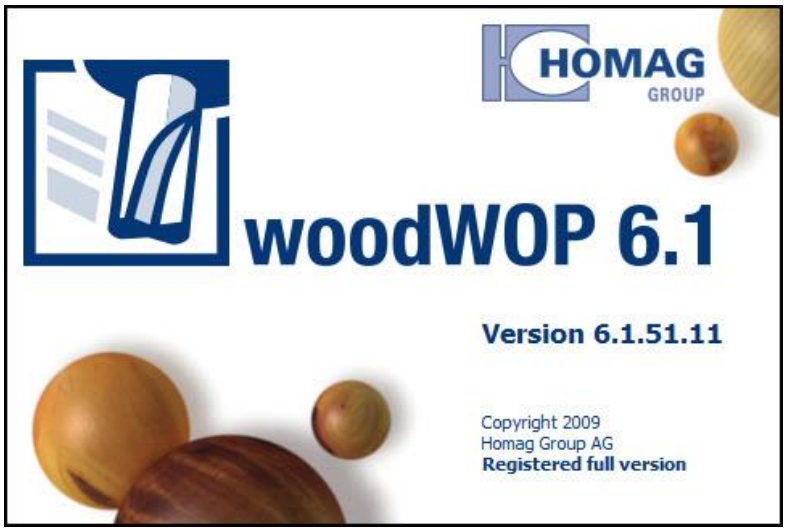
TopSolid Wood

Machining export

WoodWop



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Version 6.15 Rev.01

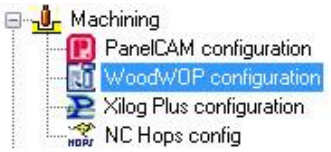
Note: If you are experiencing problems using this training guide, please feel free to send your feedback and comments at edition@topsolid.com.

Contents

Introduction

WoodWop is machining software which allows programing Homag Group numerical command.
The interface sends parts drawn in TopSolid'Wood in WoodWop with machining definition. TopSolid'Wood creates automatically an .mpr file (WoodWop format) directly readable in WoodWop.

TopSolid'Wood Configuration



- The WoodWop export general configuration is in **Tools > Options > TopSolid'Wood Configuration > Machining > WoodWop Configuration.**

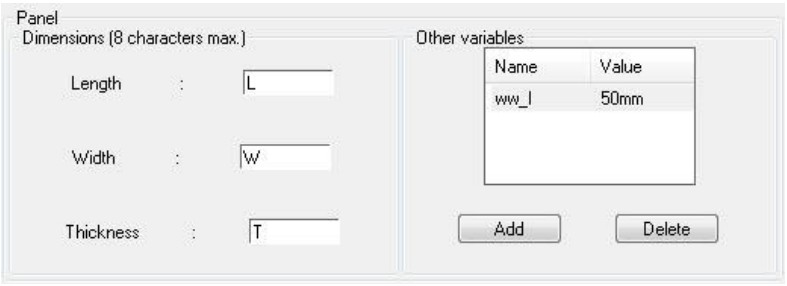
Variable and export format configuration

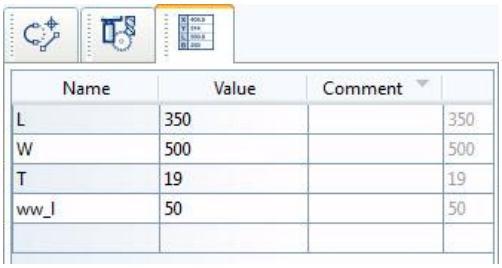
- The part **WoodWop version** allows choosing to export the **MPR** files for **WoodWop 4** or **WoodWop 5.**
  To find it, start WoodWop and go in the menu **Help > Info.**

- The part **Machine** allows configuring the machine type used in **WoodWop.**

Note : A specific machine choice allows modifying many points of the exported file format to match to the machine used in **WoodWop.**

- The section **Panel** allows configuring the exported variables in **WoodWop:**
  - The **Dimensions** section allows ruling the name of the 3 part's dimensions variables. The 3 dimensions (length, width and thickness) of all exported parts able to be modified in WoodWop with these variables.
  - The table **Other variables** allows you to define additional variables. Click on **Add** to add a new variable and on **Delete** to delete a variable after clicking on the corresponding line. To modify a variable name or his default value, double-click on the corresponding case and validate the new value with enter.





Remarque : The informed variable in the table **Other variables** are not usable in TopSolid'Wood. They are just exported in WoodWop to avoid, when you modify or create a machining in WoodWop, to have to create in each file the usually used variable.
The 3 dimensions variables exported in WoodWop do vary only the part's dimensions. The machining positioning dimensions don't vary with the dimensions variables.

- Define the default folder to save the exported files.

Note : If no save path is define, the files will be save by default in the **TopSolid'Wood** project folder.
To paste a copied address from the explorer, use the shortcut **Ctrl + v.**

Default machining options configuration

WoodWop integrate some advance machining options to program his numerical command. To minimize the machining file manual modification, TopSolid'Wood exports the main machining information from the configuration settings. In the instance of the machining settings are not good for some parts, this information can be modified manually in WoodWop.

