
What's New in CAMWorks 2011

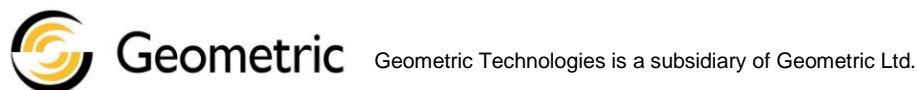
Click a link below or use the bookmarks.

Contents

- [General Operation](#)
- [Milling](#)
- [Turn](#)
- [Simulation / Step Thru Toolpath](#)

Preliminary: The features and functions described in this document are subject to change for final release.

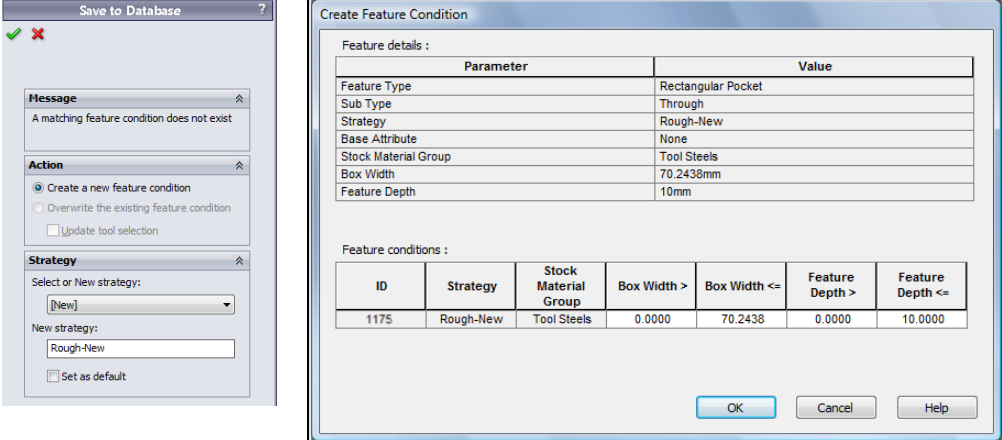
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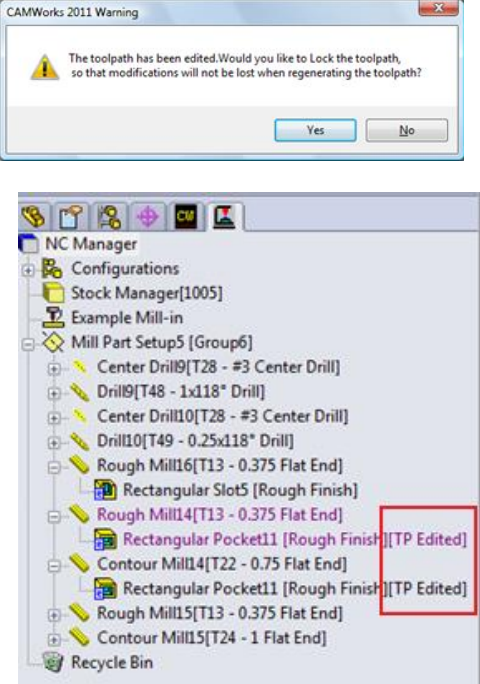
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September 2010

