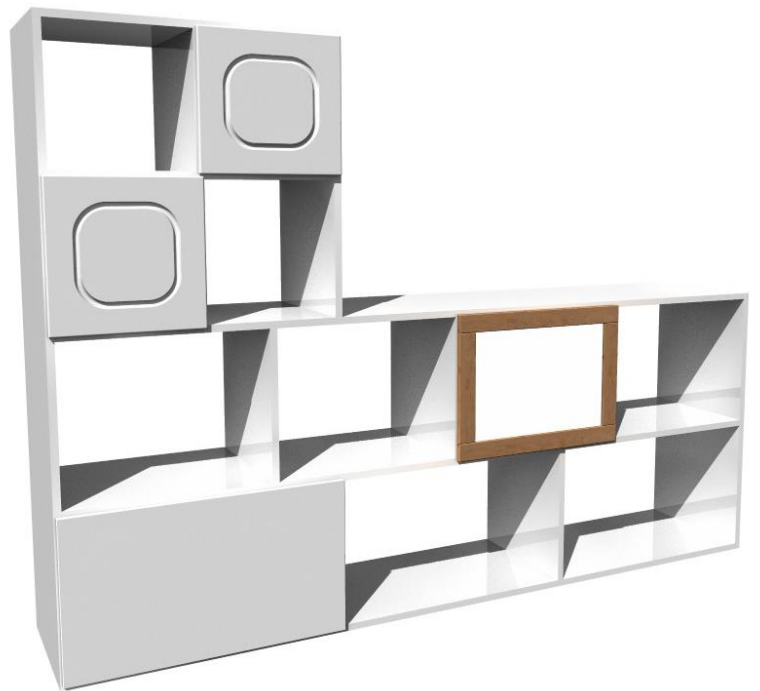


TopSolid'Wood

Creation of a door



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Version 6.16 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.

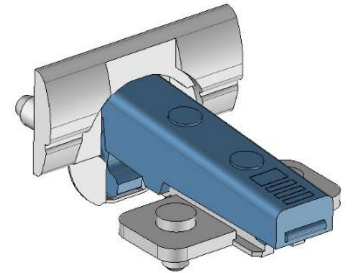
Contents

Creation of a hinge component	1
Search for component's 3D files	1
Creation of the hinge arm.....	1
Creation of the mounting plates.....	3
Creation of the mounted hinge	6
Creation of the door.....	10
Creation of the driver block component.....	10
Creation of the door and the supporting sides.....	11
Insertion of the repeated hinges	12
Insertion of an optional additional hinge	13
Definition of elements	15
Creation of door panel subcomponents	16
Creation of subcomponents	17
Configuration of subcomponents	20
Using the door	21
Notes.....	23

Creation of a hinge component

Search for component's 3D files

Hardware suppliers propose to provide the 3D geometries of their hardware parts. These 3D files can be opened and used in TopSolid'Wood, but to be used optimally these components must be made "intelligent" by assigning **processes** and **key points** to them.



The **Blum** and **Hettich** supplier's hardware libraries can be installed via the **TopSolid'Wood** installation DVD.


The hardware components can then be found by their part number.


- From Windows Explorer, open the **TopSolid'Wood**'s installation folder (generally *C:\Missler*).
- Then open the following folders: *V6x\z\woo\lib*.
 - The **Blum** library can be found in the **BLUM_HARDWARE** folder.
 - The **Hettich** library can be found in the **HETTICH_HARDWARE** folder.
- From the Windows Explorer's search bar, search for the part number of the hardware component.

71T359


- Then open the **.top** file that appears by **clicking and dragging** it from Windows Explorer to TopSolid's graphics area.