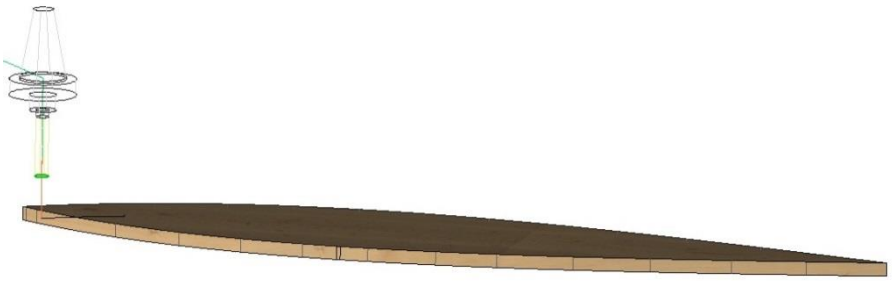
Calibration entry and exit mode

The tool's way to enter and to exit the part's calibration can be rules here.

- **Tangent mode:** The tools enter/exit in calibration trajectory tangentially.

- **Radial mode:** The tools enter/exit in calibration trajectory perpendicularly.

- **Vertical mode:** The tools enter/exit in calibration trajectory vertically (on tools axis).

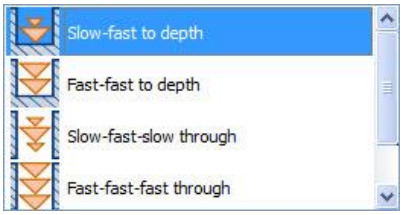


Drilling settings

- **Maximum diameter.** This rule allows defining a maximum drilling diameter to machining.
  If the drilling diameter is strictly greater than this setting value (in millimeters), the drilling is not exported to WoodWop.

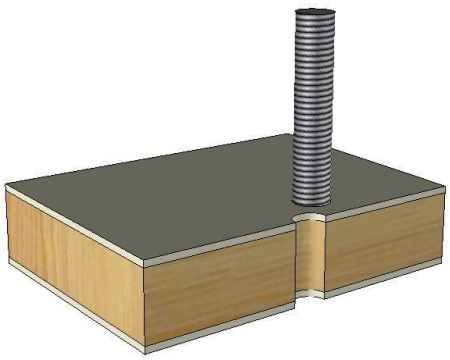
- **Blind: Slow-quick** or **Quick-quick.**

These settings change the machining drilling speed. In Slow-quick mode, the drill will entry more slowly in the part and will go quickly in the matter.



- **Trough: Slow-quick-slow** or **Quick-quick-quick.**

Like the previous setting, in **Slow-quick-slow** mode the drill will enter and exit more slowly in the part.



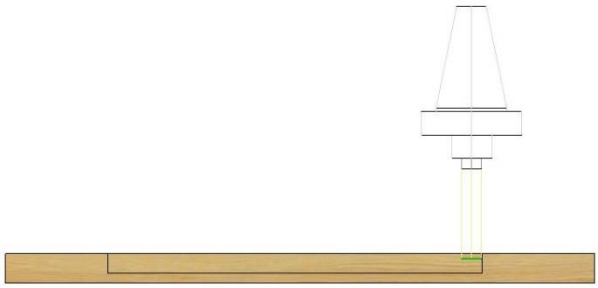
Milling entry and exit mode

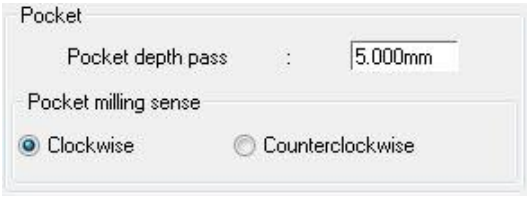
- As the calibration entry and exit mode, it's possible to rule here the entry and exit mode for milling: tangent, radial or vertical.

Pocket export settings

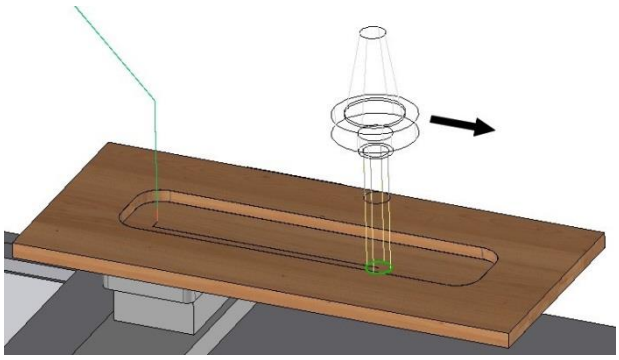
This rule allows configuring the exported pockets.

