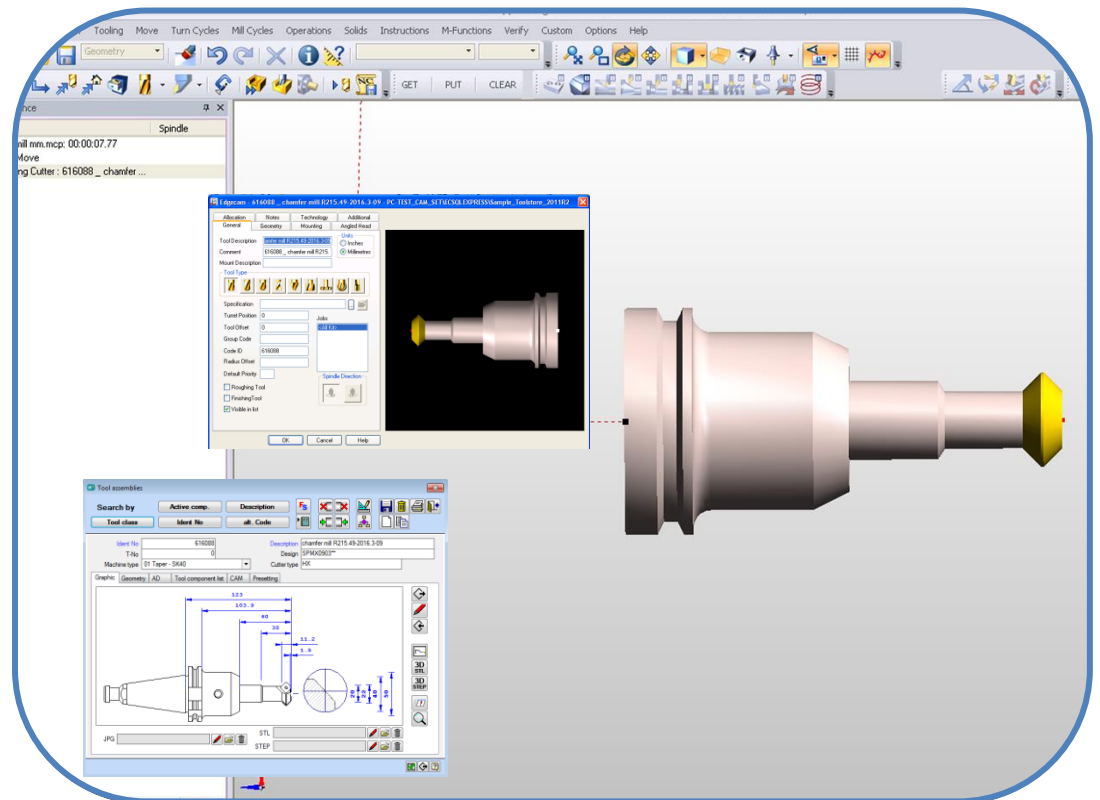


WT-Edgecam Interface



Manual

WinTool Interface 4.3 for Edgecam

The interface enables Edgecam users to find tool assemblies and lists in the *WinTool* database and to transfer them to Edgecam. The interface also generates a *WinTool* tool list with the tools used in the Edgecam NC program.

Requirements

- *WinTool* 2011 - 2014 Professional
- Edgecam 2012 R2, 2013 R1/R2 or 2014 R1 with Service Update 3

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<http://www.wintool.com>

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Summary

Job

The interface enables Edgecam users to find tool assemblies and lists in the *WinTool* database and to transfer them to Edgecam. The interface also generates a *WinTool* tool list with the tools used in the Edgecam NC program. Cutting conditions and full graphic representations of tool assemblies are supported by the interface.

Requirements

- *WinTool* 2011 - 2014 Professional
- Edgecam 2012 R2, 2013 R1/R2 or 2014 R1 with Service Update 3

Supported Tool Types

All Edgecam tool types are supported.

Changes In This Manual

New directory structure, see chapter [Installation](#)

Licensing

You need a license code and a license agreement with *WinTool* AG, Switzerland.

Copyright

This documentation as well as the software itself is copyright of

WinTool AG

Fluelastrasse 7
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Phone: +41 (0)44 401 0055

Mail: info@wintool.com

Website: www.wintool.com

Installation

Directory Structure

WT-Edgecam-Interface 4.3 introduces a clear separation of program files and user data. All user data is centrally placed the [\[Public Documents\]](#)WT-Edgecam-Interface folder:

User data	New location
Default location of UserModels folder	[Public Documents] \WT-Edgecam-Interface\UserModels
Default location of Exchange folder	[Public Documents] \WT-Edgecam-Interface\Exchange
Configuration files: WT-Edgecam-Interface.cfg WT-MakeList.cfg WT-ToolExport.cfg	[Public Documents] \WT-Edgecam-Interface

Note: [\[Public Documents\]](#) on Windows XP is located in [C:\Documents and Settings\All Users\Documents](#)

New Installation

Log on with administrator rights to install the software on a PC.

Install *WinTool* Professional first before you install the WT-Edgecam-Interface.

Download the latest WT-Edgecam software release from www.wintool.com and start Setup.exe.

Updates

First make a backup of the existing license file **License.EWA** in the Edgecam installation folder ([c:\Program Files\Edgecam\CAM\PDI\Cat-Run](#)) before you update the WT-Edgecam Interface.

The License.EWA contains your license code. If you do not have this file you must contact your WT-Edgecam Interface License supplier and request one (see chapter "Licensing" below).

Download the latest WT-Edgecam software release from www.wintool.com and start Setup.exe.

You are updating from version 4.2.3 or older:

- If the interface was installed in the **same directory** as the previously installed version, the configuration files are automatically moved to [\[Public Documents\]](#)\WT-Edgecam-Interface. Check the interface configuration using the configuration window (see page 11) and the configuration files "WT-MakeList.cfg" and "WT-ToolExport.cfg".
- If you chose a **different directory** for the interface, you must copy the configuration files manually from the previous installation directory to the directory [\[Public Documents\]](#)\WT-Edgecam-Interface
- The default location of the setting [UserModelPath](#) has changed. If you haven't set a [UserModelPath](#) in the interface configuration, in which case the UserModels folder is in the interface installation directory, you must move the contents of the folder to the new default location [\[Public Documents\]](#)\WT-Edgecam-Interface\UserModels.

After the installation store the License.EWA file to [c:\Program Files\Edgecam\CAM\PDI \Cat-Run](#)

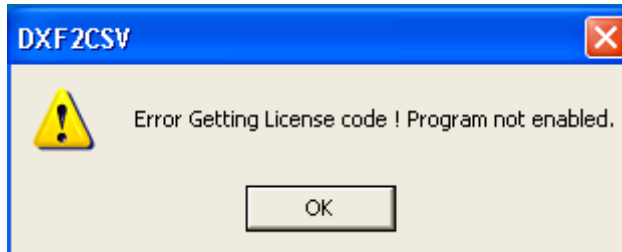
Check if the WT-Edgecam configuration is correct using the configuration window (see page 6).

If you update from Version 2.1 or older remove the old tool bar in Edgecam. It will be replaced with a different one.

IMPORTANT NOTE: Now the WT-Edgecam Interface V.4 supports all Edgecam tool types. Please check if you have to re-assign the *WinTool* with the Edgecam tool types (see detailed instructions in the chapter Getting Started)

Licensing

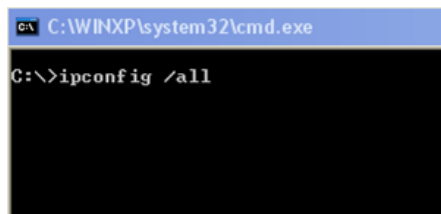
The interface does not work without a valid WT-Edgecam Interface license. The following error message appears instead:



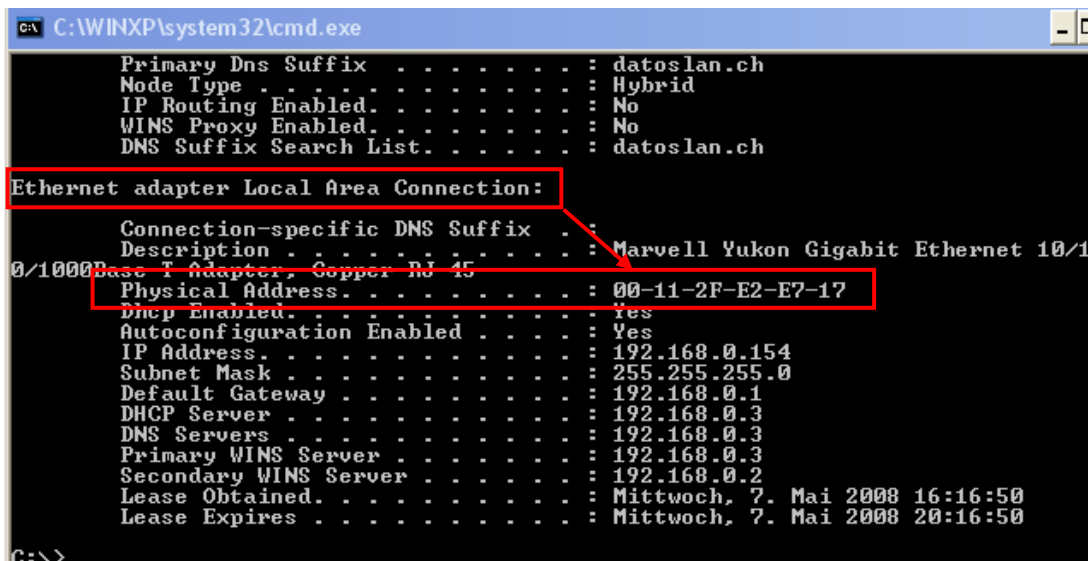
You must acquire a license code first.

To license the WT-Edgecam interface, a "license key code" based on the "Physical Address" of your PC's Ethernet adapter is generated. You can find the "Physical Address" of your PC as follows:

1. Click on: Start
2. Select "Run..."
3. Type 'CMD'
4. Enter
5. Type 'Ipconfig /all'
6. Enter



The physical address of your PC will be shown:



Please send this information together with you company name, your personal name, and your phone number to info@wintool.com with the subject "WT-Edgecam-Interface License".

You will receive a file called "License.EWA" that contains the license code for your physical address. Copy this file in you Edgecam installation folder:

e.g. `c:\Program Files\Planit\CAM\PDI\Cat-Run`

Configurations

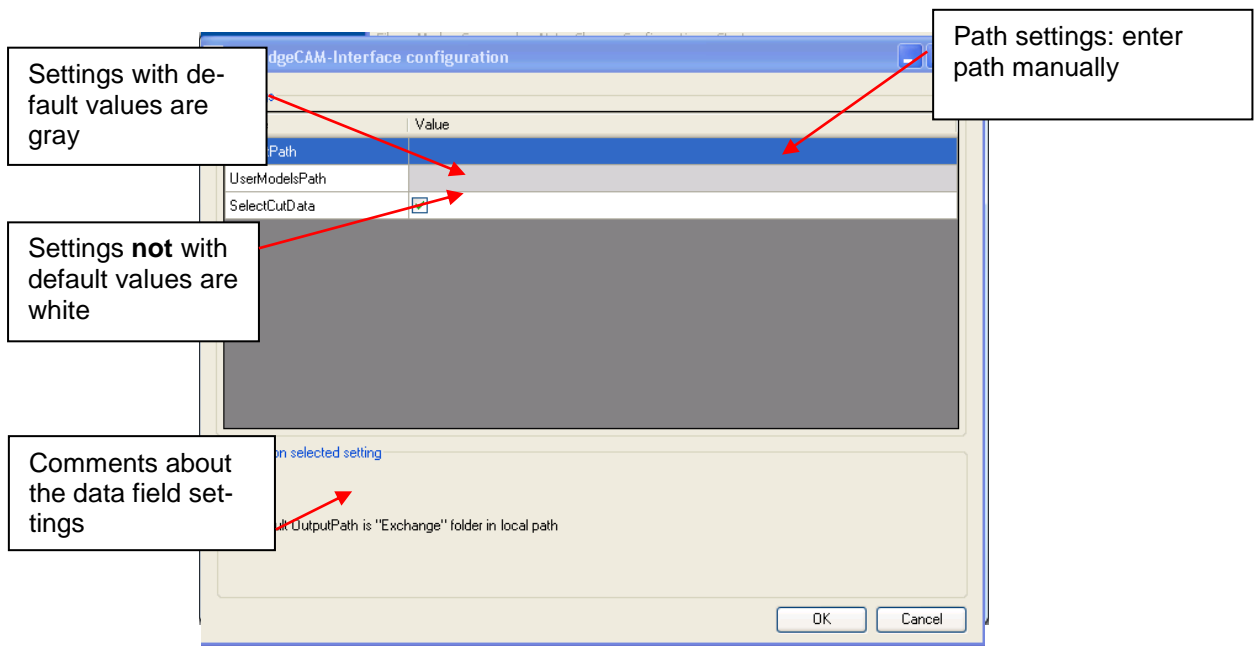
Interface Configuration Window

The configuration window lets you easily change the settings of the WT-Edgecam-Interface.

Open the configuration screen in:

Start > All Programs > WinTool > WT-Edgecam-Interface > WT-Edgecam-Configuration

The following screen appears:



<OK> stores all settings. <Cancel> exits the configuration window without saving.

IMPORTANT: Set the correct UserModels path for your company directory on the server.

Configuration File

The configuration window reads and stores settings in the file `WT-Edgecam-Interface.cfg` which is located in the "[Public Documents]\WT-Edgecam-Interface" directory.

The file can be edited with the Interface Configuration Window or with a text editor.

Some of these settings will be stored as Windows Registry Variables. The following parameters will be loaded in the Registry Variables when running the software next time.

Note: The total length of path and filenames must not exceed 255 characters.

Output Path

The interface transfers data between *WinTool* and Edgecam and vice versa via exchange data files. The Output Path defines the directory for the data exchanges.

This directory must not be shared by multiple users because the data transferred via this directory is NC project specific and temporary only.

The default settings are:

OutputPath = [Public Documents]\WT-Edgecam-Interface\Exchange\

UserModels Path

The UserModels directory manages the transfer of tool contour graphics and 3D models including CAM-specific tool models (STL or DXF). *WinTool* links and manages these models and all NC programmers must access and share this data.

The default settings are:

UserModelsPath = [Public Documents]\WT-Edgecam-Interface\UserModels\

If you have multiple NC programmers you must create a UserModels folder on the server and backup the data from time to time.

Select Cut Data

If SelectCutData is deactivated (**False**) no cutting conditions are transferred. If this parameter is activated (**True**) cutting conditions for work materials are transferred. By default the transfer of cutting conditions is turned off (**False**).

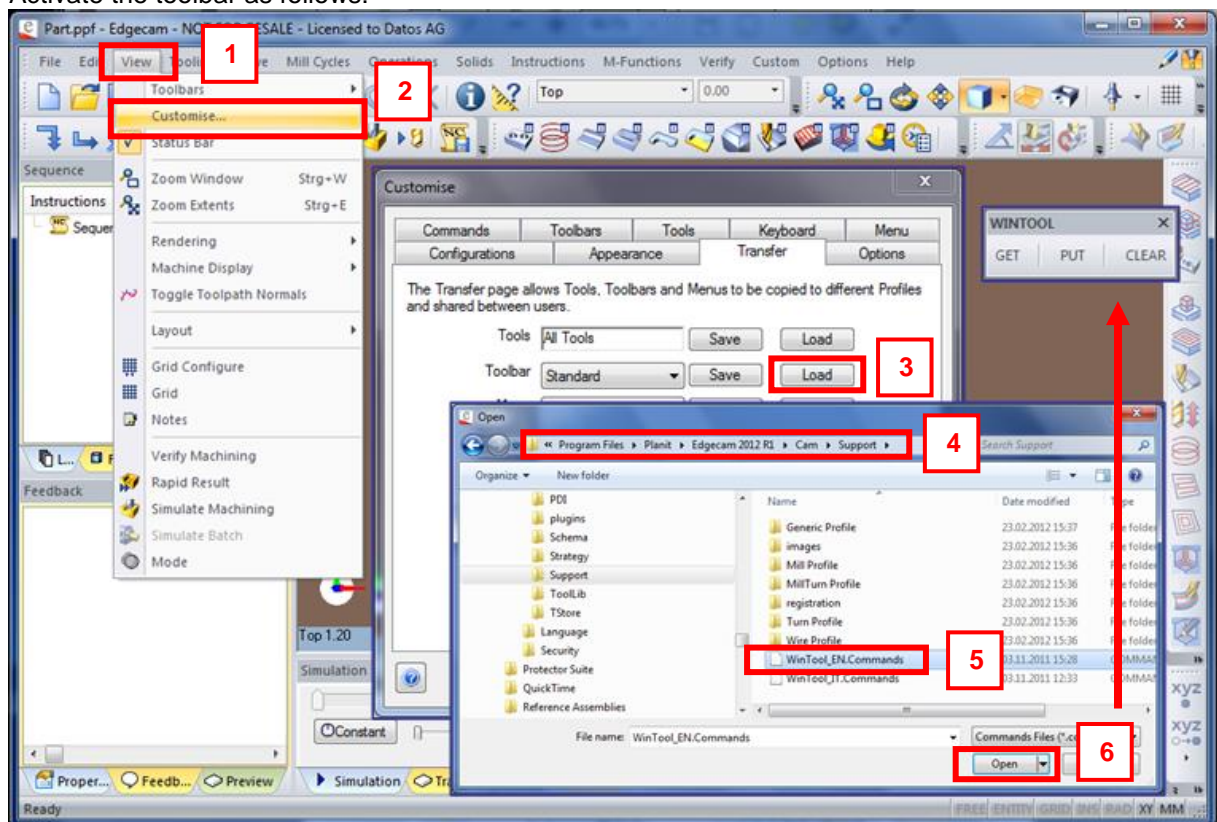
For tool assemblies, tool lists and machine tools the import uses a different cutting condition selection procedure:

Import	Selection procedure
tool assembly data	The cutting condition window opens and all available cutting conditions can be selected.
tool list data	<p>The interface imports all cutting conditions available for one material only.</p> <p>The material is automatically preselected by the interface if the field material in the WinTool tool list has been filled in.</p> <p>Otherwise the cutting condition window of the first tool in the list will be displayed and a cutting condition must be selected manually. The material for this value will be registered by the interface and is used to preselect the cutting condition for all succeeding tools of the list.</p> <p>If a tool has more than one cutting condition for the same material or if no cutting condition exists for the material, the interface requests to select it manually.</p>
machine tools data	<p>The interface imports all cutting conditions available for one material only.</p> <p>The cutting condition window of the first tool of the machine will be displayed and a cutting condition must be selected manually. The material for this value will be registered by the interface and is used to preselect the cutting condition for all succeeding tools of the machine.</p> <p>If a tool has more than one cutting condition for the same material or if no cutting condition exists for the material, the interface requests to select it manually.</p>

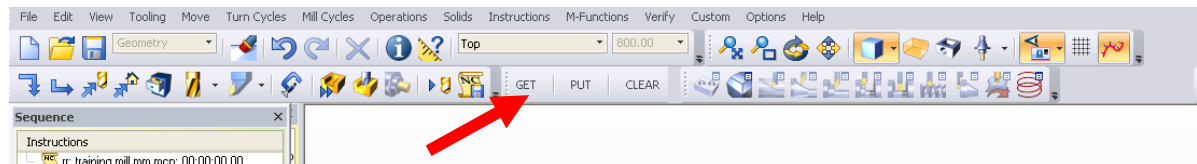
Note: The cutting conditions window appears only if there is at least one cutting condition value stored.

Edgecam Settings

Activate the toolbar as follows:

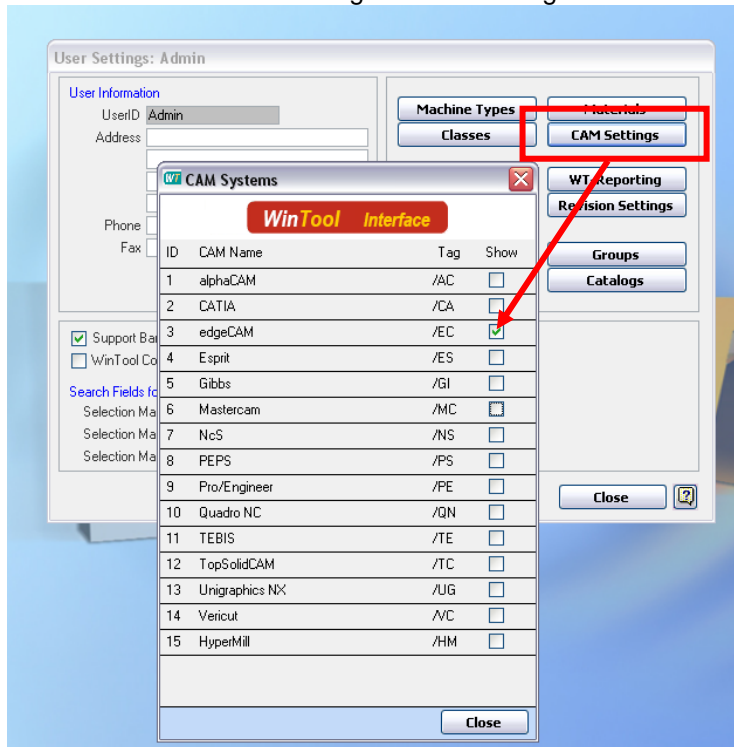


Move the *WinTool* tool bar to the Edgecam ribbon bar

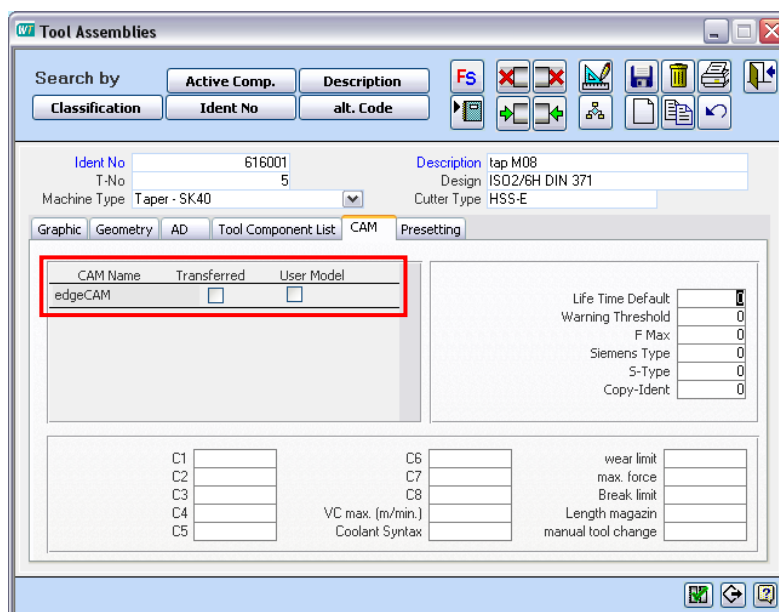


WinTool Settings

Go to *WinTool* Tools > Settings > CAM Settings and select the Edgecam interface:



This enables Edgecam in the window Tool Assembly folder CAM:



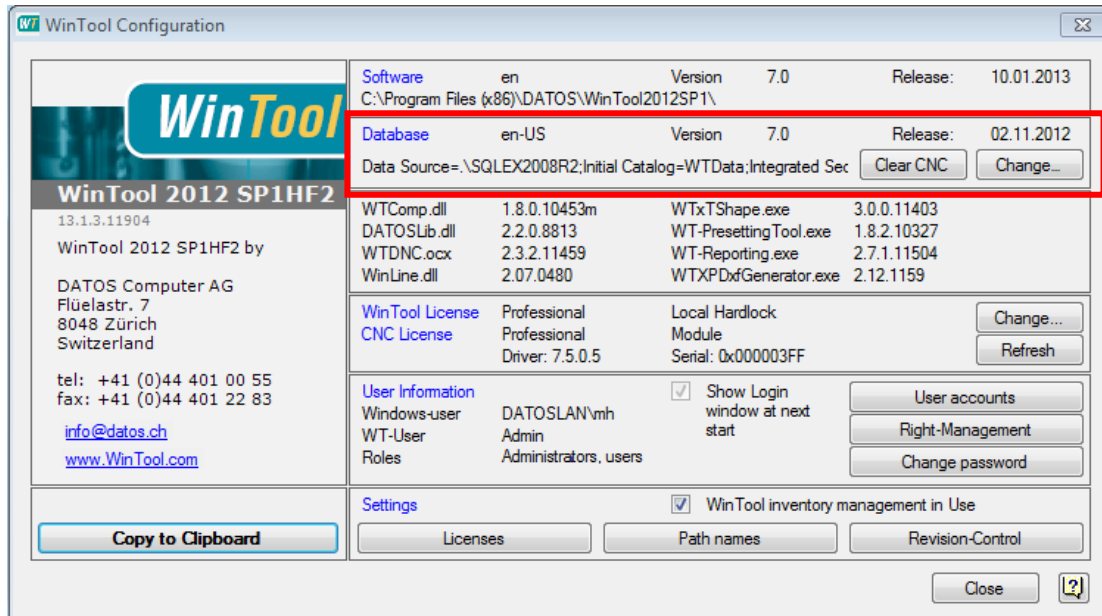
Notes: The settings of the activated CAM interface will be stored in the *WinTool* database (WTData). If you switch your WinTool Professional installation to another database you must activate the Edgecam interface in the new database as well (see chapter Getting Started).

