUT will look for files, or save files to, unless otherwise specified at the time when files opened or saved. Enter the path to the location of the directory that is to be used for the "Work Directory" in the text field or select the Work Directory "Browse" icon



to display the Select Working Directory window and use it to select the directory.

Open Existing Setup... — Opens a window to open (load) a User file. User files contain VERICUT session settings, known as "user configuration values" or "user values", required for processing a tool path file. Click on the **Open Existing Setup...** button to display the Open User File window and use it to select an existing user file.

Open In-Process Session... —Opens a window to open (load) an In Process file, or "IP file". IP files contain all the data necessary to re-establish a VERICUT session, including the current VERICUT model (with cuts), user interface settings, and a copy of the Log file. Click on the **Open In-Process Session...** button to display the Open In-Process File window and use it to select the desired "IP file"

Stock Block Size — Use this feature to specify the dimensions of the stock block that is to be machined. Enter the **Length (X)**, **Width (Y)**, and **Height (Z)** values in corresponding text field. The block displayed in the graphics area is automatically updated as you enter each value.

Select Stock Position — Use this feature to position "workpiece coordinate system" relative to the stock block. This is the coordinate system to which Stock, Fixture, and Design components are connected. It is represented by the XwpYwpZwp axes when displayed in the graphics area.

Each choice list represents one coordinate (X, Y, or Z) of coordinate system origin. Click on the choice list to display the list of available choices. Select one of the choices for each origin coordinate.

X Coordinate

X left — Positions the X coordinate at the left face of the block. Displays the relative value in the text field at the right.

X Middle — Positions the X coordinate at the center of the block. Displays the relative value in the text field at the right.

X Right — Positions the X coordinate at the right face of the block. Displays the relative value in the text field at the right.

X Location — Select to specify any position for the X coordinate. Enter the relative value in the text field at the right.

Y Coordinate

Y Front — Positions the Y coordinate at the front face of the block. Displays the relative value in the text field at the right.

Y Middle — Positions the Y coordinate at the center of the block. Displays the relative value in the text field at the right.

Y Back — Positions the Y coordinate at the back face of the block. Displays the relative value in the text field at the right.

Y Location — Select to specify any position for the Y coordinate. Enter the relative value in the text field at the right.

Z Coordinate

Z Bottom — Positions the Z coordinate at the bottom face of the block. Displays the relative value in the text field at the right.

Z Middle — Positions the Z coordinate at the center of the block. Displays the relative value in the text field at the right.

Z Top — Positions the Z coordinate at the Top face of the block. Displays the relative value in the text field at the right.

Z Location — Select to specify any position for the Z coordinate. Enter the relative value in the text field at the right.

Display Axis — Toggle "on" or "off" to display, or not display, the XwpYwpZwp axes (representing the workpiece coordinate system) in the graphics area.