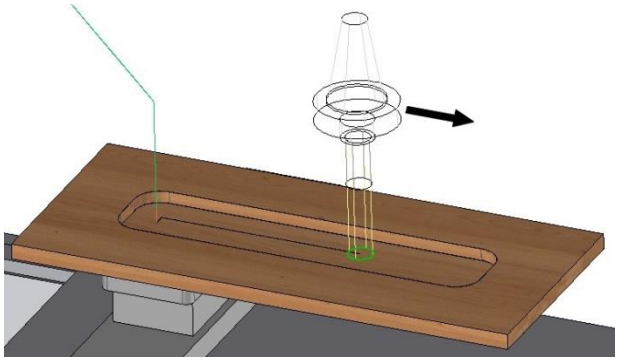
- **Pocket depth pass:** tool maximum depth pass for pocket machining.





- **Pocket milling sense:** allows ruling the wished pocket machining sense. It's useful to know if you want to work in swallowing sense or in opposition sense with the tool rotation sense.





Remark : After the pocket milling sense changing, please restart TopSolid'Wood to use the modifications.

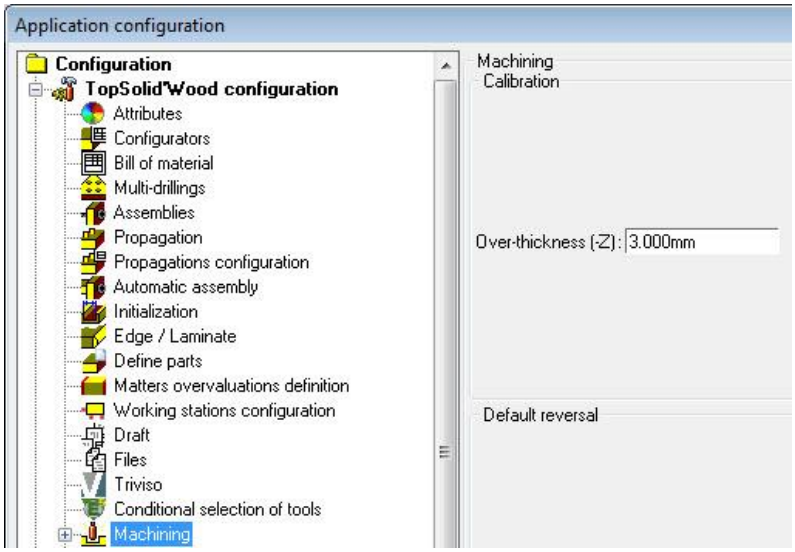
Decimals and tolerance settings

- **Decimals:** the decimals number corresponds to the exported digits number after the decimal point. Here for a **Number of decimals** of 3, a drilling depth of 10.1234mm will be exported in WoodWop as 10.123mm.
- **Tolerance: Tolerance de discretization:** Tolerance of discretization corresponds to the fineness used to export machining geometry, like the circle and the splines. More this tolerance is smaller, more the exported geometry will approach that traced, but more the computing time will be bigger. The value 2^{e}-007 (2x10^-7) (value in meters) is the fluently used average value, because it's a good compromise between precision and computing time.

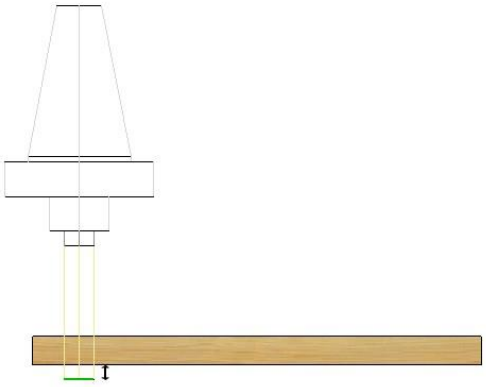
Tool calibration over-thickness value

It's possible to export to WoodWop an over-thickness value for calibration machining. This value corresponds to the tool's exceeding value over the part.

- This default value is adjustable in **Tools > Options > TopSolid'Wood Configuration > Machining > Over-thickness (-Z).**



Note : The default value can be modified at each export in the parts selection window.



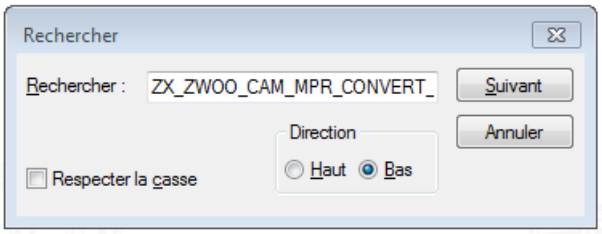
Export configuration with the configuration keywords

The configuration keywords allows configuring some export parameters less common than the settings in **Tools > Options > TopSolid'Wood configuration.**
To modify/add configuration words:

- Open with the notepad (or another text editor) the file **topzwoo.cfg** located in the folder : **Missler\Config\V6x\topzwoo.cfg.**

Note : In the case of a group configuration, open the file **Missler\Group\V6x\topzwoo.cfg.** In this file, copy and paste the configuration keywords with the rules value separated by a tabulation.