General Operation

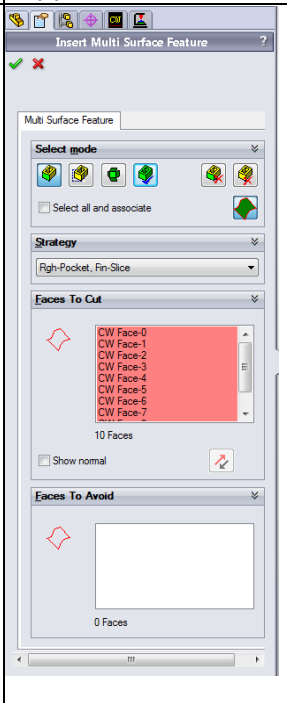
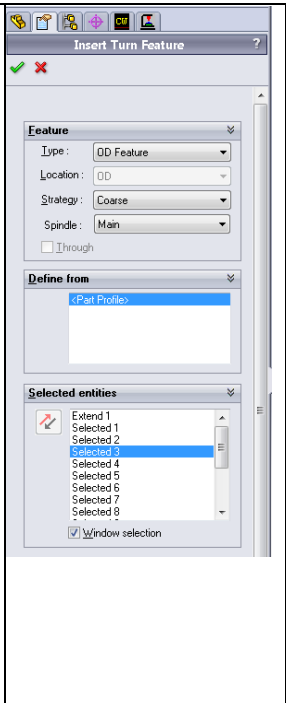
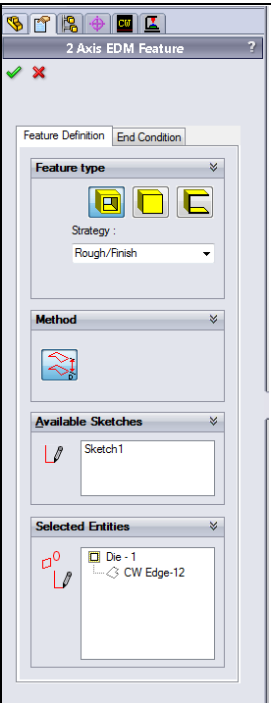
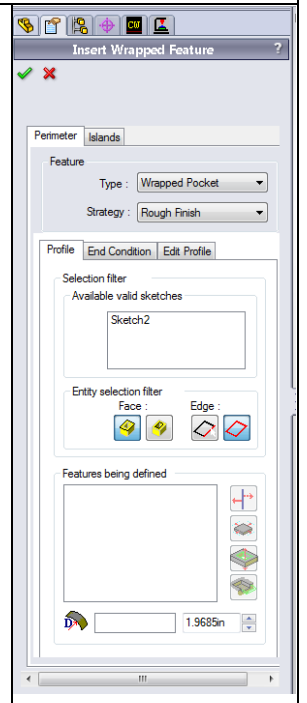
New – Create Feature Conditions within CAMWorks

<p>Purpose</p>	<p>Provide the ability to create new Feature Conditions from within CAMWorks. This reduces the requirement to create feature conditions from within the TechDB.</p>																														
<p>Implementation</p>	<p>Save Operation Plan now supports two options- Overwrite and Create a New Feature Condition. With Create new Feature Condition, users can specify the feature parameters that will be used to create new feature conditions in the TechDB.</p>																														
	 <p>The screenshot shows two dialog boxes. The 'Save to Database' dialog has a 'Message' section with the text 'A matching feature condition does not exist' and an 'Action' section with radio buttons for 'Create a new feature condition' (selected), 'Overwrite the existing feature condition', and 'Update tool selection'. Below is a 'Strategy' section with a dropdown menu set to '[New]' and a text field containing 'Rough-New'. The 'Create Feature Condition' dialog has a 'Feature details' table and a 'Feature conditions' table.</p> <table border="1" data-bbox="743 573 1377 720"> <thead> <tr> <th>Parameter</th> <th>Value</th> </tr> </thead> <tbody> <tr><td>Feature Type</td><td>Rectangular Pocket</td></tr> <tr><td>Sub Type</td><td>Through</td></tr> <tr><td>Strategy</td><td>Rough-New</td></tr> <tr><td>Base Attribute</td><td>None</td></tr> <tr><td>Stock Material Group</td><td>Tool Steels</td></tr> <tr><td>Box Width</td><td>70.2438mm</td></tr> <tr><td>Feature Depth</td><td>10mm</td></tr> </tbody> </table> <table border="1" data-bbox="743 779 1377 846"> <thead> <tr> <th>ID</th> <th>Strategy</th> <th>Stock Material Group</th> <th>Box Width ></th> <th>Box Width <=</th> <th>Feature Depth ></th> <th>Feature Depth <=</th> </tr> </thead> <tbody> <tr> <td>1175</td> <td>Rough-New</td> <td>Tool Steels</td> <td>0.0000</td> <td>70.2438</td> <td>0.0000</td> <td>10.0000</td> </tr> </tbody> </table>	Parameter	Value	Feature Type	Rectangular Pocket	Sub Type	Through	Strategy	Rough-New	Base Attribute	None	Stock Material Group	Tool Steels	Box Width	70.2438mm	Feature Depth	10mm	ID	Strategy	Stock Material Group	Box Width >	Box Width <=	Feature Depth >	Feature Depth <=	1175	Rough-New	Tool Steels	0.0000	70.2438	0.0000	10.0000
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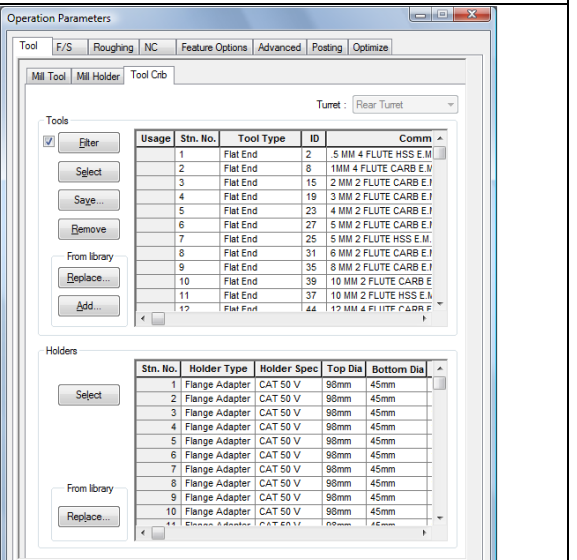
New – Display Message on GTP when toolpath has been Edited