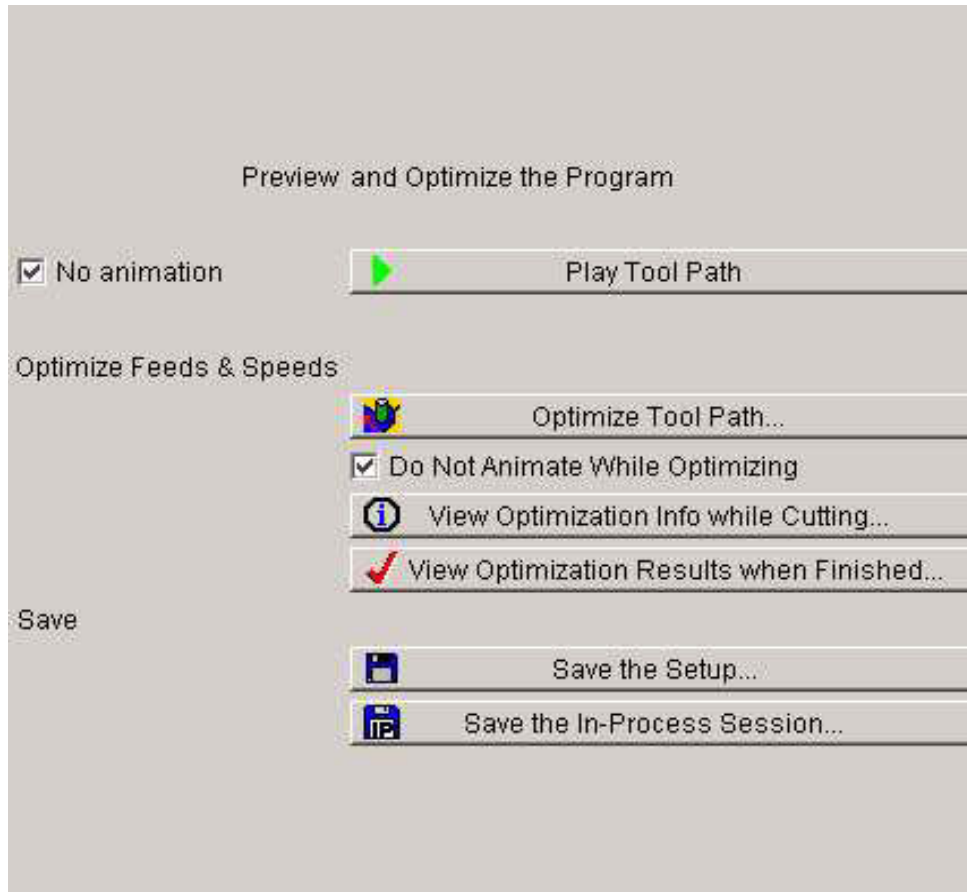
NOTE: Leaving the axis displayed during tool path processing can increase the time it takes to process.

Create Tools... — Opens the Tool Manager window to create and maintain VERICUT Tool Library files containing descriptions of cutting tools, or tool assemblies. Library tools are used by VERICUT when the **Select Tool Path Files and Tools...** feature is configured to do so.

Select Tool Path Files and Tools... — Opens the Toolpath window enabling you to specify the tool path file(s) to simulate, and control how VERICUT receives descriptions of cutting tools.

Save The Setup... — Opens the Save User File As window enabling you to save the current User file with the current VERICUT session settings.

Preview and Optimize Your NC Program



Preview the Program

No Animation — When toggled "on", processes tool paths as quickly as possible without displaying animated cutting, then displays the final machined workpiece. VERICUT stores less information about the machining process than with the "standard" cut mode. This option is recommended for large tool paths with many small tool motions, such as typical automotive or mold and die-type parts.

Play Tool Path — Starts tool path processing. Provides the same function as the "Play to End" icon in the Simulation (VCR) Controls.

Optimize Feeds and Speeds

Optimize Tool Path... — Opens the OptiPath Control window enabling you to control when tool paths are optimized by OptiPath, specify the OptiPath Library file containing the desired OptiPath records, and choose the stock material and NC machine involved in the cutting the workpiece. Feed rates and spindle speeds can be monitored via the **View Optimization Info While Cutting** > Status window. A summary of the cutting conditions encountered during optimization and min/max optimized feed rates is written to the Results file.

Do Not Animate While Optimizing — Enables you to reduce processing time. When toggled "on", the graphics display is not updated until either processing is complete or you Stop the processing. At that time the cut model is displayed in it "final" state or the state that it was in when processing was stopped.

View Optimization Info While Cutting... — Opens the Status window providing information about the simulation, and what would be occurring on the NC machine. Status information includes: tool path record being processed, machine and tool tip locations, information about the cutting tool, machining conditions, errors and warnings detected by VERICUT. The Status window can be left open for monitoring, minimized, closed and opened at any time. Information seen is configurable, and is updated after each tool path record is processed.