- Before pasting a configuration keyword, verify if it does not already exist with the **research** function (**Ctrl + F).**

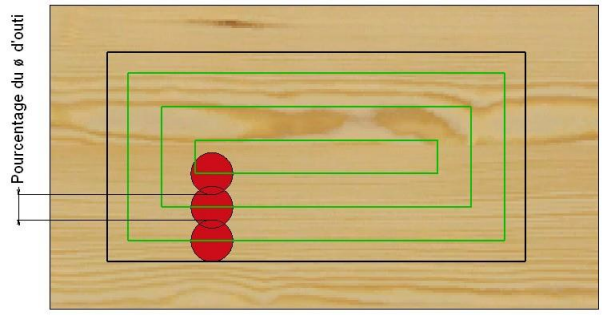


General keywords

Configuration keyword	*Value*	*Effect*
ZX_ZWOO_CAM_NO_CALIBRATION	1	Allows to automatically deactivate the part's calibration when the over dimensions values are in **abacus** or **edge shape** mode.
	0 (default value).	The part's calibration is always exported.
ZX_ZWOO_CAM_CALIBRATION_CHANGE_ORIGIN	1	The part's calibration starting point will be on a middle of a segment.
	0 (default value).	The part's calibration starting point will be on an endpoint of a segment.
ZX_ZWOO_CAM_GROUP_DRILLS	1 (default value).	Allows grouping the drillings during export.
	0	Allows don't grouping the drillings during export.
D_SH_OP_POC_USE_MAC_PROPERTY	1	Allows correctly export the machining superposition with pockets.
	0 (default value)	
ZX_ZWOO_CAM_REMOVE_FACING_HOLE	1	Allows don't exporting the through drilling of a lamed drilling.
	0	The lamed drilling and the through drilling are exported.

ZX_ZWOO_CAM_THROUGH_DRILL_IN_FIRST_FILE	0 (default value)	The through drillings are exported one their reference face.
	1	In **'Two machining files if necessary',** the through drillings are exported in the first machining file.
ZX_ZWOO_CAM_THROUGH_DRILL_ABOVE_ONE_FILE	1 (default value)	In **'One machining file'**, the through drillings are exported on the top face.
	0	The through drillings are exported one their reference face.
ZX_ZWOO_CAM_THROUGH_POC_ABOVE	1 (default value)	Allows exporting the through pockets on the top face.
	0	The through pockets are exported on their reference face.
ZX_ZWOO_CAM_MPR_THROUGH_POC_TO_MILL	1 (default value)	The through pockets are exported as milling. So just the pocket contour will be machining.
	0	A through pocket is export as a pocket. All the matter will be machining.
ZX_ZWOO_CAM_MPR_INSIDE_SAWING_TO_MILL	1	Allows exporting the closed trimming compute inside a part as milling.
	0	The closed trimming compute inside a part are not exported.
ZX_ZWOO_CAM_MPR_MILL_CHANGE_ORIGIN	1	The part inside milling starting point will be on a middle of a segment.
	0 (default value)	The part inside milling starting point will be on an endpoint of a segment.
ZX_ZWOO_CAM_DRILL_DEPTH_WITHOUT_TIP	0 (default value)	Allows exporting the drilling depth without tip.
	1	The drilling depth with tip is exported.

Interface specifics configurations words

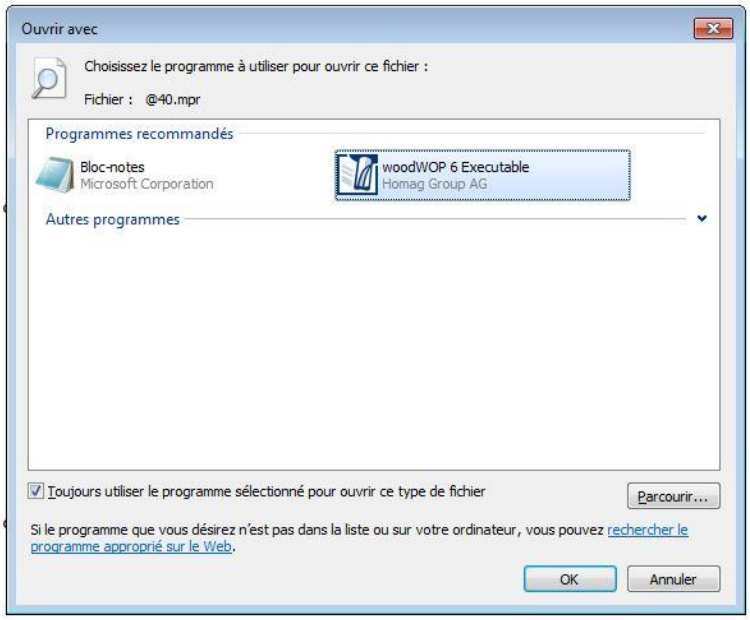
Configuration keyword	*Value*	*Effect*
ZX_ZWOO_CAM_MPR_MILL_TOOL_NAME	In default 101.	Default tool number assigned to the milling/moulding/groove/calibration with router.
ZX_ZWOO_CAM_MPR_SLOT_TOOL_NAME	In default 101.	Default tool number assigned to groove and rabbet with saw.
ZX_ZWOO_CAM_MPR_HORIZONTAL_MILL_TOOL_NAME		
ZX_ZWOO_CAM_MPR_THROUGH_POC_ADVANCE	Percent value. In default 80%.	This value corresponds to the tool diameter percent used for this pocket. At each machining passage, the tool offset will be of this value. This configuration keyword is only effected with through pockets.
		
