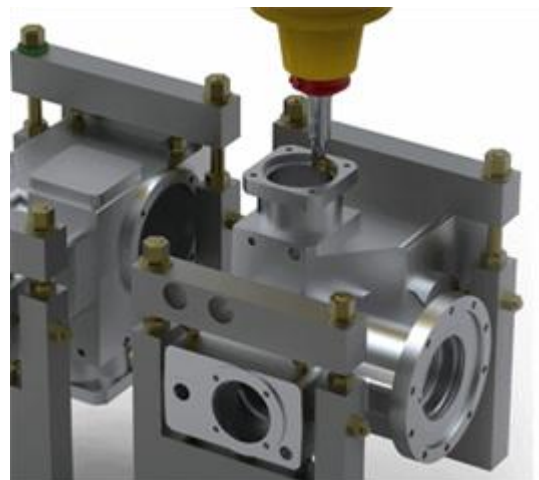


# What's New in Edgecam 2013 R1



edgecam

This document highlights new product features and enhancements in Edgecam 2013 R1, including machining enhancements for milling and turning and improved performance.

**To run Edgecam and Part Modeler 2013 R1, the expiry date in the license must be September 2012 or later.**

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# 'What's New' Document Overview

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## Purpose of this Document and Other Sources of Information

The purpose of the document is to highlight new and changed items in the current release. Non-release specific information such as installation and licensing information, system requirements and CAD Links information can be found in the relevant document.

**For help with your installation**, please refer to the Installation Guide. This is available from the DVD or the Help sub-menu in the Edgecam program group.

**For help with licensing your standalone or network license**, please refer to the Licensing Guide. This is available from the Help sub-menu in the Edgecam program group, the CLS menu and the License Manager dialog.

**For information on system requirements and supported CAD systems**, please refer to the Installation Guide.

## Targeted Information inside Edgecam and Other Programs

In addition to this document, 'targeted' information on new items is available in the dialog help and user guides for other applications. This allows you to focus on new features/enhancements for a specific program or the cycle you are currently working on, for example.

Dialogs that have new functionality or where the cycle behaviour has changed have an additional 'What's New' tab in the help. This explains what has been added to the dialog or changed in this release.

What's new topic(s) have been added to help files for other programs, such as Code Wizard, Code Generator, and ToolStore etc. This only lists new functionality for that program, allowing you to focus on those items.

## The Development History of Edgecam

Additional functionality and enhancements are developed with each release of Edgecam software. For an overview of new features and enhancements in the last release, please refer to [New Features in Version 2012 R2](#).

For a summary of new features in previous releases, please visit the [History section of the Edgecam website](#).

# Important Information

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## Windows XP Support

Future releases of Edgcam will not support Windows XP:

- Edgcam 2013 R1 will support Windows XP.
- Edgcam 2013 R2 will install and run on Windows XP. However, the user will be warned that it is not a supported Operating System.

## Windows 8 Support

Windows 8 will be officially supported for Edgcam 2013 R2. However, Edgcam 2013 R1 does install on Windows 8 and we are not aware of any specific issues at this time.

## Changes to DVD shipments

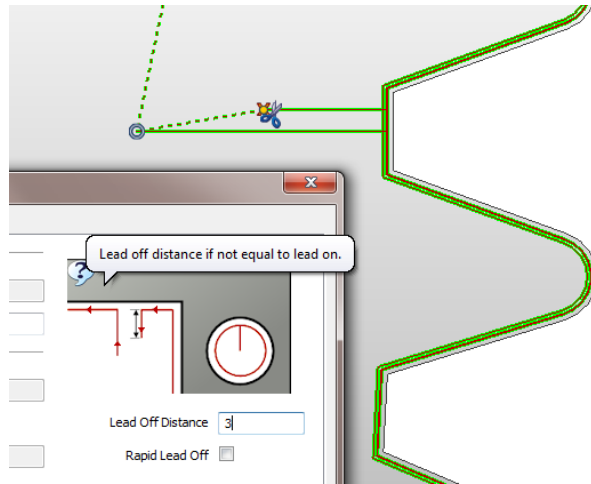
Starting at the next release, 2013 R2, all future Edgcam R2 releases by default will be available as a download only and all future R1 releases will be shipped on DVD as well as being available for download. We are currently implementing a new software download manager that will ensure that the downloads are delivered to you in a fast and efficient manner. The download manager will also ensure that interrupted downloads are resumed from where they stopped. These changes mean that you can download the software as soon as it is released, however, if you would still like to receive a DVD at the R2 releases please contact our Support team.

## Edgcam Wire Erosion

A new Edgcam Wire Erosion product (license code ENPWE-0) is introduced in this release. The old Wire Erosion product (license code EN3W0-0) is no longer available to purchase, and its license has been renamed to 'Legacy Wire Erosion'. For customers who have the Legacy Wire Erosion product, it will continue to work in this Edgcam release. If you are interested in the new Wire Erosion product, please click [here](#) for more information and/or contact your Sales representative.

# Edgcam Wire Erosion

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Edgcam's new Wire Erosion product is based on the industry leading Vero PEPS Wire product and offers an intuitive environment for the comprehensive programming of all Wire EDM machine tools. Including a comprehensive library of proven post-processors and knowledge-based cutting schemes as standard. Users can select from one of the pre-defined machining strategies such as 'Unattended night runs' and 'Attended day runs' or, alternatively, define their own.

## Features include:

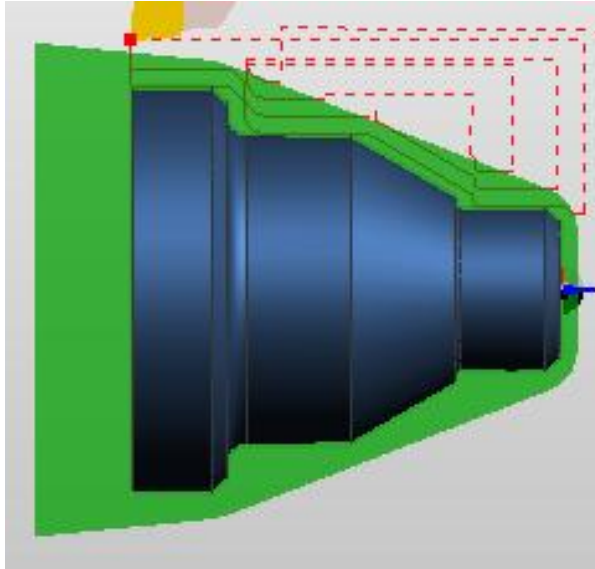
- Pre-configured code generators, optionally configurable.
- Knowledge-based cutting schemes.
- Roughing and finishing cuts easily applied to multiple punches / dies.
- Reverse cutting with offsets and cutting technology changes.
- Multiple strategies for corner types; including square ISO and conic.
- Toolpath display indicators showing thread wire, cut wire and program stop positions.
- No-core pocket destruction of round and irregular shapes.
- No-core pocket destruction considers pre-hole diameter to eliminate air cuts and reduce cycle time.

## Note:

Edgcam Wire Erosion is now available to purchase and its product code is ENPWE-0.

# New Rough Profile Cycle

---



This is a new cycle that replaces the Rough Profile cycle.

It is available with all Turning and Production Licenses.

The Rough Profiling cycle removes material in a series of cuts parallel to the input profile and is typically used for roughing free form profiles from free form stock billets. It is also useful for cutting materials where it is beneficial to minimise re-entrant cutting as it keeps the tool in contact with the material for longer.

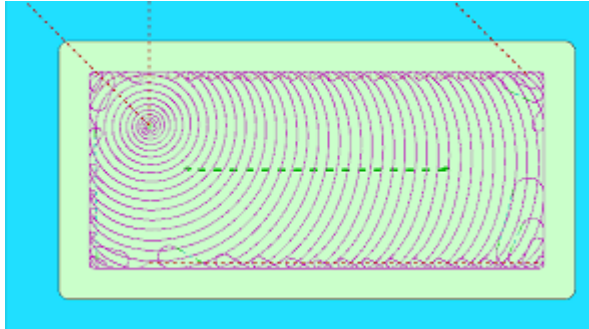
Benefits of the new cycle include:

- Cycle is optionally stock aware to eliminate air cuts and reduce cycle time.
- Intelligent stock entry and exit.
- Support for controller tool offset i.e. G41/G42.
- Possibility to enter a constant cut depth or different cut depths for X and Z.
- Specify ZX or Constant Offset finishing allowance.
- Possibility to enter different offsets for each face element.
- Option to stop after a specified no. of cuts, return to a safe swarf clearance position, stop the machine, clear the swarf then carry on.

The old Rough Profile cycle has been removed from the default user interface but can be retrieved using **Customise -> Commands -> Turn Cycles**.

# Roughing - Waveform Improvements

---



Roughing Waveform has been improved:

- The Waveform strategy now has the ability to set the Approach Type; Helix and Pre-drill are possible. It works in the same way as the other strategies. A 10% bigger drill tool is expected for the pre-drill option.
- Waveform pattern has been improved to avoid unnecessary cutting interruptions when opening the initial 'virtual pocket'. The transition between this area and actual toolpath is much smoother.

## **Percentage Plunge Feed added to Approach Options**

The Plunge feedrate for approach moves can now be specified as a percentage of the Plunge feedrate on the General tab. This option is available for all Roughing strategy types.

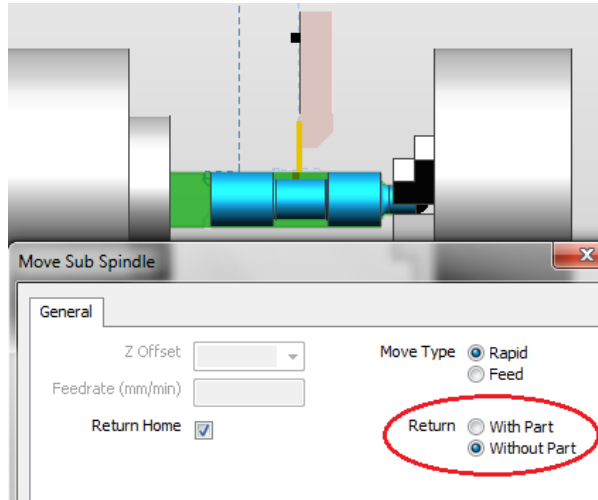
## **Clean Up Final Pass added to Control Options**

Some machines tools, due to the "Look Ahead" calculation and the high feeds, may leave pegs in the material showing unmachined areas. These pegs would be removed if the feeds were reduced, meaning that the toolpath is correct but, due to the "Look Ahead" calculation, the machine tool is avoiding those areas. **Clean Up Final Pass** has been added to the Control options which will add a pass at the end of the area to ensure that all material has been removed.



# Moving the Sub-spindle - Option to Return Home without the part

---



The sub spindle can be docked to support the part for a machining process after which it may be sent back to its home position without the part. Previously, the stock was always returned home with the sub spindle - this is now optional.

There is an additional code constructor:

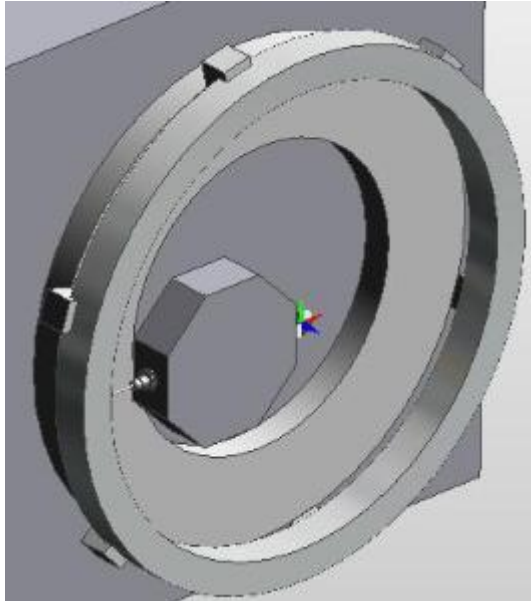
- Sub Spindle Retract Empty. This is used to format the NC code for the Return Home Without Part option.

## Note

If the With Part option is selected, the sub spindle should be docked at its final grip position prior to returning home with the part. If it is not, a message is issued requesting you do this.

# Turning Tool dialog - Machining of Internal Holes & Reverse Radial Tools

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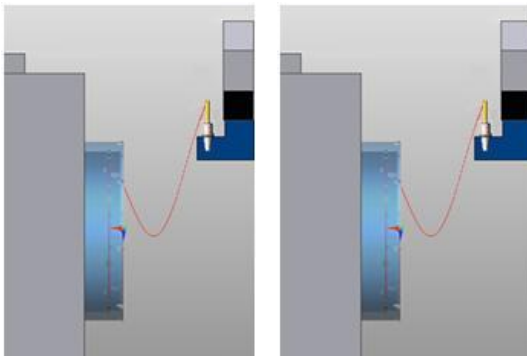
Machining of internal rotary holes has been improved to provide better access and handle situations which were previously not possible. Two situations are being improved:

- Correctly handle internal holes when using a Radial tool.