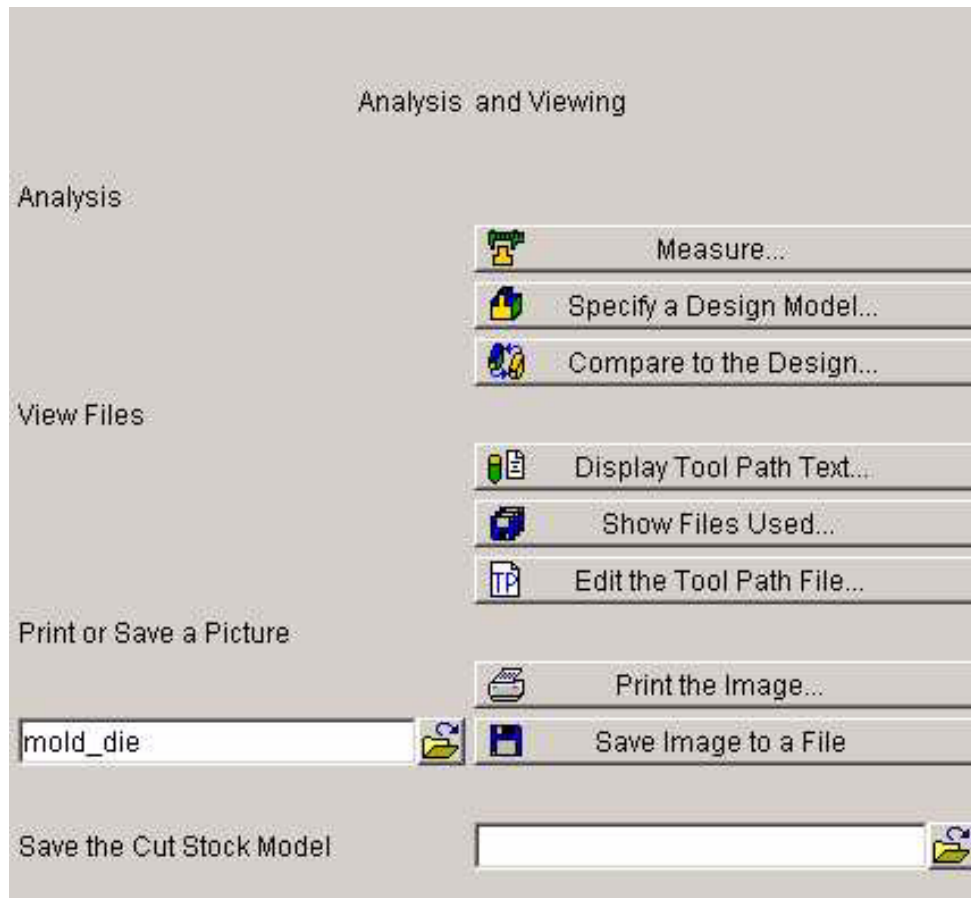
View Optimization Results When Finished... — Opens the Save VERICUT Report window enabling you to specify the */path/filename* of the location where the optimization report is to be written. If **View Report** is toggled "On" when you select **Save**, your browser opens with an HTML-formatted VERICUT Report file for review. This file contains overview information about the VERICUT session, such as: the current tool path and User files, part images, machining times, optimization results, and links to the error Log file and optimized tool path file (if any).

Save

Save The Setup... — Opens the Save User File As window enabling you to save the current User file with the current VERICUT session settings.

Save the In-Process Session... — Opens the Save In-Process File As window enabling you to save the In-Process or "IP" file which contains the data necessary to re-establish a VERICUT session.

Analyze, View Files, Print



Analysis

Measure... — Opens the X-Caliper window that displays measurements, historical, and mathematical information about the VERICUT model. X-Caliper shows what is being measured on the model area by highlighting the "measure from" point (+) and the "measure to" point (o). Results from X-Caliper operations are displayed in the X-Caliper window. Measurements are described relative to the active coordinate system. Note: Machined features can only be measured in a workpiece view.

Specify a Design Model... — Opens the Modeling window enabling you to define or import the models that represent the solid objects used in the simulation. VERICUT uses "components" to describe the function of various solid objects, while models provide 3-D size and shape for material removal and collision checking.

