

What's NEW in VERICUT 9.4

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June 28, 2023

Dear VERICUT® User:

Thank you for your continued investment in VERICUT, an important part of your NC programming and machining process!

VERICUT 9.4 features Tool Manager enhancements, new tooling and composites model interfaces, streamlined optimization, and much more. These changes and more will be described in the following pages. Please take a moment to review what's new and improved in this release.

Maintenance and Licensing Information

NOTE: This software requires VERICUT 9.4 licensing and Sentinel 9.8.1 License Server installation.

To Get a License – use the link below to submit a License Request:

http://www.cgtech.com/vericut_support/request-license/.

Licensing is sent via email only.

VERICUT 9.4 runs on 64-bit Windows, and is supported on Windows 10 computers. It is not available for 32-bit Windows computers.

Software maintenance keeps you on the cutting edge - CGTech provides update software to customers with current software maintenance. Your continued maintenance ensures that you have the most advanced verification technology available. If your maintenance has expired, please contact your CGTech representative (<http://www.cgtech.com/about/contact-us/>).

Sincerely,

Ely Wahbeh

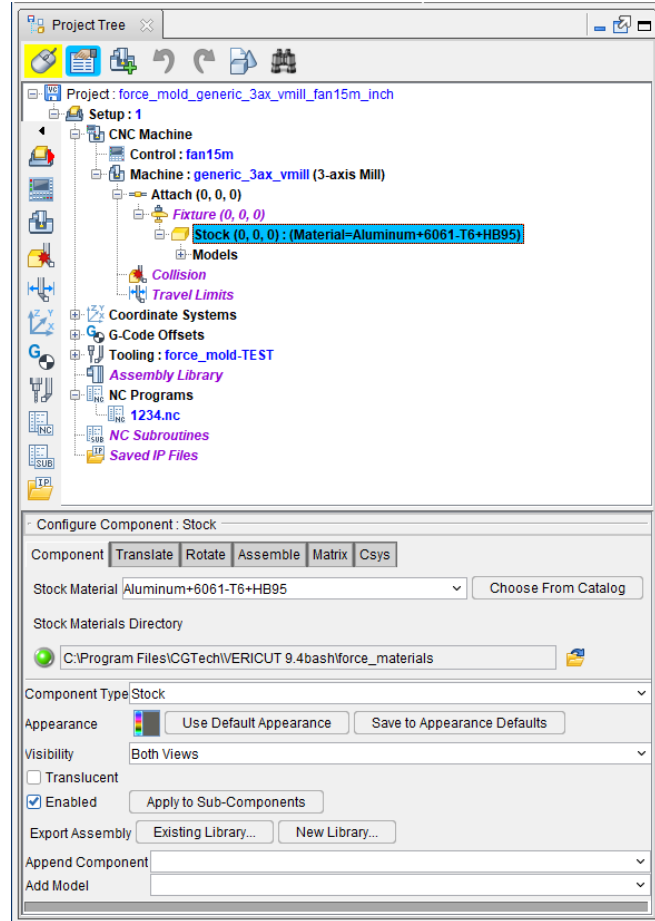
CGTech VERICUT Product Manager

VERICUT 9.4 Release Highlights

Specifying Stock Material

Stock Material can now be set from the Project Tree, Configure Component: Stock panel. All Stock components use the same stock material so it is only necessary to specify the material for one Stock component. The stock material specification is referenced by VERICUT to generate cutting analytics (e.g., Force conditions), by VERICUT Tool Data to recommend appropriate feeds/speeds and limit ranges, during optimization, and by reports that include the identity of Stock Material from which the part is being made.