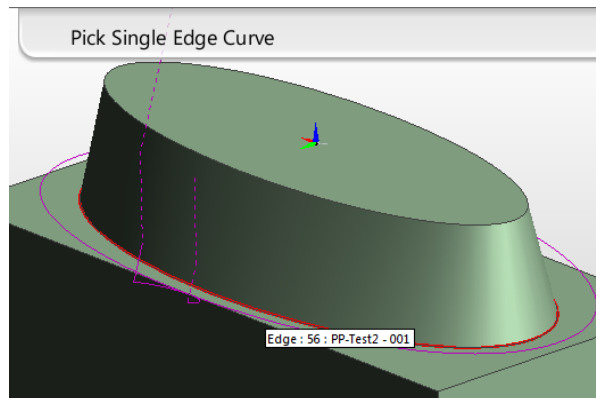
Typical work for very large parts where the whole turret can sometimes go inside the component to do machining.

- Load a Reverse Radial tool, which on an Index type turret will allow for two situations (driven by machine parameter).

Either load the tool at the front of the turret (with special holder / mounting mechanism) or load the tool at the back of the turret.



# Five Axis Milling dialog - Direct Picking on Model



Previously, the Five Axis cycle had to use geometry created from the solid, for example, Edge Loops and Face Features. The cycle can now pick edges and faces directly from the model without having to create Edge Loops or Face Features.

## Improved Collision Avoidance (3 to 5-Axis and Five Axis Cycles)

In Edgcam 2013 R1, a new **Remove Remaining Collisions** option has been introduced. This option, when checked, will remove any collisions remaining after the main checks have been completed by retracting the tool away from the surface.

## New Advanced Five Axis Options

In Edgcam 2013 R1, new **Chaining Tolerance** and **Slow and Safe Path Creation** options have been introduced on the General tab:

- **Chaining Tolerance** is an internal value, greater than zero, used for the toolpath generation. The Chaining Tolerance might have an effect for a flat or slightly curved face where, since less tool path points are generated, the toolpath has less information. In this situation the chaining tolerance makes the toolpath accurate. However, if a smaller tolerance is selected, more computing time is required.
- When **Slow and Safe Path Creation** is checked, the Chaining Tolerance will be set to an interval not longer than the maximum stepover distance. As with the Chaining Tolerance, activating this parameter requires more computing time.

## 5 axis cycle - separate process and 64-bit support

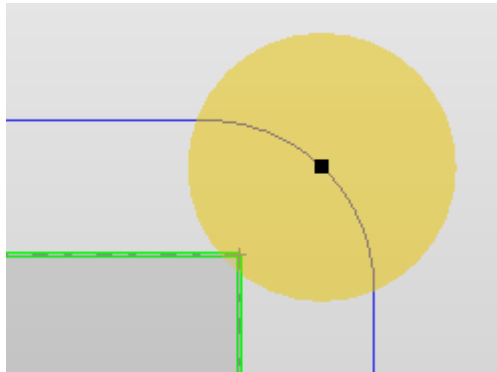
In Edgcam 2013 R1, a 5 Axis cycle will always be moved into a separate process, regardless of whether Set Safe Start Point (SSSP) has been set.

A 64-bit version of the application has also been created (EdgeSrv5Axis64.exe).

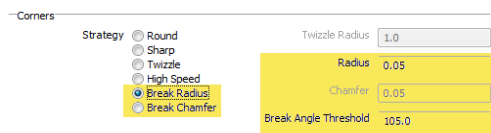
This will improve situations where the cycle previously ran out of memory during calculation.

# Profiling - Break Corner options for Profiling Cycle

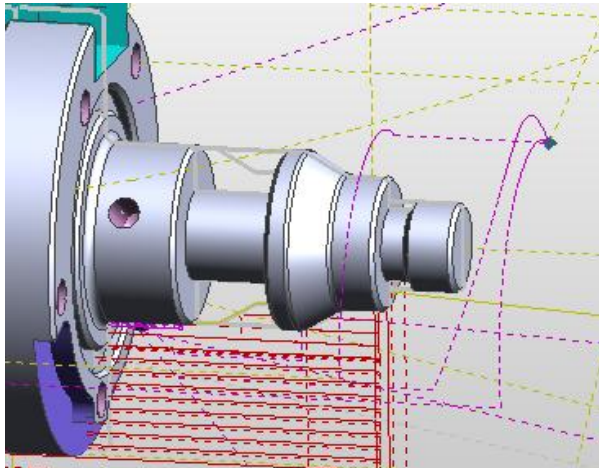
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The Profiling cycle has been updated to include options to break sharp corners with either a radius or chamfer. This will reduce secondary de-burring operations.



# Set Safe Start Point for Mill/Turn (Background processing)

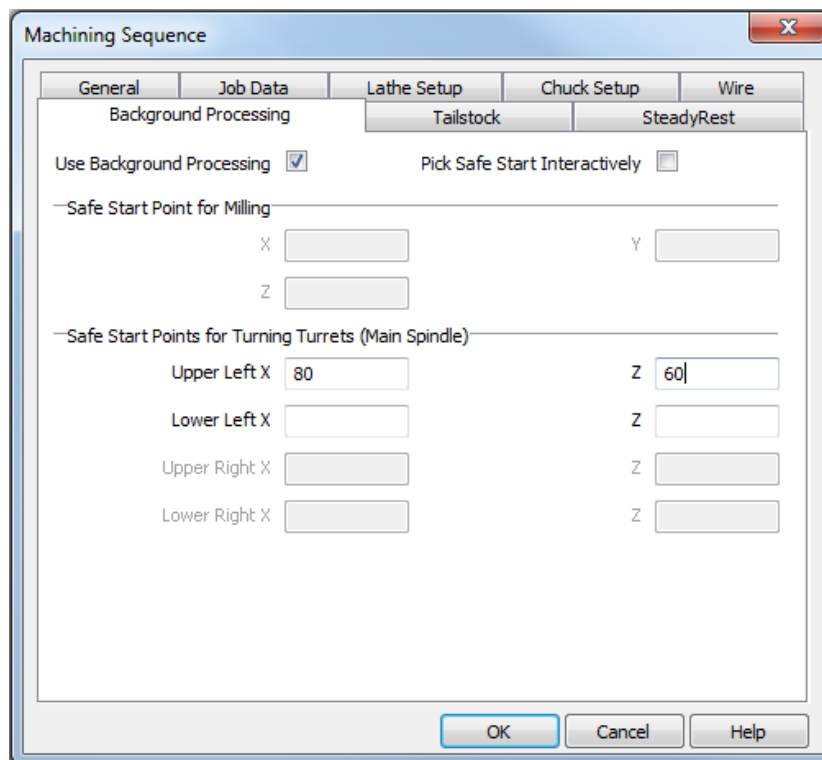


Set Safe Start Position is now available in the Mill/Turn environment. Turning cycles are not affected.

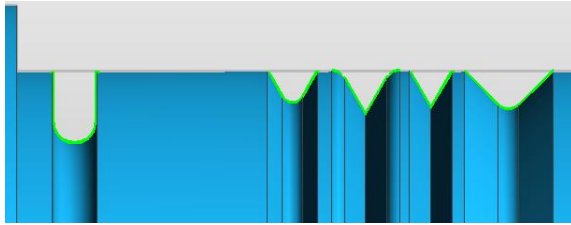
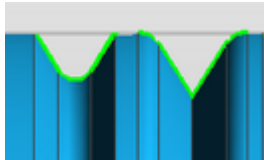
The Safe Start Point can now be set up using the options in the new Background Processing tab:

- Two safe points can be defined for each turret when there is a Sub Spindle. Only one is required when no Sub Spindle is present.
- Only Main Spindle points need to be defined; Sub Spindle points will be created automatically.

The initial setup allows you to specify the Safe Start Position for both milling and turning environments. The turn environment allows positions to be set for both turrets:



# Automatically Finding Features - Feature Finder recognises U and V style grooves



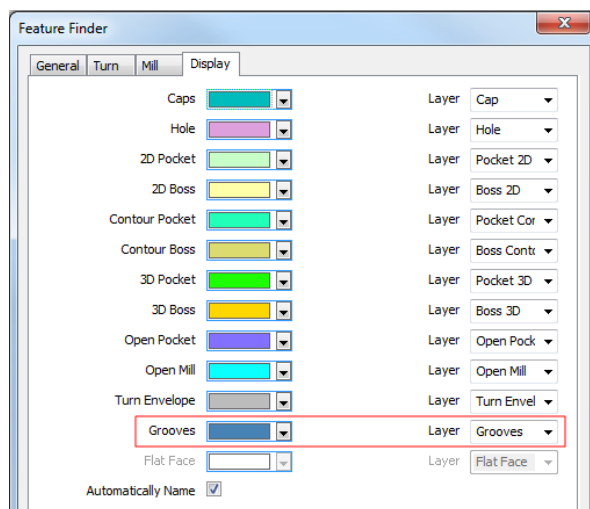
Feature finder now recognises U and V style grooves and sets appropriate attributes.

This is useful for machining of such features using strategies.

The new Groove Type Attribute defines:

- V style grooves need to have equal side wall angles.
- U and V Style Grooves need to start and end at same level.
- U and V style grooves can include a lead in corner radius or chamfer.
- U style grooves need to have a full 180 degree base radius.
- V style grooves can include a blend radius at its base.
- V style grooves have Included Angle attribute.
- U and V style grooves have Groove Width attribute. This is the distance across the top of the groove.

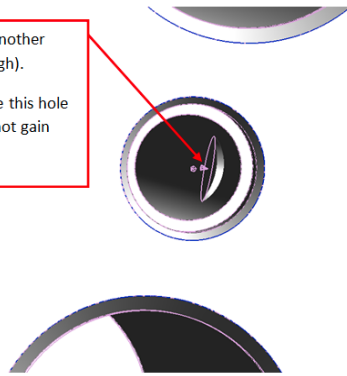
Groove features are put on a separate layer.



# Automatic Feature Finder - Internal Holes

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Internal hole found inside another hole (where it breaks through).  
It is not practical to machine this hole from this side as a tool cannot gain access.



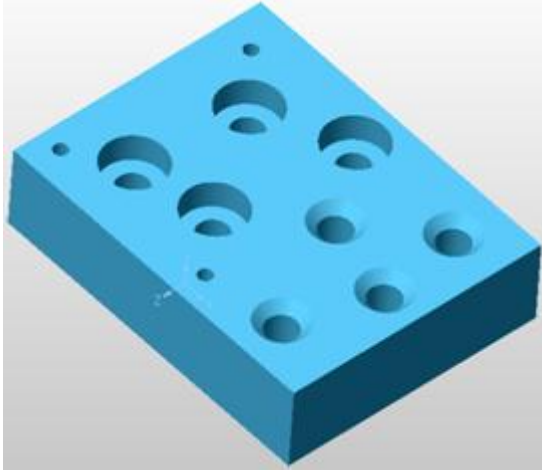
Internal holes will not be found by Automatic Feature Finder if they are impractical to machine.

As a general rule, internal holes will not be found if the space (bore / cavity) before the start of the internal hole is either:

- Less than 4 times the **depth** of the hole **OR**
- Less than 4 times the **diameter** of the hole at the internal face.

## Feature Finder - Holes

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It is now possible to find holes from a "dumb" model, add them to the model tree and edit them, if required, within Part Modeler.

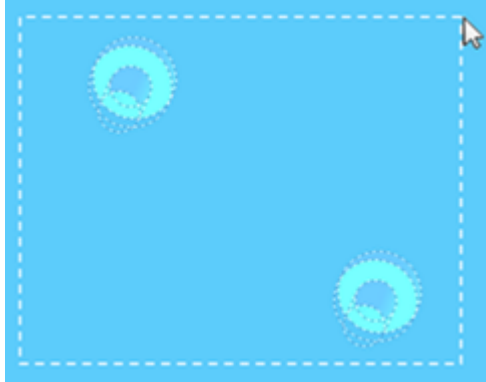
This new introduction will.

- Allow ALL "dumb" holes in the solid model to be defined and edited within Part Modeler.
- Allow users to add extra information to "dumb" holes, e.g. thread data.
- Allow similar holes to be processed as a group.
- Allow similar holes to be processed individually.