<p>Purpose</p>	<p>Enables new control and notification for operations whose toolpaths have been edited, to reduce the possibility of regenerating toolpaths and overwriting manual modifications.</p>
<p>Implementation</p>	<p>When toolpaths are edited and the toolpath editor is closed, CAMWorks will provide an option to Lock the toolpath so that when rebuild is performed or toolpaths are regenerated, the manual edits will be maintained. Alternatively, if the operation is not locked, when toolpaths are regenerated, users will be given an option to regenerate and loose the manual edits or to not generate the toolpath for the current operation.</p> <p>Additionally, any operation whose toolpath has been edited will include a message on the operation indicating that it has been edited.</p>  <p>The screenshot shows a 'CAMWorks 2011 Warning' dialog box with a yellow warning icon and the text: 'The toolpath has been edited. Would you like to Lock the toolpath, so that modifications will not be lost when regenerating the toolpath?'. Below the dialog is a screenshot of the 'NC Manager' tree view. The tree shows a hierarchy of configurations and operations. A red box highlights several operations, including 'Rectangular Pocket11 [Rough Finish] [TP Edited]' and 'Rectangular Pocket11 [Rough Finish] [TP Edited]', indicating that their toolpaths have been edited.</p>

Improved – CAMWorks Dialogs in SolidWorks Property Manager.

Purpose	Convert Insert Feature dialog boxes to the Property Manager format.			
Implementation	As part of an ongoing project to update the CAMWorks user interface, the Insert Feature dialog boxes for Part Perimeter, Turn Feature, EDM Features, Multi Surface Feature, Wrapped Feature and Unwrap To Sketch have been converted into Property Manager format. This only applies to SolidWorks 2010 and CAMWorks Solids 2010. Currently it is not supported in SolidWorks 2011.			
				

New – Tool Crib Formatting

Purpose	Allow Tool Crib form displays to be customized.	
Implementation	Columns can be sorted in ascending or descending order. Additionally, control is provided to hide or display columns of data and columns can be rearranged as per the user requirements. This applies to Tools and Holders columns in Tool Crib tab.	