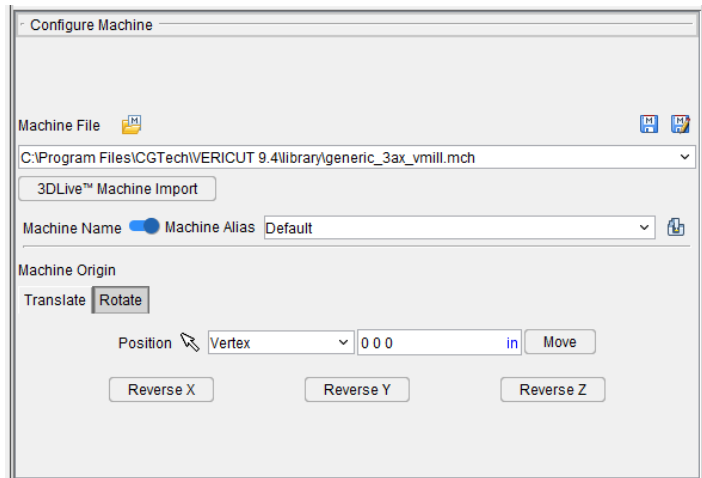
A **Change Stock Material** icon (📄) is provided in several locations to guide users to the Project Tree Stock location, such as the Stock Configure Model panel, Optimize Control window, and Stock Material records in VERICUT’s Tool Manager. In prior VERICUT releases these features were only located on the Optimize Control window.



Specifying Machine Name

The Configure Machine panel has been updated to toggle between the official machine file name and an alias (nickname) you can specify for it.

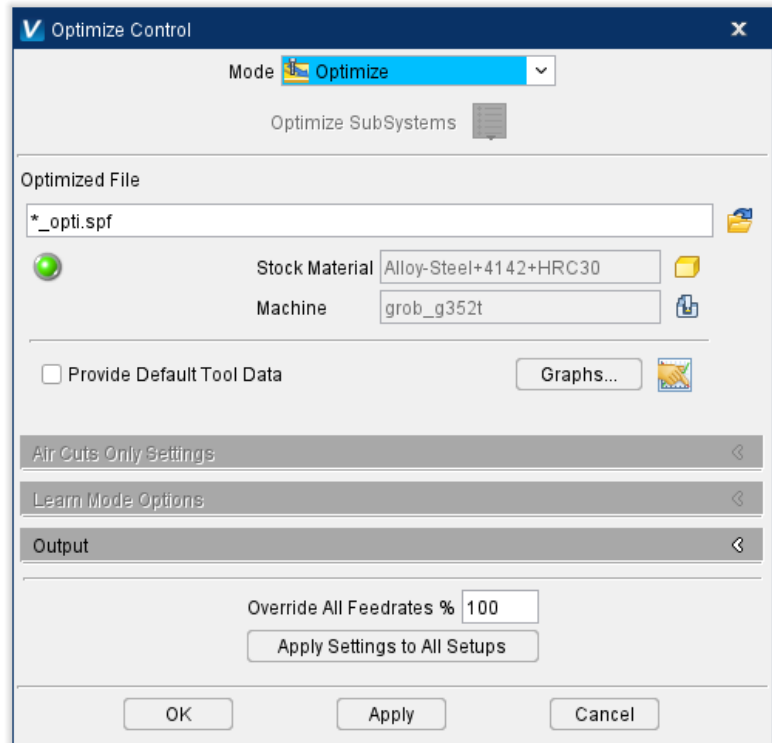
When the toggle is set to “**Machine Name**”, the **Change Machine** icon (📄) next to this field enables users to edit the name of the machine specified via the Machine Settings window.