	0	WoodWop configuration: if this value is 0%, only the pocket contour is machining.
ZX_ZWOO_CAM_MPR_THROUGH_POC_DEPTH_OFFSET	Value in meter. In default 0.	Tool excess value under a through pocket.
ZX_ZWOO_CAM_MPR_HORIZONTAL_POCKET_TOOL_NAME	In default 167.	Default tool number assigned to the horizontal pockets (on edge).
ZX_ZWOO_CAM_MPR_VERTICAL_TOP_POCKET_TOOL_NAME	In default 101.	Default tool number assigned to the pockets realized on top face.
ZX_ZWOO_CAM_MPR_VERTICAL_BOTTOM_POCKET_TOOL_NAME	In default 125.	Default tool number assigned to the pockets realized on back face.
ZX_ZWOO_CAM_MPR_FREE_POCKET_TOOL_NAME	In default 101.	Default tool number assigned to the free pockets (other than rectangle or circle pockets).
ZX_ZWOO_CAM_MPR_MILL_INSERT_MODE	0 (default value)	The WoodWop milling insert mode is deactivated for the vertical milling (calibration, moulding).
	1	The WoodWop milling insert mode is activated for the vertical milling.

ZX_ZWOO_CAM_MPR_HORIZ_MILL_INSERT_MODE	0 (default value)	The WoodWop milling insert mode is deactivated for the horizontal milling (moulding).
	1	The WoodWop milling insert mode is activated for the horizontal milling.
ZX_ZWOO_CAM_MPR_MILL_FEED_RATE	-1	The tool feed rate for a vertical milling will be the value given in WoodWop.
	Numerical value in meter by minutes.	The tool feed rate for a vertical milling will be this value.
ZX_ZWOO_CAM_MPR_HORIZ_MILL_FEED_RATE	-1	The tool feed rate for a horizontal milling will be the value given in WoodWop.
	Numerical value in meter by minutes.	The tool feed rate for a horizontal milling will be this value.
ZX_ZWOO_CAM_MPR_POCKET_FEED_RATE	-1	The tool feed rate for pocket will be the value given in WoodWop.
	Numerical value in meter by minutes.	The tool feed rate for a pocket will be this value.
ZX_ZWOO_CAM_MPR_FREE_POCKET_FEED_RATE	-1	The tool feed rate for a free pocket will be the value given in WoodWop.
	Numerical value in meter by minutes.	The tool feed rate for a free pocket will be this value.
ZX_ZWOO_CAM_MPR_CAL_DISTANCE	Value in meter. In default 0.	Machining starting distance for the part's calibration.

WoodWop configuration

There are no configurations in **WoodWop** to import the files generated by **TopSolid'Wood**.
The **mpr** files have just to be opened automatically with **WoodWop.** If it's not the case, **WoodWop** will not be automatically opened after an export.

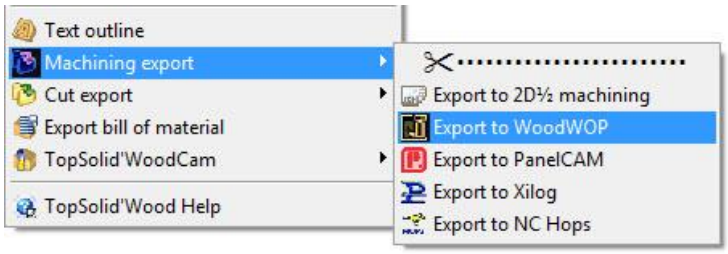
- **Right click on an mpr file > Open with > Choose the default program**
- **Check the option 'Always use this program > Left click on WoodWop > OK.**



Realize an export

From TopSolid'Wood

- Use the function **Wood > Machining export > Export to WoodWop.** 



- Choose the **One part** or **Multi-part** mode. 

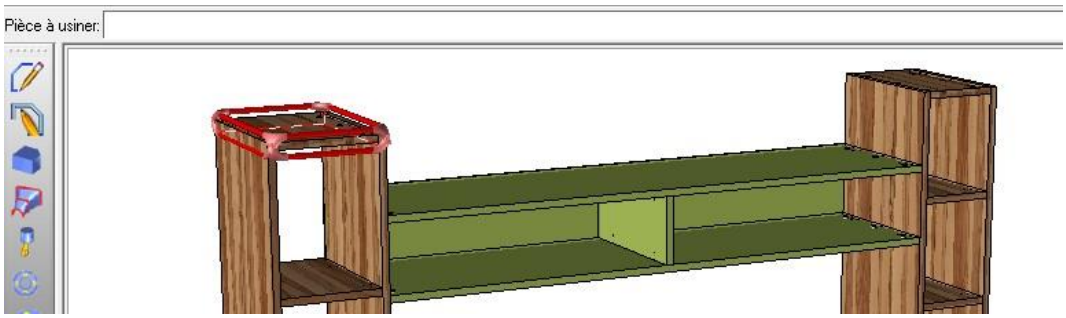
  - The **One part** mode allows exporting only one part. This mode allows adding manually milling operations on the part.
  - The mode **Multi-parts** allows exporting several parts from an assembly.

