



TopSolid v6.18 What's New

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What's New in TopSolid'Wood v6.18



This section describes the enhancements made to the version **6.18** of **TopSolid'Wood**.

Improved user interface

The TopSolid 2017 user interface has been completely redesigned to be more user-friendly and intuitive.

A start page enables faster and easier access to recent documents.



Right-clicking on a preview thumbnail allows the following actions:

- **Open** the document
- Remove the document from the list of recent documents
- **Open** the file's Windows **directory**
- **Empty** the whole list of recent documents



For new documents, the different types available (design, drafting...) are shown on the left of the **start page**.

The template documents are grouped in the lower section. Double-clicking on a document type or a template name creates a new document.



All open documents are now displayed in tabs.



Right-clicking on a tab provides access to various functions:

- Copy the file name
- Copy full path
- Open directory
- Save
- Save all
- Close
- New vertical tab group
- Move to previous/next tab group
- Back to one group



<u>Note</u>: The **Move to previous/next tab group** and **Back to one group** functions are available only when there are at least two groups on the screen. Below is an example of a two-group display.



The **Status bar configuration** dialog box includes all the settings that were previously available in the lower section of the graphics area (**Current material**, **Transparency**, **Current coordinate system**...).

Yes 🗸
Yes
Yes
No
Spatial picking
0.2
Yes
No
3
Hide
Value
ABSOLUTE COORDINATE
3.5 IsonomD
0
30 Deco
W1000_ST9, no coating, n
W1000_ST9
no coating
no finishing
No

The **alpha bar** is now divided into three tabs to make it easier to find the information you need. The **Messages** tab includes all the messages displayed (as was the case with the alpha bar previously). The **Named parameters** tab displays the name and value of the parameters created or changed by the user. The **Measures** tab contains the values of the measurements carried out from the **Analysis** menu.

Alpha bar	X
	^
Document regenerated	
th=19	
1800mm	
	~
4 Messages Named parameters Measures	Þ

You can change the position and size of the **alpha bar** and the **status bar configuration** by clicking and dragging the dialog box's title bar (like a Windows dialog box).

TopSolid provides a **measurement tool** based on the scale. To use it, you have to **click and drag** the sphere from the scale at bottom right to a flat face. This measures the distance to the opposite plane.



Once the measure is displayed, you can **right-click** on the symbol to bring up a contextual menu that lets you **create the dimension** displayed, **create a distance parameter** that can be reused later, or **create a coordinate system** on the selected face. The **Unhook** option closes the measurement tool.



Design

New sketch constraints

Two new **fixity** and **rigidity** constraints have been added to the sketch.

Fixity constraint

The fixity constraint lets you fix sketch elements at their position without having to create dimensions.

• In a sketch, select **Constraint** > **Fixity**.

In the sketch below, the drawn contour is not constrained.



- Select the elements you want to fix.
- Once selected, the fixed elements turn gray and they cannot be moved anymore.



To remove a fixity, launch Constraint > Fixity and pick the elements you want to unfix. You can also remove it by
editing the sketch from the tree, and then right-clicking and selecting Remove fixity on the constraint to be
deleted.



TopSolid 2017

Rigidity constraint

The **Rigidity** constraint is used to group sketch elements so that they can be moved together for example.

- In a sketch, start **Constraint** > **Rigidity**.
- Select the components you want to group.
- When you're finished, click **STOP**.

The rigidity constraint is shown by the symbol \checkmark



• To remove **rigidity**, use **Delete element** and click the constraint symbol. You can also remove it by editing the sketch from the tree, and then **right-clicking** and selecting **Delete** on the rigidity constraint.

Rough nesting

You can nest the rough of parts during **nesting**.

- In a document, select **Wood** > **Define part**.
- Click the part with the rough to be nested.

In the following example, the rough of the two shelves will be nested.



• In the **Nesting** tab, select the **Nest rough** box.

Panel charact	eristics				×
Numbering	help				
Designation	> SI	helf 1			~
Reference	>				~
Supplier	>				~
Processing	>				~
Part category	>				~
Valorisation	n /	Attributes	Propert	ties	Part types
Cutting-up	Stock	Material	Coating	Finishing	Machining
Nesting	Des	cription	Drawing	Bil	of material
<mark>⊠Nest roug</mark>		6ge-		ومكاسع	
r l					
	OK	9	Stop	Cancel	

<u>Note</u>: If you want this option selected by default, select **Tools** > **Options** > **TopSolid'Wood configuration** > **Define parts** and open the **Nesting** tab where you can specify the default setting of the parts and the panel support.

- Select Wood > Automatic nesting.
- Pick the parts to be nested.
- Configure the nesting settings.

After the nesting is generated, the parts with nested rough appear transparent.

In the example below, the counter's parts have been nested and the Shelf 1 and Shelf 2 parts are transparent.



Note: When the rough of a part is positioned, only the operations performed on the top face are retrieved during nesting (one groove and drillings in the example).

Wood machining

Biesse CIX interface

A new machining interface includes the ability to export parts designed in **TopSolid'Wood** to CIX format. The resulting file contains all the part's machining information (toolpath, position, tools...) and can be opened with **BiesseWorks** (version 3.4.14 or later) and **BSolid**.



BiesseWorks

BSolid



Bill of material

Generic codification of edges and laminates

You can define a **generic codification** for edges and laminates. These codification rules predefined upon configuration are then applied to edges and laminates.

This lets you quickly create codifications without the need to assign a codification to each edge type.

Creating a generic codification

- To create an edge generic codification, select Tools > Options > TopSolid'Wood configuration > Edge/Laminate.
- In the **Generic codifications** section of the **Edge configuration** tab, double-click in the **Rule** column to create a new codification rule.
- Enter the generic codification.

Note: Some of the edge or laminate parameters can be retrieved in the codification:

- Edge or laminate matter: [matter]
- Edge or laminate coating: [coating]
- Edge catalog code: [code]
- Edge or laminate thickness: [t]
- Edge length: [I]
- Edge height: [h]
- Laminate width: [w]

In the example below, the **CP-[matter]-EP [t]00mm]** codification is created. The **codification** will display the **matter** and **thickness** of the edge in **millimeters** and rounded to the nearest whole number.

Coordinate system						
Sawingup coordinate system		O Machining coordinate	e system	O Draft coordinate	system	
strategies and a state of the s	and the second distance in	لىك ^{ى مى} تىن	الى خاطىبى ا	and the second second second		ليدور والعدامي
	Add	Delete		Print	Copy to clipboard	
Generic codifications						
Rule	Standard	Type Va	riant / Code	Edge matter and coating	Over dim Cali	bratio
CP-[matter]-EP[t 00mm]						

- Set edges modifiable in assembly
- Next select the edges where you want to apply the codification by double-clicking in the **Standard** column.

In the following example, the codification will be applied to all **flat edges** of the **TopSolid'Wood** library.



<u>Note</u>: If no selection is made in one of the drop-down lists (Type, Variant, Version...), the codification will be applied to all edges of these categories.

• Specify the over dimension length and the calibration overvaluation.

In this example, no **over dimension length** is specified. For the **calibration overvaluation**, the **[cat:ep]** syntax retrieves the **ep** parameter value from the edge catalog. This ensures that the calibration overvaluation always matches the thickness of the edge used.

Ger	eric codifications						
	Rule	Standard	Туре	Variant / Code	Edge matter and coating	Over dim	Calibratio
	CP-[matter]-EP[t 00mm]	TopSolid'Wood	thin edge	flat edge / *	× _ ×	Omm	[cat:ep]
	Double clic to add a generic codifi						

• To create a generic codification for laminates, repeat the steps in the Laminate configuration tab.

In the example below, the **ST-[matter]** codification will be applied to all laminates using a matter from the **TopSolid'Wood** library's **Hardwoods** category, regardless of the coating or thickness.

Generic co	difications			
	Rule	Material	Coating	Thickness
	ST - [matter]	TopSolid*Wood/Hardwoods	×	×

Using generic codifications

- Start Wood > Panel and click a face of an existing part to create a new Panel entity.
- Select the **edge type** you want to apply by double-clicking in the **Edge type code** column.

Edges and laminates creation wizard for panel						Х	
Edge	es						
	N*	Codification	Edge type - code	Length	Beginning cut type	End cut type	
	1		Flat edge ep 2	800.0mm	Mitre out	Mitre out	
	2		Flat edge ^{l Se} ep 2	500.0mm	Mitre out	Mitre cut	
	3		Flat edge - ep 2	800.0mm	Mitre cut	Mitre cut	
	4		Flat edge - ep 2	500.0mm	Mitre cut	Mitre cut	
M FC	dges ai	re similar					
Μc	uts are	similar					
	>>						
Lami	inate s	hapes					
	N*	Codification	Material	Co	ating	Thickness	
	1		Ash olive			@82=1mm	
	2		Ash olive			@83=1mm	
		Incariono					
⊡ La	aminate	es are similar					
		[OK	Cancel	Init the list		

<u>Note</u>: In order for the **generic codification** to be applied, you need to select the edge to be applied directly. The codification is then automatically generated based on the parameters defined when creating the **generic codification**.

TopSolid 2017

In the following example, a PVC flat edge from the **TopSolid'Wood** library is applied.



A 1mm thick oak laminate is also applied.

Edges	Edges and laminates creation wizard for panel					
Edge	es					
	N*	Codification	Edge type - code	Length	Beginning cut type	End cut type
	1		Flat edge - ep 2	500.0mm	Mitre cut	Mitre cut
	2		Flat edge - ep 2	800.0mm	Mitre cut	Mitre cut
	3		Flat edge - ep 2	500.0mm	Mitre cut	Mitre cut
	4		Flat edge - ep 2	800.0mm	Mitre cut	Mitre cut
Ec	lges a	are similar				
ΩCι	its are	e similar				
	>>					
Lami	nate	shapes				
	N*	Codification	n Material		Coating	Thickness
	1		0ak europear	1		@69=1mm
	2		0ak europear	ı		@70=1mm
ADD						
e Lo		ica are similar				
			OK	Cancel	Init the list	

Using the generic codifications that were defined previously, here is the codification of the edges and the laminate displayed in a bill of material:

1	Panel	-	804.0	504.0	19.0	-
2	laminate shape	Oak european	800.0	500.0	1.0	ST-Oak european
2	flat edge	PVC P	500.0	19.0	2.0	CP-PVC P-EP2
2	flat edge	PVC P	804.0	19.0	2.0	CP-PVC P-EP2
1	Support	W1000_ST9	800.0	500.0	18.0	-
COUNT	DESIGNATION	MATERIAL	PART_LENGTH	PART_WIDTH	PART_THICKNESS	CODIFICATION

Special situations

When there are codifications other than generic codifications, the codification assigned to the edge has priority
over the generic codification.

In the example below, the 2mm thick PVC flat edge with pine coating uses the **PVC-PINE-EP 2** codification. The generic codification points to the flat edges too.