The "Transferred" flag is not used in the WT-Edgecam-Interface.

Getting Started

Sample Database

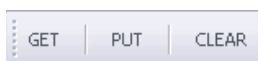
The WT-Edgecam Interface always uses the *WinTool* database currently linked to your *WinTool Professional* installation. To test the interface and get familiar with its functionality, please copy a virgin database (WTData) from your latest *WinTool Professional* installation CD and re-link your *WinTool* to this database:



Note: The following chapters refer in general to the sample data in the virgin database.

Toolbar

The *WinTool* toolbar in Edgecam gives you access to the *WinTool* tool database. The toolbar offers three functions:




- **GET:** Import a single tool or a tool list incl. 3D model and cutting conditions.
- **PUT:** Create a *WinTool* tool list with the tools used in the current Edgecam sequence.
- **CLEAR:** Delete all data in the Edgecam tool store. This function should only be used if NC programmers must work with *WinTool* tools only.* By default the Clear button is deactivated.

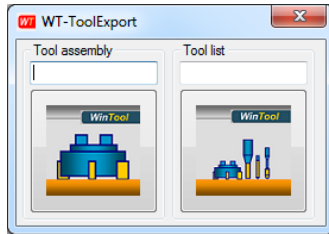
***Note:** The *WinTool* database must always remain the master tool data in the production process to avoid redundancies and errors. It is best practice to delete all tools in the Edgecam toolstore from time to time and refresh the data by importing a current *WinTool* tool list with all standard (or resident) tools you use on the machine.

To enable the clear button, you will have to open the file "TOOL_DELETE.PCI" in the subfolder "Cam\PDI\Cat-Run" of your Edgecam Installation with a text editor.


Remove the "*" in the line "* %CALC=\$ARGS=/REL: [&VERSION] /DELETE" and add one in the beginning of the line "%CALC=\$ARGS=/REL: [&VERSION] /DELETOFF" in the file and save it.

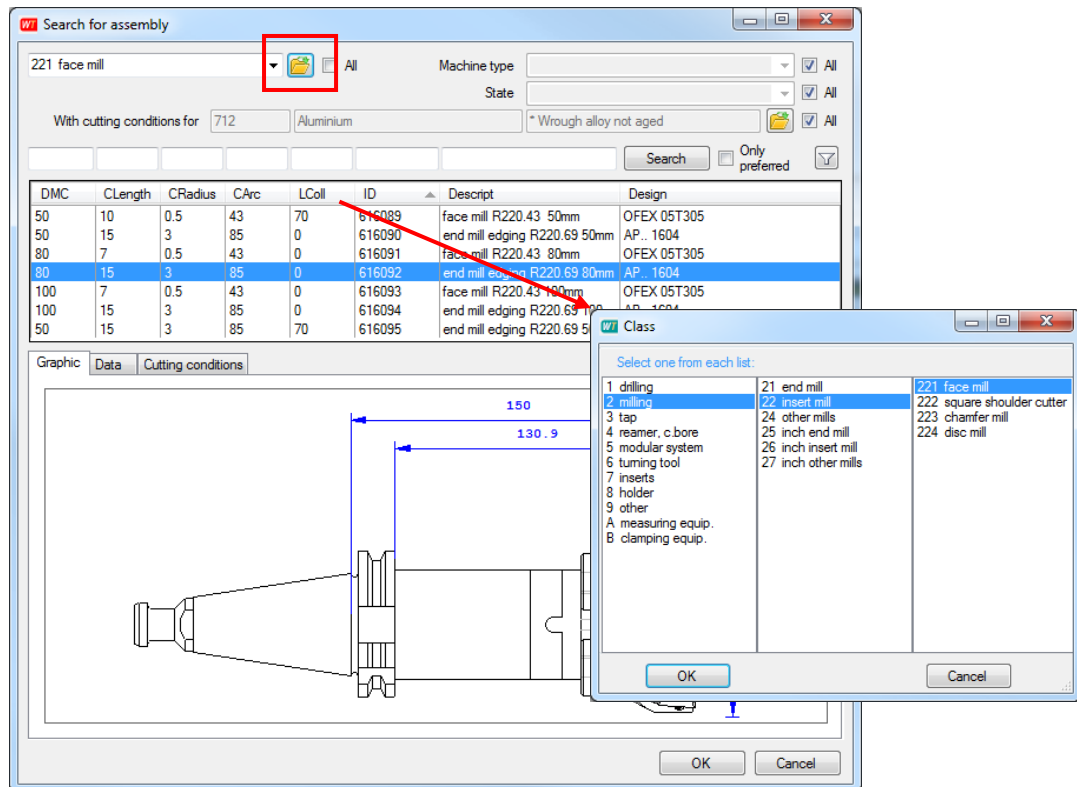
Importing Tools and Tool Lists

Select  to import tools from *WinTool* and add them to the Edgecam tool store. The following WT-ToolExport menu will open:

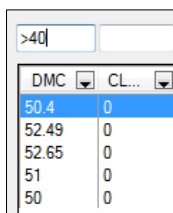



Select the icon for Tool Assembly to import tools individually or for Tool List to load an existing *WinTool* tool list. If you know the tool assembly ID or tool list name, you can fill in the value and hit enter on your keyboard. The tools will immediately be transferred.

Click on  to open the tool classification tree. Select and highlight the desired tool.



There are filters available for machine type, tool data release state, cutting conditions for different materials, and preferred tools. You can also enter commands (> , < , >= , <=) to filter a list of tools:



The function  turns on combo box selection for the tool values:

DMC	CL...	CR...	CArc	LColl	ID	Descript	Design
50.4	0	0	0	0	500057	BARRA MICROMÉTRICA Ø...	
22.4	0	0	180	70	500058	BMA-003-Ø20-15.5	Inserts CC73-0602??N
36.55	0	0	180	51	500062	CPM-001-C/ Ø36.55	Inserts CC73-0602??N

You can review detailed tool data in the folder tabs Graphic, Data, and Cutting conditions:

Graphic		Data		Cutting conditions	
Diameter (D)	50.4				
Dia step 1 (Da)	0				
Collision Dia (Dx)	0				

If the cutting conditions import function is turned on ([SelectCutData](#) is enabled) in the configuration window the following window pops up and lets you pick a value to be transferred.

Assembly cutting conditions

Tool assembly: 616092 end mill edging R220.69 80mm

DMC	StNr	ap	ae	Dia	z	Vc	fz	S	R	Type	Coolant Type	P	T	Comme
122	1.0570 *	5	40	80	7	226.2	0.08	900	504	Roughing	2 On	5	0	recom
311	1.1545 *	5	40	80	7	158	0.168	629	740	Roughing	2 On	0	0	
712	3.0506 *	5	40	80	7	702	0.203	2793	3969	Roughing	2 On	0	0	

ap	ae	D	z	Vc	fz	S	F	P(kW)	T(Min)
5	40	80	7	226.2	0.08	900	504	5	0

122 General structural steel *unalloyed more than 500 N/mm²

Roughing 2 On

Comments: recommendation SECO

OK Cancel Abort

If you click on "Cancel" it will not transfer any cutting conditions with the tool. "Abort" will stop the entire tool data transaction to Edgecam.

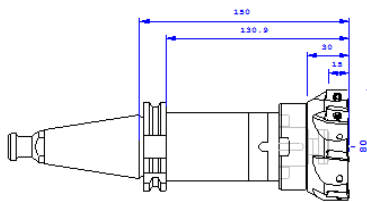
If no Edgecam tool type has been previously assigned to the selected *WinTool* classification, you must do it now. This will map the *WinTool* classification to the Edgecam tool type. Select the correct Edgecam tool type from the selection list.

Select Style:

The current tool doesn't have a valid ToolStyle assigned. Please select one from the List below.