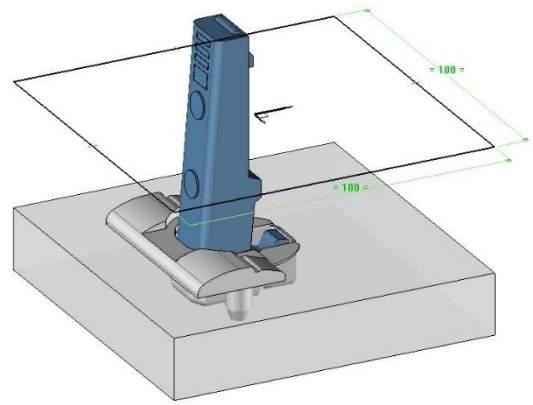
Creation of the hinge arm

- Open the file called *CLIP top#V=71t3590#I=00#R=NR.top*.
- Save this file in the **My 3D Standard** library :
 - **New family:** *Hinges*
 - **New type:** *BLUM arm*
 - **New variant:** *Overlay door 110°*
- Define the set:
 - **Designation:** *BLUM hinge arm overlay door 110°*
 - **Reference:** *71t3590*
 - **Supplier:** *Blum*
- Make **layer 1** current.
- Define the document's **absolute coordinate system** as a **key point** using the **Assembly > Define component >**

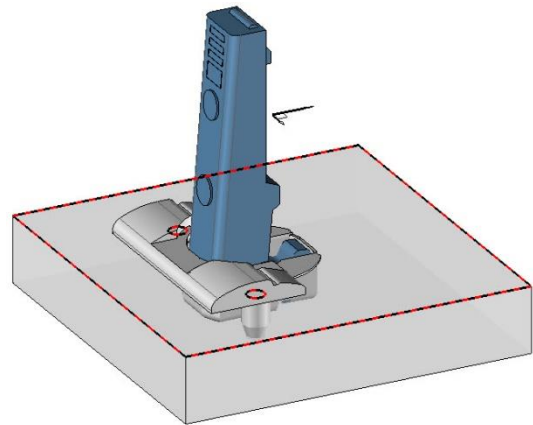
Define key points function, and then select the coordinate system. 

 KEY-POINTS / KEY-COORDINATE SYSTEMS SET : (1)
 **ABSOLUTE COORDINATE SYSTEM : ABSOLUTE COORDINATE SYSTEM**

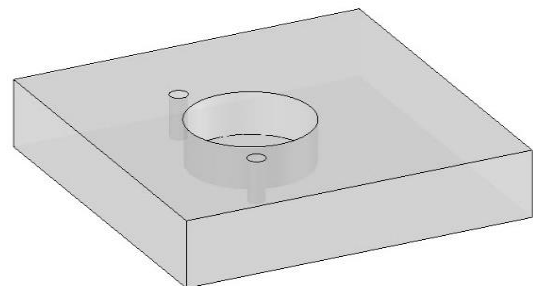
- Create the rectangular sketch that will allow the extrusion of the supporting part.
- When extruding the sketch, open the advanced parameters. 
- Then select the hinge's bottom support face as the **shift origin face** in order to extrude the part from this face.
- Validate the parameters with **OK** and extrude the part to *19mm*.



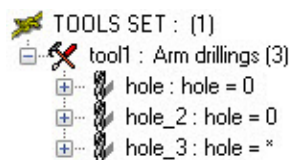
- On the supporting part, create two **blind holes** aligned on the drillings of the hinge's screws:
 - **Diameter:** *5mm*
 - **Depth:** *12mm*
 - **Bottom angle:** *0°*



- On the supporting part, create a **blind hole** aligned on the hinge:
 - **Diameter:** *35mm*
 - **Depth:** *12mm*
 - **Bottom angle:** *0°*




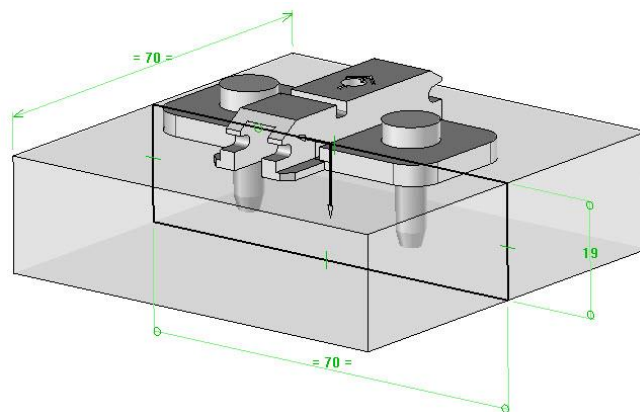
- Define these drillings as component **tools**:
 - **Name of the tool element:** *tool1*
 - **Designation of the tool element:** *Arm drillings*
- Include the three created drillings in this tool.
- Save and close the file.