Edge configuration Laminate config	guration Associations Automa	atic codification of edges					
Codifications							
	Codification	Edge type - code	Edge matter and coa	Over dim	Calibration o		
	CP-EP 2	Flat edge - ep 2	pvc u - mat white paint	Omm	Omm		
	PVC-PINE-EP 2	Flat edge - ep 2	polyvinyle chloride (soft)	Omm	1mm		
	<				>		
Ade	ł	Delete	Print	t	Сор	by to clipboard	
Generic codifications							
Rule	Standard	Type Va	riant / Code	Edge matte	r and coating	0 ver dim	Calibratio
CP-[matter]-EP[t]00mm]	TopSolid [*] Wood t∤	in edge flat eo	lge / *	× _ ×		Omm	[catep]
Double clic to add a generic	codifi	-	-				
Set edges modifiable in assembly							

The flat edge with the PVC-PINE-EP 2 codification is applied to a panel.

Edge type		×
Definition Standard		
TopSolid'Wood	\sim	
Туре		
Thin edge	\sim	
Variant		
Flat edge	\sim	
Version:		
00	\sim	
Code		
ep 2	\sim	
Attributes Material		
Polyvinyle chloride (soft) PVC P	\sim	
Coating		
Pine	\sim	
Codification Codification		
PVC-PINE-EP 2		
ADD Initialize		
OK		Cancel

In the bill of material, you'll notice that the codification assigned to the edge is used, not the generic codification.

1	Panel	-	804.0	504.0	19.0	-
2	laminate shape	0ak european	800.0	500.0	1.0	ST-Oak european
2	flat edge	polyvinyle chloride (soft) PVC P	500.0	19.0	2.0	PVC-PINE-EP 2
2	flat edge	polyvinyle chloride (soft) PVC P	804.0	19.0	2.0	PVC-PINE-EP 2
1	Support	W1000_ST9	800.0	500.0	18.0	-
COUNT	DESIGNATION	MATERIAL	PART_LENGTH	PART_WIDTH	PART_THICKNESS	CODIFICATION

<u>Note</u>: To use only generic codifications, you need to delete the codifications assigned to the relevant edges.

• When two generic codifications point to the same library, the list of generic codifications is read from top to bottom and **TopSolid** will use the first true codification.

In the following example, the two generic codifications point to the same **TopSolid'Wood** library. The first one is applied to edges from the **Thin edge/Flat edge** category, and the second one is applied to all edges from the **Thin edge** category.

		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Valianty Coac	Euge maker and coaking	over um	Calibratio
CP-[matter]-EP[t 00mm]	TopSolid'Wood	thin edge	flat edge / ×	×_×	Omm	[cat:ep]
EDGE-[matter]	TopSolid'Wood	thin edge	×/×	×_×		
Double clic to add a generic codifi.						

A flat edge from the **Thin edge** category is applied to a panel. In this case, the two generic codifications can work as they both point to the **Thin edge** category.

Edge type		
Definition		
Ter Celida (sed		
Tupo	~	
Thin edge	~	
Variant	Ť	
Flat edge	~	
Version		
00	\sim	
Code		
ep 1	\sim	
Attributes		
Material		
Polyvinyle chloride (soft) PVC P	\sim	
Coating		
Pine	\sim	
Codification		10000000000000000000000000000000000000
Codification		
ADD Initialize		
OK		Cancel

In the bill of material, you'll notice that the first codification of the list has been used.

1	Panel	-	802.0	502.0	19.0	-
2	laminate shape	Oak european	800.0	500.0	1.0	ST-0ak european
2	flat edge	polyvinyle chloride (rigid) PVC U	500.0	19.0	1.0	CP-PVC U-EP1
2	flat edge	polyvinyle chloride (rigid) PVC U	802.0	19.0	1.0	CP-PVC U-EP1
1	Support	W1000_ST9	800.0	500.0	18.0	-
COUNT	DESIGNATION	MATERIAL	PART_LENGTH	PART_WIDTH	PART_THICKNESS	CODIFICATION

If the order of generic codifications was reversed, the second codification would be used. Below is the BOM result after reversing the generic codifications in the list.

1	Panel	-	802.0	502.0	19.0	-
2	laminate shape	0ak european	800.0	500.0	1.0	ST-0ak european
2	flat edge	polyvinyle chloride (rigid) PVC U	500.0	19.0	1.0	EDGE-PVC U
2	flat edge	polyvinyle chloride (rigid) PVC U	802.0	19.0	1.0	EDGE-PVC U
1	Support	W1000_ST9	800.0	500.0	18.0	-
COUNT	DESIGNATION	MATERIAL	PART_LENGTH	PART_WIDTH	PART_THICKNESS	CODIFICATION

<u>Note</u>: To change the order of generic codifications, open the **Edge-Laminate.cfg** file from the **Group/V6X** folder. Next, change the order of lines beginning with **ZWOO_EDGE_GENERIC_CODIFICATION**.

Edge-L	.aminate.cfg										
1	ZWOO_EI)GE_	GENERIC	CODIFICATION	CP-[matter]-EP[t 00mm]	TOPWOOD	edge	"tl		[cat:ep]
2	ZWOO_EI	OGE_	GENERIC	CODIFICATION	CHANT-[matter]	TOPWOOD	edge	"thin	edge"	à	

BOM export to xlsm file

You can export a bill of material to an Excel file that contains macros.

- Start Wood > Export bill of material.
- Select the BOM template you want to use.
- Specify the BOM depth and select the document containing the set to export.

EXPLORE MULTI-FILES Depth: MULTI LEVEL 🗸 Add a line for set= NO 🗫 Pick on the document containing the assembly.

- Select a filter by criteria if necessary.
- Adjust the Use an Excel template = NO option to YES.
- Select the xlsm file that will be used as a template.

NAVIGATOR Use an excel template= YES 🖅 Model=Exporting born and modification Destination file:

- Click **NAVIGATOR** to specify the name of the file and where to save it.
- From the Files of type drop-down list, select the Excel format (*.xlsx; *.xlsm; *.xls).

Look in:	618	~	G 🌶 📂 🖽 🗸		~
Accès rapide	Nom Alignement v Crash multi-o Fosemble	^ Jft "taire	م ال	Date 16/11/201 12/10/201 19/04/201	Preview
F	test Usinage de p Workspacer	Exporting bom and modification Text editor (".bt) Text editor (".bt)	~	J0/ 10/201 16/09/201 23/05/201 23/08/201 > OK Cancel	

- Name the file and click OK to confirm.
- Select the parts to be exported and click OK to confirm.

The file is then generated in xlsm format.

Numbering by type of part

When you number a bill of material in **Use element type** mode, you are now able to **number parts without type**. In previous releases, you had to launch the **Numbering** function twice to achieve this.

In Tools > Options > Predefined index, define BOM indexes for each part type.

In the example below, the NEST- prefix is assigned to the Nesting part type.



• In a **Design** document, **right-click** on the **main assembly** line and select **Display bill of material**.



- Select a **BOM template** and click **OK** to confirm.
- Once you can see the bill of material, right-click on the main assembly line and select Number automatically.

Start page 🐴 Reception desk *	x
Main Favorite Main set Entities Layers	
ASSEMBLY : Reception desk (MIX	Number automatically
	Display bill of material = YES
🗄 🥦 <> - 1 - Central cabinet -	Modify bill of material

- Choose Use element type as the numbering mode and set the Number parts without type option to YES.
- When you're finished completing the settings, click **OK** to confirm.

All the BOM's parts are numbered and the Nesting parts have a number starting with NEST-.

Start page S Reception desk * 🗵
Main Favorite Main set Entities Layers
😹 ASSEMBLY : Reception desk (MIXED) (19)
01> - 1 @26276 - F900_ST9 - 71.0 - 38.0 - 1.0 - 71.0 - 38.0 - 1.0
⊕ 🛅 <105> · · 2 · Horizontal fixe shelve sp=1 sd=200mm th=19mm · · · · · · · ·
□ □ - □ <112> · · 1 · Inset drawers block · · · · · · · ·
🔢 💼 💼 <113> • • 1 • Drawer BLUM LEGRABOX K Blumotion 40kg length 500mm Width 502.5mm • • • • • •
a a b a b a b a b a b a b a b a b a b a
ia - 🔁 - <124> · · · 6 · Hettich insert hinge · · steel · · · · · ·
NEST-03> · Nesting · 2 · Full door panel · · · · 721.0 · 248.3 · 19.0 · 721.0 · 248.3 · 19.0
i i - 😥 < <128> · · 1 · Left cabinet · · · · · · · · · · · · · · · · · · ·
182> - 1 - Left glasse - Deco Object Glass - 390.0 - 139.0 - 5.0 - 390.0 - 139.0 - 5.0
📄 💼 <🛅 <183> • • 1 • Removable glasse shelf • • Clear Window Glass • • • • • •
📄 🎰 📁
201> - Decoration - 1 - Screen
🔣 🦳 🗀 <202> - Hardware - 1 - Burglar remover - Aluminum
NEST-04> · Nesting · 1 · @25880 · · F900_ST9 · · 502.5 · 150.0 · 19.0 · 502.5 · 150.0 · 19.0
🖶 💼 - 🗀 <nest-05> • Nesting • 1 • Horizontal fixe shelve sp=2 sd=200mm th=19mm • • • • • • • •</nest-05>
📄 💼 - 🧰 <nest-06> • Nesting • 1 • Removable shelves • • • • • • • •</nest-06>
213> - laminate shape - 1 - laminate shape F900_ST9 1165.7 - 38.0 - 1.0 - 1165.7 - 38.0 - 1.0
⊞ 📲 ≺NEST-09> · panel process / Nesting · 1 · @25578 · · · · 502.5 · 150.0 · 19.0 · 502.5 · 150.0 · 19.0

Configuration

Script documents

Configuration improvements include the ability to automate repetitive tasks using **Script** documents. This makes it possible to execute and string together various actions automatically.

Creating a script

• To create a new Script document, launch Wood > Script.

The Script documents dialog box opens.

- Choose whether the script must be created in the local configuration or the group configuration.
- Click New.

Script documents	×
Configuration	⊖ Group
	New

<u>Note</u>: The Script documents have the .topscript extension and are saved in the Config/Template/Scripts or Group/Template/Scripts folder.

• Select the **unit** to be used in the **Script** document and give the script a **name**.

OK Unit= MILLIMETERS 4 Script name: Bom + Multi-Draft

- Add the tasks to be executed by the **script**. You can use the following features:
 - BOM numbering
 - Cut export
 - BOM export
 - Multi-drafting
 - Machining export
 - Multi-machining

Note: Each task is shown by a node containing all the necessary settings for each function. These nodes are linked with each other and will be executed in order from top to bottom.

For example, here is the procedure on how to create a **script** in order to do **numbering**, **multi-drafting**, and then a **WoodWop export**.