616092 end mill edging R220.69 80mm

Center Drill
Spot Drill
Drill
Right Hand Tap
Left Hand Tap
Reamer
Bore
Counter Bore
Counter Sink
End Mill
Sphere Mill
Chamfer Mill
Face Mill
Slot Mill
Roughing Mill



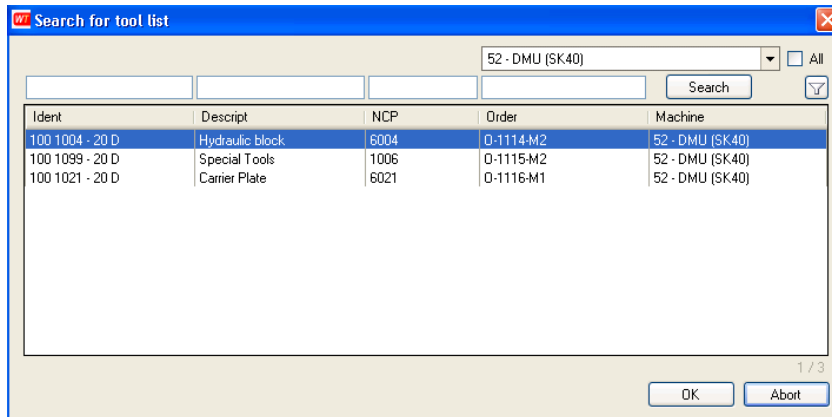
☐ Store in assigned Tool Class

OK Cancel Abort

If you select "Ignore" to assign to a tool classification, the tool assemblies in this classification will not be transferred at all. This is useful for data that must not be transferred to Edgecam, e.g. measuring equipment.

In most cases it makes sense to assign the mapping permanently to a tool classification. Then you must also check the box "Store in assigned Tool Class" (recommended).

To import a tool list select the list function, mark the list in the window below and hit <OK>:




Tool Path Verification

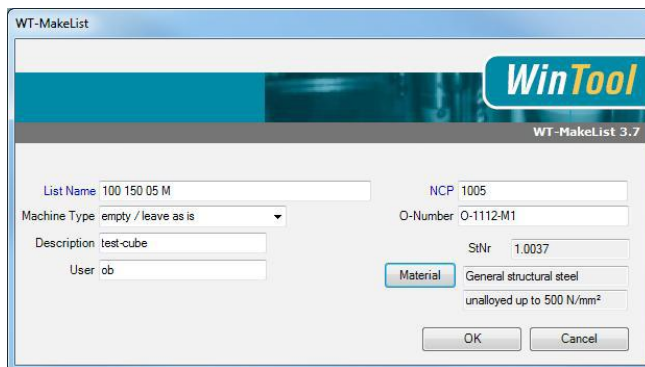
For “material removal simulation” the tool geometry parameters of the cutters will be transferred from *WinTool* to Edgecam. This allows Edgecam to calculate the material removal.

For “collision simulation” the WT-Edgecam-Interface creates and imports a 3D tool representation. For rotating tools *WinTool* creates a tool contour with the Shape-Generator and imports it to Edgecam (*WinTool* supports also manually created contours). For non-rotating tools *WinTool* assembles STL-components to a STL-tool assembly and imports it to Edgecam.

Export Tool List to WinTool

Once a NC-Program has been finished in Edgecam, the list of all the tools used in the NC code must be stored back to *WinTool* so that the job can be further processed in G-Code verification, production planning, purchasing, storage, presetting, and machining.

Use the function  to create a tool list of the tools that have been used in the Edgecam sequence. The following window will open:



Note: Only tools that are used in the Edgecam sequence (NC program) will be considered in the *WinTool* tool list. An already existing tool list with the same name will be overwritten. The sequence of the assemblies in the tool list will be the same as the sequence of the operations in the Edgecam operations manager.

Select OK to store the information in the *WinTool* database.

Preparing Tool Data in WinTool

Before starting to record your tool data in *WinTool*, read the following chapter carefully! The interface software can only work if the data has been entered fully and correctly.

For the WT-Edgecam-Interface to work properly *WinTool* component and assembly data must be recorded correctly. *WinTool* resellers offer training courses to make sure that you are building a high-quality tool database that is fit for engineering requirements.

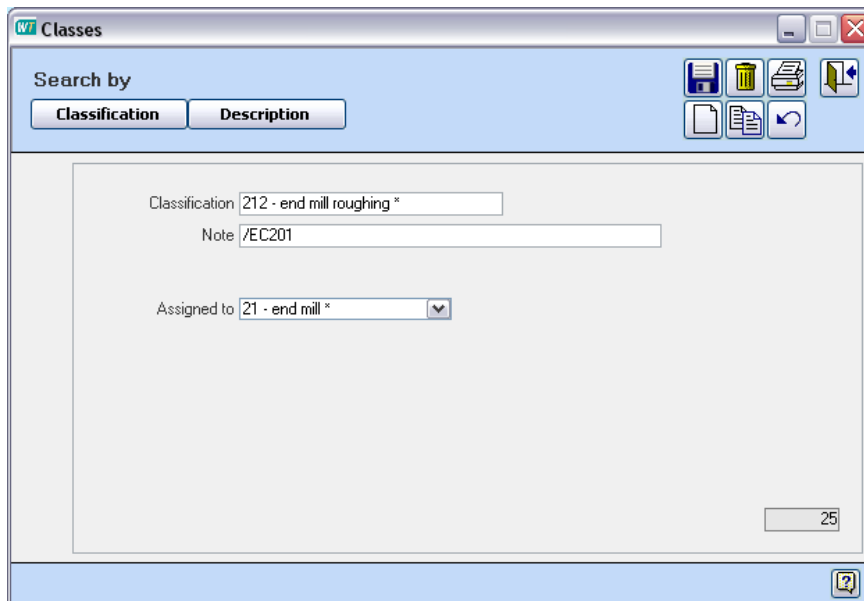
However, the following points are prerequisite for the WT-Edgecam-Interface to work and will be described in detail in the chapters below:

- Each *WinTool* classification must be assigned to the corresponding Edgecam tool type.
- Each tool assembly must be linked to a *WinTool* Machine Type.
- Each tool assembly must have a "namegiving" component.
- The tool geometry must be recorded in *WinTool* with the correct Tool Type and Outline (for details please refer to the *WinTool* Professional documentation)

User Classification

Each tool classification in *WinTool* must be assign to the corresponding Edgecam tool type. In *WinTool* select Settings > Class, then select a classification. In the data field "Note" you can assign the corresponding Edgecam tool type.

For the classification "212 - end mill roughing" assign the tool type /EC201.



Edgecam tool types are listed in the Annex of this manual.

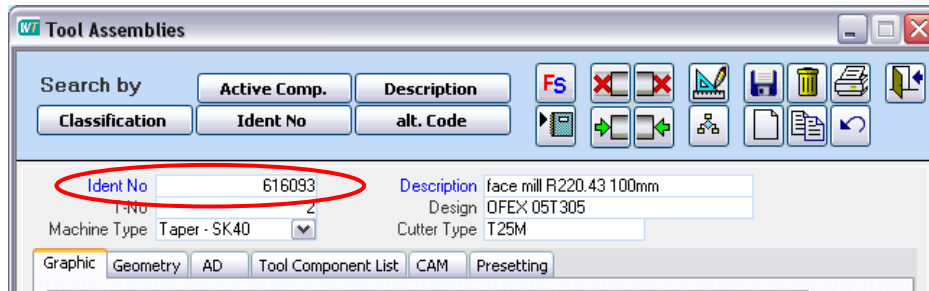
Machine Types

In order to create tool assemblies in *WinTool* you must record Machine Types in *WinTool*. Record for each machine adapter type (CAT40, HSK63A, Capto etc.) a Machine Type in *WinTool* (see *WinTool* Help).

Note: Tool assemblies must be assigned to a *WinTool* Machine Type or they cannot be imported in Edgecam.