One part mode

- Select the **One part** mode. 

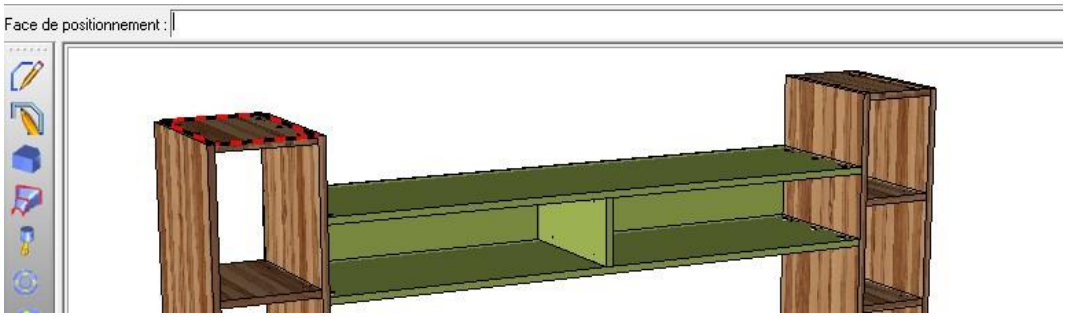
The file explorer opens on the default folder configure in the **Options.**

- Select the file saving folder and the **WoodWop** file name (by default it's the design file name)..
- Select the part to export.



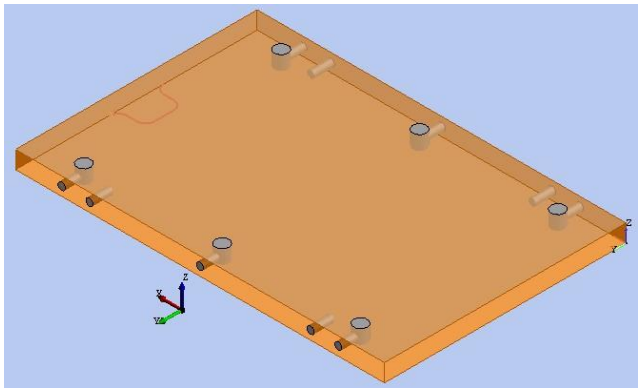
- If the selected part machining mode is **Optimized,** two options are available:
  - **OK** to continue without update the part's machining face.
  - **Update machining face** to update the part's machining face. 

- Select the positioning face (CNC positioning face, the bottom in WoodWop).
- Select the option **Positioning for part definition** to use the positioning face ruled in the part's definition.
  POSITIONNING FOR PART DEFINITION



Note: The part is displayed in top view depending to the selected positioning face.

- Select the positioning orientation for this part in **WoodWop** with the arrows **<<** and **>>**. << >>
- Validate the part's positioning with **OK.** OK



*Part's displaying in **TopSolid'Wood***

*Part's positioning in **WoodWop***

Remark: In **TopSolid'Wood**, the horizontal axis from left to right will be the **X+** axis in **WoodWop** and the vertical will be the **Y+** axis.

- The option **Other routings of contour** allows adding milling machining in the exported part.
  OTHER ROUTINGS OF CONTOUR
  - **Edges on planar face:** allows selecting several edges in on time from a work face (reference selected face).
    EDGES ON PLANAR FACE
  - **All edges of face**: select all the edge of the selected face. ALL EDGES OF FACE
  - **Relative depth:** value in millimeters for the machining depth. Relative depth= 22
  - **Depth from face**: the **Relative depth** value is by default from the machining reference face. This face can be changed with this option. DEPTH FROM FACE
  - **Fllo tangent edges Yes/No:** allows automatically selecting the edges tangent with the selected edge.
    Follow tangent edges= YES
  - **Reference edge for tool path:** allows selecting the edges to add in the machining.
- When the edges are selected, validate with **OK.**

- It's possible to select another **Working face** for this machining. To conserv the previously selected working face, select **Stop.**

Note: All the selected edges from **Other routings of contour** except for these selected from **Edges on planar face** are not grouped in one machining. Each selected edge is exported in one machining.

- Validate the **Other routings** with **OK** to create the **WoodWop** file.

WoodWop opens automatically and opens the created file.

Multi-parts mode

- Select the **multi-part** mode. MULTI-PARTS

Several options are available.

- **Main assembly:** to select all the parts in the assembly. ENSEMBLE PRINCIPAL
- If several **sub-assemblies** are created in the document, a drop-down list appears. It allows selecting the sub-assembly.