- In a new Script document, start Wizard > Numbering.
- The node is attached to the cursor. Click the blank page to position the node.
- The **Node to connect** option lets you choose the node after which the task being created will be executed. As there is yet no node, click **Start node**.

e to connect:	🖉 Bom + Multi-Draft * 🗴	
	Start	node
	Bill of material	numbering
	Bill of material template	ldxNbDesRef
	Depth	Multi level
	Regroup identical parts	Yes
	Numbering type	Main numbering
	Numbering mode	USE ELEMENT TYPE
	Number parts without type	Yes
	Multi-level mode	No
	Start value	
	Remove indexes	No

Result:

Start node				
Bill of material numbering				
Bill of material template	Standard - TopWood IdxTypNbDesRefMatComLenWidTh			
Depth	Multi level			
Regroup identical parts	egroup identical parts Yes			
Numbering type	Main numbering			
Numbering mode	AUTOMATIC			
Number parts without type	Yes			
Multi-level mode	Multi-level mode No			
Start value 01				
Remove indexes	Yes			

- To configure the **numbering**, select **Modify element** and click the created node.
- Specify the **numbering** parameters.

Bill of material Bill of material template Standard - TopWood IdxTypNbDesRefMatComLenW Depth Multi level Regroup identical parts Yes Numbering Ves Numbering type Main numbering Numbering mode AUTOMATIC Number parts without type Yes Multi-level mode No Start value 01 Remove indexes Yes	operties	Values
Bill of material template Standard - TopWood IdxTypNbDesRefMatComLenW Depth Multi level Regroup identical parts Yes Numbering Ves Numbering type Main numbering Numbering mode AUTOMATIC Number parts without type Yes Multi-level mode No Start value 01 Remove indexes Yes	Bill of material	
Depth Multi level Regroup identical parts Yes Numbering Main numbering Numbering mode Main numbering Number parts without type Yes Multi-level mode No Start value 01 Remove indexes Yes	Bill of material template	Standard - TopWood IdxTypNbDesRefMatComLenW
Regroup identical parts Yes Numbering Main numbering Numbering type Main numbering Numbering mode AUTOMATIC Number parts without type Yes Multi-level mode No Start value 01 Remove indexes Yes	Depth	Multi level
Numbering Numbering type Main numbering Numbering mode AUTOMATIC Number parts without type Yes Multi-level mode No Start value 01 Remove indexes Yes	Regroup identical parts	Yes
Numbering type Main numbering Numbering mode AUTOMATIC Number parts without type Yes Multi-level mode No Start value 01 Remove indexes Yes	Numbering	
Numbering mode AUTOMATIC Number parts without type Yes Multi-level mode No Start value 01 Remove indexes Yes	Numbering type	Main numbering
Number parts without type Yes Multi-level mode No Start value 01 Remove indexes Yes	Numbering mode	AUTOMATIC
Multi-level mode No Start value 01 Remove indexes Yes	Number parts without type	Yes
Start value 01 Remove indexes Yes	Multi-level mode	No
Remove indexes Yes	Start value	01
	Remove indexes	Yes

- Click **OK** to confirm.
- Start Wizard > Multi-draft.
- Place the node on the document and click the **Bill of material numbering** node to produce multiple drawings after numbering.

Start node			
Bill of material numbering			
Standard - TopWood IdxTypNbDesRefMatComLenWidTh			
Multi level			
Yes			
Main numbering			
Numbering mode AUTOMATIC			
Number parts without type Yes			
Vulti-level mode No			
01			
Yes			
Multi drawings			
Multi level			
ASSEMBLY			
No filter			
ria All parts			
e document No			
Standard - A3 H Following card TopWood			
A3H-Marges			

- Use **Modify element** on the created node in order to configure the multi-drawings.
- Specify the BOM depth for the part selection.
- Select the elements to export.

You can export parts from any set of the document (alternative set or in-place subset) by entering the name of the set to be used in the **Set to export** field. You can also filter the bill of material and the part selection using **multi criteria filters**. If no filter is used, all parts contained in the set will be exported.

Note: These settings are available in the nodes of every function that requires part selection (machining export, sawing-up export, etc.).

• Configure the **multi-drawing parameters**.

<u>Note</u>: When all the drawings are placed on the same document, you need to define the **multi drawing file name**. This file will be saved in the same location as the document from which the **script** has been run. However, you can add subfolders using the syntax **./folder name/draft name** before the file name.

If a file is generated for each drawing, you need to specify a generation directory. The file names will be given by the **WOO_DFT_FILE_NAME** used in the BOM file specified in **TopSolid'Wood configuration** > **Files** > **Parts selection sorting** > **Multi-draft**.

In this example, the **multi-draft** is configured to export all parts except the **Hardware** ones. All drawings will be placed in the same **Drawings** file that will be saved in a **Drafting** subfolder created in the same location as the document from which the **script** will be run.

Propertie	8	Values	
Bill o	of material		
Dept	h	Multi level	
Elem	ents to export		
Set to	o export	ASSEMBLY	
Filter	bom by criteria	No filter	
Parts	selection filter by criteria	Hardware	
🗉 Multi	i drawings parameters		
Put to	ogether all drafts in one document	Yes	
Multi	drawing template	Group - Part multi-draft A4H + index table	
Pape	r format	A3H	
Multi	drawing file name	.\Multi-draft\Draft	
Multi	drawing directory		
Multi dr Choose t	ra wing file name the multi drawing file name	I	

- Click **OK** to confirm the settings.
- To add the **WoodWop** export, select **Wizard > Machining export > WoodWop**.
- Place the node in the document.
- Click the Multi-drawings node to perform the export after multi-drafting.
- Configure the **WoodWop** export.
- As with multi-drafting, you can filter the bill of material and the part selection.

The settings available in **Machining parameters** are those available during a **WoodWop** export performed from the **Wood > Machining export > WoodWop** function.

In this example, all parts except the **Hardware** ones contained in the main set will be exported. The other settings keep their default values.

Modification		×
Properties	Values	
Bill of material		
Depth	Multi level	
Elements to export	·	
Set to export	ASSEMBLY	
Filter bom by criteria	No filter	
Parts selection filter by criteria	Hardware	
Machining parameters	·	
Length always highest dimension	No	
Update machining face	Yes	
Over-thickness	3mm	
Exported file	·	
Files save path		
Application parameters	·	
Start the application	No	
ОК	Cancel	/

<u>Note</u>: For machining exports, the generated files are automatically saved to the location defined in Tools > Options > TopSolid'Wood configuration > Machining > WoodWop, Maestro, etc. The file names will be formatted by the WOO_CAM_FILE_NAME used in the BOM file specified in TopSolid'Wood configuration > Files > Parts selection sorting > WoodWop export.

Once you have added and configured the **WoodWop** export, the following script document is created:

Start node		
Bi	ll of material numbering	
Bill of material template	Standard - TopWood IdxTypNbDesRefMatComLenWidTh	
Depth	Multi level	
Regroup identical parts	Yes	
Numbering type	Main numbering	
Numbering mode	AUTOMATIC	
Number parts without type	Yes	
Multi-level mode	No	
Start value	01	
Remove indexes	Yes	

Multi drawings		
Depth	Multi level	
Set to export	ASSEMBLY	
Filter bom by criteria	No filter	
Parts selection filter by criteria	Hardware	
Put together all drafts in one document	Yes	
Multi drawing template	Standard - A3 H Following card TopWood	
Paper format	АЗН	
Multi drawing file name	.\Multi-draft \Draft	

WoodWOP		
Depth	Multi level	
Set to export	ASSEMBLY	
Filter bom by criteria	No filter	
Parts selection filter by criteria	Hardware	
Length always highest dimension	No	
Update machining face	Yes	
Over-thickness	3mm	
Files save path		
Start the application	No	

• Save the file.

Using the script

- To use a **script**, open a **Design** document of the project.
- To launch the **script**, **right-click** on the script to be executed and select **Run the script**.

	Configuration	⊖ Group
0	Open the document	
Bom + Multi-Draft.t	Run the script	opscript
1	Remove the document	

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In the example, the previously created **script** is executed on the following document.



• During the **script** execution, messages are displayed in the alpha bar which let you know whether the **script** has started, which node is being executed and when it is finished.

After launching the **script** in the example document, here are the messages displayed in the alpha bar for each step of the script:

Beginning of the **script**.

Alpha bar

Start of the script Bom + Multi-Draft.topscript

Bill of material numbering.

Alpha bar

Start of the script Bom + Multi-Draft.topscript Bill of material numbering

Multi-drafting and the file containing all the drawings is saved.

Alpha bar Start of the script Bom + Multi-Draft.topscript Bill of material numbering 1 file(s) saved Multi-Draft

WoodWop export and number of generated files.

Alpha bar

Start of the script Bom + Multi-Draft.topscript Bill of material numbering 1 file(s) saved Multi-Draft 21 file(s) saved WoodWop

End of the script.

Alpha bar

Start of the script Bom + Multi-Draft.topscript Bill of material numbering 1 file(s) saved Multi-Draft 21 file(s) saved WoodWop End of the script Bom + Multi-Draft.topscript In the example document, you'll notice that the parts have been numbered and displayed as a bill of material in the tree.

Start page 🚯 Middle_floor_shop * 🕱	
Main Favorite Main set Entities Layers Presentations	
ASSEMBLY: (MIXED) [3] ASSEMBLY: (MIXED) [3] (02) 1. Back. 744.00 - 1444.00 - 10.00 - 744.00 - 1444.00 - 10.0 (02) 1. Back. 744.00 - 1444.00 - 10.00 - 744.00 - 1444.00 - 10.0 (03) 1. Bar unit	
Alpha bar Start of the script Rom + Multi-Draft tonscript	
Start of the script Bom + Multi-Draft.topscript Bill of material numbering 1 file(s) saved Multi-Draft 21 file(s) saved WoodWop	

The **WoodWop** files have been generated to your specified location.

📙 🛃 📙 🖛 High cabinet					-	- 🗆	×
Fichier Accueil Partage	Affichage						^ ?
Épingler dans Copier Coller	Déplacer vers 👻	X Supprimer •	Nouveau dossier	Propriétés	Sélectionne Aucun Inverser la	er tout sélection	
Presse-papiers	Organi	iser	Nouveau	Ouvrir	Sélection	iner	
\leftarrow \rightarrow \checkmark \uparrow \square \ll Projets \Rightarrow	618 > Exports >	WoodWop > AS	SEMBLY > High	cabinet >	~ ē	Recherch	h 🔎
🕂 Téléchargements	^	Nom	^	1	Modifié le	Туре	
🚆 Vidéos		Bottom			18/11/2016 12:03	Dossie	er de fichie
🏪 Disque local (C:)		Left side		1	18/11/2016 12:03	Dossie	er de fichie
🔜 Disque D (D:)		📙 Right side		ŕ	18/11/2016 12:03	Dossie	er de fichie
🛖 Fichiers_hotline (\\SRV-TLS	G-QUA1) (G:)	Тор		1	8/11/2016 12:03	Dossie	er de fichie
🛖 Fichiers_hotline-VPN (\\SR	V-TLS-QUA1) (H:)	Back_0.mp	r	1	18/11/2016 12:03	mpr F	ile Type
👳 Fichiers_WI_7 (\\srv-tls-qua	a1) (l:)	Back_1.mp	r	1	18/11/2016 12:03	mpr F	ile Type
Data (\\srv-tls-gua1) (J:)		Bottom-19	948-11-FACE1.mp	or	18/11/2016 12:03	mpr F	ile Type
Str. () Spr. dev(5) (St)		Left side-1	9953-15-FACE1.m	pr	18/11/2016 12:03	mpr F	ile Type
		W Right side-	19958-18-FACE1.r	mpr	18/11/2016 12:03	mpr F	ile Type
Dbjets (\\srv-dev5) (1:)		述 Top-19939	-21-FACE1.mpr	1	18/11/2016 12:03	mpr F	ile Type
🛖 Attachments (\\srv-tls-tt) (U:)						
🛖 qua (\\srv-data-tlse) (Y:)	~	<					>
10 élément(s)							:== 🖿

Similarly for the file generated by the multi-drafting.