# Window Selection Introduced for Remove Face Procedures

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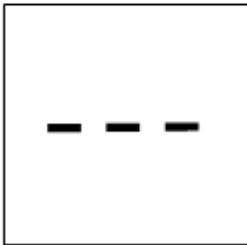
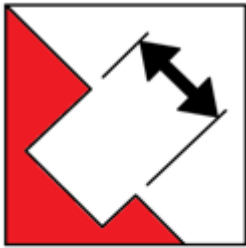
It is now possible to use a window selection to select multiple faces when using the Remove Face procedure within Part Modeler.

This new function will:

- Allow multiple faces of a feature to be selected easily to allow removal of the "dumb" feature.
- Allow faces that are FULLY within a window selection to be selected (Left to Right window selection).
- Allow faces that are PARTIALLY within the window selection to be selected (Right to Left window selection).

# Enhancements to Drawing Application

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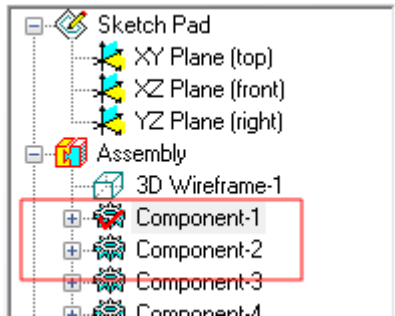
Various enhancements have been made to the Drawing Application within Part Modeler.

These include:

- The introduction of "Force Aligned Parallel" dimension button, found on the "Modifier" Toolbar.
- The introduction of the "Construction" line button, found on the "Locate" Toolbar. This button is also available in the Model application.

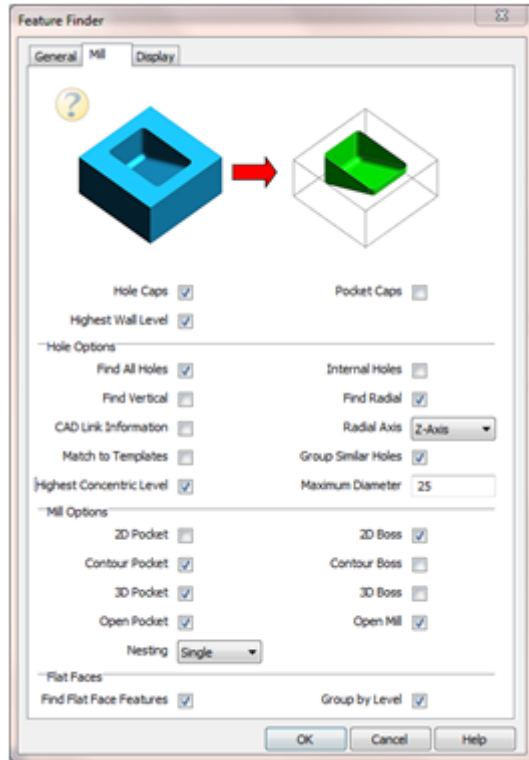
# Active Component indicated in Model Window

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When two or more components are present in the model space, the active (selected) component is now indicated in the Model Window by a red tick.

# Images within Dialogs

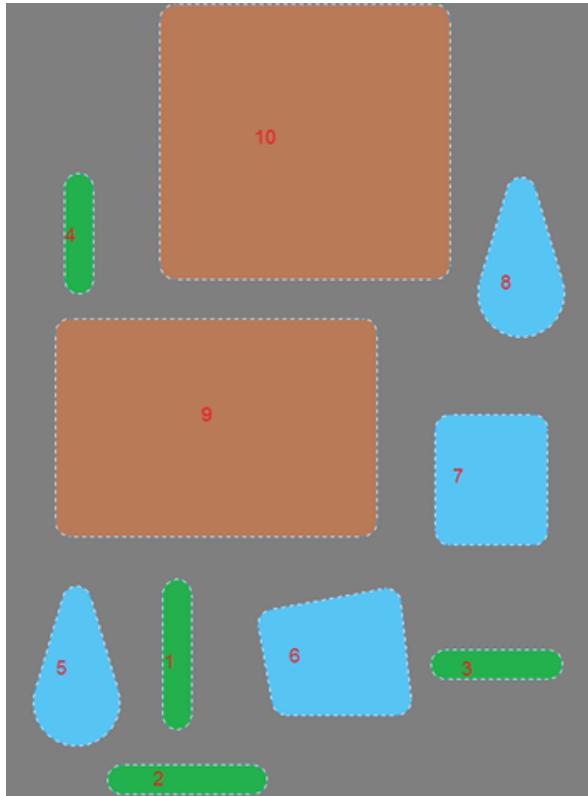


The dialog mechanism within Edgcam has now been changed to an XML format which will benefit users and developers.

This new feature will:

- Allow images to be used within dialog boxes to help explain modifiers. For Edgcam 2013 R1, images have been added to the Automatic Feature Finder dialog.
- Allow dialogs to be more flexible in design, enabling different styles of dialogs to be implemented within Edgcam.
- Allow greater customisation of dialogs within Edgcam.

# Feature Ordering Enhancements



Feature Finder internally groups features with similar attributes prior to performing a nearest next sort.

## Nearest Next

Mill features on the same solid that share the same CPL level are now ordered using a "nearest next" logic. This ensures that the features are in a reasonable machining order for use by Strategy Manager and Planning Board. This is primarily needed in the milling environment where you have a plate with many pockets.

Feature Find internally groups features with similar attributes before performing a "nearest next" sort and automatically ordering the features:

- Closed Pockets, Open Pockets and Open Mill features are considered together for the purpose of internal grouping. The feature attributes that are considered for internal grouping are MaxXyRadius (range +/- 50%), Depth (range +/- 50%), Lower Radius (exact) and MinimumXYRadius (exact). Each feature group starts at the bottom left.
- In the example, all attributes are identical except for the MaxXyRadius (The radius of the greatest circle fitting inside the top contour).
- Internal groups have been identified by colour and these groups would typically be roughed / rest roughed with different tooling sets. However, all of these features have the same MinimumXYRadius and would, therefore, be finished with the same tool. The feature order used for roughing is, therefore, not necessarily useful for finishing.

## Features on Parallel CPLs (Z axis) are considered together

The predefined manufacture ordering now groups all mill / hole features on CPLs which share the same Z same direction together. This ensures that the order of features is highest level first irrespective of CPL. Previously, mill and hole features were sorted by CPL and then CPL level.

Previously, if Feature Find was run more than once on different CPLs, features could be identified on different CPLs which shared the same Z direction. In this situation, ordering features by CPL could lead to features on a lower level being ordered before features on a higher level.

## Planning Board – Automatic Ordering

Feature Find automatically orders features into a logical order for manufacture. Machining Strategies can subsequently be assigned to each feature. Typically, a feature will be assigned a minimum of one roughing and one finishing strategy. The Planning Board can now be automatically ordered based on the priority setting assigned to each strategy. Strategy Manager (**File Properties**) is used to assign a priority to a strategy.

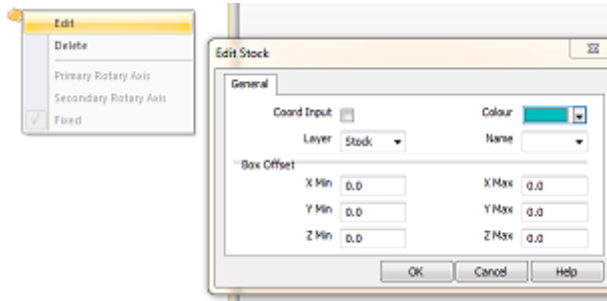
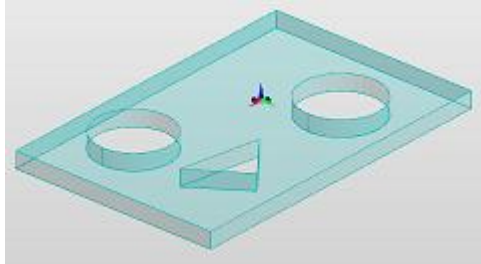


Automatic Ordering has been added to the Planning Board:

- In Strategy Manager, File Properties specify a priority for each strategy. When the planning board is populated, it is automatically ordered based on this priority setting.
- In the sample set of Edgcam strategies, priorities have been set so that all rough turning is done before finish turning and rough milling is done before finish milling.
- Automatic Ordering is enabled by selecting **Auto Sort Planning Board** on the General tab of the Preferences dialog or can be done by pressing the **Sort by priority** button.

# Design - Stock creation and editing improvements

---



A number of improvements have been made to the Design Stock command:

- Stock Profile can now be consistently created from a closed shape without rendering problems.
- Arcs are no longer split into several segments of lines.
- Profile Stocks now support hollow/holes/through pockets.
- Tube stocks for turning and milling.
- Ability to edit stocks and re-pick geometry or depth, retaining the original type.

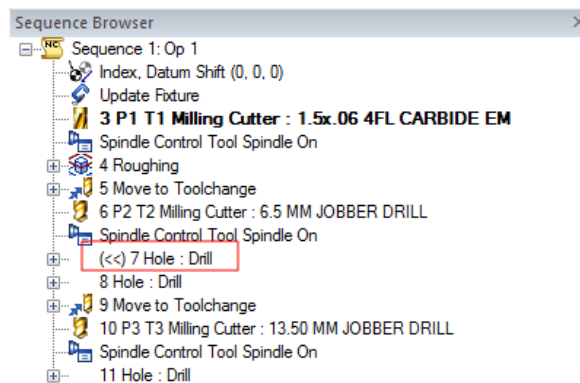
# Simulator Enhancements

## Improved simplification of stock from Simulator

The previous simplifier could take minutes to simplify complicated stock, the new simplifier (using OpenMP-based parallelism and a much improved algorithm) should take a couple of seconds (on a Core I7 quad core) to simplify very complicated stock (100MB+ STL) and fractions of seconds for anything more reasonably sized.

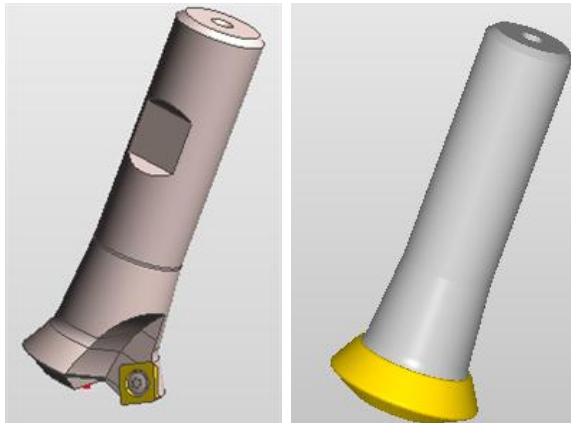
The simplifier is utilised by the Update Stock command; when the resultant stock exceeds the size stated on the dialog, the simplification is performed. It is also used when saving STL stock directly from the simulator, when requested.

## Specifying a Rewind Point



Simulator has been enhanced in version 2013 R1 and you can now specify a Rewind Point at any point in the instruction list.

## Spin Driven Milling Holders

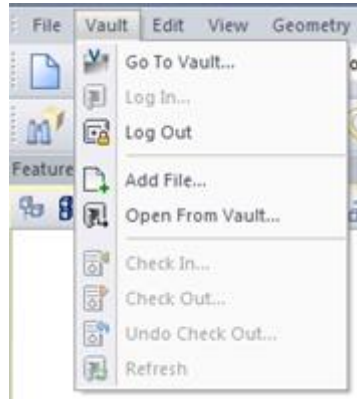


Simulator has been enhanced in version 2013 R1 to show driven milling tool holders and tool graphics as spun; this is optional with the default being spun. If your driven mill holders include more than just the spinning holder, for example, the holder graphic includes the complete turret, this setting should be unchecked.



# Edgcam - Autodesk Vault Interface

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The Vault Interface in Edgcam allows users to manage their data within Autodesk Vault 2013. Note that this functionality is supported for Autodesk Vault 2013 and above.

The Vault functionality implemented for Edgcam is available in all versions of Autodesk Vault 2013 (Vault Basic, Vault Workgroup, Vault Collaboration and Vault Professional).

## **Autodesk Vault**

Autodesk Vault is a data management tool integrated with Autodesk Inventor Series, Autodesk Inventor Professional, AutoCAD Mechanical, AutoCAD Electrical, and Civil 3D products. It helps design teams track work in progress and maintain version control in multi-user environments. It allows them to organize and reuse designs by consolidating product information and reducing the need to re-create designs from scratch. Users can store and search both CAD data (such as Autodesk Inventor, DWG, and DWF files) and non-CAD documents (such as Microsoft Word and Microsoft Excel files).