Release Notes

Optimize Control window

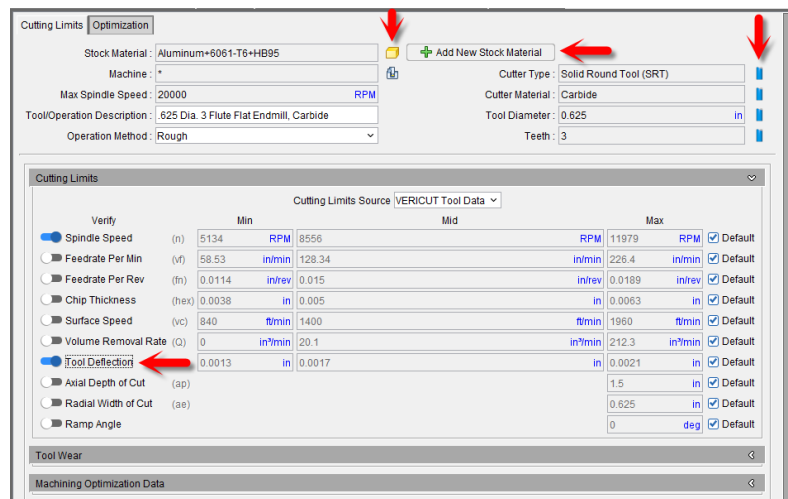
This window has been streamlined to make optimization easier. Graphs preferences, Stock Material, and Machine Name information that was described earlier in this section, can be easily accessed for editing via the icons adjacent to the respective display fields. The other major change is the addition of a **Provide Default Tool Data** toggle which enables users to create “**Default Tool Data**” records for all cutters capable of using stock material records



Tool Manager

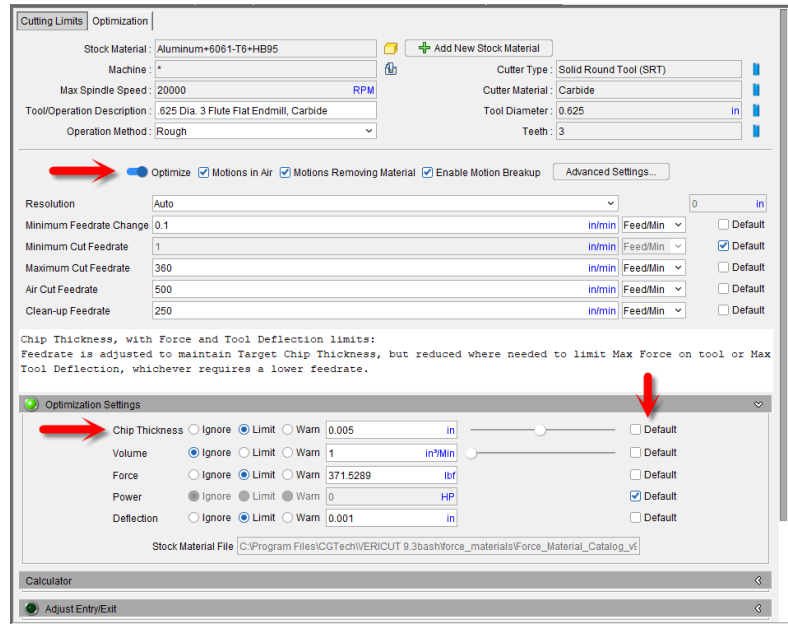
Tool Manager Cutting Limits tab and Optimization tab contain several new features for more granular control of tooling and to improve ease of use.

Cutting Limits tab has a Tool Deflection toggle to control deflection during simulation, an Add New Stock Material button to quickly modify the Stock Material Record, and the top panel has been expanded with more information on the tool and materials being used along with an Operation Method to specify whether the simulation should be Rough or Finishing.



Release Notes

The Optimization tab has been given an Optimize toggle to activate optimization quickly and easily without opening the Optimize Control window. There are also options to check for Chip Thickness as well as Default checkboxes for all settings to save the positions they have set for their Optimization Settings.



Graphs window and Graphs Preferences


The Graphs window has been updated with new features enabling users to toggle cutting conditions, change Graphs display preferences, and show "Peak" or "Average" Force Graph measurements for Force conditions. To see average Force condition graphs, the "Record Average Force Condition" Graphs preference must first be turned on to collect averaged data, as described below.