📙 🛃 📙 🖛 Multi-draf	:		-	
Fichier Accueil Parta	je Affichage			^ ?
Épingler dans Copier Coller Accès rapide	Déplacer vers • × Copier vers • •	Supprimer - Nouveau Renommer dossier	Turner terrer t	▼ ■ Sélectionner
Presse-papiers	Organiser	Nouvea	au Ouvrir	
$\leftarrow \rightarrow \land \uparrow $	PC > Disque D (D:) > Projets	> 618 > Multi-draft	√ Ö	Recherch 🔎
🖈 Accès rapide	^ N	Jom Mo	difié le Ty	pe
E Bureau	*	Draft.dft 18/	11/2016 11:58 Do	cument TopSol
Documents	я			
🕂 Téléchargements	*			
1 élément	Y X			

Modifying a script

- To modify an existing **script**, select **Wood** > **Script**.
- From the list of scripts, right-click and select Open the document.

Script documents	×
Configuration	() Group
Bom + Multi-Dra 🤔 Open the document	n plan.topscript
Run the script	
😼 Remove the document	
	New

• Use **Modify element** or **Delete element** and click the node to change the settings or delete the node.

In the following example, the node which appeared in second place has been removed. In order for the **Script** document to work, you need to connect the two remaining nodes.

	Start node
Bi	ll of material numbering
te	Standard - TopWood IdxTypNbDesRefMatComLenWidTh
	Multi level
s	Yes

Regroup identical parts	Yes
Numbering type	Main numbering
Numbering mode	AUTOMATIC
Number parts without type	Yes
Multi-level mode	No
Start value	01
Remove indexes	Yes

WoodWOP			
Depth	Multi level		
Set to export	ASSEMBLY		
Filter bom by criteria	No filter		
Parts selection filter by criteria	All parts		
Length always highest dimension	No		
Update machining face	Yes		
Over-thickness	3mm		
Files save path			
Start the application	No		

- To connect two nodes, select **Modify element**.
- Click the lower part of the node that'll need to be above the connected node.

Bill of material templa

enth

Start node				
В	ill of material numbering			
Bill of material template	Standard - TopWood IdxTypNbDesRefMatComLenWidTh			
Depth	Multi level			
Regroup identical parts	Yes			
Numbering type	Main numbering			
Numbering mode	AUTOMATIC			
Number parts without type Yes				
Multi-level mode	No			
Start value	01			
Remove indexes	Yes			

• Click the **node to connect**.



Bill of material numbering				
Bill of material template	Standard - TopWood IdxTypNbDesRefMatComLenWidTh			
Depth	Multi level			
Regroup identical parts	Yes			
Numbering type	Numbering type Main numbering			
Numbering mode	AUTOMATIC			
Number parts without type	Yes			
Multi-level mode	No			
Start value	01			
Romovo indovor	Vor			

\sim	
WoodWOP	
Depth	Multi level
Set to export	ASSEMBLY
Filter bom by criteria	No filter
Parts selection filter by criteria	Hardware
Length always highest dimension	No
Update machining face	Yes
Over-thickness	3m m
Files save path	
Start the application	No

This also has to be done when a new node must be inserted between two existing nodes.

Parameter edit dialog box

When you edit a parameter, a dialog box appears with which you can, for example, modify dimensions more intuitively.

• Edit a parameter.

The dialog box for editing parameters opens.



- You can then modify the parameter in one of the following ways:
 - By typing the desired value into the appropriate box directly.
 - By entering a modification step and clicking the arrows to vary the step value.

55mm	5.00	🖌 🔀
	- 0	

- By sliding the cursor along the bar to quickly vary the values.

81mm	*	5.00	~	×
-365.	 	2		475.

<u>Note</u>: Select **Tools** > **Options** > **Other** to display or hide this dialog box and change its opacity.

Drafting

Drilling table and index table in multi-drawings

You can include a **drilling table** and/or an **index table** in the **multi-drawing template**. These tables are then automatically completed based on the projected element.

- Create a new **Drafting** document and open an existing **multi-drawing template**.
- Select Wood > Multi-draft and choose Create template.

Two new functions are available: Create table of indices and Create table of drills.

- Create table of indices:
- Select the index table template.
- Position the table by clicking two points in the drawing.

Note: If the drawings are placed in the same document during multi-drafting, the index table will be local to each drawing and will display the indices of the projected element.

First machining face			
Ľ.,			
	INDEX	DATE	Description Author
			TonSo
			И
Second marbining fare			Cutting-up
			Finish -
			Rough -
Ъ			Edges
□×			-
			· _
			Machinning
			-
			Project
			Ref :-
			Customer : -
			MASTER MANUFACTURING PEC

- Create table of drills:

- Choose the drilling table template.
- Select the **reference view** on which the drilling indices will be placed.
- Select the origin point or coordinate system for the drilling's coordinates. Choose **Use reference view origin** to define the coordinate origin as the 2D view coordinate system. Set **Show xy coordinates origin** to **Yes** to view the origin coordinate system.

Y		
Ĩ.		
	_	X

- The Allow inverted drill = Yes/No option lets you display/hide the drillings on the opposite face to the projected face in the view. Define the origin face to calculate the drilling depth by setting Origin for z coordinates = Top face/Bottom face.
- Click **OK** to confirm these two options.

- Specify how the table has to be sorted:
 - **By type of element**: Groups the drillings by type. For example, the table will display the drilled holes, then the tapped holes, then the countersunk holes, etc.
 - **By operation**: Sorts the drillings by operation. For example, if there are tapped holes and countersunk holes, the table will display the drilling and its tapping, then the drilling and its countersinking, etc.
- Next select the types of drillings to be displayed in the table: All drills, Not through drills only or Through drills only.
- In the advanced options >>, you can choose to display the **diameter** or the **radius** of the drilling and use a **diameter/radius constraint** to see only the drillings with a diameter greater or less than 10mm.
- Click two points to position the drilling table and finish creating it.

Result of multi-drawings using a template containing a drilling table and an index table:



View style

The ability has now been added to define **view styles** in order to quickly adjust all the projection parameters. A **view style** is a drafting document containing a view in which various projection parameters are set. This style is then applied to a drafting document or to existing views.

Creating the view style

- To create a new view style, select File > New > Draft document.
- Select Without template.
- Create a blank view. Select View > Main view.
- Click No element.
- The **View creation** window opens. Specify the different projection parameters that you want to apply to the view style. The view style can use the parameters from the following sections:
 - Edges/Rendering
 - Colors
 - Title
 - Representation/Schematic
 - Exceptions

In the example below, the view style will apply to the following parameters:

- Edges/Rendering: The smooth edges will be displayed in half-intensity and the view will be shaded.
- **Colors**: The visible lines will be projected in black.
- **Title**: No title will be displayed on the view.
- **Representation/Schematic**: The shapes will be projected in detailed representation.
- Exceptions: A multi-criteria filter will be used to prevent the Hardware parts from being projected.

iew creation	×	View creation			>
Coordinate system Exceptions Other	options View	Coordinate system E	Exceptions Other options	View	
Scaling factor		Filter name	Filter type De	escription	
Ausolule Relative to drawing		Hardware	BY CRITERIA		
Scaling factor: 1.00000000000					
Edaas / Bandarina					
Smooth edges> HALF INTENSITY	~				
Hidden lines > HIDDEN	~				
Shading view					
Smooth hidden edges					
Use shapes transparency					
Curves hidden by shapes		List of elements to c	consider for the filter:		
Project tappings			Pa	art exclusion	> EXCLUDED
Colors			Sm	nooth edges	> NO EXCEPTION
isible lines >	Camera 2D view		ш.		
mooth edges >	TOP	All elements exce	ept	uden intes	NO EXCEPTION
idden lines >	or 3d view or 3d coordinate system or face		A	l edges dges	
latch lines >			Sr	mooth edges idden lines	>
hading >	Representation / Schematic				
Keep faces and edges color			Vis	sible lines	> —
Title	Components detailing projection		Sm	nooth edges	
Title at bottom	Drills symbolic projection	Maddin - Anala Charas III			
) Free position	3d reference point	Multi chitena hiter > Hi	aluwale Y Hid	dden lines	>
No title	3d reference point:		Ha	atch lines	>
Scaling factor in title	ABSOLUTE COURDINATE STSTEM		Sh	ading	>
Title :	Automatic pattern choice Trimming volume	۵dd -	new filter	it part	
Title text height: [6.35mm	Volume:	Mod	lifu filter	, par	
Rotation angle: 0.000*	Inversion of trimming volume	Sunn	ress filter	laded part	> NO EXCEPTION
		Supp			
	OK Cancel		OK	Cancel	

• Place the view in the document.

Note: A **View style** document can contain only one view and must not reference other documents.

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- Select View > Define style.
- Choose whether the view style will be saved in **local** or **group** configuration.
 - Give the style a **name**.

Configuration= USER 🗫 Name: Style1 - Without hardware

<u>Note</u>: The view style documents have the same extension as the drafting files (.dft) and are saved in **Config/Template/ViewStyle** or **Group/Template/ViewStyle**.

• For each parameter, specify whether you want to forbid any modification.

In the following example, changing the title and the representation is not permitted. Once the **style view** is applied, the **Representation/Schematic** and **Title** settings will be disabled when modifying a view.

OK Disable modification for settings : Edges / Rendering= NO + Color= NO + Title= YES + Representation / Schematic= YES + Exceptions= NO +

Note: This ensures that all drawings produced using this view style will have the same projection parameters.

Using the view style

The view styles can be used either through drafting templates, or directly in an existing drawing.

Creating a drafting template using a view style

When a view style must be used each time a drafting template is used, you need to define the default style in the drafting template document.

- Select **Config/Template** or **Group/Template** and open the drafting template to be modified.
- Open File > Properties > Drafting view > View style.
- Click Apply view style on all new created views.
- Select the default view style to be used with the drafting template.

View style	
◯ Not apply view style	
Apply view style on all new created views	
View style > Style1 - Without hardware	~

• Choose the settings of the view style to be applied by selecting/deselecting the corresponding boxes.

In the example, all settings are selected except the **title**. The views that will be created will not retrieve the settings defined in the **Title** section of the **view style**. All other settings will be applied.

Select settings of view style to apply :	
Edges / Rendering	
Color	
☐ Title	
Representation / Projection	

• Click **OK** to confirm the settings.