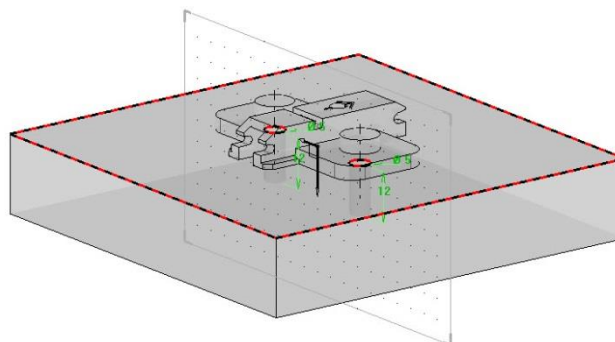
Creation of the mounting plates

Creation of the 0mm mounting plate

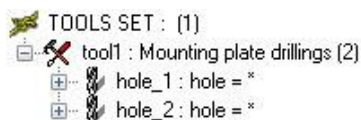
- Open the file called *CLIP#V=173I8100#I=00#R=NR.top*.
- Save this file in the **My 3D Standard** library :
 - **Family:** Hinges
 - **New type:** *BLUM mounting plates*
 - **New variant:** *CLIP mounting plate 0mm*
- Define the set:
 - **Designation:** *CLIP mounting plate 0mm*
 - **Reference:** *173I8100*
 - **Supplier:** *Blum*
- Make **layer 1** current.
- Define the document's **absolute coordinate system** as a **key point** using the **Assembly > Define component > Define key points** function, and then select the coordinate system.
- Create the supporting part from a sketch positioned on the support plane of the mounting plate.



- On the supporting part, create two **blind holes** aligned on the drillings of the mounting plate's screws:
 - **Diameter:** *5mm*
 - **Depth:** *12mm*
 - **Bottom angle:** *0°*



- Then, define these drillings as component **tools**:
 - **Name of the tool element:** *tool1*
 - **Designation of the tool element:** *Mounting plate drillings*
- Include the two created drillings in this tool.



Note: The goal is to create a hinge with two mounting plates of different thicknesses (0 and 3mm).

As a result, when the mounting plate is exchanged with another one, the position of the hinge in thickness has to change.

An auxiliary coordinate system will be created in each mounting plate model. This auxiliary element will then be used in the hinge assembly (mounting plate + arm) to create the hinge's positioning coordinate system.

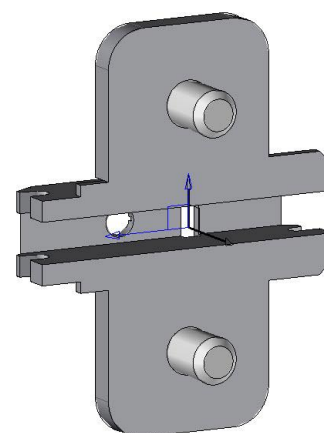
When the mounting plate is interchanged, the auxiliary coordinate system is also interchanged, and the key point and the hinge positioning will be adjusted accordingly.

- Launch the **Tools > Coordinate system > Wizard = Yes** function.
- Select the **absolute coordinate system**.

Note: When selecting a coordinate system, the wizard will create a duplicate coordinate system.

The six red arrows allow you to create a translated coordinate system, while the advanced options allow you to create another transformation.

- Click on the **Advanced options** button. ADVANCED OPTIONS
- Adjust the following parameters for the transformation:
 - **Rotation**
 - **Axis:** Y-
 - **Rotation angle:** 90°
- Define the created coordinate system as an **auxiliary element** using the **Assembly > Define component > Define auxiliary elements**.



- **Name of the auxiliary element:** cs1
- **Designation of the auxiliary element:** *Hinge positioning on the cabinet side*

AUXILIARY ELEMENTS SET : (1)

cs1 : **Hinge positioning on the cabinet side**

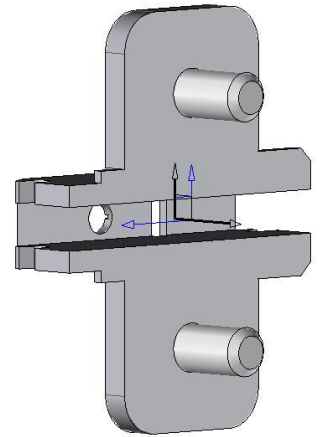
- Save and close the file.