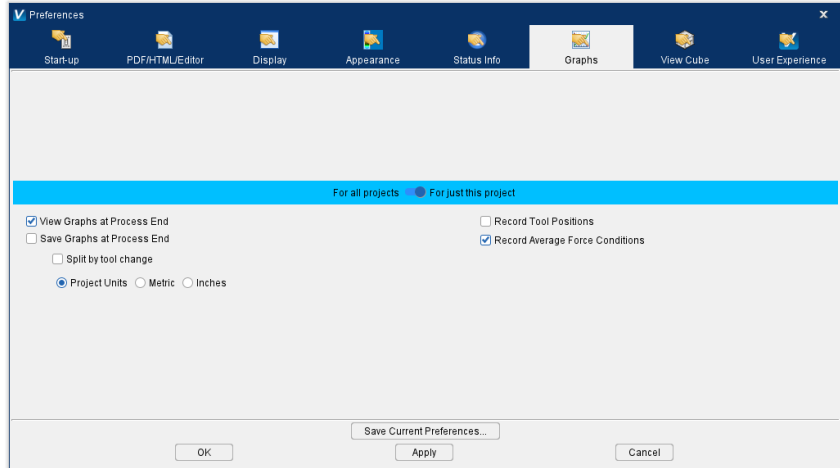


Release Notes

The Graphs Preferences icon

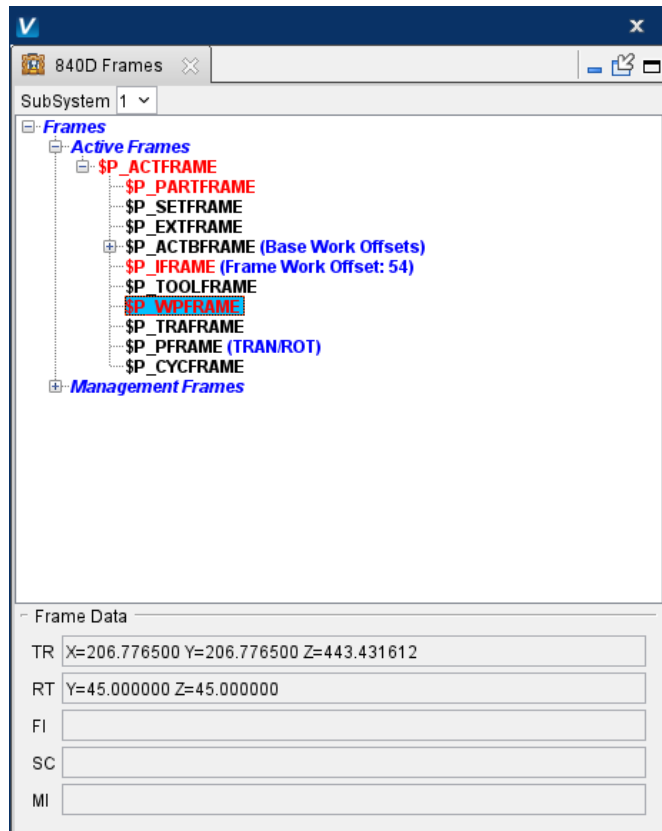


() provides convenient access to the Preferences window, Graphs tab which contains several settings previously contained on the Optimize Control window. These options enable you to toggle settings for all projects of just the project that is currently open, to automatically save graphs at the end of a playthrough, and to set the Project Units to metric or inches among other options.