Compare to the Design... — Opens the AUTO-DIFF window enabling you to compare design model data against the VERICUT simulated cut model to identify discrepancies between the cut model the intended design model. Errors are identified before actual machine time is wasted machining an incorrect part. After using AUTO-DIFF to identify gouges and excess material, use other Mold and Die functions such as **Measure** and **Zoom** to measure and help determine the source of the errors.

View Files

Display Tool Path Text... — Opens a window containing the tool path file being simulated. In this window, you can scroll through the entire file to see all the records, search for text forward and backward, print, and more.


Show Files Used... — Opens a window reporting a summary of environment variables and files currently in use by VERICUT. All standard text viewing features are supported, such as: search forward/backward, go to line number, print, etc.

Edit the Tool Path File... — Opens a text editor window with the "current" tool path file loaded and ready for editing.

Print or Save a Picture


Print the Image... — Opens a window enabling you to print images in VERICUT view ports. Each view port is automatically fit to the printable area and printed on a separate page. All view ports are printed. Features on this window are standard print window features that enable you to access printer settings, specify number of copies, etc. Consult your printer documentation for more information.

Save Image to a File — Outputs the current VERICUT image to the specified file. Enter the path/filename in the text field , or select the Save Image to a File

"Browse" icon  to display the Save Image to a File window and use it to select the path/filename, then click on the Save Image to a File button. If only a file name is entered in the text field, the file will be output to the current working directory.

Save the Cut Stock Model

Save the Cut Stock Model — Outputs the cut stock model to the specified file. Enter the path/filename in the text field then the "Enter" key on your keyboard to

output the file, or select the Save the Cut Stock Model "Browse" icon  to display the Save Cut Stock window and use it to select the path/filename to another location then click "OK" to output the file. If only a file name is entered in the text field, the file will be output to the current working directory.

Change Views and View Layouts



The options on this page are used to control how many views of the VERICUT model are seen, and how they are arranged in the main window. In all cases, the "active" view is the view with the highlighted title banner at the top of the view window.

Add a View Window — Adds a view to the VERICUT main window. You can add as many views as desired.

Delete a View Window — Deletes a view from the VERICUT main window. You can also delete a view by clicking "X" at the top right corner of the view window.

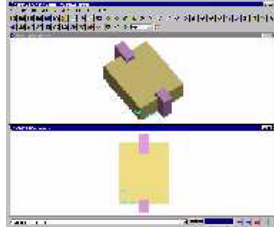
Keep View In Front — Makes the "active" view always remain in front until it is specifically moved to the back or until another view is specified with **Keep View in Front**.

Send View to Back — Moves the "active" view to the back.

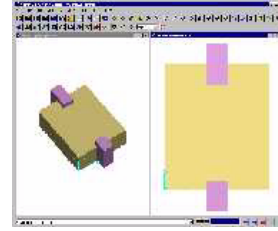
Tile Windows Horizontal — Tiles views in a horizontal arrangement.

Tile Window Vertical — Tiles views in a vertical arrangement.

Tiled horizontally -



Tiled vertically -



XY View — Orients the object in the "active" view to a standard XY drawing view and automatically fits the object in the view.

YZ View — Orients the object in the "active" view to a standard YZ drawing view and automatically fits the object in the view.

XZ View — Orients the object in the "active" view to a standard XZ drawing view and automatically fits the object in the view.