# ToolStore Enhancements

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## Use of CSV, MEG and STL Graphics for Milling Tools and Probes

Some Tooling suppliers have made available tool and tool holder models as STEP files. These files can be loaded into Edgcam and saved as MEG files to be used in the ToolStore:

- A **Paste** button is now available in Tool Geometry for Milling and Probes enabling the use of CSV, MEG and STL files as graphics.
- No **Shank** geometry is available with tools using MEG or STL graphics.
- The Simulator will automatically generate a 2D revolved profile for tools using MEG and STL graphics.

## Taper Ball Nose check box

Previously, a Taper Ball Nose was defined with a Taper, Corner Radius and by leaving the Small Diameter blank. However, this was not obvious and caused confusion.

A new Ball Nose check box has been added which, when checked, will grey out the Small Diameter and Flute Length as they are automatically calculated.

## Command Line Conversion of Solid to MEG

Some Tooling suppliers have made available tool and tool holder models as Solid CAD files. These files can be loaded into Edgcam and saved as MEG files to be used in the ToolStore:

- If you have many tool models to convert, then this command line program can be used to automate the process.
- The program can translate and rotate the part, if required, to achieve the correct orientation for ToolStore.

Note: The ability to convert the CAD file is dependent on having an Edgcam license for that model type.

# Code Wizard Enhancements

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## Support for drilling rotary holes from inside and outside

Edgecam 2013 R1 introduces support for the machining of Internal Holes and Reverse Radial tools. A new **Rotate for Reverse Mount** setting on the Machine Parameters Dialog - Turret tab allows tools to be mounted on the front or back of a turret.

## Turning Templates for Siemens

The default Siemens adaptive turning template has been changed to have a generic Siemens format. In order to retain the WFL capability, new .CGX files have been added to the release for those machines in Inch and Metric units.

Existing .CGD files for any Siemens controller should not be affected and should update correctly.

The revised templates are:

- adaptive-siemens.cgt and adaptive-siemens-inch.cgt which are generic "Siemens" templates.
- adaptive-siemens wfl.cgx and adaptive-siemens wfl-inch.cgx which are generally formatted for WFL controllers. These templates equate to the previous Siemens versions supplied with Edgecam 2012 R2.

## Templates – Output from Move to Toolchange / Home

The Code Generator and Templates have been enhanced to provide more consistent and useful output from the **Move to Toolchange** and **Move to Home** instructions.

The **Move to Toolchange** and **Move to Home** instructions will now set, using the XMOVE, YMOVE, ZMOVE system variables, the true tooltip position in current CPL coordinates. This change should remove high coordinates resulting from moves immediately after a **Move to Toolchange** or **Move to Home** instruction which would potentially cause an overtravel.

The templates have been enhanced, as follows:

- The XMOVE, YMOVE, and ZMOVE tokens at **Move to Toolchange** and **Move to Home** now always contain the tooltip position on current CPL. Not available on Milling templates.
- The XTOOL, YTOOL, ZTOOL, XHOME, YHOME and ZHOME tokens follow the **Values of Tool Change Home** NC-Style option (**Tool Change Tab**), where:
  - **Gauge Adjusted Position** will compensate for TOOLXSET and TOOLZSET.
  - **Machine Datum Coords** are the turret centre position.
  - **Current CPL Coords** will give the same result as XMOVE, YMOVE and ZMOVE.

### Note:

- No changes are expected on post processors with U0V0W0 output style.
- Please check your post processor carefully on this area after the update.

# Other Changes

## Thread Database

The Thread Database (threaddata.mdb) location is now defined by the ToolStore Support files folder and can, therefore, be shared by all users on a network. Users that use a network location for the Toolstore will now use the Thread Database from that area automatically. Previously, Edgecam always used the ..\Program Files\..\cam\TStore folder.

## Use Max RPM from the Code Generator

A modifier has been added to the Spindle Tab on ToolChange command.

When Use Max RPM from the Code Generator is checked, the new Max RPM will be read automatically if the Code Generator is edited or changed.

## Update Stock also functions as a Synchronisation command

In turning, when there is more than one turret, the Update Stock command also functions as a Synchronisation command because it is inserted in the instruction browser for each turret. It will also generate a Sync Point in the NC code.

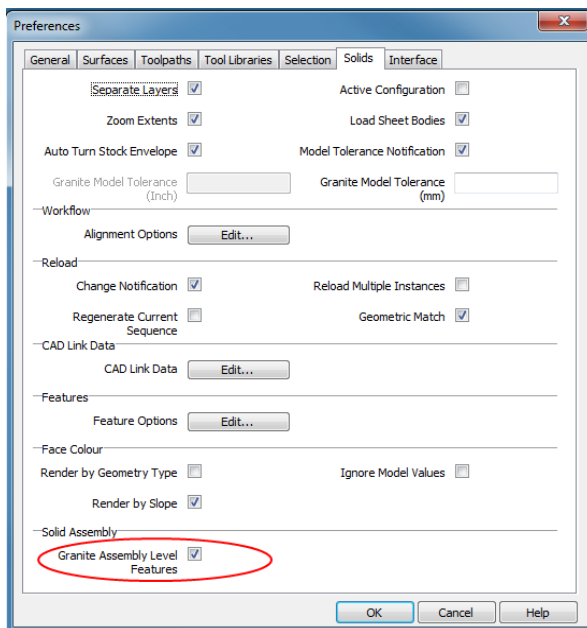
## Feature Find - groove features

A unique layer and colour has been added for groove features.

## Zoom In/Out

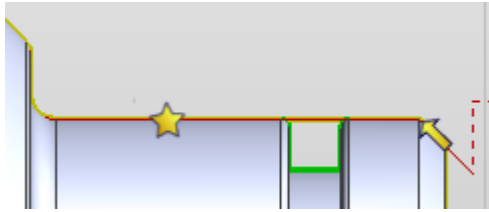
The default behaviour is to zoom about the mouse position. Previously, Edgecam zoomed about the centre of the screen.

## Preferences dialog - New Solid Assembly Preferences for Solids



A new option called **Granite Assembly Level Features** has been added to the Solids Tab.

## Direction / Start Arrow for Turn Cycles



In Turn Cycles, the Direction / Start Arrow displayed when picking geometry was the same as milling which showed the side to machine. This gave an incorrect impression for the turn cycles as the tool controls side. The image is now a simple arrow to avoid confusion.

## Thread Mill - New "Plunge in Centre" modifier

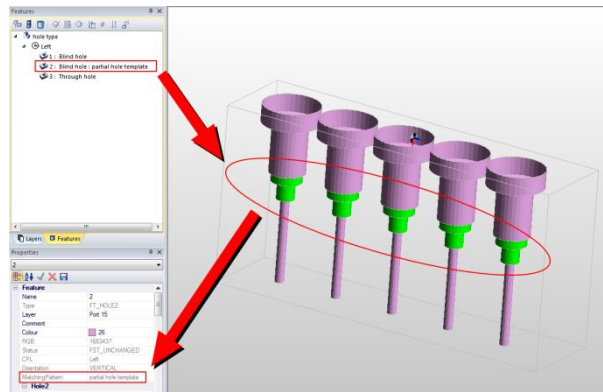
A new **Plunge in Centre** check box has been added to the Lead Tab:

- When checked, the tool will plunge down the centre of the hole.
- When unchecked, the tool will plunge at the start of the lead in.

The cycle used to always plunge centre, but on large threads there may be an obstruction in the centre, such as a fixture bolt and the time to feed from centre to edge could be wasted time.

The New option is on by default to maintain the old behaviour.

## Partial Hole Feature Template



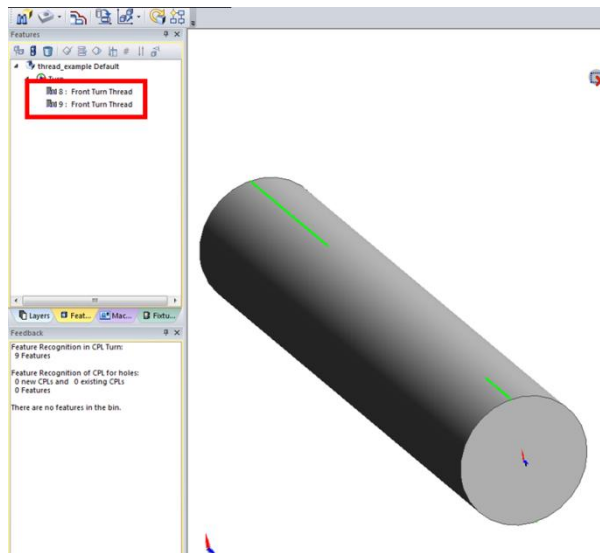
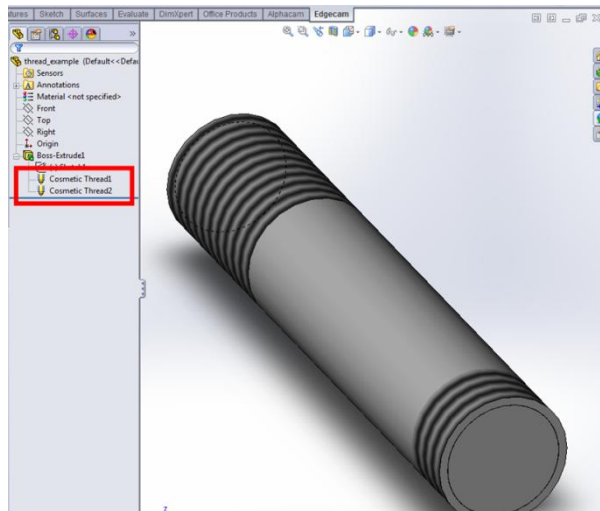
It is now possible to define parts (elements) of holes and make them into Hole Feature Templates.

Partial Hole Feature Templates can be created by defining the parameters for part of the hole and then setting the **Match To Subset** flag to **Yes**.

The partial hole will be saved to a Hole Feature Template (\*.ft).

## Transfer of External Threads from SolidWorks

It is now possible to transfer external threads from SolidWorks.



# Licensing

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## New Licenses

### Edgecam Wire System - Product Code ENPWE-0

A new Edgecam Wire Erosion system license is introduced in this release to offer Wire EDM 2 and 4 Axis cycles for the comprehensive programming of all Wire EDM machines tools. It includes a comprehensive library of proven post-processors and knowledge-based cutting schemes as standard.

The old Wire Erosion product (license code EN3W0-0) is no longer available to purchase, and it's license has been renamed to 'Legacy Wire Erosion'.

### Edgecam Vault Module - Product Code ENVLT-0

A new Edgecam Vault module license is now available. This allows you to manage your data within Autodesk Vault 2013 using the Vault Interface in Edgecam. Note that this functionality is supported for Autodesk Vault 2013 and above.

The Vault functionality implemented for Edgecam is available in all versions of Autodesk Vault 2013 (Vault Basic, Vault Workgroup, Vault Collaboration and Vault Professional). The Edgecam PC must have the Autodesk Vault Client software installed on it. Note that one of the prerequisites for the installation of the vault client is a qualifying Autodesk CAD product, i.e. Autodesk Inventor (Autodesk Inventor View and Autodesk Inventor LT are not qualifying CAD products).

### NCSIMUL Link Module - Product Code ENSIM-0

A new Edgecam module license that provides a link to the NCSIMUL product is now available. The link transfers NC code, stock and tooling information directly to NCSIMUL to simulate the machining. A copy of NCSIMUL with appropriate machine tool graphics (purchased separately from NCSIMUL agents) must also be installed on the Edgecam PC.

## Changes to Existing Licenses

All of the licensing changes below will be available when using Edgecam 2013 R1, without the need for a license update.

### 4/5 Axis Positioning now included in Standard Milling and Standard Production licenses

The Standard Milling and Standard Production licenses now include the 4/5 axis positioning capability. Previously, this was only available on the Advanced and Ultimate Milling and Production licenses.

### Advanced 5 Axis now included in the Edgecam Educational license

The Edgecam Educational license now includes access to the Advanced 5 Axis cycle. The Advanced Five Axis cycle is an extension of the standard 5 axis cycle. The cycle has a graphical dialog with interactive geometry selection and extends the functionality available in the standard 5 axis cycle, offering additional calculation methods.

### Probing now included in the Educational and Homework licenses

The Edgecam Educational and Homework licenses now include access to the Probing cycles. This enables insertion of probing macros for part setup into the Edgecam machining sequence, removing the need to insert probing instructions after post processing.

# Maintenance Database Report

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For a full list of maintenance items resolved in Edgcam 2013 R1, please refer to the [Maintenance Database Report](#).



# New Features in Version 2012 R2

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Below is an overview of new features and enhancements in the last release.

For a summary of new features in previous releases, please visit the [History section of the Edgecam website](#).

### Quill Support in Milling

Edgecam 2012 R2 introduces quill support. This allows you to program a secondary Z axis (Z2) on milling machines for use by Edgecam, Simulator and Code Generator. The secondary Z axis can be in the head or the table.