Siemens 840D Control Emulator

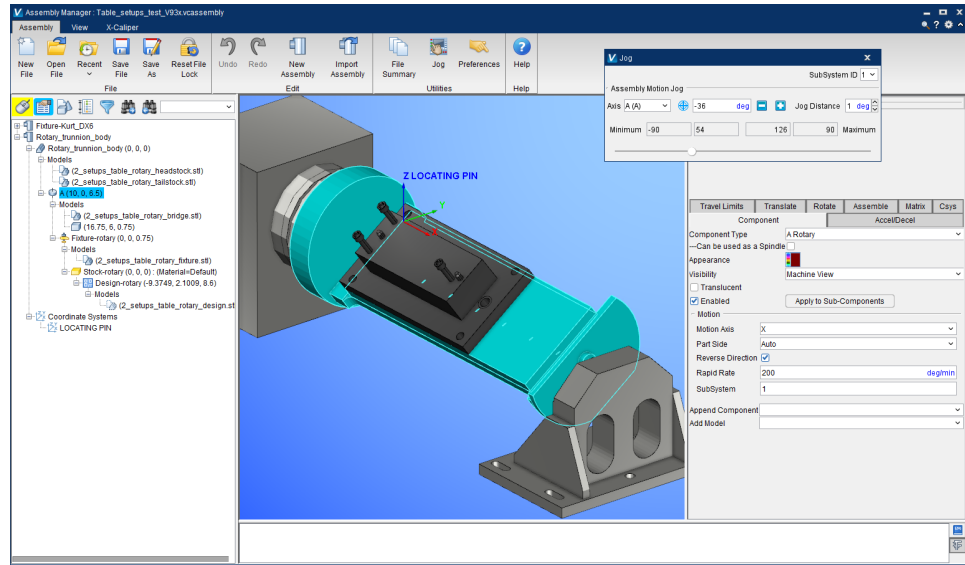
VERICUT's Siemens 840D control emulator has received enhanced support for Frames, TOFRAME and TOROT handling. The 840D Frames window has been completely redesigned to make debugging Siemens Frames even easier. Frames are displayed in a tree format. $\$P_ACTFRAME$ is the sum of all Active Frames. Similarly, $\$P_ACTBFRAME$ is the sum of all $\$P_NCBFRAME$'s and $\$P_CHBFRAME$'s. For the Management Frames, $\$P_UIFR$, $\$P_NCBFR$, and $\$P_CHBFR$ are tables. All entries that are set will be displayed under their corresponding variable name.



Release Notes

Assembly Manager

The Assembly Manager window has several new features including File Summary button, Jog button (similar to MDI button in VERICUT), and Preferences button to better utilize Assembly features.



CNC Machine Connectivity

CNC Machine Connect's "Precheck" has a redesigned main window which displays more information and enables users to select more features to get data for.

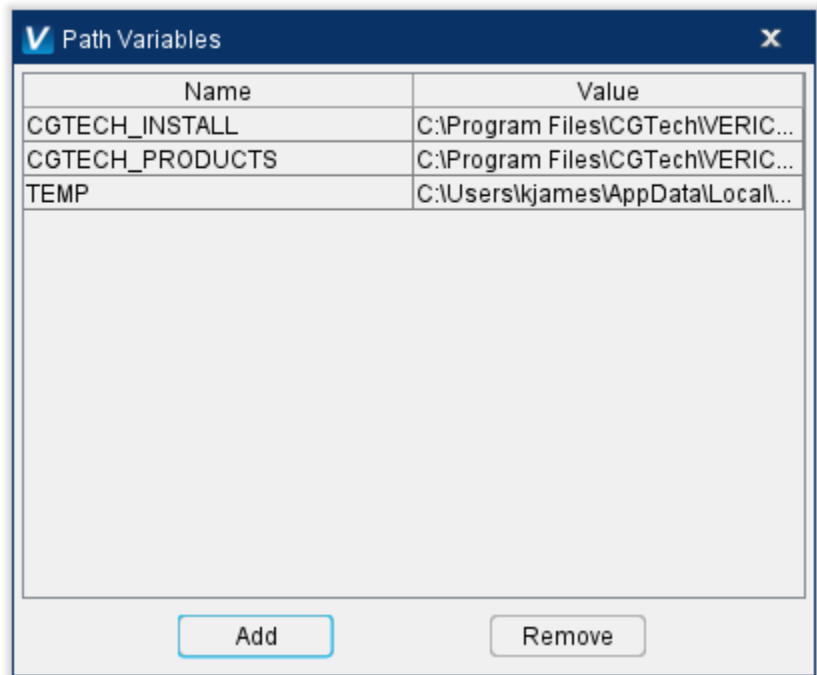
CNC Machine Connect licensed users can now run standalone Precheck application from VERICUT. This enables CNC machinists and operators to perform precheck operations before pressing "Cycle Start" on the first part to be run in a new machine setup.