Using a drafting template with a view style

• Create a new drafting document and create a view.

In the following example, the parameters are those set in the **Style1 – Without hardware** view style that you created previously. The view is **shaded**, the **hidden lines** are **hidden**, the **visible lines** are **black**, no **title** is specified, the projected shapes are displayed in **detailed representation** and an **exception** excludes the **Hardware** parts.



<u>Note</u>: The **Representation/Schematic** parameters are disabled since it has been specified in the style definition that no changes to these parameters are permitted. Changing the **title** is also forbidden, but no title must appear on the view as defined in the view style.
Using a view style in an existing drawing

A view style can also be applied to existing views.

- In a drafting document containing one or more views, select View > Apply style.
- From the drop-down list, select the **view style** you want to apply.

For example, you can use the previously created view style.



Specify the settings to be applied.

In the example, only the selected **Edges/Rendering** and **Colors** settings of the **view style** will be applied. The view will be **shaded**, the **hidden edges** will be **invisible** and the **visible lines** will be displayed in **black**.

ALL VIEWS Setting to apply : Edges / Rendering= YES + Color= YES + Title= NO + Representation= NO + Exceptions= NO + View to modify

• Select the views on which to apply the style.

In the example below, all the document's views have been selected.



You can also **copy the projection settings of an existing view** to apply them to other views of the drawing or another drafting document.

- In a drafting document containing one or more views, select View > Apply style.
- Select the **reference view** containing the settings to be copied.

Note: To click a view of another drafting document, click the corresponding tab and select the view you want to use.

In the following example, the shaded view is selected to apply its projection settings to the other two wireframe views.



• Once you have selected the view, define the settings to apply.

ALL VIEWS Setting to apply : Edges / Rendering= YES + Color= YES + Title= YES + Representation= YES + Exceptions= YES + View to modify

• Finally, click the views to be modified.

Result:



Modifying the view style

- Go to Config/Template/ViewStyle or Group/Template/ViewStyle.
- Open the document containing the **view style** to be modified.
- Use Modify on the view to edit the projection settings.
- To change the forbidden settings, select **Main view > Define style**.
- When you're finished making changes, click **OK** to confirm and save the document.

<u>Note</u>: A view style is not associative, which means that if the view style you have modified was already used, the views on which the style was applied will not change.

View alignment

Views can be aligned quickly using Adjust alignment.

For example, let's use the following drawing:



• Select View > Adjust alignment.

Gray arrows show the existing alignments such as the alignment between a reference view and its auxiliary views.



Note: The alignments indicated by gray arrows cannot be changed. However, the views can be moved along the axis of this alignment.

• Click an edge of the view to be aligned.

In the example, the cross section on the bottom left of the drawing will be aligned with the drawing's reference view. An edge of the cross section is selected.



Next click an edge of the reference view for alignment.

The corresponding edge is selected in the reference view.



Once the views are aligned, a green arrow appears.



<u>Note</u>: The green arrows represent the alignments that you can change.

- To edit an existing alignment, start View > Adjust alignment.
- Click the arrow of the alignment to be modified, on the side of the edge to be replaced.

In the example, the created alignment will be changed to align the cross section with the top view of the item, so you need to click on the right portion of the arrow.



- Select Reconnect.
- Click the reference edge for alignment.



Result:



<u>Note</u>: Arrows may appear in red, which means that one of the two geometries used for alignment no longer exists. You need to select **View > Adjust alignment**, click the red arrow, and **reconnect** it to an existing geometry.

White background

The drawing's backgrounds contained in a drafting document are now white.

- To change a drawing's background to white, select Modify element.
- Click a drawing's border.
- Select White background.

Modification	×
DRAWING Printer Drawing	
Paper format > A3H Width : 420.000mm	
Sutting Street J., 3 Corner size Corner width	: 10.000mm : 2.000mm
Scaling factor: 0.100000000000 Folio number : 1	
ОК	Cancel

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The modified drawing is on a white background.



<u>Note</u>: All **TopSolid** templates are now using a white background. If you want the existing user templates to have this white background too, you need to open each template document and make the change.

Margins in multi-drawings

You can use the margins defined in the paper format for multi-drafting.

- From a **Drafting** document, select **Tools** > **Options** > **Drawing**.
- Specify the **dimensions**, the **margins** and the **name** of the paper format.

Drawing	
Paper format	> A4V-Margin ~
Width	: 210.000mm
Height	: 297.000mm
Name	: A4V-Margin
Left margin	: 8.000mm
Right margin	: 8.000mm
Bottom margin	: 10.000mm
Top margin	: 10.000mm
Nb of horizontal divisions	: 4
Nb vertical divisions	: 4

- To be able to use these margins, check Use drawing's margins in multi-draft in Tools > Options > TopSolid'Wood configuration > Draft.
- Create multi-drawings and set Put together all drafts in one document to YES.



Offset between dimensions

The offset between dimensions defined in the **multi-drawing template** or in **Tools** > **Options** is no longer based on the drawing scale factor, providing improved readability of dimensions.

- Open a multi-drawing template.
- Specify the **dimension offset** in **File > Document properties > TopSolid'Wood properties > Draft**.

Document properties		×
Document properties TopSolidWood properties Units General General information	Draft Scale factor given by extend of views Scale factor Free scale factor Royarder Sup	Elements to dimension Dimension drawings Part dimensions Diffing dimensions
	Print tool code in notes Print tool designation in notes Text height (h): [2.500mm Dimensions offset (x h): [3.00 Cancel	Edge matter and coating Edge length Over dimension length Calibration overvaluation

• Create **multi-drawings** from a project.

Missler Software

Below is a comparison between multi-drawings produced in the 2016 release and multi-drawings produced in the 2017 release.

Version 2016

Version 2017

The offset between dimensions is based on the drawing scale factor. The offset may change from one drawing to another.

The offset between dimensions is no longer based on the drawing scale factor. The offset is the same for all drawings.



Interfaces

BIM IFC import/export

Import

Enhancements include the ability to import **IFC** files into TopSolid. The shapes and properties contained in these **IFC** files are retrieved in a .top file tree.

- To import an IFC file, select File > Open.
- Select the file and click **OK** to confirm.
- Choose the directory where you want to save the .top files resulting from the import.

A window providing a document overview appears. The check boxes let you choose whether you want to import the selected shapes, by building, by floor, etc.



<u>Note</u>: The retrieved shapes are **polyhedral** shapes. The imported properties are copied into the set of **associative IFC properties**.

对 PROPRIÉTÉS IFC ASSOCIATIVES : (7)
🚊 🖋 PSet_Revit_Constraints : IFC property (1)
PSet_Revit_Constraints.Elevation : parameter = 0m
⊨ 🗩 PSet_Revit_Type_Graphics : IFC property (6)
PSet_Revit_Type_Graphics.Line_Weight : parameter = 1
$oxed{ imes}_{ au} \overline{\mathbf{T}}$ PSet_Revit_Type_Graphics.Line_Pattern : character string
$\oplus \bar{\mathbf{T}}$ PSet_Revit_Type_Graphics.Symbol : character string
PSet_Revit_Type_Graphics.Symbol_at_End_1_Default : parameter = 0
PSet_Revit_Type_Graphics.Symbol_at_End_2_Default : parameter = 1
i∎∭ IfcBuildingStorey : IFC property (1)
🗄 🐋 PSet_Revit_Other : IFC property (1)
⊞ 🐋 PSet_Revit_Identity_Data : IFC property (1)
PSet_Revit_Type_Constraints : IFC property (1)

Export

You can export the shapes and the IFC properties to IFC format. To do this, select File > Save as and choose the IFC format (*.ifc).

Miscellaneous

- The **Part category** property can be used in the part selection dialog boxes.
- You can import the windows of a **Sky** light with a component. To achieve this, you need to include the **Sky** light in the component's main set, with the windows. The windows will be added to those of the assembly's **Sky** light.
- When using a **workspace**, you can define **context sets** to group elements to be used as contexts in multiple workspaces. These sets make the **workspaces** much easier to draft, as well **final assembly**.
- Using **Shape > Other shapes > From bitmap**, you can create a surface from an image inserted in TopSolid.
- When you create a sawing operation, a groove operation or a user machining, you can select several guide curves.

What's New in TopSolid'SheetMetal v6.18



This section describes the enhancements made to the version 6.18 of TopSolid'Punch and TopSolid'Cut.

TopSolid'Punch and TopSolid'Cut

Importing a family of V7 unfoldings

A new menu function lets you automatically create all the PART documents for the various variants defined in a V7 family document.

Creating a family of parts in TopSolid 7

• Example of a sheet metal part created from a sketch on which parameters have been defined.



• Consider the following family document linked to the sheet metal part in which catalog codes and parameters values have been defined.



- Unfold the part.
- Check the document into the vault.

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Importing the unfolding and preparing the part's machinings

In **TopSolid'SheetMetal**, create a part document based on the unfolding using **Import single part**.



• Place the machinings and save the document.

Creating the family's part documents while retaining the machinings updated

• From the current document, select Import v7 family.

	File	Manage	Edit	Punching	Attachs	Loader/Unloader	Miscella
		• 🖻	- 1		M	à 🗋 🗖 🔰	K 5
8		8		2 C		> 🛆 🖏 🔊	75
Choose	A B	on in the m	ienu or	select an eler	nent:	.Sec.	
3	<u></u>)					
-	5	Import v7	family	/			
F."		. 🖬	* * * * *			******	
11	F						

• The system will ask you whether you want to complete the existing machinings with automatic allocation and whether the family's parts must be included in the Task manager.



• Choose the directory where you want to save the unfoldings derived from variants.

Fol	der of unfolded d	ocuments of th	e family	×
	Choose a D	estination folder		
REROUTER				
Create new fo	lder	ОК	Cancel	

- The PCH documents are generated and named by concatenating the catalog code and the document's original name.
- Each PCH document is automatically linked to the unfolding created in TopSolid 7.



Creating a part family without original document

 When you call up the Import v7 family function from an empty PCH document, you are asked to choose an unfolding whose 3D part has at least one family. In this case, all the project's unfoldings are not available in the Project Explorer.



• Select the unfolding and the destination directory.

• Specify the machine and the other general parameters.

Gene	eral parameters : Piece2.A	pch 🛛 🔀
	Machine	Matter V Forced
	aries245	Acier
	lo2415alpha Ivdomega oxycoupeuse trumpf240laser trumpf5030	acier XC AL D'ALU Béton Béton.arme Butyl Chloroprène inox
	Matter typ	Thickness 4.00mm
i Terret	Cutting Gaz]
	Cutting parameters selection By contour	
	Liberties Rotation forbidden Syn Familly	Part colouring
	Importation Only closed composit curves	Opened lines and arcs
	Texts Simplify all Texts	: Given Text colour 2 v
	Default wanted quantity 1	
	Use part holes during complex	nesting
		Ok

• Choose the directory where you want to save the unfoldings.