Creation of the 3mm mounting plate

- Open the file called *CLIP#V=173I8130#I=00#R=NR.top*.
- Save this file in the **My Standard 3D** library :
 - **Family:** Hinges
 - **Type:** BLUM mounting plates
 - **New variant:** *CLIP mounting plate 3mm*
- Define the set:
 - **Designation:** *CLIP mounting plate 3mm*
 - **Reference:** 173I8130
 - **Supplier:** Blum
- Make **layer 1** current.
- Define the document's **absolute coordinate system** as a **key point** using the **Assembly > Define component > Define key points** function, and then select the coordinate system.
- Create the tools of the mounting plate in the same way that you did for the previous mounting plate:
 - First create the supporting part.
 - Then create two blind holes with the following values: **Diameter = 5mm**, **Depth = 12mm** and **Bottom angle = 0°**.
 - Finally, define these drillings as component **tools**.

Note: In this 3mm thick mounting plate model, the auxiliary coordinate system will be created based on the absolute coordinate system with the same rotation as before, and a translation of 3mm.

- Launch the **Tools > Coordinate system > Wizard = Yes** function.
- Select the **absolute coordinate system**.
- Click on the **Advanced options** button.
- Select **Transformation: Composite**.
- **Transformation number 1:**
 - **Rotation**
 - **Axis: Y-**
 - **Rotation angle: 90°**
- **Transformation number 2:**
 - **Translation**
 - **Direction: X+**
 - **Translation distance: 3mm**
- Click on **Stop** to generate the coordinate system.
- Define the created coordinate system as an **auxiliary element** using the **Assembly > Define component > Define auxiliary elements** function.
 - **Name of the auxiliary element: cs1**
 - **Designation of the auxiliary element: Hinge positioning on the cabinet side**



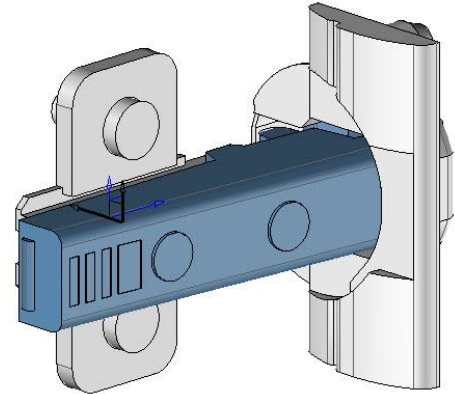
Note: Give the auxiliary coordinate systems the same name so that the two mounting plates can be interchanged properly.

- Save and close the file.

Creation of the mounted hinge

Insertion of subcomponents

- Create a **new Design document**.
- Include the standard component **BLUM arm > Overlay door 110°**.
- Select the absolute coordinate system of the new document as the **destination coordinate system**.
- Repeat the procedure to assemble the hinge's 3mm mounting plate.





Note: In general, when assembling hardware parts provided by manufacturers, positioning the elements absolute coordinate system on absolute coordinate system enables them to be exactly positioned relative to each other. However, in some cases you may have to create a duplicate coordinate system of the absolute coordinate system with a translation on **Z** and **X** in order to correctly position the mounting plate in relation to the arm. These offset distances are usually specified in the technical documentation of hardware components.

- Save the mounted hinge in the **training library**:
 - **Family:** Hinges
 - **New type:** Mounted BLUM hinges
 - **New variant:** Overlay hinge
- Define the set:
 - **Designation:** Overlay hinge
 - **Supplier:** Blum
 - **Assembly nature:** Sub-assembly

Creation of the hinge's key point

Note: The key point of the hinge will be created from the auxiliary coordinate system of the mounting plate. It is necessary to first display the auxiliary coordinate system of the mounting plate.

- Launch the **Modify element** function. 
- Select the mounting plate.
- Click on the **Auxiliary elements** button. 
- Select **Hinge positioning on the cabinet side** from the drop-down list in order to display the auxiliary coordinate system of the mounting plate.



- Launch the **Assembly > Define component > Define key points** function and select the auxiliary coordinate system inherited from the mounting plate.
 - **Name of the key coordinate system:** cs1
 - Validate the designation of the key coordinate system.

Creation of the overlay parameter

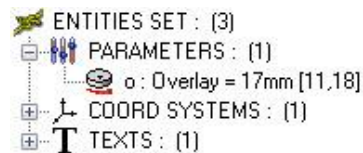
Note: An overlay parameter will be created in the hinge, which will subsequently allow you to select the right mounting plate according to its value.