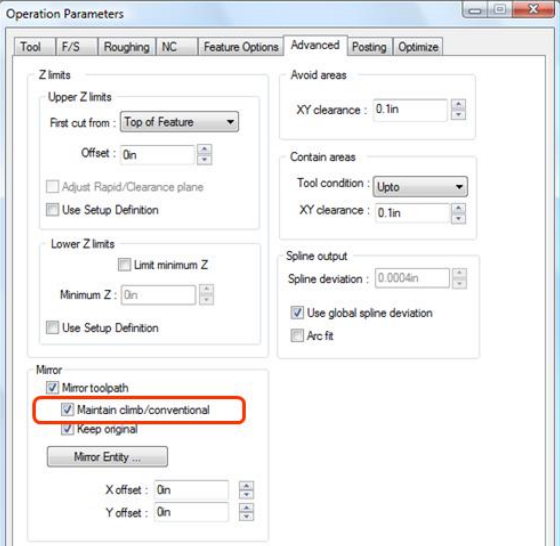
Milling

Improved – Improved Performance and Recognition in MfgView

Purpose	Improve overall performance and feature recognition ability of the MfgView method of feature recognition.
Implementation	Performance improvements up to 40% and improved automatic detection of tapered and filleted prismatic features is done automatically.

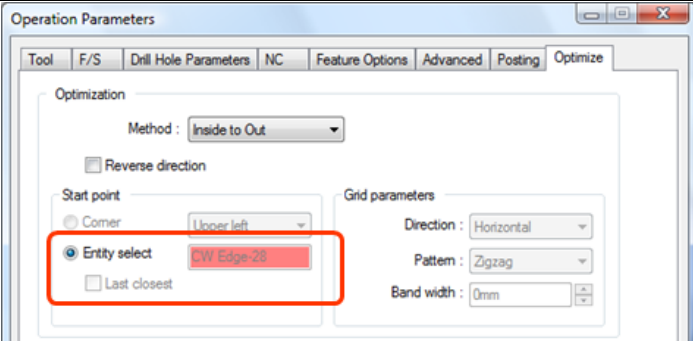
Improved – Mirror with Climb & Conventional Control

Purpose	Allows mirrored toolpaths to maintain the cut direction with respect to the original toolpath.
Implementation	From the Advanced tab, enable the option "Maintain climb/conventional". When active, the mirrored toolpath will observe the climb/conventional toolpath setting.

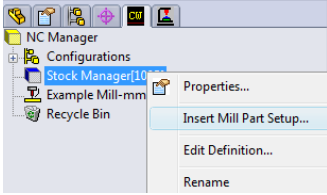
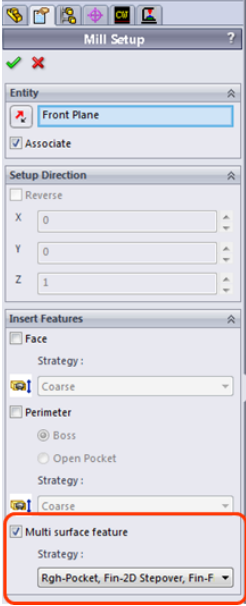


Improved – Start Point Support of In-to-Out Optimization

Purpose	Enable start position control for the Optimization methods "Inside to Out" and "Outside to In".
Implementation	In Optimize tab, it is now possible to select a start hint for these methods of optimization.



New – Insert Multi-Surface Feature On Insert Setup

Purpose	Automatic creation of a Multi-Surface feature during Insert Mill Part Setup.	
Implementation	The Multi surface feature is found in Insert Mill Part Setup and by checking this option On, a Multi-Surface feature is created.	
		