		Source and the second second	
	Several families are assoc	ciated to the unfolded part document	
REROUTER			
Ma tole B	3		
	, Piece2 Piece2F2 : Famille 13		
Tubes Famille BOITEB			

• All PCH documents have been created and named by concatenating the catalog code and the unfolding name.

Task Manager

Comment column

A new **Comment** column has been added to the Task Manager's **Parts** and **Matters** tabs.

1 7	Filter	Ж																			
Ref.		Des.	Set	Pla	ne Com.	Customer	Mat M	atTyp Th.	Qty	Nb set	Qty +	Qty max.	Fam.	Comp.	Prio.	Nb ent.	Deadline	Mac.	Gaz	Tur.	Commer
	1						Acier	1.50mn	5		0	0	-1	No	0	1	03/12/2015	aries245		aries245	
	1				Counters		Acier	1.50mn	1		0	0	-1	No	0	1	06/07/2015	aries245		aries245	
	2				Counters		Acier	1.50mn	1		0	0	-1	No	0	1	06/07/2015	aries245		aries245	
	2						Acier	1.50mn	6		0	0	-1	No	0	1	03/12/2015	bystronic	02		
Matt	ters Nes	sted parts	s Nestings (Orders																	
Matt	ters Nes Filter	sted parts	s Nestings (Drders					1.25	1225 11	Taria a							_	_		
Matt	ters Nes Filter atter M	sted parts	s Nestings (pe Th.	Drders Des.		1	_ength	Width	Q.	Free qty	Wast	e Store	d shee	t Area			Date 🤇	Comment	>		
Matt	ters Nes Filter atter M	sted parts X	s Nestings (pe Th. 3.00mm	Drders Des.		1	_ength 1000.00mr	Width 1000.00mr	Q.	Free qty Yes	Wast No	e Store No	d shee	t Area 1000	000.00)Omm²	Date (28/06/2016	Comment	>		
Matt	ters Nes Filter atter M Acier Acier	sted parts X	s Nestings (pe Th. 3.00mm 2.00mm	Drders Des.		1	_ength 1 000. 00mr 1 000. 00mr	Width 1000.00mr 1000.00mr	Q.	Free qty Yes Yes	Wast No No	e Store No No	d shee	t Area 1000	000.00	00mm²	Date 42/06/2016 17/12/2015	Comment	>		
Matt	ters Nes Filter atter M Acier Acier Acier	sted parts	s Nestings (pe Th. 3.00mm 2.00mm 2.00mm	Drders Des.		1	_ength 1 000.00mr 1 000.00mr 2000.00mr	Width 1000.00mr 1000.00mr 1000.00mr	Q.	Free qty Yes Yes Yes Yes	Wast No No No	e Store No No No	d shee	t Area 1000 1000 2000	000.00	00mm² 00mm² 00mm²	Date 28/06/2016 17/12/2015 21/07/2015	Comment	>		

The comment information is retrieved from the PCH document when the part is inserted into the Task Manager, and it can be edited by double-clicking in the **Comment** column of the desired line.

Mac.	Gaz	T	Comment
tl3030	HS		Part modify
tl3030	HS		Part modify
tl3030	HS		Part modify

The part comments are already displayed in the standard operator card.

If the Task Manager's comment column is empty, the comment of the PCH document is displayed instead.

The matter comment can be displayed in both the simple order operator card and the complete order operator card (orderopcardcompl.full).

-	_	Date			22-08-	2016	
Τ	ากริก	Files	path F:\	projets\6.18\7	7-TCK 3958 C	Colonne	e commentaire
	Sheets	Mach	nin		aries	245	
	Sheeth	Matt	er		Aci	er	
		Thic	kness		10.00	mm	
		Auth	nor name				
2		0 R	DER) A T A S	;		
Weigl 714.8	nt: Mac 2g ur	0 R chining time : determined	DER Global waste 99.1 %) A T A S rate: She	ets qty : 1	P	arts qty: 1
Weig 714.8	nt: Mao 2g un	0 R chining time : idetermined M A T	DER Global waste 99.1 %	DATAS	ets qty : 1	P	arts qty: 1
Weig 714.8 MATTER	nt : Mac 2g ur MATTER TYPE	0 R chining time : idetermined M A T	DER C Global waste 99.1 % TERS	DATAS	ets qty : 1 S AREA (mm?)	P	arts qty: 1

Each part's comment is also available in the complete order operator card, in the table of parts for each nesting.



New columns in the archive file

New columns have been added to the Task Manager's archive file:

- In the Nestings tab:
 - Column O: From a waste
 - If the nesting has been performed from a waste, the value Yes will appear in this column.
 - Column T: Extracted waste
 - If a waste has been created from this sheet, the value **Yes** will appear in this column.
 - Column U: Comment
 - Nesting comment.
- In the **Parts** tab:

0

- Column U : Average time per part <u>Warning</u>: It is only available for orders created from the 6.18 release.
- Column V : Weight
 - Weight of the single part.
- Column W : Comment
 - Part comment.

Nesting in holes

In both **Insert parts** and **Move parts** manual nesting functions, an option that lets you nest in part's holes has been added at the first level.



In the previous release, this option was available in the **Parameters** dialog box.

Displaying sheets with dotted extracted wastes

When a waste has been created and the sheet has been resized, the wastes are now displayed with dotted lines.



Waste surface displayed in order operator card

In the complete order operator card, a new word allows you to display the surfaces of wastes extracted from the sheet.

The reference template operator card can be found in \Missler\V618\Local\EnglishUS\OrderOpcardCompl_full.dft.

Below is an example of result for a sheet with an extracted L-shaped waste:

Name: #name_matter# Used waste: #name_iso#	#matter_desig	nation#ame_prog_	_iso# Ñ#	‡name_	p₩ <u>g</u> iso#Ê [#] Ó ^{pa}
Gross dim : #grossdims_matter# Useful dim. : #usefuldims_matter#		Waste dim : Waste des. : Waste area. :	#waste #waste	des_matter# anns_matter# surfs_matter#	5
Machining time : #time_matter# Total machining time : #totaltime_matter	Matter: #r #Thickness:#tl	natter_sheet# hickness_sheet#	Total	parts qty :	#qtyparts_matter#

Name: surf#01 surfT01	.meg	Used waste:	÷			Nb:	1
Gross dim : Useful dim. :	2000.00mmx 400.00mmx5	(1000.00mm 500.00mm		Waste dim : Waste des. : Waste area. :	sun#01#W=Adier#T=2.00 2000.00mm × 1000.00m 1785800.000mm?	0mm# i= 0 m	
Machining time Total machining	55.2 time: 55.2	1s 1s	Matter: Ac Thickness: 2.0	ier DOmm	Total parts qty :	1	

SURF	

Multi-order operator card

You can create a common operator card for several orders. A template can be found in **\Missler\V618\Local\EnglishUS\MultiOrdersOpcard.dft**.

Top	Solid	Date	#date_	order#
She	etmetal	Author name		
	U		ATAS	
Weight : #weight_order#	Machiningti #time_orde	me: Global waste rat er# #waste order	e: Sheets qty: #nbsheets order#	Parts qty : #nbparts_order#
MATTER MATTER	type Thicknes	is (mm) designation dim	ENSIONS (mm) AREA (mm²)	QTY COMMENT
	N E	STINGS [IATAS	
FILE DES. DROSS DIM. (mm	USEFUL DIM. (mm)NB	MACHINING TIME (mn s) TOTAL MACHI	VING TIME (mn s)WASTE RATEPAR'S	OTYTOTAL PARTS OTYMACHINE

This template lists the matter data, the nesting documents, and the details of each command for each order in summary tables.

To enable this feature, you need to copy the operator card template into the **\$PUNCHDATA** folder.

In the Task Manager's **Orders** tab, if you select several orders and you enable the interval function to create the multiorder operator card, a new dialog box lets you choose whether you want to create an operator card per order, or an operator card common to all the selected orders.

ans	Matte	rs Nested pa	its Nesting:	; Olders					
3	Creal	ted Orders							
1-1-4	Ĭ	Filter	K						
		Order name	Origin name	Matter	Mat. Type	Th.,	Different sheets Nbr.	Full sheets Nbr.	Global w
	0	21jul			MULTI C	RDERS	OPERATOR CARD		88.07%
	0	21julb		1				1	82.32%
1	0	25JUL	C	One ope	rator card pe	er order			97.89%
-	0	25JUL bis		Operator	card.comm	on to all s	elected orders		95.79%
2	Q	28 juin		1		10			85.08%
2	O	Comment	Fol	der C. Yua	ras /biolers /c	0.10			99.08%
N	0	surf	Na	Name of operator card Common Opcard					90.00%
1.					ПК		Cancel		

After this, you have to specify a name for the resulting operator card as well as the folder where it should be saved.

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Example:

	·	_ M	L ! _ !		Clabalian I		<u> </u>	-11		D		
We 28.	.43kg	Mac 52	2mn 41.93	me: Bs	610bal wast 87.2 %	e rafe :	She	ets qty : 7		Ра	rfs qfy 157	/:
			M	. т			т.	6				
			M A	4 1	IERS	υA	IA	2				
MATTER	MATT	ER TYPE	THICKNES	S (mm)	DESIGNATION	DIMENSIO	NS (mm)	AREA (mm	²) (ATY	COMMEN	Т
Acier	-		2.00		-	2000.00x10	00.00	2000000.0	00 6	5	-	
Acier	-		10.00		-	1000.00x10	00.00	100000.0	00 1		FORTE	
2 1jul#01.meg 21jul#02.meg 21jul#03.meg 21julb#01.me	- 2000 - 2000 g - 2000	0.00x1000.00 0.00x1000.00 0.00x1000.00	357.72x874.01 236.90x878.00 680.00x1000.00	1 5mr 1 1mr 1 13m	1 34.60s 5 1 48.82s 7 nn 52.32s 7	5mn 34.60s 1mn 48.82s 13mn 52.32s		90.6 % 96.4 % 75.2 %	9 2 48	9 2 48		aries245 aries245 aries245 bystronic
21jul#01.meg 21jul#02.meg 21julb#01.meg 21julb#01.me 21julb#02.me 21julb#03.me Comment#01.	- 2000 - 2000 - 2000 - 2000 - 2000 - 2000 - 2000 meg - 1000	0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00	357.72x874.01 236.90x878.00 680.00x1000.00 480.00x1000.00 280.00x1000.00 142.50x65.00	1 5mr 1 1mr 1 13m 1 9mn 1 6mr 1 41.1	1 34.60s 1 48.82s nn 52.32s 1 56.79s 1 38.22s 1 7s	5mn 34.60s 1mn 48.82s 13mn 52.32s 9mn 56.79s 5mn 38.22s 5mn 38.22s		90.6 % 96.4 % 75.2 % 82.2 % 89.6 % 99.1 %	9 2 48 37 25 1	9 2 48 37 25 1		aries245 aries245 bystronic bystronic bystronic aries245
2 Jul#01.meg 21jul#02.meg 21jul#03.meg 21julb#01.me 21julb#02.me 21julb#03.me 21julb#03.me Comment#01.	- 2000 .g - 2000 g - 2000 .g - 2000 .g - 2000 .g - 2000 .g - 2000	0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 FUI	357.72×874.01 236.90x878.00 680.00×1000.00 480.00×1000.00 280.00×1000.00 142.50×65.00	1 5mr 1 1mr 1 13m 1 9mr 1 6mr 1 41. ⁻	n 34.60s = 1 148.82s = 1 n 52.32s = 1 n 56.79s = 5 n 38.22s = 0 17s = 0 T A S	imn 34.60s Imn 48.82s I3mn 52.32s I3mn 56.79s imn 38.22s 41.17s	1 M	90.6% 964% 752% 82.2% 89.6% 99.1%	9 2 48 37 25 1	9 2 48 37 25 1		aries245 aries245 aries245 bystronic bystronic bystronic aries245
2 Jul#01meg 2 Jjul#02.meg 2 Jjul#03.meg 2 Jjulb#01.me 2 Jjulb#02.me 2 Jjulb#03.me Comment#01.	- 2000 - 2000 g - 2000 g - 2000 meg - 1000 meg - 1000	0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00	357.72×874.01 236.90x878.00 680.00x1000.00 280.00x1000.00 280.00x1000.00 142.50x65.00	1 5mr 1 1mr 1 1mr 1 3mr 1 9mr 1 6mr 1 41	n 34.60s 5 148.82s 7 nn 52.32s 7 156.79s 5 n 38.22s 7 17s 7 T A S	imn 34.60s Imn 48.82s I3mn 52.32s i3mn 52.32s ismn 38.22s i1.17s	1 M	90.6% 96.4% 75.2% 82.2% 89.6% 99.1%	9 2 48 37 25 1 1	9 2 48 37 25 1	5 OFOOR	anies245 aries245 bystronic bystronic aries245
2 Jul#01.meg 2 Jjul#02.meg 2 Jjul#03.meg 2 Jjul#03.meg 2 Jjulb#01.me 2 Jjulb#03.meg 1 julb#03.meg 1 julb#03.meg 2 julb#03.meg 3 julb#03.meg 3 julb#03.meg 4 julb#03.meg 4 julb#03.meg 5 julb#03.meg 5 julb#03.meg 6 julb#03.meg 6 julb#03.meg 7 julb#03.meg 8 julb#03.meg 9 julb#03.meg 9 julb#03.meg<	- 2000 - 2000 g - 2000 rg - 75 rg - 2000 rg - -	0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x11000.00 0.00x11000.00 1.00x1000.00 0.00x1000.00 0.00x10000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000000000000000000000000000000000	357.72×874.01 236.90x878.00 680.00x1000.00 280.00x1000.00 280.00x1000.00 142.50x65.00	1 5mr 1 1mr 1 1mr 1 3mr 1 3mr 1 3mr 1 41. 1 41.	n 34,60s = 1 148,82s = 1 n 52,32s = 1 55,79s = 5 n 38,22s = 1 17s = 1	imn 34.60s Imn 48.82s I3mn 52.32s imn 56.79s imn 38.22s i.1.17s	1 M	90.6% 96.4% 75.2% 82.2% 89.6% 99.1%	9 2 4.8 37 25 1 25 1 1	9 2 48 37 25 1	5 OFCOR 21jul	aries245 aries245 bystronic bystronic bystronic aries245
21jul#01.meg 21jul#03.meg 21jul#03.meg 21julb#01.me 21julb#02.me 21julb#02.me 21julb#03.me 21julb#03.me 21julb#03.me 21julb#03.me 21julb#03.me 21julb#03.me 21julb#03.me 21julb#04.me 21jul	- 2000 - 2000 g - 2000 rg - 7000 rg 2000 752.00 rg 2000 750.00 rg 2000 750.00	0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x11000.00 0.00x11000.00 1.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000.00 0.00x1000000000000000000000000000000000	357.72×874.01 236.90x878.00 680.00x1000.00 280.00x1000.00 280.00x1000.00 142.50x65.00	1 5mr 1 1mr 1 1mr 1 3m 1 3m 1 5mr 1 4mr 1 4m	n 34, 60s = 1 148, 82s = 1 n 52, 32s = 1 56, 79s = 5 n 38, 22s = 1 156, 79s = 5 n 38, 22s = 1 17s = 1 17s = 1 17s = 1 13% = 1 1	imn 34.60s Imn 48.82s I3mn 52.32s imn 56.79s imn 38.22s inn 38.22s inn 78 imn 38.22s imn 38.25s imn 38.25	1 M ^{107,4,47,00}	90.6% 96.4% 75.2% 89.6% 99.1% PQL 745 0400 mm d 18m 35.005	9 2 48 37 25 1 25 1 1 27 4 8 5 25 1 27 4 40 5 5 5 1 2 5 1 2 5 1 2 5 1 2 5 2 5 1 2 5 1 2 5 1 2 5 1 2 5 1 2 5 1 2 5 1 2 5 1 2 5 1 2 5 1 2 5 1 2 5 1 2 5 1 2 5 2 5	9 2 48 37 25 1	5 OFCOR 21jul Common	aries245 aries245 bystronic bystronic bystronic aries245

What's New in TopSolid'WoodCam v6.18



This section describes the new features in the version **6.18** of **TopSolid'WoodCam**.

Template machine

Post-processor's default values in the machine template creation

In the **Misc. machine definition** window, the option to display the post-processor's dialog box is selected by default. In the case of a mixed machine pool including a number of post-processors, this feature prevents you from selecting a post-processor which is incompatible with the machine template.

Affect post-processor	
Directory : C:\Missler\Pp	
Name >	v <u>–</u>
✓ Display post-processor dialog box	

Warning message if link movements and machine template are not linked

If user link movements have been assigned to a unit of the machine and this macro can no longer be found by TopSolid - for example because the directory has been changed or the file has been renamed or deleted - an error message appears in the alpha bar.

Alpha bar	P 🗵
Frame approach macro not found (5XFrameMvt.app).	^
	~
4 Messages Named parameters Measures	۵

Saw machining on the bottom face

Some small-footprint machines make it possible to machine above and below the part. This strategy requires you to choose the blade unit to be used, since the frame of the saw machining is the same for an operation performed above and an operation performed below.

The blade unit is selected according to the priorities of operations. If an operation is defined on the main positioning, the main unit will be used.

Alternatively, if the operation is defined on the secondary positioning, the secondary unit will be used.

The selection is done in Misc > Machine > Tool units.

			Spindl	es fami	ily	 ×
Name Spindle	> axis>	Blade unit Y+ (0, 1, 0)				v v
Image:						 - 🚄
Propert Family>	ies Blad	e unit				~
Type > Group>	Mair					 v
Approa	ich	Tool change Wcs change		: Zoni : Zoni	y y	<u>i</u>
Retrac	te	Tool change		: Zoni	y	
		Wcs change		: Zon	у	i
Family Availa	spindl ble sp	es list indles	In <-	iseit> • Delete	Spindles TS50	
			ОК	Ca	ncel	

To enable the operations under the part, you need to check **Select valid operations under the part** in **Misc** > **Machine** > **Misc modifications**.

Operations analysis	
Select valid operations under the part	

Configuring the bottom face's origin

The **Origins** function lets you choose how to position the origin on the bottom face.

As with other faces, you need to select the face to be modified (**Bottom**) and choose the position of the origin on the face (**Bottom left, Bottom right**...). The positions on the bottom face are described as if the part had rotated 180° around X. The new images show you where the origin is located on the 3D part.



When positioning the part, if the Misc > Machine > Misc modifications > Options > Create frame under the part (if kinematics allow it) option is selected, a frame is created on the part's bottom face.

Frames projected on the stock or finish

A new option available in **Misc** > **Machine** > **Misc** modifications allows you to offset the frame's origins to the nearest face of the stock or the finished part's bounding box. This option ensures the compatibility of **TopSolid'WoodCam** with BiesseWorks and Maestro systems which do not tolerate the tilted planes with an origin outside the part.

Group work

Group processes

Processes can now be used in a group configuration. The list of available processes is divided into three categories:

- *** STANDARD PROCESSES ***: These processes are provided by Missler Software.
- ***** USER PROCESSES *****: These processes are created by the user locally and are stored in \$TOPCONFIG.
- ***** GROUP PROCESSES *****: These processes are created and shared by a user in group configuration. They are stored in \$TOPGROUP.

Group link movements

The principle of user or group processes has been extended to link movements. You can share link movements from TopSolid without moving folders from \$TOPCONFIG to \$TOPGROUP.

- *** **STANDARD APPROACHES** *** / *** **STANDARD RETRACTS** ***: These link movements are provided by Missler Software.
- *** USER APPROACHES *** / *** USER RETRACTS ***: These link movements are created by the user locally and are stored in \$TOPCONFIG.
- ***** GROUP APPROACHES *** / *** GROUP RETRACTS *****: These link movements are created and shared by a user in group configuration. They are stored in \$TOPGROUP.

Script

Multi-machining node

The **Script** function lets you configure and execute one or more multi-machinings. You need to create a new script or edit an existing script, and then click the **Multi-machinings** icon to create a **Multi-machinings** node.



Once the node has been included in the script, you only have to configure the BOM, filter and machining parameters.

You can string together several **Multi-machinings** nodes using different filters, different bills of materials, different machines, etc.

the Multi-machinings icon to		(TABLE)	d/bCadar	
		Table 1	14.01	
		from the section in	the other	
		Certe meriller in orthog	B raria	
		for the second	and a second	
		and the second to	Particular Inc.	
		×	Para	
			5/8.9	
Properties	Values		USCR TO/PLAILS	
Bill of material			USER TEMPLATES	
Template	IdxNbDesRef		140	
Depth	Multilevel))m	
Filters			Tes .	
Born by criteria	No filter		- 70m	
Parts selection by criteria	All parts		-	
Set to export	ASSEMBLY		Single	
Mode	Positionning, machining and i	so blocs	1.700	
Turn over the part on another	Stop			
Machine templates			140	
Main positioning	TopSolid"WoodCam 3X Flat T	able	(Test)	
Secondary positioning	*** LISEB TEMPLATES ***		10	
Machining files			rig .	
Save	Yes		-	
Close window after saving	Yes		r	
Diversitie files if exist	Yes			
Create sets sub-directories	Yes			
Directory	100		-	
			schinings	
Generate an ine file	Single		Idd4bDaafas7	
Create and such disasterias	Single		hrhaft lannal	
Create sets sub-directories	165		No flar	
Directory			A pera	
Documents			ASED ALL Y	
Fill documents	NO		Dationing	
Lifeate sets sub-directories	res		Des	
Directory			THE INT ID IS AT S	
Slave parts				
Use slave parts	No		AND DESCRIPTION OF	
Directory				
			- 1000	
			- 700	
			Shida .	
Enter the machining files directory			- 744	
			No	
	OK Cancel		100	
		///		
		Line shrive contax	No	

Link movements

Calling up link movements

You can call up retract movements by right-clicking on an operation. The F4 or Shift+F4 shortcuts still work.



Comments in approach and retract macros

You can save a comment related to a link movement.