A new **CNC Machine Monitoring** module in 9.4 live streams data from CNC machines connected to VERICUT. This connection enables users to monitor current active NC program or subroutine, active NC program line (block), which cutting tool is in use, active tool and work offsets and offset values.



Path Variables

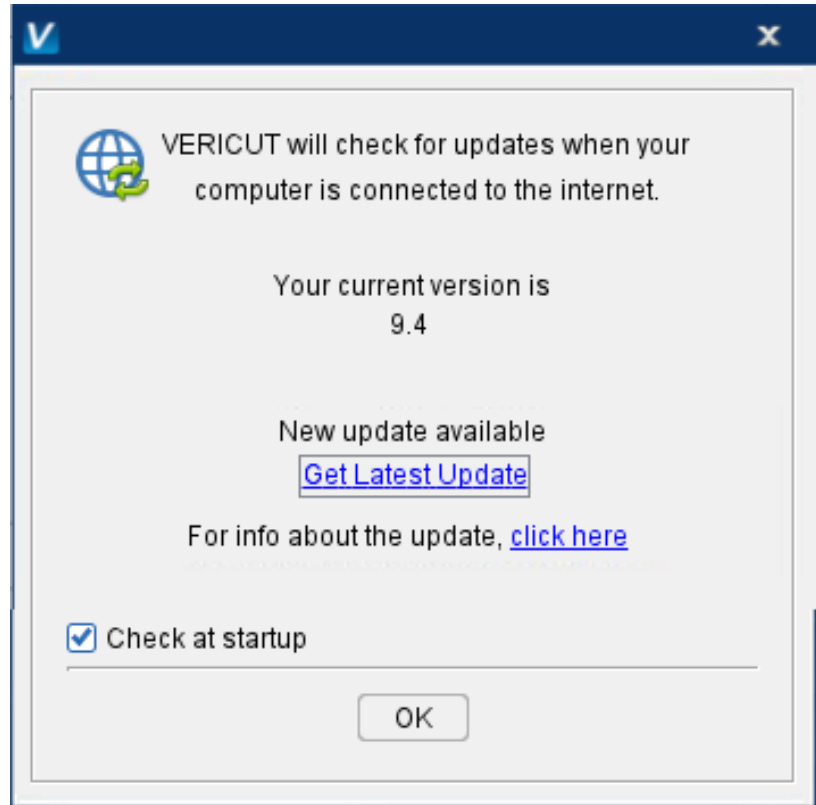
A new Path Variables window has been added to enable users to set CGTech variables quickly and easily from the menu ribbon. This feature is accessed from the Configuration tab.



Check for Update

VERICUT now checks for updates automatically. When an update is available, users are prompted with the option to get the latest update, or read information about the update to help them decide if they want to download it.

Automatic update checks can be toggled off in the Check For Update window. This feature can be accessed any time via the Check For Update button in the Help tab.