- In Code Wizard, specify parametric or custom quill graphics
- New command to select the currently active Z axis in Edgecam
- Simulation of quill movements and collision detection

#### Note

- The new functionality is available with Advanced Mill/Advanced Production and above.
- To access the new quill functionality your Code Wizard documents must be updated to the latest templates or new CGDs created. Use **Configure** menu ► **Add Device** to add a quill to an existing machine.
- When working with a head quill that is under a rotary axis, some movements in specific cases are not possible if the quill is active. For example, when a head that has a quill underneath it is indexed to 90 degrees and the quill is active, it is not possible to execute a move aligned to the machine Z axis. To detect such cases it is recommended that the "Check Linear Limits" option is always checked (this is the default). Edgecam will then issue a warning and you should deactivate the quill. If the "Check Linear Limits" option is unchecked, invalid moves may be generated.

**Mill**

Machine Type \_\_\_\_\_

The Type of machine governs the appearance of the Parametric Graphics      Horizontal       Vertical       Gantry

For a rotary machine specify the first, and if required, second rotary axes

Rotary Table \_\_\_\_\_

	First	Second
<input type="checkbox"/>	A	<input type="checkbox"/> A
<input type="checkbox"/>	B	<input type="checkbox"/> B
<input type="checkbox"/>	C	<input type="checkbox"/> C

Rotary Head \_\_\_\_\_

	First	Second
<input type="checkbox"/>	A	<input type="checkbox"/> A
<input type="checkbox"/>	B	<input type="checkbox"/> B
<input type="checkbox"/>	C	<input type="checkbox"/> C

Additional Machine Information \_\_\_\_\_

Define the capabilities of the machine tool.

Auxiliary Z Axis in Head

Auxiliary Z Axis in Table

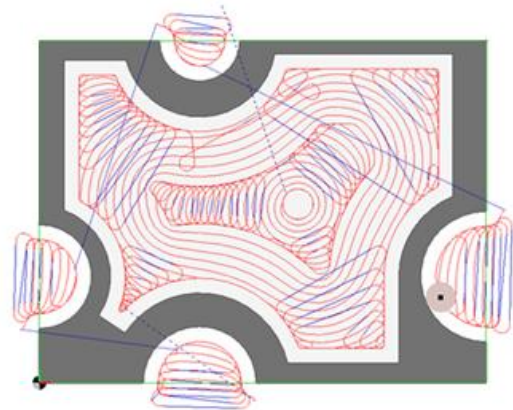
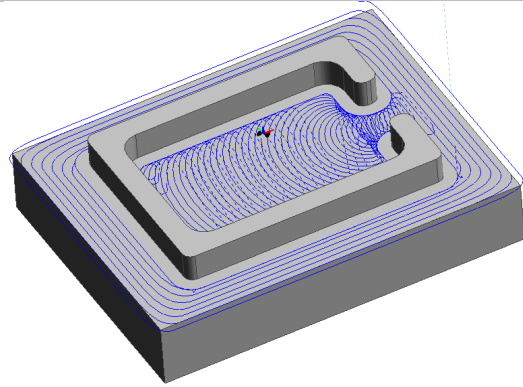
### Waveform Roughing Enhancements

The **Waveform** strategy ensures a constant tool load and smooth toolpath pattern, offering greater stability, more precise machining and faster metal removal. Introduced in the last release, the strategy has been enhanced in Edgcam 2012 R2.

- Optimised cut direction option for Waveform pattern, e.g. alternating climb/conventional in open regions, slots and corners of pockets.
- The Helical entry now includes a 3 degree angle, so the helix is now tapered, which helps to relieve the flute load and swarf evacuation. *The tapered helix is only applicable to the Waveform strategy.*
- Smoother toolpath: there are improvements to the arc tangency and several non-necessary linear moves have been removed, meaning you have a more reliable and smoother toolpath.
- Percentage Speed for Approach introduced, so the helical entry can have a different speed compared to the machining, similar to Percentage Feed. This feature is available for all Roughing strategies.

#### Note

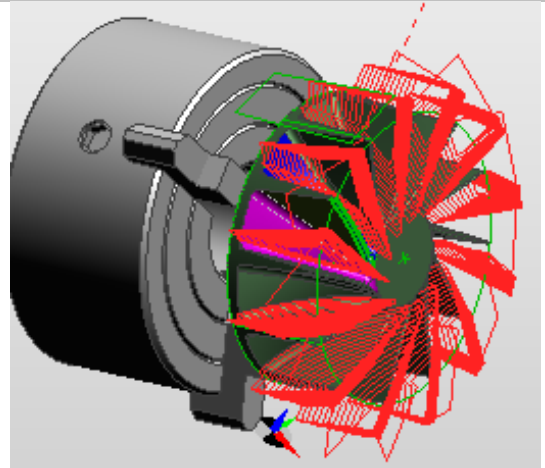
The Waveform strategy is available with Standard licenses and above.



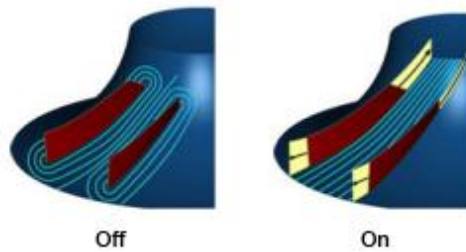
### Five Axis Cycle Enhancements

The **Five Axis** cycle has been enhanced in Edgcam 2012 R2.

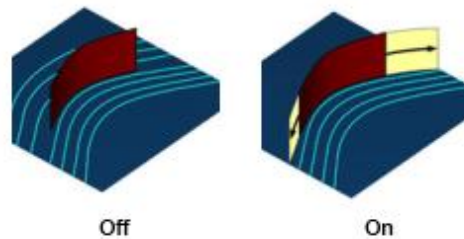
- **Move along Vector** strategy (Check/Check More tabs) offers additional methods giving you greater control over how the tool is positioned when being checked.
- **Rotate and Transform** capability (Multiple Cuts tab). The initial toolpath can be replicated around and/or along an axis. There is no need to use the main Transform commands and the toolpath stays in 5 Axis mode.
- Improved geometry handling
- **Trim Toolpath to Surface Side** option added for the **Blend between Two Surfaces** and **Parallel to Surface** strategies
- Improvements to the creation of surfaces from solids, ensuring that all surface normals points outwards



Blend between Two Surfaces



Parallel To Surface



### **New Advanced Five Axis Cycle**

The **Advanced Five Axis** cycle is an extension of the standard 5 axis cycle and offers a number of new features and advantages over the standard cycle.

- Graphical user interface
- Interactive picking/geometry selection
- Additional calculation methods

### **Calculation based on Surfaces**

This is similar to the standard 5 axis cycle, but extends the number of controls available and takes advantage of a graphical interface.

### **Calculation based on Wireframe**

This allows you to pick a drive curve and orientation lines without the need to have a drive surface. This is useful when the drive surface is complicated, badly defined or not available.

### **Calculation based on Existing Toolpath**

This is the basis of the 3 to 5 axis cycle. The main benefits of the Advanced Five Axis cycle (compared to the 3 to 5 axis cycle) are the additional tilt and gouge check modifiers available.

### **Calculation based on Multi-blade Parts**

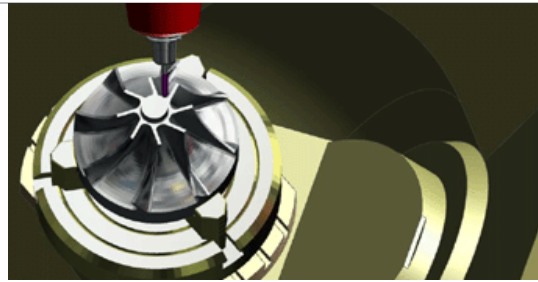
This a specific routine designed to machine impellers and bladed disks. There are routines to rough between the blades including splitter blades, finish the hub and finish the blades.

### **Calculation based on SWARF Machining**

This is a useful addition that creates a SWARF toolpath based on the upper and lower edge curves without a drive surface. There are various settings to control the tool end point.

### **Note**

The Advanced Five Axis cycle is available with the new Advanced 5-Axis Simultaneous Milling license (EN050-A). Please note that the prerequisite for this license is the 5 Axis Simultaneous Milling license (EN050-S).



**Enhanced Roughing of Open Mill/ Pocket Features**

Previously, roughing an Open Mill/Pocket feature from current stock was unbounded. This led to more than the selected feature being machined.

For example, machining one Open Pocket feature from current stock would have led to the complete solid being machined.

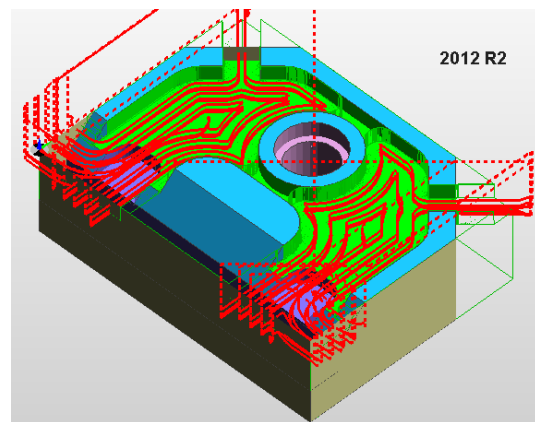
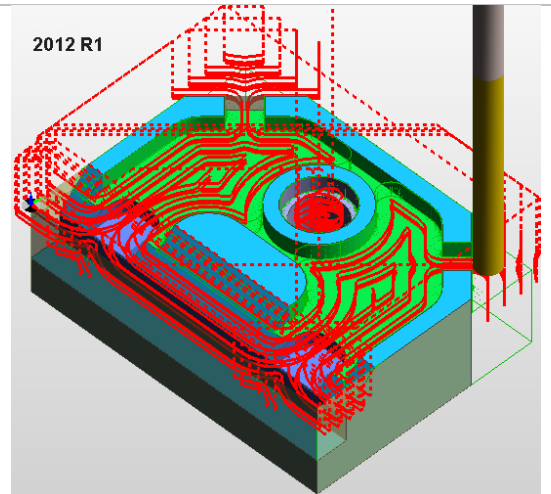
In 2012 R2 this has been improved, giving you more precise control over the features you wish to machine.

In the illustration on the right, the green area depicts the Open Pocket feature.

- In 2012 R1, the central hole would have been machined as well.
- In 2012 R2, the central hole is no longer cut.

**Note**

If you wish to machine all features as one you can create a composite feature and machine this.



### **Other Milling Enhancements**

#### **Percentage Speed added to Approach Options**

The speed for approach moves can now be specified as a percentage of the speed set on the General tab. This option is available for all Roughing strategy types.

#### **'Trim to Toolpath to Surface Side' added to Flow Surface Cycle**

The new 'Trim Toolpath to Surface Side' option is now available for the 'Blend between Two Surfaces' and 'Parallel to Surface' strategies of the Flow Surface Cycle.

- When checked for 'Blend between Two Surfaces' strategy the toolpath will be contained to within the 2 surfaces selected.
- When checked for 'Parallel to Surface' strategy the toolpath is only generated on the side that the surface normals point from.

#### **'Pivot About Tool Tip' added to the Hole Cycle**

The new Pivot About Tool Tip option has been added for indexing head type machines (including B Axis lathes). Its state will default to what has been set in the machine parameters for the post processor in Code Wizard. Note that when using quills an Index about the tool tip will not be allowed when the quill is active.

### Steady Rests in Edgcam

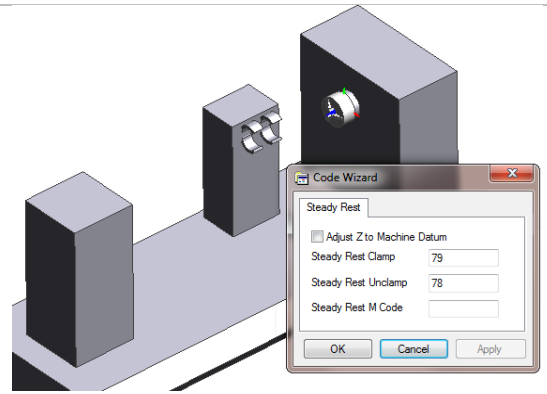
Edgcam 2012 R2 introduces support for programmable steady rests. This allows machines to be configured with steady rests for use by Edgcam, Simulator and Code Generator.

- In Code Wizard, specify parametric or custom steady rest graphics
- Control steady rest movements in Edgcam

Simulation of steady movement and collision checking

#### Notes

- To access the new functionality your Code Wizard documents must be updated to the latest templates or new CGDs created. Use **Configure** menu ► **Add Device** to add a steady rest to an existing machine.
- A steady is added in place of a second turret and can be added to any single turret lathe.
- Configure the steady code constructors under Auxiliary Devices to suit your machine tool.
- Steadies and tailstocks that are moved by the turret slide can be programmed using a modified code constructor but the turret movements will not be simulated.