Comments	
- XY_Z optimized (for 3 axes machine) - Created by XXXXX 12.15.2017 - Updated by XXX 12.21.2017	^ <u> </u>
	8
	- -
<	,

When this link movement is assigned to a tool unit, the comment appears when you click the Information icon.

Tool change	: DNFIG/InterOp/App/MyApp3Axis.app	i
Wcs change	:	1

The comment is displayed at the end of the ASCII file in the following form.

Information \$TOPCONFIG/InterOp/	×
R0	^
11024	
12	
I-1	
10	
BF	
S3	
- XY_Z optimized (for 3 axes machine)	
- Created by XXXX 12.15.2017	
- Updated by XXX 12.21.2017	
	v

Aggregates

Managed multi-spindle drilling aggregates

To machine holes aligned with a multi-drilling aggregate when the number of holes is not a multiple of the number of tools available on the aggregate, you need to move the aggregate backwards to X times the distance per instance. For the following 5-spindle aggregate, which only has 4 mounted tools and must machine 10 holes, the aggregate will move down 3 times.

- Step 1: 4 holes are drilled, 6 holes left to be done.
- Step 2: 4 holes are drilled again, 2 holes left to be done.
- Step 3: The driven tool (1) moves down into the hole 7 of the propagation and the tools 3 and 4 of the ramp drill the holes 9 and 10 of the propagation.



This method is also available for the fixed ramps of the machine. To enable it, select **Document properties** > **Routing configuration** > **Holes** and check **Shift last hole** in the **Aligned holes** field.

Tool management

New images for tool units

New images have been added to simplify the use of the tool magazine and help differentiate the various machining units in the magazine. They are different depending on the unit type.

Below are a few examples:

	Routing units 3X/5X
	Vertical drilling units X/Y
-	Horizontal drilling units X+/X-
	Horizontal drilling units Y+/Y-
0	Blade units
	Indexable units
	Aggregate

New images for tools

New images have been added to make it easier to create tools, allowing you to view the different parameters of a tool.

Each parameter listed on the left of the window appears on the tool diagram on the right.

Tool diameter (D)	> 6mm	D1 <
Cutting length (L)	> 30mm	
Cut angle (A)	> 65*	_
Second tool diameter	(d) > 0.001mm	
Number of cogs	>4	A
Tool shank diameter (l	D1)>6mm	
Tool direction	> Right	
Cutting material	> Fast steel (HS)	
Machining function	> Roughing, Semi-finishing and Finishinig	
Internal reference	> FC-25*-D6	

Tool magazine displayed as a table

The tool magazine is now displayed as a table to improve readability and allow you to change the size and position of columns, or sort the tools according to various criteria.

In the example below, the tools are sorted by diameter in descending order.

Tool	Туре	Internal reference	D	L	Tool offsets	^
6	SLOT MILL	FR-2TA-16	16	80	6	
5	SLOT MILL	FR-2TA-10	10	50	5	
7	CHAMFER MILL	FC-45*	10	20	7	
b 3	SLOT MILL	FR-2TA-8	8	40	3	
4	SLOT MILL	FR-2TA-8	8	40	4	
2	SLOT MILL	FR-2TA-5	5	25	2	
1	SLOT MILL	FR-2TA-2	2	10	1	
8						
9						
10						
11						
12	T	177				
13						
14						×

Modifying tool primitives

The tool primitives called up by **TopSolid'WoodCam** have been renamed in the reduced database, which allows them to be isolated from the mechanical reduced database.

All primitives used by TopSolid'WoodCam are prefixed with TSWC_XXXXXX.

A fixed parameter has been added for the shank length, which prevents the profiles from intersecting when the tool length is equal to the tool cutting length.

Saving the PP word for the tool

The PP word assigned to a tool in the current tool magazine is taken into account when saving tool magazines. It is recovered when a magazine is reloaded by the user.

Recalculating the conical tool's dimensions

For conical tools such as chamfer mills, reverse chamfer mills, conical countersinks etc., the diameter and angle parameters are recalculated in relation to each other. This calculation is primarily based on the angle.

Contouring cycles

New starting element category

A new **Starting element** category including all the parameters related to the starting element of a contouring has been added.



Selecting the starting element for contouring

The new **Choice of contouring's starting element** parameter helps select the starting element:

- If this parameter is 1, TopSolid picks the largest linear element or the largest circular element if no segment is available.
- If this parameter is 0, TopSolid behaves as in previous releases.

Minimum length of longest element to choose for start

This parameter lets you specify a minimum length to choose the starting element. For example, you can remove from the list of starting elements the elements with a length less than twice the tool diameter. If a linear element has a length less than 2*Tool.diam and a circular element has a length greater than 2*Tool.diam, TopSolid will choose the circular element.

Analysis

Searching for a tool in millimeters in an inch database

For an operation, you can search for a tool by its diameter in the database with a tolerance. As a result, the tool entered in millimeters will be found in an inch database even if the diameter is not strictly the same.

Scoring

Saw machining with scoring

A new pre-scoring depth parameter is available for all saw machinings: sawing, grooving and rabbeting.

This parameter can be configured at several levels:

- in the default values
- in the processes of the groove, rabbet and sawing operations
- in the manual sawing operation's dialog box

To avoid scoring, you just need to set the parameter value to 0.

<u>Note</u>: This pre-scoring parameter is processed directly by the post-processor, which means that the post-processor needs to be updated to use this parameter and the scoring pass is not simulated in **TopSolid'WoodCam**.

Nesting machining

Sawing operations

The 2017 release includes the ability to perform saw machinings, such as groove or rabbet operations, in nesting.

To achieve this, you need to select the **Slot and fold with saw** box. Accordingly, the frames of the groove and rabbet operations will be created on the nesting.

This option is also available for a nesting multi-machining.

1922
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Multi-machining

Displaying the length/width ratio

Information on the part's length/width ratio can be displayed in the list of parts to be machined.



You can configure this ratio in **Tools > Options > Routing configuration > Multi-machining**.

This information can be displayed according to whether the ratio is < ; > ; < or = ; > or = to a user value.

THE REPORT OF A REAL PROPERTY OF			52 5100 C	
Display length/width ratio if it's			< 🗸 to: 1	
			>	
	OK	Cancel	>=	

Displaying the ratio makes it easy for you to identify the parts whose positioning is to be modified by right-clicking and selecting **Positioning**.

Default options for nesting multi-machining

The **Positioning and machining** window's default options are those defined in the properties of the selected template.

General machining journal

The machining journal now displays the list of:

- inactive machinings
- unupdated machinings
- machinings with no path

Nesting machining journal

The nesting multi-machining journal now displays the list of unexecuted operations.

Filters in part selection (6.17)

Selection by filter has been added during the version 6.17, allowing you to filter the parts to be displayed in multimachining.

Additional operations for nesting multi-machining (6.17)

New choices have been added to the nesting multi-machining: **Slope faces user machinings/Continuous 5 axis user machinings**.

User machining

Managed calibration/milling operation type

The operation type for multi-machining is taken into account by **TopSolid'WoodCam**. If a part contains a user machining like a calibration operation, the **TopSolid'WoodCam** calibration operation does not appear in the analysis and will not be created at the execution stage.

Ergonomics

New CAD interface supported in CAM

The tile mode is now managed by window groups. To return to a behavior similar to what it was in previous versions, when you position a part, two window groups are created when less than three documents are open, which lets you directly select the part to be positioned.

For multi-export with less than three opened documents, two groups are created: one including the design document and the start page and another one including all the generated files.

Workshop documents

White background

As with drafting documents, you can set a white background for workshop documents. The workshop documents come standard with the white background enabled by default.

Stop parameter modification

Modifying the basic_m parameter in the wood_basic_m_break section (6.17)

In the default values, you can configure the **M function** for the basic stop operation.

	ameter me edition — — —	×
	Part cutting semi-finishing Pods positioning Rabbet Rabbet finishing Rabtet semi-finishing Routing finishing Routing semi-finishing Sawing finishing Sawing finishing Sawing semi-finishing Stop after operation Approach Comment M function Pp word Stock update User machining 3D User machining 3D User machining semi-finishing	
l functior ection na arameter	n number ime = wood_basic_m name = basic_m	0
function action na arameter	n number me = wood_basic_m name = basic_m Apply Sort parameters	~
function ection na arameter 300	n number ime = wood_basic_m name = basic_m Apply Sort parameters arameters in dialog box	
I function ection na arameter 300 2] See p. 2] See p.	n number nme = wood_basic_m name = basic_m Apply Sort parameters arameters in dialog box	~
1 function arameter 300 7 See p. 7 See p.	n number sme = wood_basic_m name = basic_m Apply Sort parameters arameters in dialog box arameters in process definition	Û
I function ection na arameter 300 See p. Z See p. urrent file	n number name = wood_basic_m name = basic_m Apply I Sort parameters arameters in dialog box arameters in process definition a = test	Û
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Additional parameters for post-processor

Operation geometry and parameters in the PDB

CREATE PARAMETERS=YES

This PDB configuration displays the following parameters in the PDB:

- The geometry index if there are several geometries in a single operation -> Db.Geometry.Index
- The reference Z of the operation -> Db.Geometry.z_ref
- The operation depth -> Db.Geometry.depth
- The final pass depth -> Db.Geometry.final_depth
- The number of passes -> Db.Geometry.nb_passes
- The material height -> Db.Geometry.h_mat

MACHINING FEATURE=YES

This parameter lets you write the geometry in the **GEOMETRY** section of the operation.
TopSolid 2017

Position of a tool holder element's coordinate system in the PDB

The PP configuration word **USE CHANGER LOC POS / NOT USE CHANGER LOC POS** has been added.

The values are 9999999 if the origin coordinate system of the face is not defined. The position of this coordinate system is associative. If the position of the spindle (and thus the position of the coordinate system) changes in the **TopSolid'WoodCam** document, it changes in the PDB too.

Rails and pods (6.17/6.18)

An extra line has been added to specify all the sets used:

*N0008	TYPE=SET	NAME=	Rails&Pods Le	eft	MACHINE_REF=L	
	*NOOXX TYPE=R	AIL	ORDER=1	Ν	AME=ZmiWoodMachine#Rail[1]	
	*NOOXX TYPE=R	AIL	ORDER=1	Ν	AME=ZmiWoodMachine#Rail[2]	
	*NOOXX TYPE=R	AIL	ORDER=1	Ν	AME=ZmiWoodMachine#Rail[3]	
	*NOOXX TYPE=R	AIL	ORDER=1	Ν	AME=ZmiWoodMachine#Rail[4]	
*NOOXX	TYPE=SET	NAME=	Rails&Pods Ri	ight	MACHINE_REF=R	
	*NOOXX TYPE=F	RAIL	ORDER=1	1	NAME=ZmiWoodMachine#Rail[5]	
	*NOOXX TYPE=F	RAIL	ORDER=1	1	NAME=ZmiWoodMachine#Rail[6]	

The **Generate only used set positions in ISO code** option is no longer displayed in the 6.18 version. Consequently, all the sets used will be displayed.