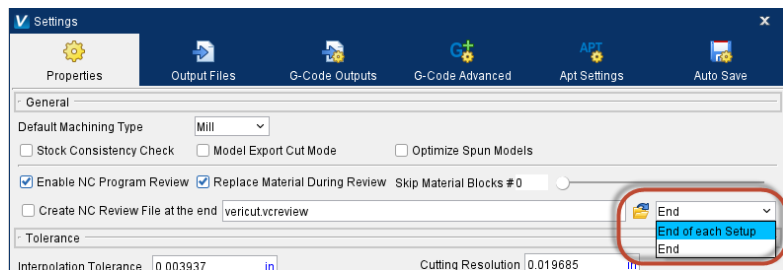
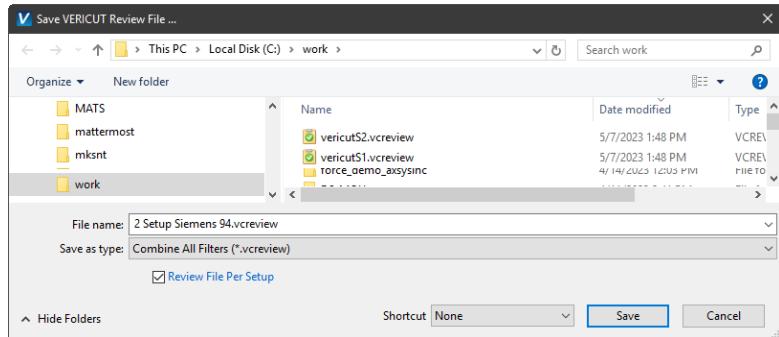
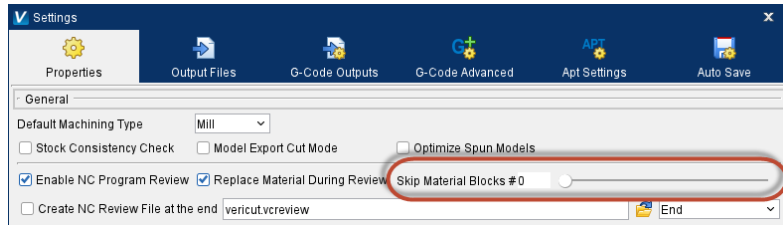
Release Notes

Reviewer

VERICUT 9.4 greatly reduces Reviewer files sizes by up to 50%.

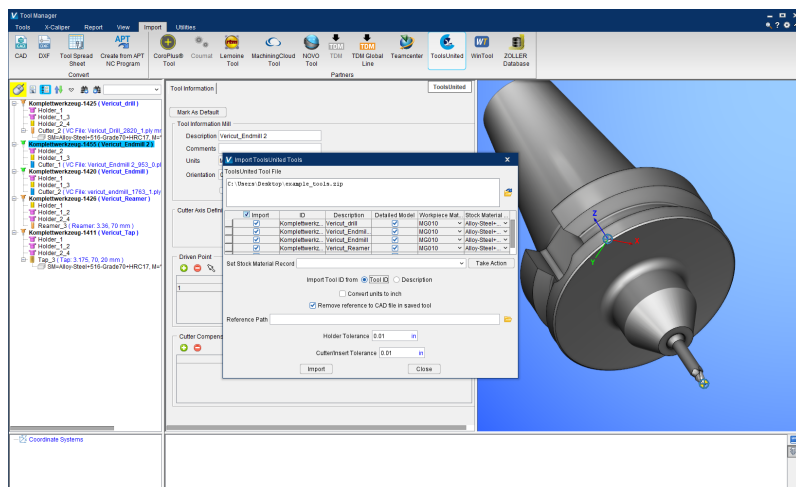
New **Skip Material Blocks** setting limits how many material removals can be performed before Review data is saved. This setting can further reduce file size while recording of collisions, other error conditions, and tool changes are not affected by the Skip value setting.

In a multi-setup project, users can save one reviewer file for all setups or reviewer file per setup. Users can also Auto Set VERICUT to save a reviewer per-setup under Settings window, Properties tab.



ToolsUnited

The **ToolsUnited Interface** enables VERICUT users to directly read in 3D cutting tool assemblies from the ToolsUnited web service. Currently provides access to over 40 tooling vendors. Feeds and speeds for the ToolsUnited tooling can also be read in using the ToolsUnited Interface to ensure you are using the tool the way the manufacturer intended. Use cutting data provided by ToolsUnited suppliers in VERICUT's optimization software to reduce NC program run times and lengthen tool life.



Enhancements and Changes in V9.4

Verification

Status window has been enhanced with several new Tool group fields including **Tool Diameter**, **Tool Flutes/Teeth**, **Tool Cutting Distance**, and **Tool Cutting Time**. **Active Stock Material** has been added to the Optimization group. An icon has been added on the **Record Cutting Conditions** banner to provide convenient access to Graphs Preferences.