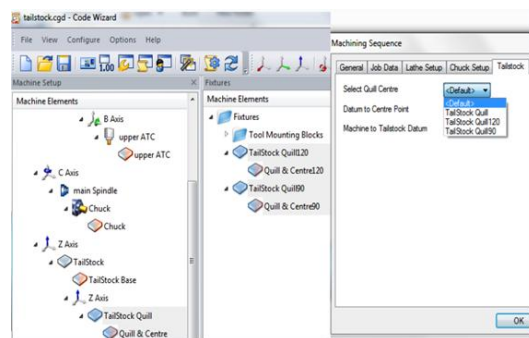
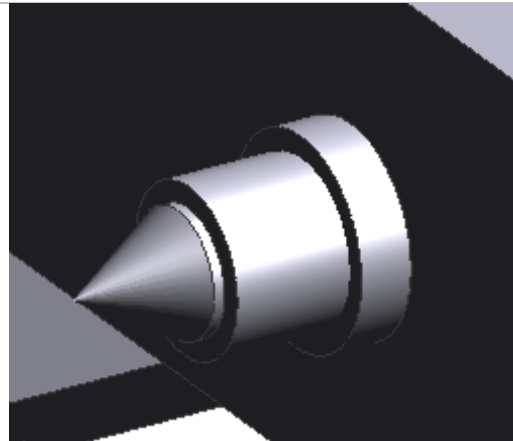


### Tailstock Support Enhanced

Tailstock support (introduced in the last release) has been enhanced in Edgcam 2012 R2.

- Support added for multiple tailstock centres
- In Code Wizard, you define one default tailstock centre and optionally include additional centres
- In Edgcam, select the required tailstock centre in the machine setup
- Ability to later change centre in the Edit Lathe Setup, if required

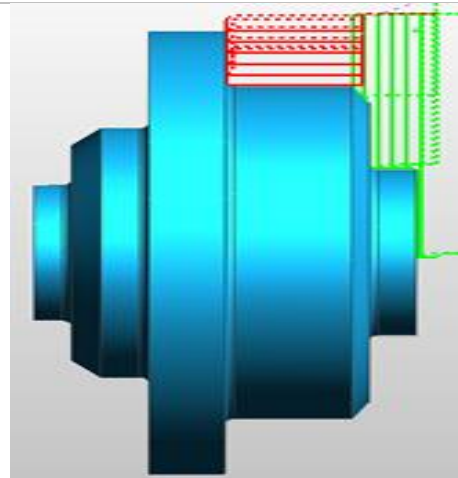
In Code Wizard you can define one default tailstock centre and optionally include additional centres in the **Fixtures** window (see illustration below). You can then select the required tailstock centre when setting up the machine in Edgcam.



### Automatic Turn/Face Split Point for Turn Features

Finding turn features using the **Solids** menu ► **Feature Finder** dialog has been enhanced in Edgcam 2012 R2.

- Automatic splitting of Turn/Face features for optimal Turn/Face machining
- Independent control for setting front and back Turn/Face split points

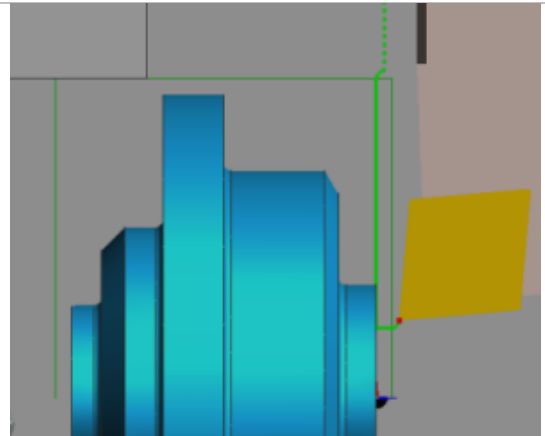


**Other Turning Enhancements:****Finish Turn Cycle – Enhancements when Using Current Stock**

The **Finish Turn** cycle approach moves have been enhanced to take into account stock, to ensure the tool always starts and finishes clear of the material.

- Automatically extends toolpath out to stock edge considering the tool insert's lead and trail angles
- Option to extend toolpath out to stock edge along first and last toolpath vector. The toolpath is extended out to the stock boundary following the vector of cut.
- Leads are applied to stock entry and exit moves
- Approach moves now clear of stock

Improved support for start and end point adjustment

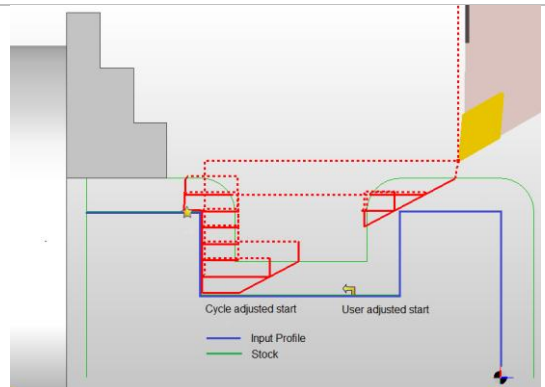
**Other Turning Enhancements:****New Rough Turn Cycle – Enhancements when Using Current Stock**

In Edgcam 2012 R2, the **New Rough Turn** cycle has been enhanced when using current stock

- The cycle now considers Start and End Point adjustment to machine the selected region
- The start point is automatically adjusted, where necessary
- The cycle is gouge protected against the input profile
- Moves on and off stock now consider lead and trail angles of the tool insert

**Notes**

The illustration below shows the effect of the new **Adjust to Start Point** option. The user has set a start point which cannot be achieved – the cycle adjusts the start point to be safe.



### 'Intelligent Picking' - Improved Display and Editing of Cycle Input

Following a limited release in the previous version, 'intelligent picking' has been extended in Edgcam 2012 R2 to support most milling and turning cycles.

Each selected element - such as cycle geometry, boundary or start point - is now listed under the relevant cycle in the sequence browser and can be highlighted and edited individually.

When an element is edited the current geometry is automatically selected in the graphics area and you can easily add to it or remove elements.

- Display of current geometry selection
- Add to or subtract from selection
- Add new element types without having to reselect everything
- Double-click an element to edit it.

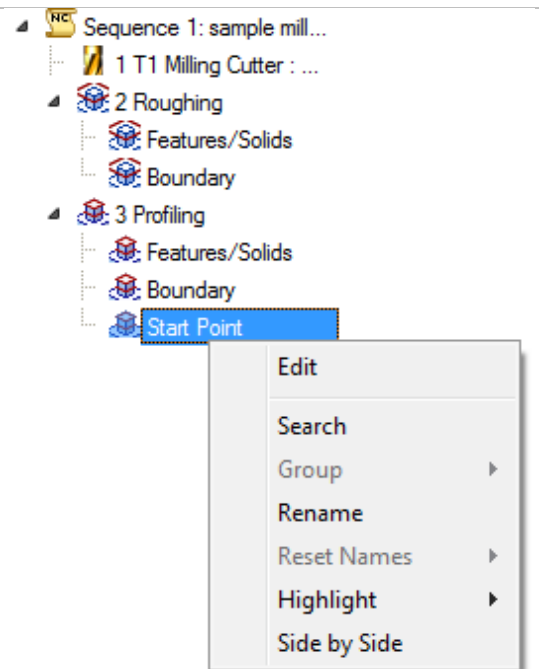
'Intelligent picking' is available with the following cycles:

#### Milling

Hole Cycle, Thread Milling, Face Milling, Roughing, Plunge Roughing, Profiling, Flat Land Finishing, Slot Milling, Parallel Lace, Constant Cusp Finishing, Rest Finishing, Flow Surface, Pencil Milling, Project Toolpath, Project Boundary Collapse, Project Circular Pattern, Project Flow Curve, 3 to 5 Axis and Five Axis (standard cycle only).

#### Turning

Straight Turn, Rough Turn, New Rough Turn, Finish Turn, New Rough Profile, Thread Turn, Rough Groove, Rough Side Groove, Finish Side Groove, Balanced Rough Turn, Balanced Straight Turn, Mirror Rough Turn and Mirror Straight Turn.



### Simplify Stock Output from 'Update Stock' Command

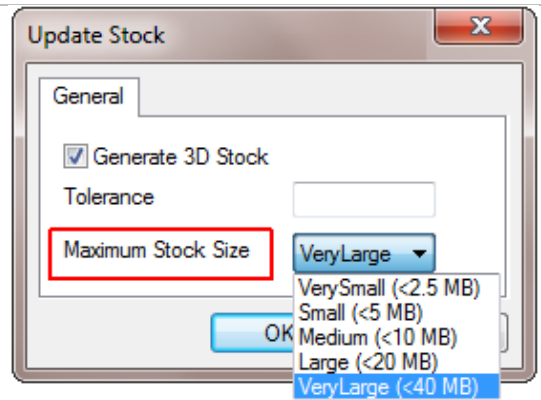
When using the **Update Stock** command the stock is replaced by an updated version, in the form of an [STL model from Simulator](#). The STL models created increase the saved file size of your parts and can have a detrimental effect on Edgcam performance and stability.

The new **Maximum Stock Size** option allows you to select at which stock size to simplify the resulting stock.

- Simplify the resultant STL stock and reduce STL file size
- Improve performance and system stability
- Ability to machine more complicated stock

#### Note

"Very Large" stock can affect Edgcam's performance and the **Update Stock** command will always simplify stock of this size.



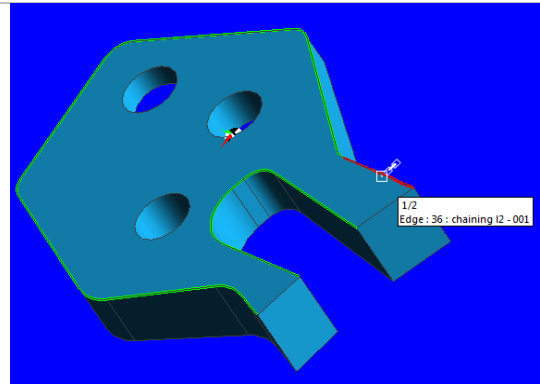
### Chaining of Solid Edges

Edgecam 2012 R2 has been enhanced to allow the chaining of edges on a solid model.

- Simplified and improved picking of edges of a solid model
- Can be used where edge picking is required (Geometry, Edge Loop Feature, etc).
- Tangency and 2D options for improved edge detection during chaining
- Allows simple editing and easy removal of chained edges

### Notes

- The new functionality is available on all solid model types and requires the appropriate Solid module license.
- The new 2D Chain button applies to both wireframe and edge chaining. In previous releases the 2D Snap button was used to constrain wireframe chaining to the 2D plane; this has changed to allow more flexibility. You can now chain in 3D to create geometry snapped to the 2D plane which was previously not possible.



### Rotary Machining of Mill Features

Using the new **Solids** menu ► **Rotary Mill Feature** command it is now possible to manually identify and machine simple rotary features that are located on a cylinder. The Rotary Mill features can be machined on Milling and Mill/Turn machines. Typical simple mill features that can be detected and machined include:

- Helical grooves
- Slots
- General cavities (pockets, engraving etc)
- Bosses (raised areas) on cylinders

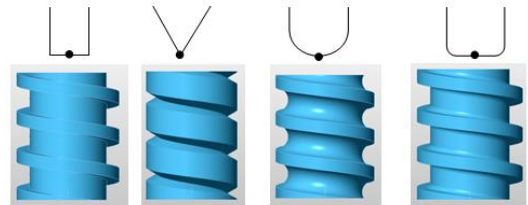
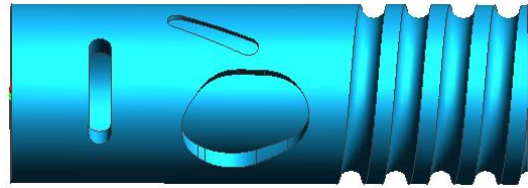
If radial slots are found they are visually represented by a centreline along the length of the slot located at the bottom of the feature on the model. Typical feature profiles supported for machining of simple radial slots:

#### Notes on machining of rotary mill features

Rotary Mill Features can be machined using the Roughing, Profiling or Slot cycle. Note that bosses can only be machined using the Profiling cycle.