- Create the following parameter:
 - **Unit type:** Length
 - **Value:** 17
 - **Name:** o
 - **Designation:** *Overlay*
- Define this parameter as a driver.
- Modify this parameter and open the **advanced parameters**. >>
- Click on the **Minimum possible value** button. MINIMUM POSSIBLE VALUE
- Select the **Value** mode, enter a value of *11mm*, and then validate by pressing **Enter** on your keyboard.

Minimum possible value VALUE

- Repeat this to define a **maximum possible value** of *18mm*.

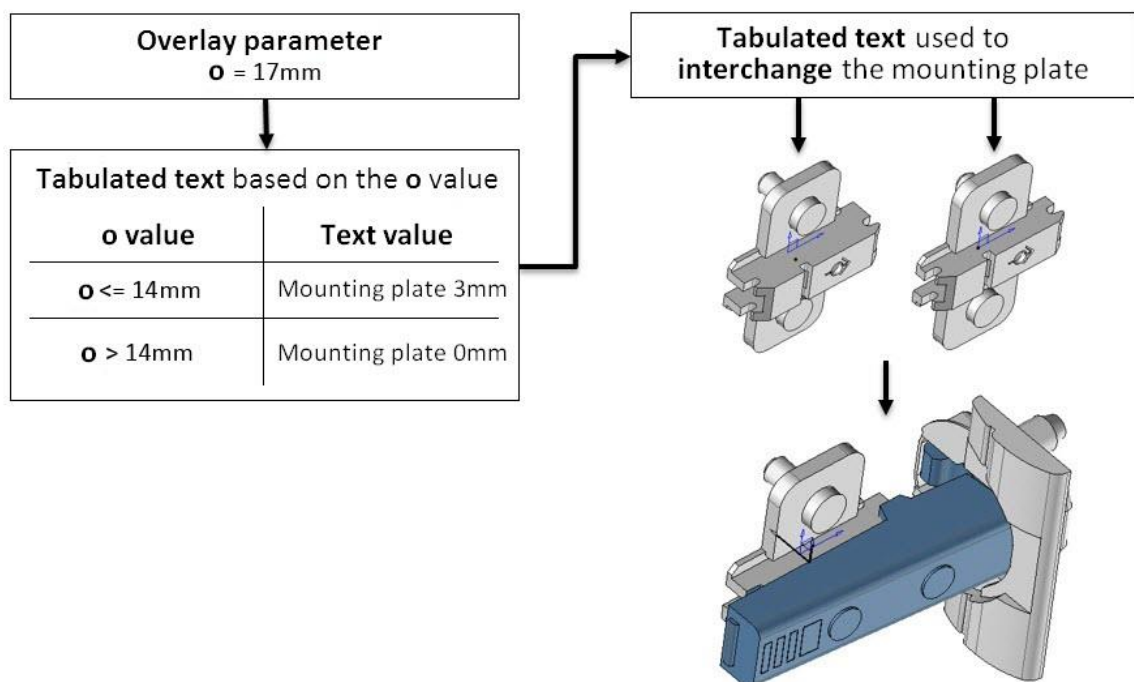
The minimal and maximal values then appear between brackets after the parameter.



Interchanging the mounting plate according to the overlay parameter



Note: In order to choose the mounting plate according to the overlay parameter value, a tabulated text will be created. This text, which chooses the variant in the library, will vary depending on the overlay value.

First, you need to retrieve the name of the mounting plate in the library in order to adjust it in the tabulated text.



Recovering the full name of the mounting plate in the library

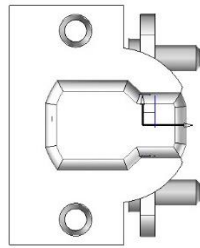
In order to select the correct mounting plate in the library, you must enter the component's full name exactly as it appears in the library. To avoid errors, this name will be recovered using a tabulated text.

- Launch the **Tools > Text** function.
- Click on the **Advanced parameters** button  and select **Formatted text**. 
- Select **Template document path** from the drop-down list of properties.



- Then select the hinge's mounting plate as the **reference element**.
- Position the text in the graphics area.



