Macros Demo Examples description

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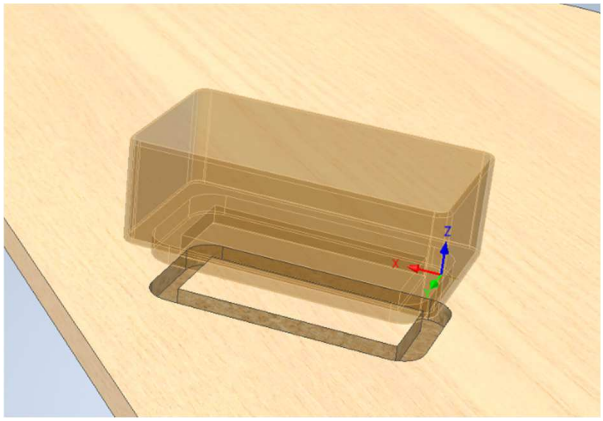
All examples given are compiled for WoodWOP v6.1 Homag Group AG CAM and higher CAM systems. It is assumed that the user has mastered the Woodwork for Inventor system and is familiar with the preparation of CNC programs for woodwork processing. If you want to check what the final generated MPR programs in Woodwop format look like, we recommend that you have a trial or commercial version of the Woodwop program installed on your computer. You can easily find this program on the company Homag website. Before starting to examine the given examples, it is necessary to transfer the entire directory "W4INV Macros" from the directory “<Installed Drive>:\W4INV <Autodesk Inventor version> Design\PROJECTS\Samples\Macro Demo" to the storage location of Woodwop CAM macros. In a standard installation, it is located in the C:\MACHINE1\Control\c1\data\cnc\ml4" directory. This directory contains all Woodwop MPR macros used in presented demo examples.

Briefly about each example.

1 Parameter usage

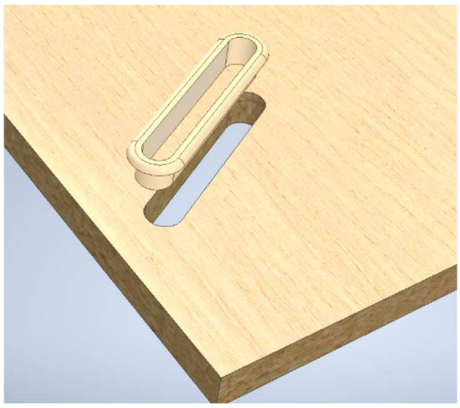
The given component forms the standard Woodwop Macro "Vertical pocket trimming" in the cut part. This example The JS program demonstrates how it is possible to use part sizes parameters in order to define „Vertical pocket trimming“ function LA(Length) and BR(Width) parameters. The sizes of cutting the component can be set by iLogic form "Specify Pencil Try Sizes". This component does not require additional Woodwop Macro.

2 Ways of Macro rotation definition



. The “Table top pencil case.ipt” component carries a program that generates a WoodWOP MPR program that processes the necessary recess for mounting the Table top pencil case in the part of furniture. The program demonstrates how it is possible to utilize rotation angle of component. In the first way Macro rotation angle can be defined as a parameter interpreted by the Woodwop Macro program. Another way when rotation is realized is by creating a correspondingly rotated workplane (level in Woodwop terms) and placing a Macro in it. Such Macro does not have an angle interpretation inside. Two JS Macros are provided which produces same result but in different way. One of them passes angle parameter to Woodwop Macro “Rectangle cut by angle.mpr” other one creates rotated plane (level) and then places Macro “Rectangle cut.mpr“ on this plane.

3 Alternate Side processing definition.



The “Aisle.ipt” component carries a JS program that generates a WoodWOP MPR program that processes the necessary recess for mounting the Aisle in the part of furniture. The Size of component can be controlled by changing model states of Aisle part. The program demonstrates the case when the cutting component carries alternative side processing. If the event that the machining of the opening can be performed from either side of the part, the component may carry alternative machining from the other side. This avoids the need to build a second clamping of the part if there are technological operations on the other side. The opening processing uses “Dive.mpr”.

Here you will also find the “iAisle.ipt” component, which is implemented as an iPart component. However, it should be noted that iComponents cannot be used with an Alternate Side Machining Description, as

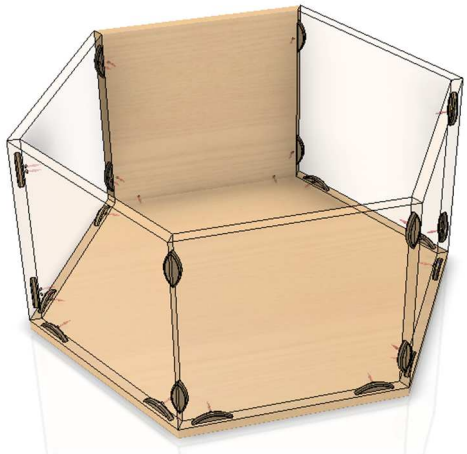
iComponents cannot define the additional UCS required to define an Alternate Side Machining. Only the Origin coordinate system can be used in such components.

“iLogic Aisle.ipt” demonstrates a case where a simple part (without model states) can be used as a cutting component. However, when using it, each time such a component must be inserted as an iLogic component. After it, the Hardware Attachment command can be applied to it to arrange it in the furniture model. Then Each component can then be modified by changing its parameters in part Edit mode.