To rotary machine mill features, ensure that:

- Rotary Mode is selected
- The tool has a radial orientation



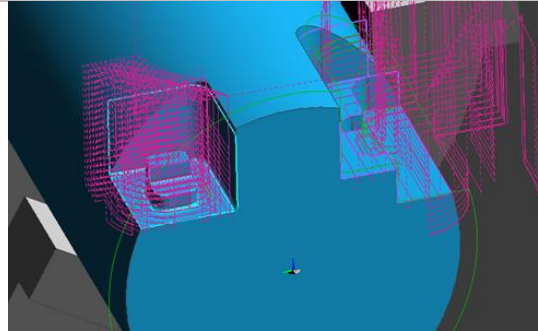
### Composite Feature Enhancement

The **Solids** menu ► **Composite Feature** command allows you to group together a number of features into a single feature. In 2012 R2 this command has been enhanced:

- Select which features to include in the composite
- Multiple composite features on same plane allowed
- Roughing is bounded to composite region - rough regions of the solid without the need for boundaries
- Use different tools for each region

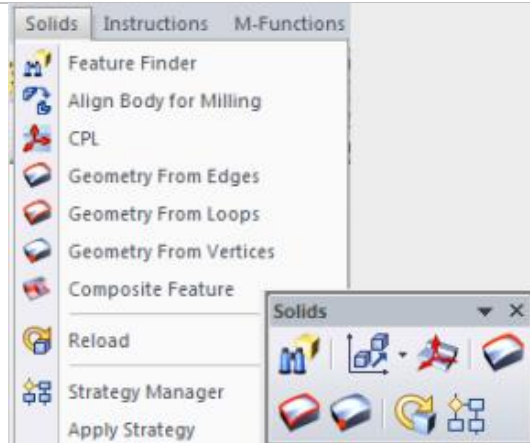
#### Note

In the example above it is necessary to create separate composites for each side because the tooling and cycle requirements for each side are quite different.



### Feature Finding in Manufacture

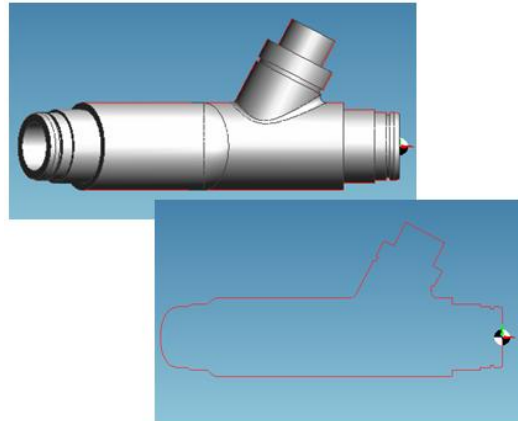
Feature Finding commands can now be run in Manufacture Mode. The appropriate commands can now be executed from the **Solids** menu and Toolbar in Manufacture. Note that the Solids Toolbar is not displayed in Manufacture by default.



### Extracting Silhouette Profiles from Geometry



A new **Copy from Body/Faces Silhouette** option has been added to the **Solids** menu ► **Geometry** command that allows you to create a silhouette from a body or selected faces.

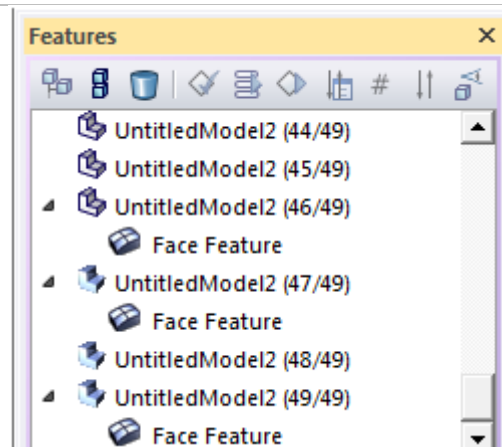
- Create geometry from edges that “fall away” or are rounded
- Explode extracted geometry and add offsets to leave material on areas where further machining is required
- Great for leaving allowances on castings and forgings



### Distinguish between Solids and Sheet/Surface Bodies in Browser

When working in the ‘tree’ view of the **Feature Browser** different icons are now displayed for the sheet and solid body elements in the model, making it easier to identify each type in Edgcam.

- A ‘filled’ icon  denotes a solid body
- A ‘crosshatch’ icon  denotes a sheet/surface body





### Strategy Manager – Planning Board

The Planning Board is a user interface tool designed for use with machining strategies, and it is used in conjunction with the Feature Browser. The Planning Board gives greater control over the manufacture order and the application of strategies. It gives graphical feedback indicating which strategies have been applied.

- Strategies can be applied one at a time, applied to a marked set or applied to all.
- Strategies can be removed from the Planning Board if they are not required.

#### Notes

1. Planning Board is available in the Strategy Manager and Strategy Manager Run Only licenses and any licenses that include either of them, i.e. Solid Machinist for Education.
2. To use the Planning Board strategies need to conform to a strict documented structure. *Refer to the Strategy Manager help file for more details.*
3. A set of sample strategies configured for use with Planning Board are installed with Edgcam. It is recommended that you use these sample strategies with a well configured ToolStore and specify a Toolkit to see the benefits of Planning Board.
4. Refer to the Edgcam User Guide for further details on how to apply strategies using Planning Board.



### Strategy Manager – Removing Unwanted Sequence Markers

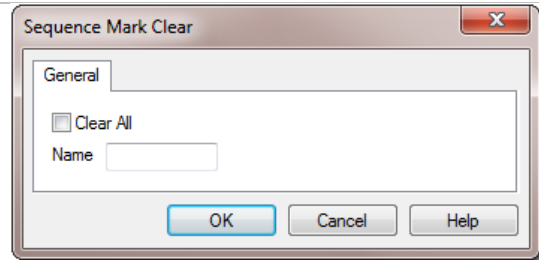
The Mark Sequence command (introduced in 2012 R1) can leave unwanted markers in your instruction sequence. Edgcam 2012 R2 offers a new command to clear any unwanted markers.

- Typically this will be used in a strategy to remove unwanted markers from a machining sequence.
- Remove individual sequence markers by name or clear all markers.

#### Note

The **Clear Marks** command is not present in the Edgcam user interface as standard; you will need to add it to a toolbar or menu. The command is available in the **Edit** category.

In Strategy Manager, the command needs to be added directly to the process using the **Add Mark Clear Command** option in the shortcut menu of the Process browser.

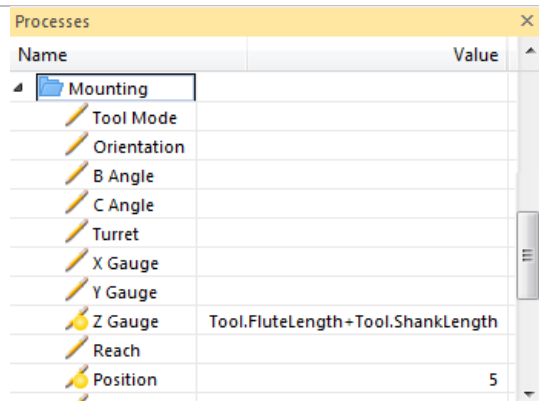


### Strategy Manager - Setting Tools Modifiers Based on Selected Tool

When setting tool modifiers it is now possible to use tool attributes of the selected tool to calculate and force other toolchange modifier values.

In this example the **Z Gauge** modifier is calculated using the expression '**Tool.FluteLength+Tool.ShankLength**'.

Tool.FluteLength and Tool.ShankLength are taken from the selected tool, so prior to the strategy committing the toolchange process other toolchange modifiers can be derived from the selected tool attributes.



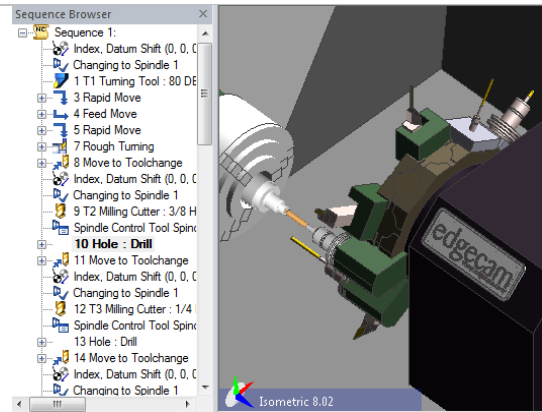
### Start Simulation from any Instruction

Simulator has been enhanced in Edgcam 2012 R2 so that you can now start the simulation from any point in the instruction list.

- Use the Sequence Browser (now available in Simulator) to start the simulation at any point by clicking the instruction in the list
- **Rewind** to any previous point in simulation
- No need to simulate the whole sequence each time, pick exactly which instructions to simulate

#### Note

This option is only available in Simulate Machining mode for Standard licenses and above.



### New Stop Options in Simulator

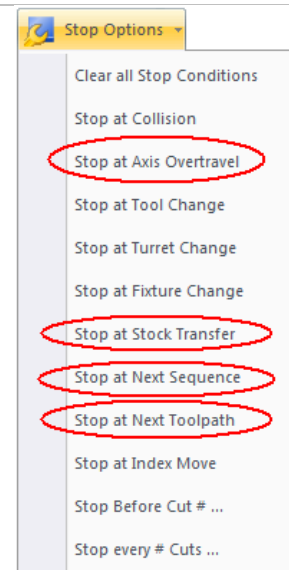
Simulator allows you to specify where to stop the simulation, by clicking Simulator toolbar ► **Stop Options** and selecting the required options.

In Edgcam 2012 R2, Simulator has been enhanced for more control over where to stop the simulation:

- Several new options, including 'Stop at Axis Overtravel'
- It is now possible to select multiple Stop options, for example you might want to stop at toolchange *and* at collisions

#### Note

Some Stop options are only available in Simulate Machining mode.

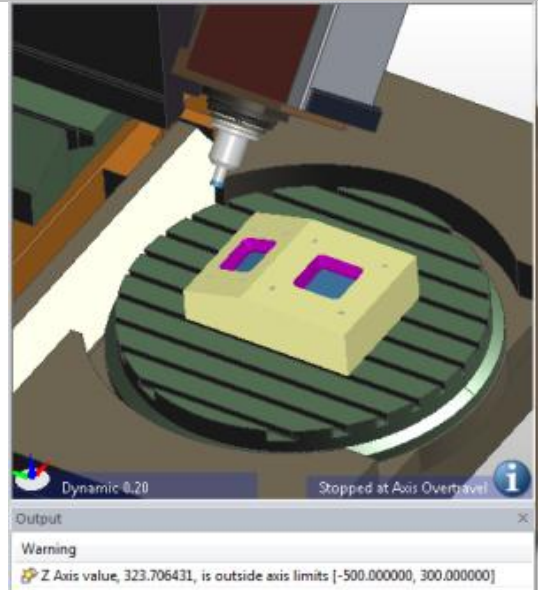


### Report Axis Overtravel in Simulator

In Edgcam 2012 R2, Simulator has been enhanced to report axis overtravel.

To use axis limit checking, ensure that **Options** menu ► **Machining** tab ► **Report Axis Overtravel** is checked.

- The Output window shows the number of axis limit violations
- The Warnings window details the axis and overtravel distance



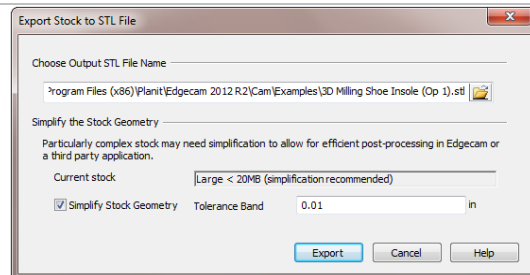
### Simplified STL Model Output

The **Export Stock to STL File** dialog now offers simplified STL model output. This is useful as complex stock may need to be reduced in size for more efficient processing in Edgcam or a third party application.

- Simplify STL model output for improved stability and performance
- Reduced STL file size
- Accept setting recommended by Edgcam or make your own choice based on current stock size
- 'Large' stock simplified by default

#### Note

Edgcam 2012 R2 also introduces [simplified stock output from the Update Stock command](#).



**New Part Modeler Loader for Autodesk Inventor**

Part Modeler 2012 R2 introduces a new CAD loader that allows you to load Autodesk Inventor parts and assemblies (up to and including 2013) into Part Modeler. The new license is available for purchase and is called **Part Modeler Loader for Inventor** (Product Code ECPMI-L).

**Note: Autodesk Inventor or Autodesk Inventor View must be installed on the same PC as Part Modeler to enable the loading of files**

The new license is available for purchase and is called **Part Modeler Loader for Inventor** (Product Code ECPMI-L).