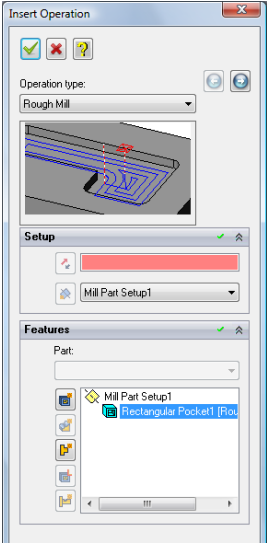
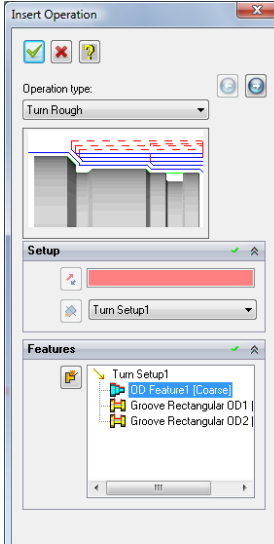
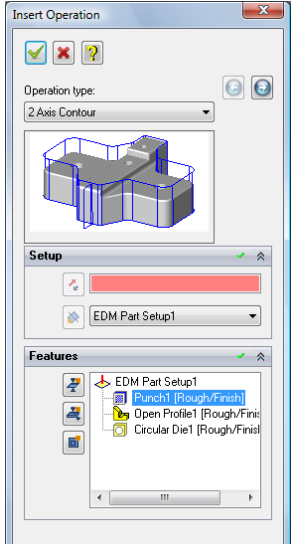
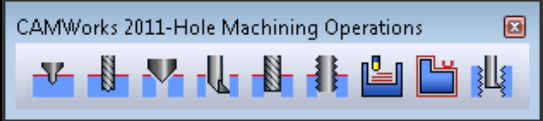
Improved – Feedrate Changes without Toolpath Regeneration

Purpose	To eliminate the need to regenerate mill toolpaths when the feed rate or spindle speed has been changed.
Implementation	Done automatically.

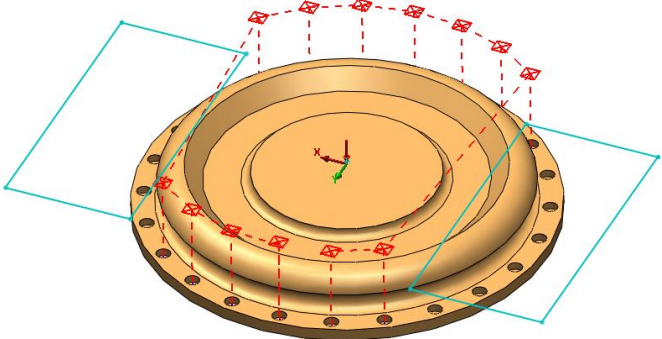
New – VoluMill Highspeed Roughing

Purpose	VoluMill is an Ultra High-Performance roughing toolpath option for 2.5 Axis Rough and 3 Axis Area Clearance toolpaths.
Implementation	<p>VoluMill is a toolpath Pattern option in the 2.5 Axis Roughing and 3 Axis Area Clearance operations. This is an optional toolpath style that can significantly reduce the time to rough a part and will also increase tool life.</p> <p>Key features of VoluMill:</p> <ul style="list-style-type: none"> • Powerful, efficient toolpaths for open shapes. • Intelligent slot milling and side milling options. • Fast machining of small pockets. • Automatic feedrate adjustment.

Improved – Insert Operation Command

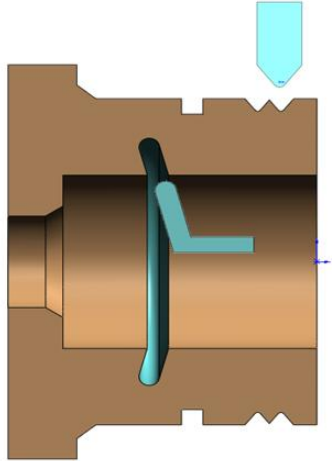
<p>Purpose</p>	<p>Simplify the ability to interactively insert Mill, Turn and EDM operations.</p>		
<p>Implementation</p>	<p>Several changes to the method of inserting operations improve usability. First, it is now possible to insert operations directly on a feature from the feature tree, from a setup or at any time from the command manager. Second, separate commands now make it possible to directly insert specific operations from the RMB menu or the Command Manager. Third, the insert operation dialog now is displayed in the property manager and features a simplified UI.</p>		
			