Tool ID and Name

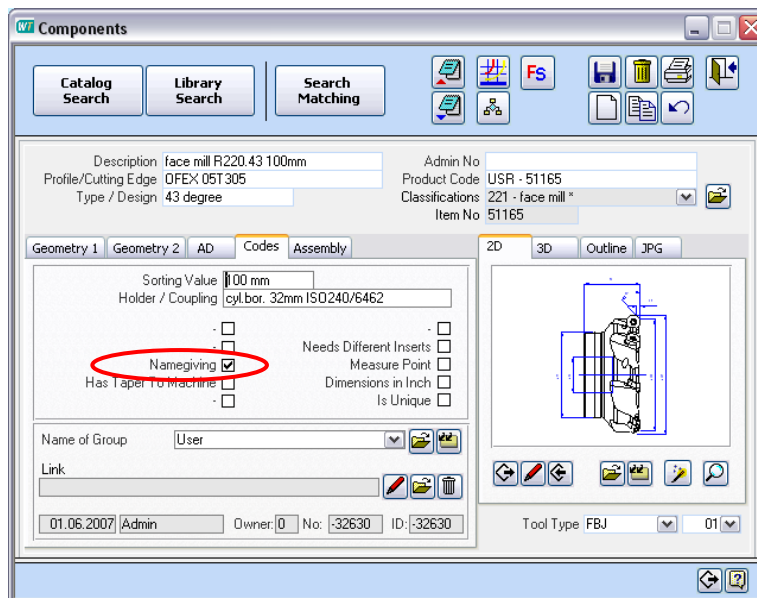
Each tool assembly record in *WinTool* gets a unique numeric Ident No assigned.



Each *WinTool* tool gets a unique tool name during Edgecam import. The tool name is a combination of the *WinTool* Ident No and the Description. Example:

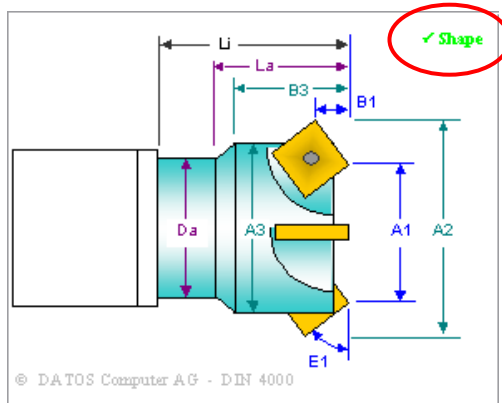
616093 face mill R220.43 100mm

Note: During import to Edgecam the tool assembly data is generated from its *WinTool* component data. One of the components must be marked as “Namegiving” or *WinTool* cannot assign a name to the tool assembly in Edgecam and import it.

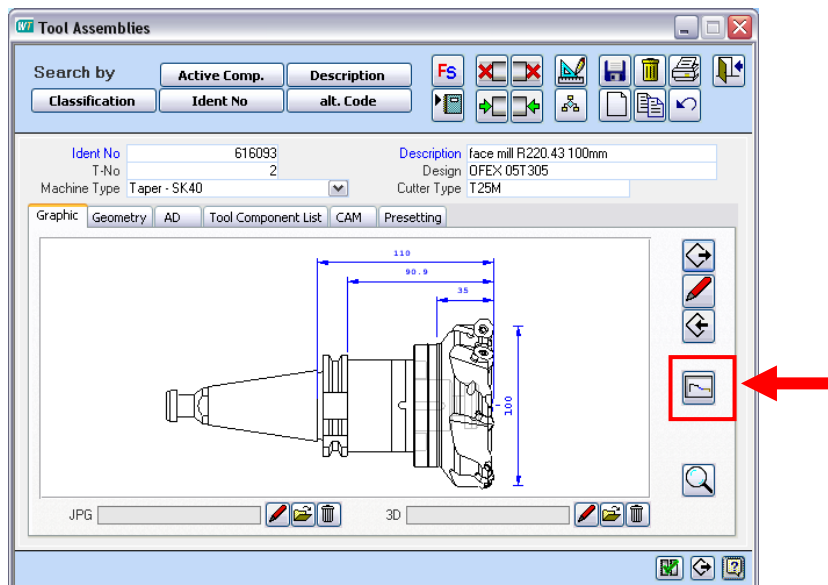


Regular Tools

WinTool considers “Regular Tools” - as opposed to “Special Tools” - all tools that have a Outline and are supported by the Shape-Generator (See also *WinTool* Shape-Generator Manual for details):



According to these Outlines the tool geometry must be filled in in *WinTool* completely. Only then assemblies can get transferred to Edgecam correctly. You can verify the tool contour directly in *WinTool*:



Special Tools

If a contour of a tool assembly or a STL model cannot be 100% automatically processed by *WinTool* it is considered a “Special Tool”.

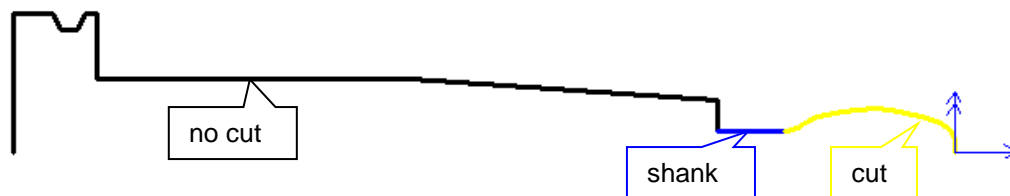
Managing Special Tools

Special tool graphics/models must be stored in your *UserModels* directory and they must have the *WinTool* tool assembly Ident No as the name (eg. 616099.dxf or 616099.stl). Then the WT-Edgecam Interface will find the model during tool data import and transfer the model as well.

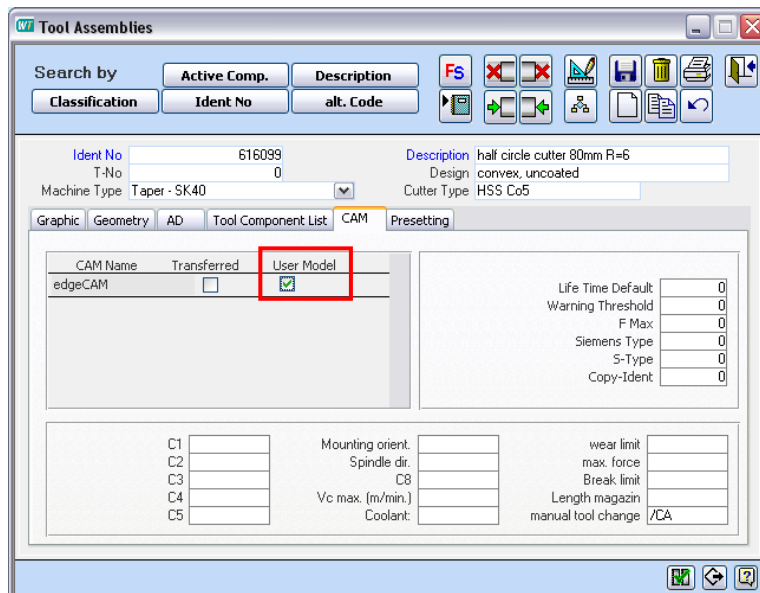
Special Tool Contour DXF

If you have a special tool - and cannot find a suited Outline in *WinTool* - then you need to create a special contour manually. However, the following works only for special *tool holders* for collision check, but not for *special form cutters* for material removal simulation.

In order to create a special contour use first the *WinTool* Shape-Generator to create a contour close enough to your special tool. Then customize the contour with *WinVector* or *Edgecam*. You must use the layers CUT, NOCUT, and SHANK:



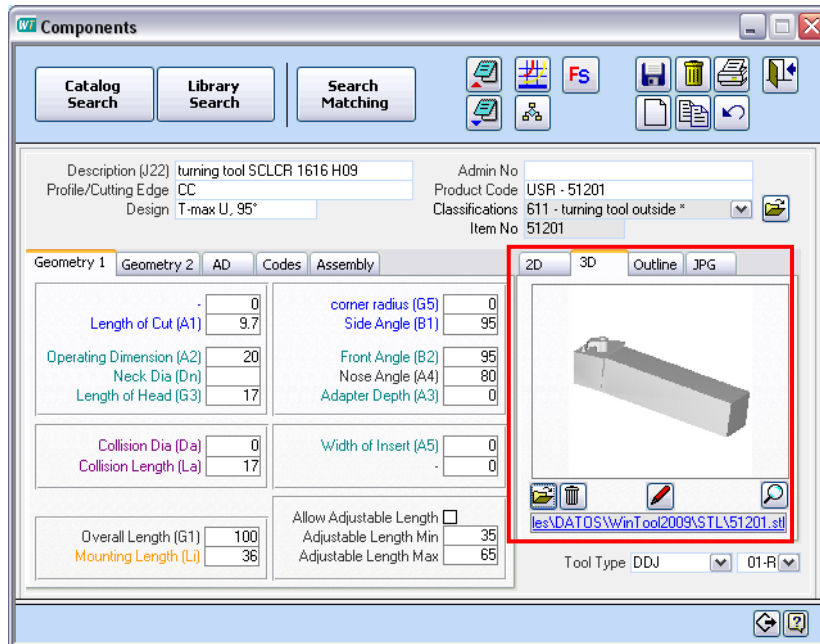
Save the DXF-Contour in your *UserModels* directory with the Ident No as the file name (see chapter above). Then you must set the User Model flag in the *WinTool* tool assembly window:



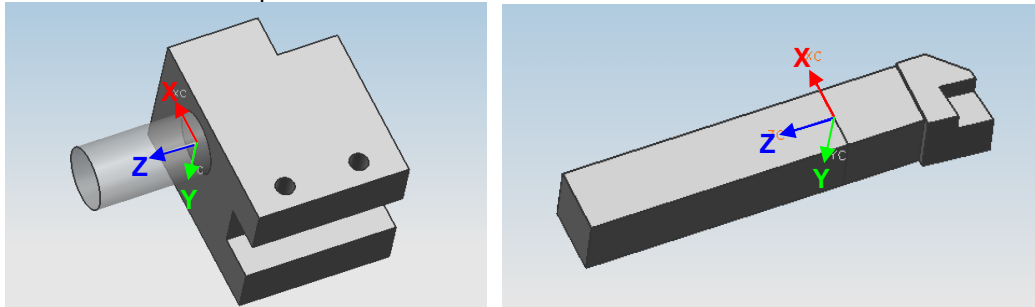
Note: If the User Model flag is active the *WinTool*/Edgecam-Interface will not run the Shape-Generator to produce the contour file, instead it will import the customized file available in the *UserModels* directory with the same Ident No as name.

STL Tool Models

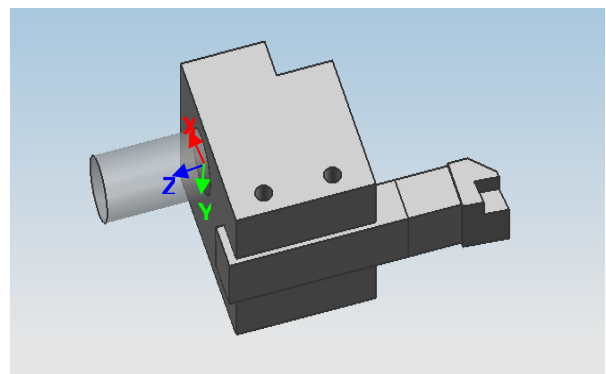
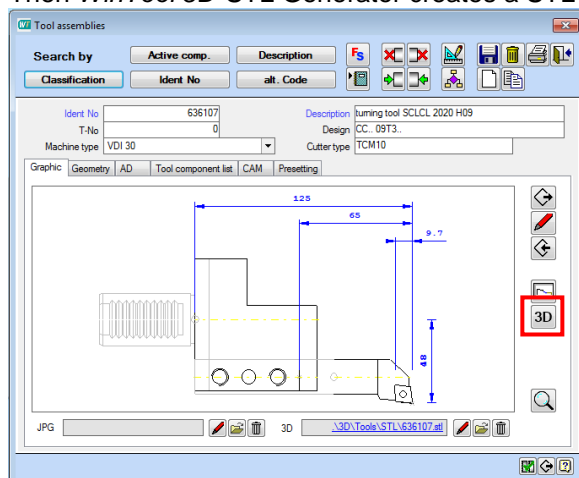
STL tool component models can be linked in the *WinTool* component window. The file name must be the same as the Item No.



The scaling must be 1:1, metric or imperial according to the *WinTool* tool component settings, and the orientation of the STL component models must be as follows:



Then *WinTool* 3D-STL Generator creates a STL tool assembly from the component STLs automatically:



Note: The STL tool assembly must not include the inserts. The STL serves only for collision checks. For material removal simulation Edgecam will use cutter geometry parameters.

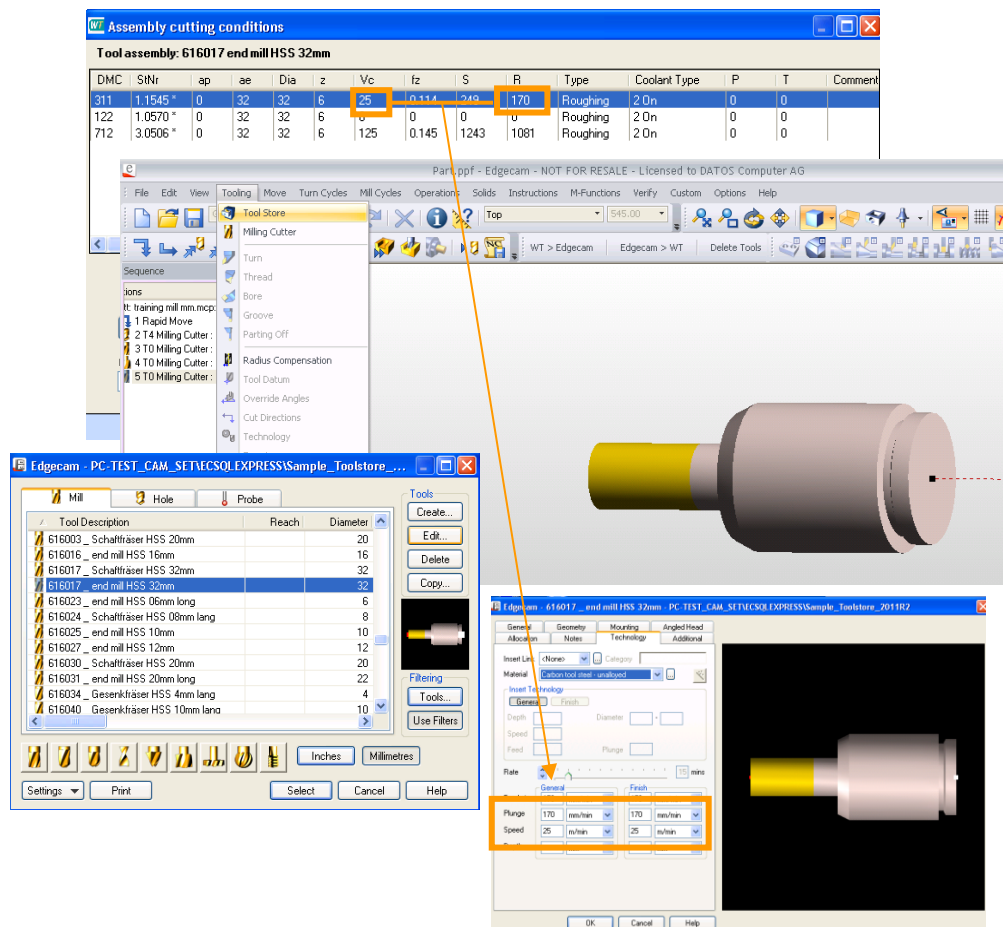
Save the STL model in your **UserModels** directory with the Ident No as the file name (see chapter above).

The WT-Edgecam-Interface imports *WinTool* STL models, scales them according to the Edgecam project settings (inch or metric) and positions them according to the Edgecam design (rotation of z-axis).