**Part Modeler Loader for Creo Param**

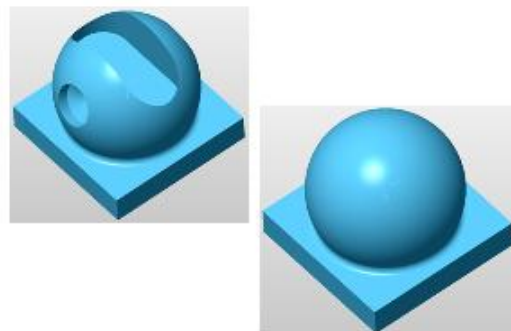
The Part Modeler Loader for Creo Parametric has been updated to support the loading of Creo Parametric version 2.0 models.

**Filling in Features on Third Party Models**

The new **3D Construction** menu ► **Operation** ► **Remove Face** command allows you to remove features from a 3rd party solid model (a model with no history of features in the tree browser).

Benefits of the new functionality include:

- Remove features to obtain an uninterrupted surface for smooth machining in Edgcam
- Easily develop stage drawings for manufacture (removing features not related to the manufacturing process).



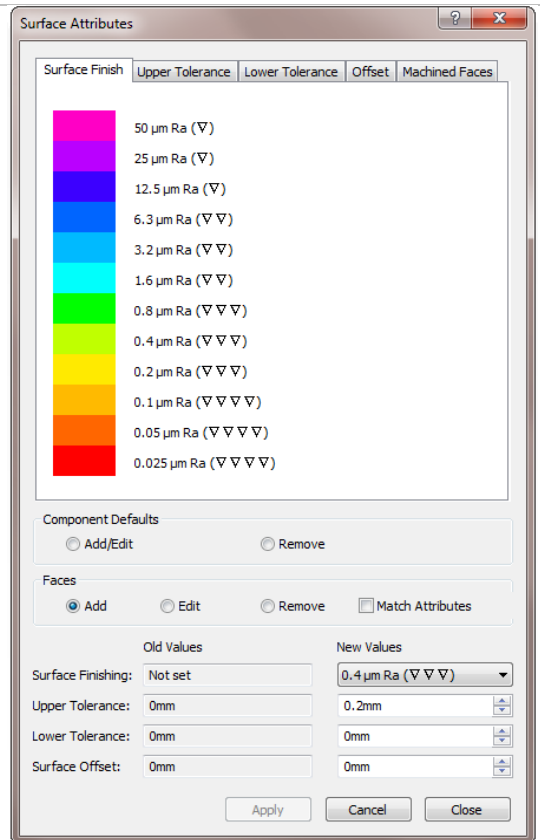
### Enhanced Surface Attributes

Following improvements in the last release, the **Surface Finish Attributes** dialog has been further enhanced in Part Modeler 2012 R2.

- The Surface Attribute Viewer has been integrated into the dialog; move between tabs for visual feedback of face settings
- New **Formed Size** setting (Surface Finish drop-down list) denotes the face is already to size and requires no machining (i.e. a cast/forged finish or previously machined face – no stock to remove)
- Use the **Machined Faces** Viewer to see which faces are 'to size' and which require machining
- Surface Attribute colours are only displayed when dialog is active to ensure surface finish colours do not overwrite user defined colours

#### Note

The Formed Size setting is not passed to Edgcam in this release.



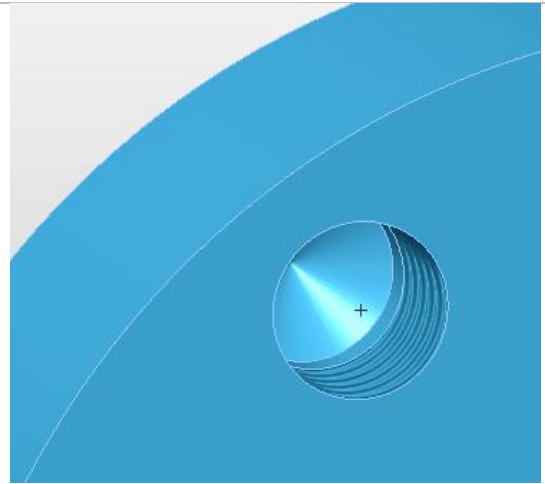
### Rendered Image on Tapped Holes

Following the introduction of rendered threads in the last release, this has been extended. In Part Modeler 2012 R2 it is now possible to render tapped holes on models.

- More realistic representation of (blind and through) tapped holes
- Quickly and accurately view where tapped holes are located on the solid model
- Thread information is carried through to Edgcam for machining

### Note

- Only threads that have been created in Part Modeler will be rendered.
- Array (Linear and Circular Array) procedures are not supported by this enhancement. The initial tapped hole will be rendered, the arrayed tapped holes will contain the thread data but will *not* show the rendered tapped hole image.
- To ensure a 'sharper' display of rendered threads (graphics card permitting), the **System Options ► Shading tab ► Enable Shaders** option is checked by default. Note that basic threads will be displayed even if shaders are not supported by your graphics card.



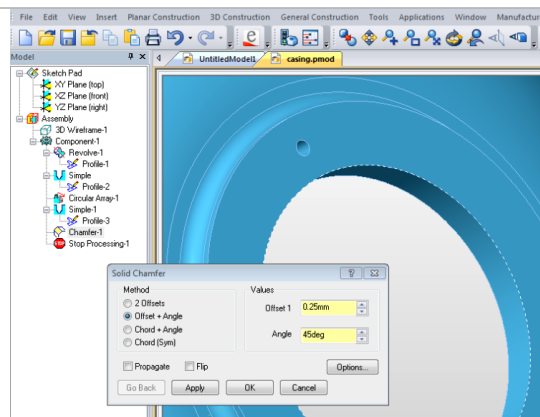
### Editing Procedures from Solid Model

Editing procedures has been enhanced in Part Modeler 2012 R2. You can now edit a procedure by double-clicking the feature on the model. Benefits include:

- Simple editing - directly from a feature without having to search through the browser tree
- Quickly see how complex models have been constructed

#### Note

This new feature is only available with solid models that have been created using Part Modeler.



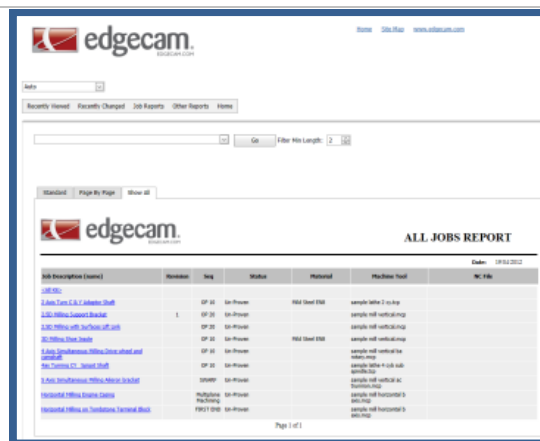
### New Live Job Reports

Edgcam 2012 R2 introduces new **Job Reports** that are markedly faster than current job reports and - as the title suggests - "Live".

- Faster database interrogation
- Read database from remote machine/server
- No need to install Edgcam on database PC
- View and print reports in PDF/xlsx/rtf format

#### Notes

- The new Job Reports are a separate application that you install from your Edgcam DVD (*Live Job Reports folder*). If the Job Reports database is on a local machine no additional configuration is required and you can launch the reports straightaway. If the database is located on a remote machine you use the "Configure" tab to set up database access first.
- Currently the reports are non-configurable. There are plans to make the reports configurable in a future release.





### PCI-JavaScript - New Browser and Debugging Tools

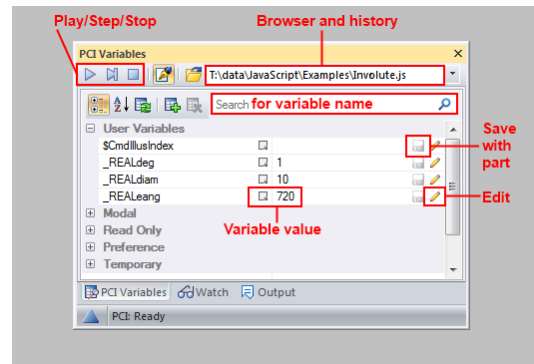
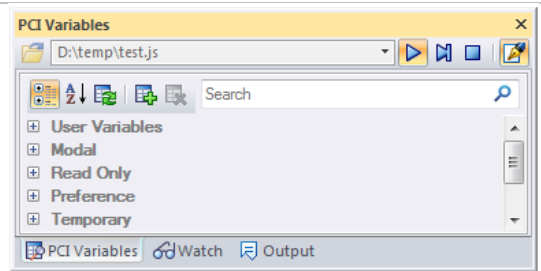
The **PCI Variables** browser has been redesigned in Edgcam 2012 R2 for improved development and feedback when writing PCI-JavaScript.

- File Open with history drop-down
- Play, Step and Stop options
- Improved variable layout
- Search for a variable
- Watch variables
- Output window

The **PCI Variables** tab lists the variables, their values, and offers additional features such as File browser, Search, Play/Step/Stop buttons.

The new **Watch** tab allows you to track JS variables while the script is running. Enter the variable name in the Variable column and the value and type will be updated.

The **Output** tab allows you to see the processed PCI commands with the resolved values. Click **Enable Output** to view results.



### Saving PCI Variables with Part File

Edgecam 2012 R2 offers a new **function** that allows you to specify which PCI variables are saved with a part file.

- Opening part file sets any saved PCI variables
- Enhanced PCI Variables Browser indicates which variables are saved with part
- PCI settings are remembered from the last time PCI was run on that part

### Examples

#### PCI JavaScript

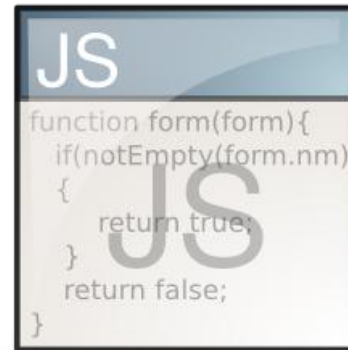
```
SaveWithPart(["PCD", "HoleDiam",
"NumHoles"]);
```

#### Legacy PCI

```
%savewithpart=PCD,HoleDiam,Numholes
```

### Notes

- Loading a part file that has PCI variables saved with it will overwrite the PCI variables in the current session.
- Inserting a part does **not** update the PCI variables from the file.
- Read-only variables in the session will be overwritten with the ones from the part file that is being loaded.
- You have to set read-only variables before adding them to the SaveWithPart list.
- When saving an aliased variable, the referenced variable will also be saved automatically.



### Code Wizard Enhancements

There have been a large number of Code Wizard changes in Edgcam 2012 R2, including items listed on the following page.

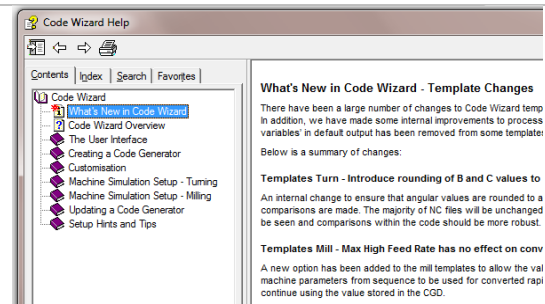
For a list of changes, please refer to the What's New section in the Code Wizard user guide (see illustration on the left).

#### To take advantage of changes and fixes in the Code Wizard template files

1. Update your code generator documents (.CGD files) against their latest template by re-opening the document in Code Wizard and confirming the prompt to update it. (You might want to use the renaming options in the Template Update dialog to preserve your original CGDs during the proving stage.)
2. Recompile the code generators.
3. Regenerate and test any machining that uses the updated code generators. It is important to check that the update has not introduced any unwanted changes.

It is advisable to do this routinely for each new version of Edgcam.

When updating templates that have an extension file (.cge) the extension file must also be updated to ensure compatibility.



### CAD Support Enhancements

Edgcam supports the latest versions of a wide range of CAD systems and CAD file formats.

New in Edgcam 2012 R2 is support for

- Autodesk Inventor 2013
- Creo™ Parametric 2.0
- CATIA V5 R21
- SpaceClaim 2012

For more information on supported CAD systems, please refer to the Installation Guide.

**ToolStore Server – 64-bit Support and SQL 2008 R2**

The ToolStore server setup has been enhanced in 2012 R2 to support 64-bit operating systems and install SQL 2008 R2.

- Support for the latest operating systems (32 and 64-bit)
- Improved reliability
- Improved reporting of installation problems

**Note**

As part of the update the Edgecam installation program has been upgraded too. It will identify if SQL 2005 is already installed and if there is an ECSQLEXPRESS instance. If so, it will run a repair of the SQL 2005 instance and then install an upgrade to SQL 2008 R2. This is necessary as SQL 2005 may be corrupted and cause problems with the upgrade.

If no SQL instance is found, it will install SQL 2008 R2.

For more information, please refer to the Installation Guide.



Microsoft®  
**SQL Server™ 2008 R2**