<p>New flyout icons in CW toolbar.</p>			

New – Support Contain/Avoid Areas for Single Point Operations

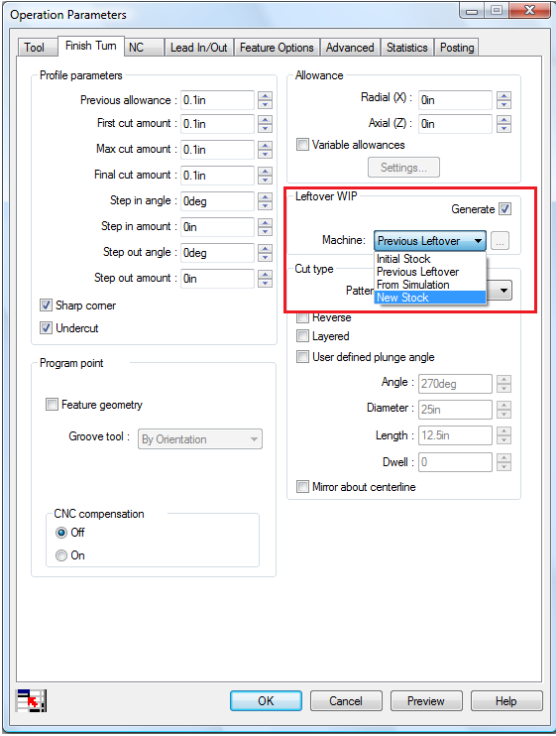
<p>Purpose</p>	<p>Support Contain and Avoid areas in single point operations such as Centerdrill, Drill, Bore, Tab, etc.</p>	
<p>Implementation</p>	<p>Contain and Avoid Area can be inserted in Single Point Operations from the RMB menu.</p>	

Turn

New – User Defined Turn Inserts

Purpose	Provide the ability to generate a turn toolpath with a User Defined Insert.	
Implementation	<p>Inserts model have to be saved as a cwt file through User defined Tool/Holder command. The cwt file has to be referenced in the TechDB tool library.</p> <p>User defined Turn inserts can be used in turn finish, groove finish and bore finish operations.</p>	

Improved – Enhanced Turn WIP Support

Purpose	Provide increased flexibility to generate more efficient toolpaths based on work in process (WIP). Especially in mill/turn machines where turning toolpaths follow mill toolpaths, new WIP processing options will enable turn toolpaths to be aware of the material removed by milling operations.	
Implementation	<p>The previous check box option "Consider WIP" has been replaced with new options that include:</p> <ul style="list-style-type: none"> • <i>Initial Stock</i> – This option behaves the same as when the previous option Consider WIP was not active. • <i>Previous Leftover</i> – This option behaves the same as when the previous option Consider WIP was active. • <i>From Simulation</i> – Similar to the Mill leftover option where the WIP is created from the simulation of selected previous operations. • <i>New Stock</i> – Allows the WIP model for the current operation to be defined using any of the options used to create the stock in the Stock Manager. 	

Improved – Turn Rough Leadin/Leadout

<p>Purpose</p>	<p>Provide the ability in turn rough operations to define whether the leadin or leadout should apply to All Passes, the First Pass Only, the Last Pass Only, or the First and Last Pass Only.</p>	
<p>Implementation</p>	<p>The Lead In/Out page of the Face Rough, Turn Rough and Bore Rough provides the option to set which passes include the leadin and leadout moves. Options include:</p> <ul style="list-style-type: none"> • All Passes • First Pass • Last Pass • First and Last 	

Simulation / Step Thru Toolpath

New – Simulate and Step Thru Toolpath from Open Operation

<p>Purpose</p>	<p>Simplifies interaction for validating the toolpath after modifying operation parameters.</p>	
<p>Implementation</p>	<p>When an operation dialog is open, if toolpath is generated it is now possible to Step Thru or Simulate the toolpath. This eliminates the need to close the dialog, Step Thru/Simulate the toolpath, then editing the operation parameters if additional changes are required.</p>	