4 Ventilation Grill

“Ventilation grill.ipt” component carries a program that generates a WoodWOP component (macro) “edge_cutting.mpr” call in the final MPR program that processes the necessary recesses for mounting the Ventilation Grill in the part of furniture. The recess processing uses “edge_cutting.mpr”. You can find a video demonstrating the processing of the component in the "Corner Sharpening Video" directory. The example demonstrates how it is possible to attach several same Macros to one cutting component, only they are linked to different UCSs created in the component. This means that in the final Woodwop MPR program, the same Macro is called in different positions and is oriented differently.

5 ClamexTest Box



The example creates the recess machining required to mount the Lamello Clamex component. The component itself that carries this processing is designed as a Smart Hardware component and you will find it there “<Install drive>:\W4INV <Autodesk Inventor version> Design\SMART HARDWARE\Lamello Clamex P-14 Joint.iam”. In the example is demonstrated how the Macros origin coordinates system data is converted

to an MPR level definition. MPR Level essentially means the definition of any spatially oriented coordinate system inside Woodwop. This conversion required the creation of a special conversion function. How such a function looks and how it is used in JS Macro can be seen in the given example. The recess processing uses MPR macro “Lamello_Saw_Processing.mpr”.

Additional preparation are required for the Clamex P-14 Connector.iam component to work successfully:

1. Import a saw tool definition into the Woodwop tool database. The definition is in the "Lamello Clamex P-14 Tool Definition Data for Woodwop Tool DB.tld" file. It you will find in “<Install drive>:\W4INV <Autodesk Inventor version> Design\LIBRARY\Fixed joints\Lamello Clamex P-14” directory. If the user uses another saw control aggregate specified in the given example, then the user must adjust the contents of the WoodWOP component "Lamello_Saw_Processing.mpr" accordingly by specifying another tool.

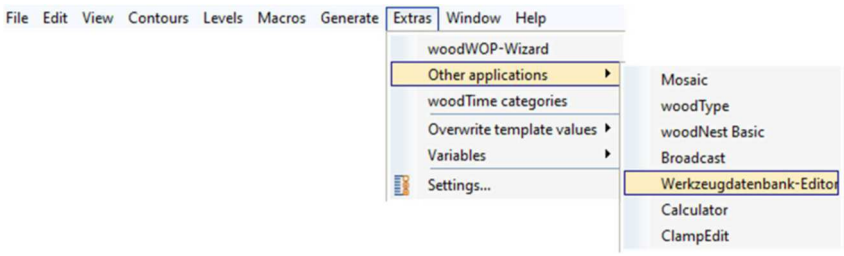


Figure 1 The way how to reach Tool database in Woodwop

2. After Woodwop Tool Database editor is open import the tool data.

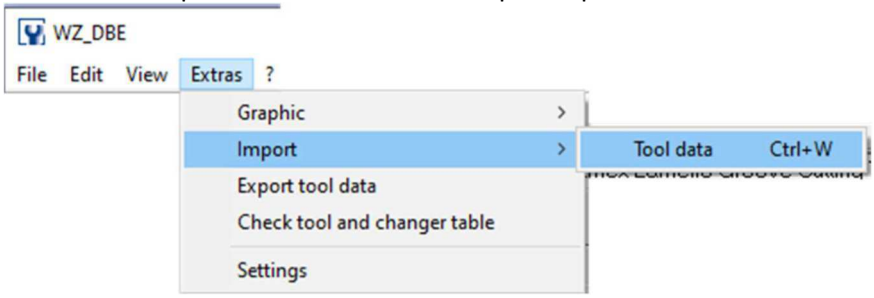
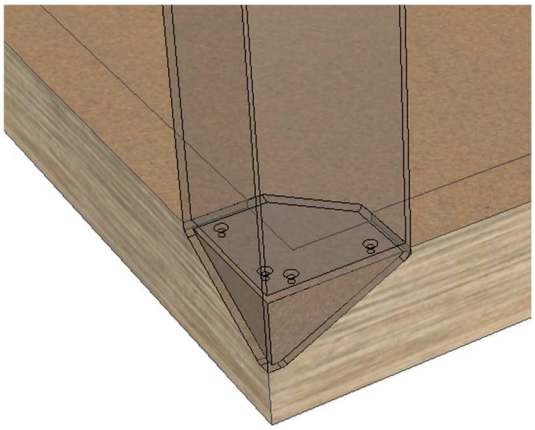


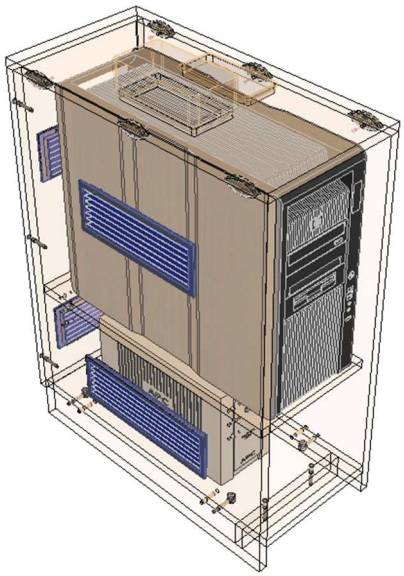
Figure 2 The way how to import tool data in Woodwop tool database editor

6 Actiu Table



The example demonstrates the recess machining required for the specific attachment of the table leg to the tabletop. It can be seen how the MPR Macro carrying complex, multi-tool machining can be called upon to interpret the variously oriented and spatially positioned cutting component "Leg of table.ipt". Also here, the possibility to change the parameters of "Leg of Table.ipt" and transfer them to the final MPR macro "Recess processing for Leg.mpr" is used. In this way, the final part shape can be controlled by changing the component’s parameters.

7 Computer Case



This example is an example of testing. In it, various components listed above are applied to one product.