`$(STD=LIB3D\Hinges\BLUM mounting plate#V=CLIP mounting plate 3mm#I=00#R=NR.top`

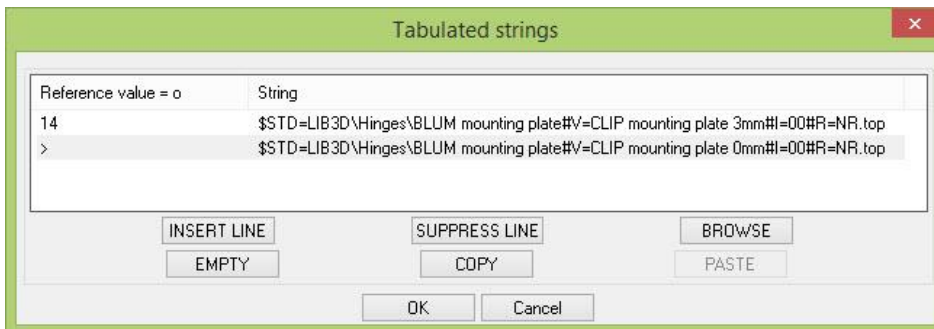



- Basify this text using the **Edit > Break associativity** function in order to recover its value.
formatted text -> text

- Launch the **Modify element** function and select the basified text.
- In the window that opens, select the text value and copy it using the shortcut keys **Ctrl+C**.
- Exit this window.

Creation of the tabulated text


- Create the tabulated text using the **Tools > Text > Advanced parameters**  **> Tabulated text**  function.
- Enter **Reference parameter: o**.
- In the **Tabulated strings** window that appears, double-click in the first cell of the **Reference value = o** column.
- Enter **14** and validate by pressing **Enter**.
- Double-click in the first cell of the **String** column corresponding to the **14** value, and then paste the previously copied text using the shortcut keys **Ctrl+V**.
- Double-click in the second cell of the **String** column corresponding to the **>** value, and then paste the previously copied text using the shortcut keys **Ctrl+V**.
- Modify this text by changing **CLIP mounting plate 3mm** to **CLIP mounting plate 0mm**.



- Validate the window with **OK**, and then place this text in the graphics area.
- Delete the basified and formatted text that was previously created. 

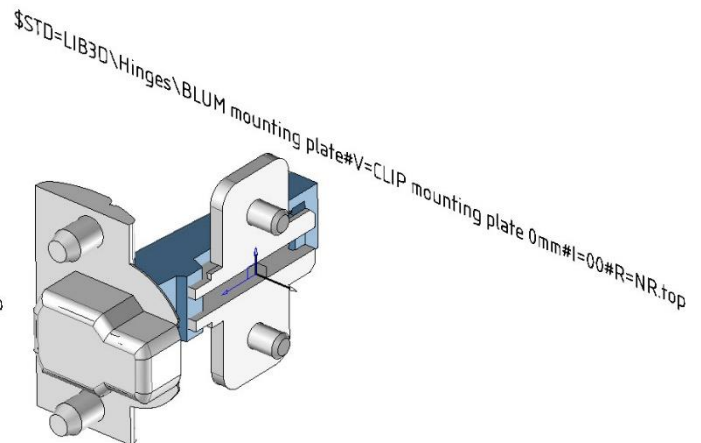
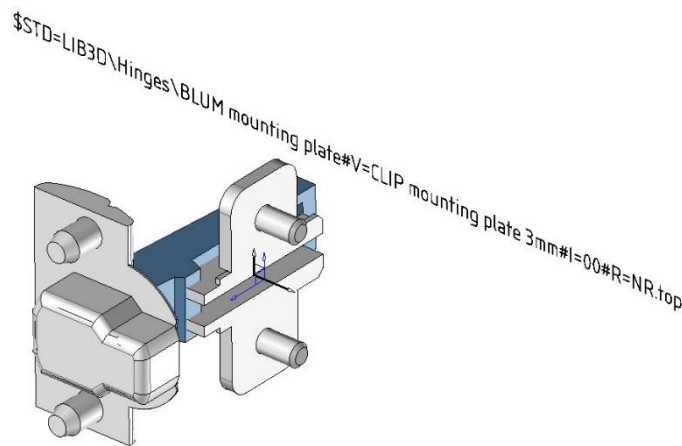
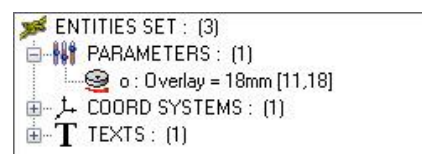
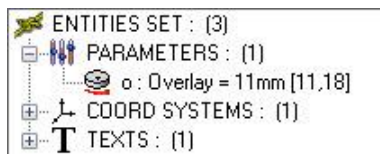
Interchanging the mounting plate according to the tabulated text

The next step is the configuration of the mounting plate subcomponent so it can be interchanged automatically according to the tabulated text value.