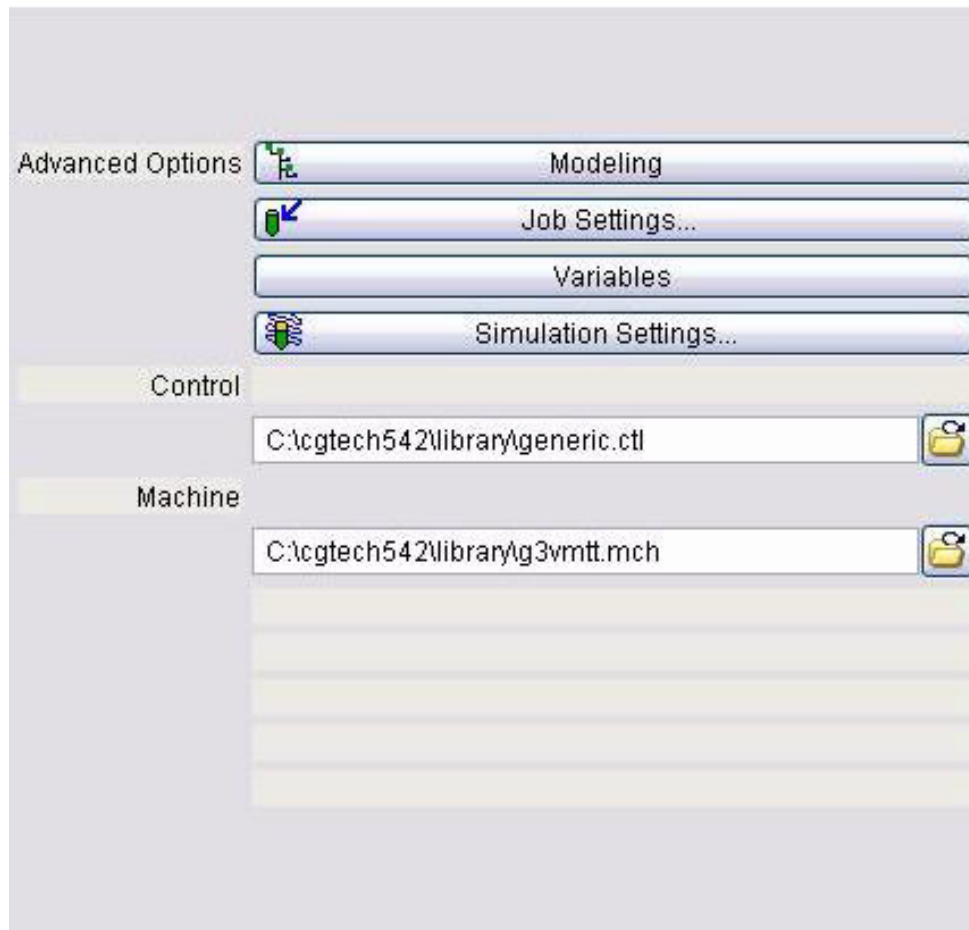
Iso View — Orients the object in the "active" view to a standard isometric drawing view and automatically fits the object in the view.

Restore View — Resets the "active" view to its original orientation..

Display Section... — Opens the Section window enabling you to define section planes through a VERICUT model in a workpiece view. You can define as many section planes as desired, in any orientation. Section plane orientation and distance are described with respect to the active coordinate system. Restore the original model by clicking anywhere off the part in the workpiece view, or click **Restore** on the Section window. You can continue cutting on the sectioned model, or restore the original (un-sectioned) model. Machine cuts are applied to the entire model regardless of how it is displayed after sectioning.

Custom Views... — Opens the **Select/Store View** window enabling you to store, modify and apply custom views. (See how) Defined views are shown in the "View List". Each custom view is stored with the View Type and orientation of the view that was active at the time it was stored. There is no limit to the number of views you can store.

Advanced Options



Advanced Options

Modeling — Opens a window that shows the "tree" of components and how they are connected, as well as provides a fast and easy way of manipulating components and their models. The component tree shows defined components by name and their connect positions. Indentation shows how components are connected in the tree. Select a component by picking its name in the tree. Actions performed using Components Tree window features are performed on the active (selected)


component. Always press **Reset**  after changing components in the component tree.

Job Settings... — Opens a window enabling you to configure settings to support processing G-code tool path files.


Variables... — Opens a window used to initialize, maintain and monitor G-Code Variables.

Simulation Settings... — Opens a window used to control the simulation of tool path and machine motions.