Cutting Conditions

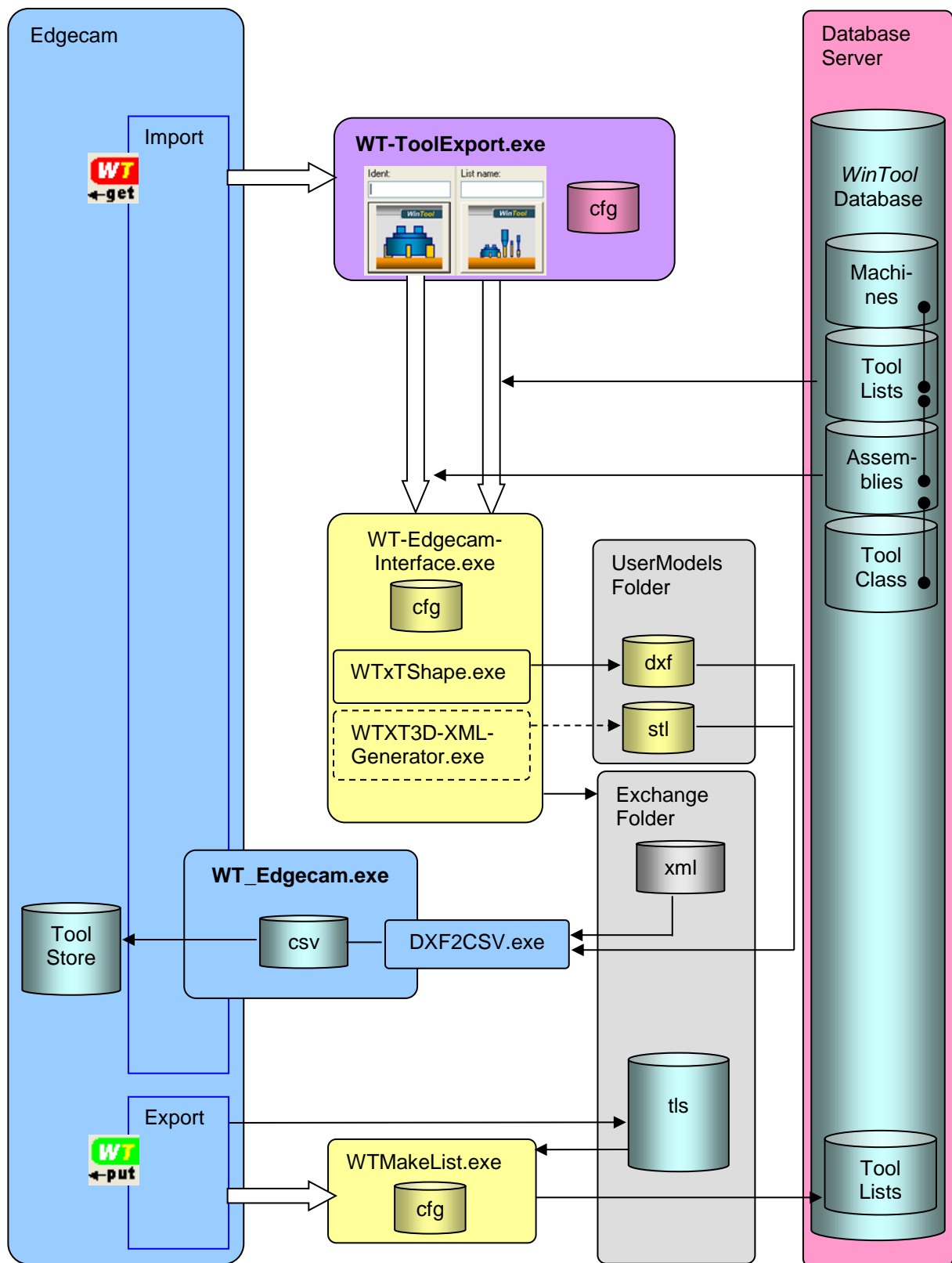
Cutting conditions stored with a *WinTool* tool assembly are transferred automatically to the Edgecam Tool Store.

You can select a cutting condition during the data import if the setting **SelectCutData** has been enabled (see Configurations).



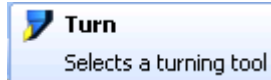
Note: Currently the WT-Edgecam Interface imports all cutting value if multiple values have been stored and **SelectCutData** has been disabled.

Software Structure



Annex

Edgecam Tool Types



Edgecam-Suffix	Edgecam Tool Type	WT-Edgecam Interface Support
201	Endmill	yes
202	Bullnose	yes
203	Tap	yes
204	Drill	yes
205	Taper	yes
206	Turn	yes
207	Bore	yes
208	Groove	yes
209	Thread	yes
206	Turn	yes
210	Parting Off	yes
211	T-Slot	yes
212	Lollipop	yes
213	Ballnose	yes
214	SlotDrill	yes
215	Facemill	yes
216	Ream	yes
217	HoleBore	yes
218	Countersink	yes
219	CentreDrill	yes
220	SpotDrill	yes
221	BackBore	yes

WinTool specific type:

00	Ignore	-
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History

4.3

- ✓ Compatible with Edgecam 2012 R2, 2013 R1/R2 and 2014 R1 with Service Update 3
- ✓ Compatible with *WinTool* 2011 – 2014
- ✓ Separated program files and user data
- ✓ Included newest version of WT-MakeList (see detailed changes in WT-MakeList manual)
- ✓ Included newest version of WT-ToolExport:
 - Saving selection state of "preferred only" filter
 - Improved readability with high DPI settings
 - Compatible with *WinTool* 2014
- ✓ Single tool assembly import: Transferring ident-no for t-no if "T-No=Ident No" is activated in the machine type

4.2.3

- ✓ Included newest version of WT-MakeList due to issue with SQL Server

4.2.2

- ✓ Compatible with Edgecam 2013 R1/R2
- ✓ Compatible with *WinTool* 2013, 2012 and 2011
- ✓ Included newest versions of WT-ToolExport and WT-MakeList module
- ✓ Removed error message after import of tool list
- ✓ WT-ToolExport:
 - Resizable search windows

4.2

- ✓ Compatible with Edgecam 2013
- ✓ Compatible with *WinTool* 2012 incl. new Shape-Generator (Non-cutting Dia)
- ✓ Brackets in tool name will be removed now
- ✓ "Through Coolant" Flag gets imported
- ✓ CLEAR function is configurable (on/off)
- ✓ Support of STL models with standard *WinTool*/Vericut axis orientation
- ✓ Removed error message when aborting import operation
- ✓ Tool selection window size is adjustable now
- ✓ Z gauge correctly imported for INCH tools

4.1

- ✓ Compatible with *WinTool* 2011
- ✓ Inch tool assemblies are imported correctly
- ✓ Tool assembly description is now Tools.Nr instead of Tools.Nr + "_" + Descript
- ✓ Importing D and H values of tool assemblies from tool lists
- ✓ Added tool type "Ignore" (/EC00) for tool assemblies that must be ignored on transfer
- ✓ Improved error handling
- ✓ Included newest versions of WT-ToolExport and WT-MakeList module
- ✓ WT-ToolExport:
 - Start-up time with large databases is quicker
 - Selected work material and coolant type are displayed
 - "Current dataset"/"Total datasets" is now displayed above the tool/list/ table

4.0

- ✓ Simplified setup procedure
- ✓ New licensing method (all updates require a new license file)

- ✓ Using *WinTool* XML exported file standard (WT-CAM-InterfaceApp v1.1)
- ✓ Support / data transfer to Edgecam Tool Store
- ✓ All the calculations are done in program (and no more in the PCI files)
- ✓ Management of multiple cutting conditions per tool
- ✓ Function to delete tools in the active Edgecam database (Tool Store)
- ✓ Tool assembly selection window with improved tool data display
- ✓ New tool assembly search filters (release state, combo box)
- ✓ Enhanced MakeList module (V.3.8)
- ✓ Fix STL position in grooving tools
- ✓ Fix STL size for some thread tools
- ✓ Revision of manual

2.3.4

- ✓ Possibility to create a turning Tool without STL file

2.3.3

- ✓ Different colors for importing Tools

2.3.2

- ✓ Possibility to import up to 300 tools from one tool list

2.3.1

- ✓ Added fields SumArcInfluenceZ, InscribedCircle and InsertThickness for turning tools

2.3

- ✓ Endmills with tip angle=0 are imported correctly
- ✓ Possibility to specify a cutting condition for a tool assembly during transfer
- ✓ User is asked which Edgecam tool type belongs to a tool assembly during transfer, if it is not correct or missing
- ✓ Order of tool assemblies in Edgecam is preserved when they are transferred back into a tool list in *WinTool*
- ✓ Tool assembly length is transferred to Z Gauge field in Edgecam
- ✓ User models are not deleted when new a tool list is created
- ✓ Using correct character-set to support Umlauts (ä,ö,ü...)

2.2

- ✓ STL supported

2.1.2

- ✓ Turning Tools supported
- ✓ Error handling for when no isCutter and no isNameGiving component in tool
- ✓ Default export / support of Tool Lists

Tested with *WinTool* Demo Database

Milling

616103	spot drill	204
616141	center drill	219
616021	end mill finishing	201
616090	face mill	215
616089	face mill	215
616096	square shoulder cutter	201
616088	chamfer mill	201
616102	disc mill	205
616001	tap metric	203
616057	tap metric blind hole	203
616140	thread mill	203
616138	reamer cylindrical	216
616143	countersink	201

Turning

636104	turning tool outside	206
636106	turning tool outside	206
636107	turning tool outside	206
636109	turning tool inside	206
636111	turning tool outside	206
636112	turning tool outside	206
636118	turning tool outside	206
636120	turning tool outside	206