Sub-assembly= Cabinet (in place sub-set)

- **Depth:** Allows selecting the depth mode to display the element in the chosen assembly.

Depth: MULTI LEVEL

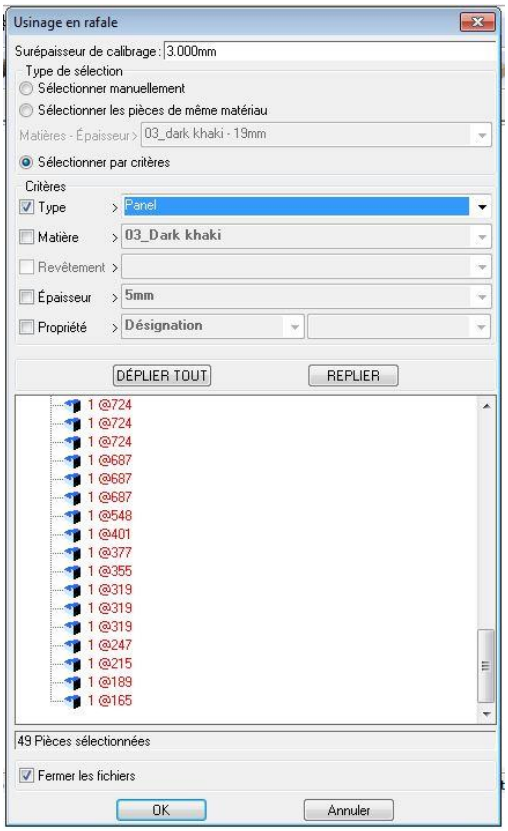
- **Filter BOM by criteria:** allows selecting a filter to filter the parts in the selected assembly.

Filter bom by criteria= no filter

- **Update machining face Yes/No:** If one part is in **Optimized** machining mode, this option is available. It allows updating all the machining faces of the exported parts in **Optimized** machining mode.

Update machining face = YES

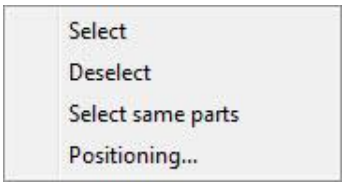
- **Select elements to use :** allows selecting manually the parts:
  - **Left-click** on the parts to selected. The selected parts are displayed in red.
  - Validate the selection with **STOP.** STOP



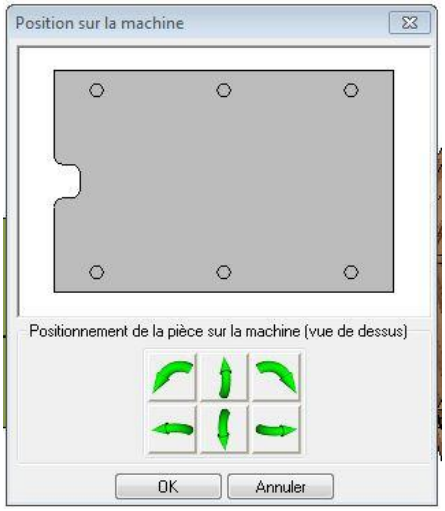
The **multi-machining** window opens:

- **Over-thickness:** default over-thickness value is given in the options but it's possible to modify this value for this exported project.
- **Selection type:** part selection mode.
- **Expand all/Back-up:** Allows expanding or back-up all the assembly in the BOM.

- **Clic-droit** sur une pièce de la liste affiche plusieurs options :

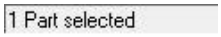


  - **Select:** Allows selecting the part.
  - **Deselect:** Allows deselecting the part.
  - **Select same parts:** Allows selecting all the parts identical to the selected part.
  - **Positioning:** Allows modifying the machining positioning of the select part.
    This window appears to change the machining positioning.

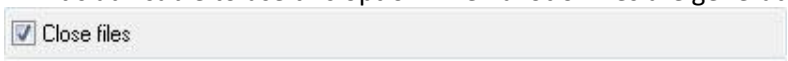


Note: This machining modification will be effective only for this export.

Note: A box on the bottom of the window display the selected parts number.



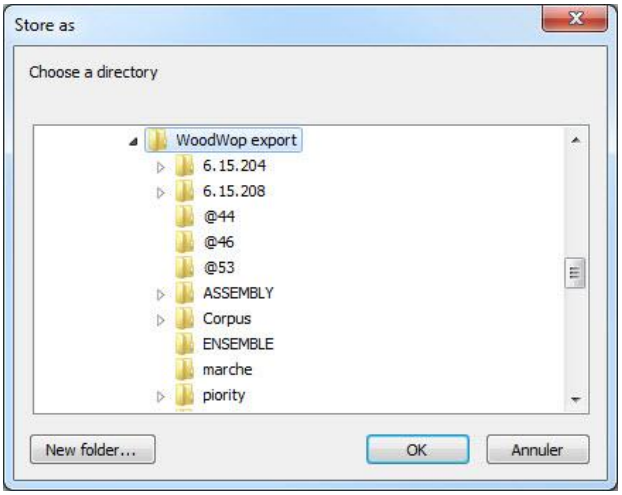
- The option **Close files** allows don't opening the generated files in **WoodWop.**
  It's advisable to use this option when a lot of files are generated.