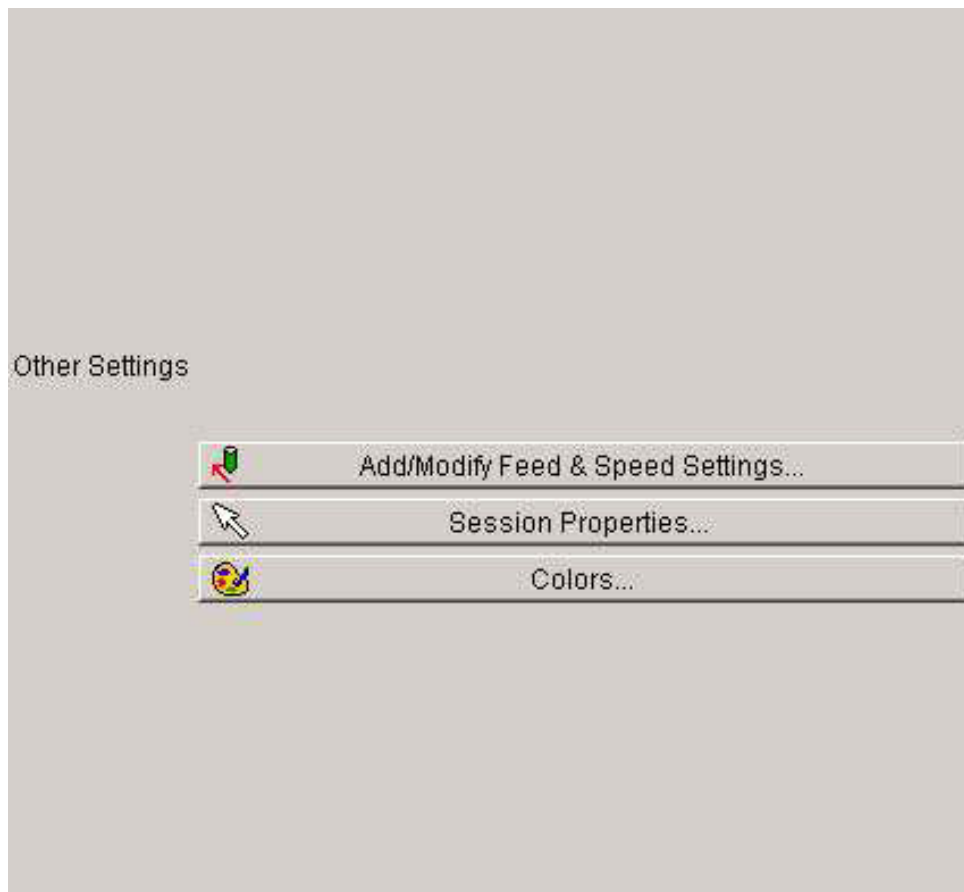
Control — Opens a window to open (load) a Control file. Control files contain data that describes how the NC control processes machine code data. Enter the path/filename in the text field then the "Enter" key on your keyboard to select a

control file, or select the Control "Browse" icon  to display the Select Control window and use it to select the path/filename to the desired control file, then click on "OK".

Machine — Opens a window to open (load) a Machine file. Machine files contain data that describes NC machine construction, kinematics, and other properties. Enter the path/filename in the text field then the "Enter" key on your keyboard to

select a machine file, or select the Machine "Browse" icon  to display the Select Machine window and use it to select the path/filename to the desired machine file, then click on "OK".

Other Settings



Other Settings

Add/Modify Feed and Speed Settings — Opens a window to create and maintain OptiPath Library files containing OptiPath records that describe how to optimize feed rates and/or spindle speeds for various tools and cutting conditions.

Session Properties — Opens a window to set properties for the verification session, such as: cut mode, resolution and tolerance values that affect cut model display, accuracy, and motion simulation.

Colors — Opens a window to define the colors seen in VERICUT. Colors are changeable at any time. The affect of changing colors is immediate.

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