Additive simulation performance is enhanced especially for large additive builds. Graphical display improvements have been made for additively built parts, especially when rotating additive builds in the viewing area.

New "Transfer to Cut Stock" button on Die Sink feature enables the user to move the die sinking model into the primary cut stock model.

NC Program name has been added to Graphs.

Optimization

Force optimization can now analyze tools that are part of a Multi Tool Station setup. This also allows Graphs to be generated for Multi Tool Stations.

Tool Manager

Additional cutting data can be recorded and read in to CoroPlus, MachiningCloud, NOVO Tool, TDM, TDM Global Line, and Zoller.

New **Adjust Tool Angular Engagement** replaced the *Adjust Channel Cut* features available in previous releases, to adjust optimized feed rates for cutter engagements that exceed the specified **Start Angle** value.

Driven point can now be changed after being set.

Default Tool Data can now be created for all cutters via the Stock Material Record. This data can then be used to automatically populate Tool Manager fields.

Stock Material Record has been improved with Tool Deflection limit range on the Cutting Limits tab and several changes to the Optimization tab.

Tooling Interfaces

CoroPlus now lets you automate material selection on tool import if you choose.

MachiningCloud and Novo Tool interfaces now support probes.

TDM, TDM Global, and Teamcenter interfaces now include 3D tooling and cutting data on import.

WinTool and Zoller interfaces now read in Minor Diameter data for taps when the tool is present.

G-Code Processing

Significant work has been done to support Siemens TOROT with virtually any machine kinematic configuration.

Siemens840D READ command enhanced to read variables.

New **RpcpCompName** macro allows RPCP attach to stock and other components.

New InStrPos function has been added to support INSTR commands for Heidenhain controls.

TravLimitErrorReporting macro now supports multi-channel jobs.

AxisVarMapping macro now supports Thermwood controls.

Multiple new conditionals and macros have been added to support Thermwood controls.

ZAxisMotionLimit macro enhanced to work with active rotation planes.

CycleAxis macro now works with V2 axis.

PRM support has been added for Fanuc controls.

Robots

Probing support for robots has been added.

Problems Resolved in V9.4

Verification

Issues of unexpected termination have been resolved.

An issue of cutting limit warnings changing between versions has been resolved.

An issue of using multiple cutters resulting in an incorrect error message has been corrected.

An issue of tool spin point generating false collision warnings has been corrected.

An issue of cutter and fixture contact not generating a collision warning has been corrected.

An issue of holders reporting false collisions partway through simulation has been corrected.

An issue of false fast feed rate affecting material removal has been resolved.

An issue of the Assembly Manager window not opening has been resolved.

Machine Simulation

Issues of Cut Stock failing to separate during machining have been corrected.

An issue of slower simulation speed in hole milling has been corrected.

Tool Manager

An issue where removing cutter comp point or tool driven point resulted in the entire tool being deleted has been corrected.

An issue of APT-7 Parameter tool types not working as intended has been resolved.

G-Code Processing

An issue of **HeidCmdIfGreater** macro not working when the values of the first two arguments are equal has been resolved.

An issue of **Heid_YAxisMotion** failing to generate Y axis motion has been resolved.

An issue of **CurTime** not updating all relevant variables at end of processing has been resolved.

New Macros in V9.4

CheckRollCenterOffset
CheckRollerDistOnOff
CheckRollerTwistOnOff
CheckRollerYDirOnOff
CutterCompFeedrateAdjust
LaserdyneType2CLS
LaserdyneType2DFS
ProcessCompNameTessellate
RpcpCompName
SetRobotMaxSumTipDeltaAngles
SetRobotShoulder
SiemensTOFRAME3
SiemensTOROT3
TapeBulkFactor
ThermwoodM98Call
ToolChainFromCompName2
ToolChainToCompName2
WPRreset