- Select **OK** to start the export.

The selection window opens on the default configuration folder.

- Select a destination folder for the generated files.

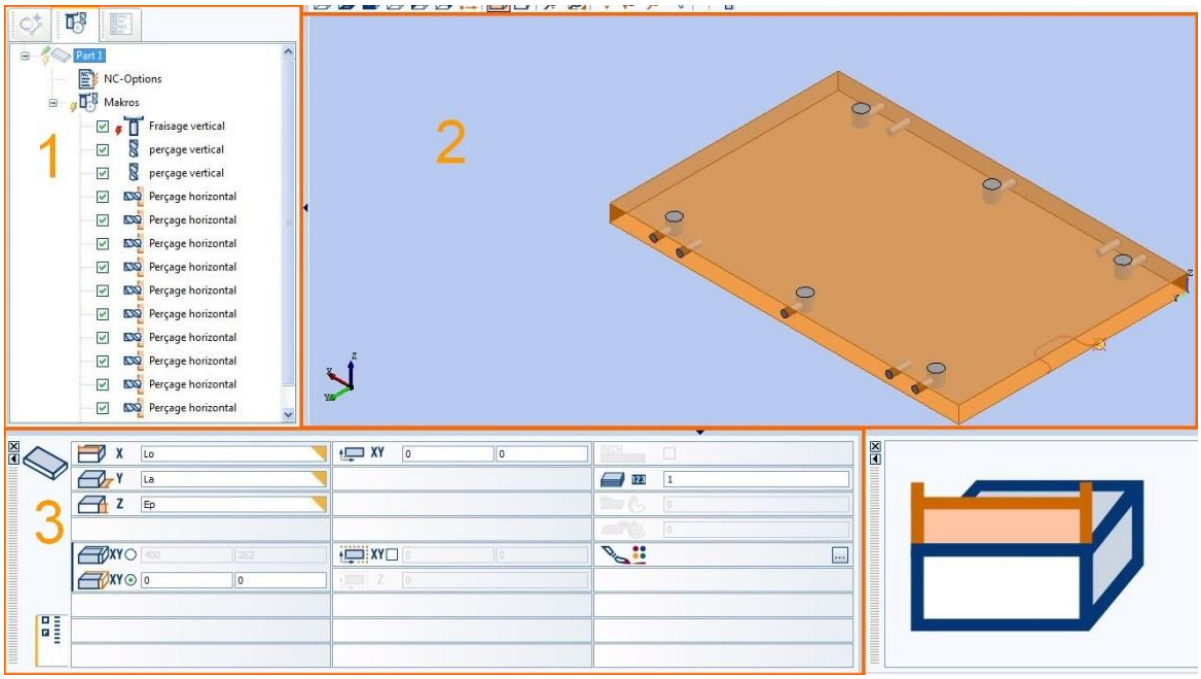


TopSolid'Wood generates the **WoodWop** files.
When the export is finished, the generated file number is displayed in the alpha bar.

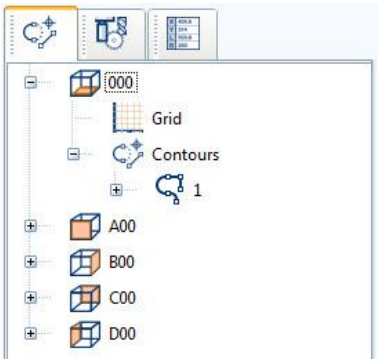
Note: If the option **Close files** were not check, **WoodWop** opens and load the generated files.

From WoodWop

By default, the screen is divided in 3 areas:



1. **Navigation area,** composed of 3 tabs **:**

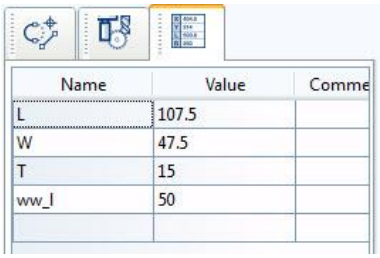


- **Levels and contours**

This tab displays the drawing elements in the file.
There are grouped in the tree by their positioning face.
When a machining uses one or several drawing elements, these elements are displayed here.

- **Processes**

This area groups all the machining parameters (**Makros**), the part parameters (**Work piece**) and the machining options (**NC-Options**).



Name	Value	Comme
L	107.5	
W	47.5	
T	15	
ww_l	50	

- **Variables**

It’s in the table that **TopSolid’Wood** sends the variables configured in the **Options.**

2. **Graphical part visualization**
   This area displays the part.
   Several options are available on the top bar like the different view or the selection mode.

3. **Edition area**
   This window groups the information about the selected object in the navigation area (**doubled-click** to modify).

Notes