- Launch the **Assembly > Define component > Define sub-component** function. 
- Select the mounting plate as the **component**.
- Enter **Name = Mounting plate**.
- In the **Sub-component definition** window that opens, check the **Variant** option.
- Validate the window with **OK**.
- Finally, select the tabulated text from the graphics area as the **text which gives the variant**.

STOP	Variant driver name:	Designation:	Text which gives the variant:
------	----------------------	--------------	-------------------------------

The mounting plate is then selected according to the tabulated text which is adjusted to the overlay value.



Creation of the door

Creation of the driver block component

- Create a **new Design document**.
- Create a driver block using the **Assembly > Define component > Define drivers > Driver block** function.

DRIVER BLOCK

- Adjust **Default housing mode = Housing**.



- Save this file in the library:

- **Standard:** My 3D Standard
- **New family:** Cabinet fitting
- **New type:** Doors
- **New variant:** Right overlay door


Note: In this exercise, a right door will be created. However, it is possible, using additional parameters, to create a single component with a left door/right door parameter.

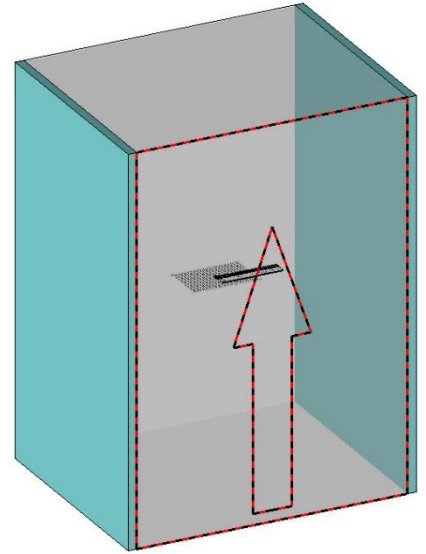
- Create the following parameters.

Value	Name	Designation
17	<i>too</i>	<i>Top overlay</i>
17	<i>boo</i>	<i>Bottom overlay</i>
17	<i>rio</i>	<i>Right overlay</i>
17	<i>leo</i>	<i>Left overlay</i>
19	<i>th</i>	<i>Door thickness</i>
70	<i>hd</i>	<i>Hinge distance</i>

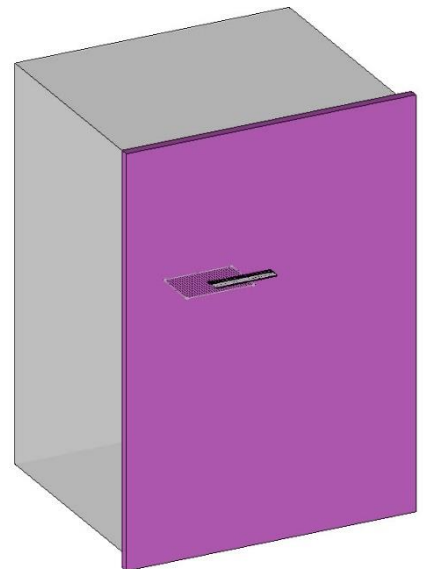
- Define these parameters as drivers.

Creation of the door and the supporting sides

- From the layer tree, name the **layer 0** to *Driver block*.
- Set **layer 1** as current and name it to *Supporting sides*.
- Using the **Constrained block** function, create the two supporting sides outside the driver block with a thickness of *19mm*. 



- Make **layer 2** current and name it to *Door panel*.
- Hide **layer 1** and create the door panel using the **Constrained block** function.
 - **Thickness:** *th*
 - **First shift:** *-too* **First plane:** Top face of the driver block
 - **Second shift:** *-boo* **Second plane:** Bottom face of the driver block
 - **Third shift:** *-rio* **Third plane:** Right face of the driver block
 - **Fourth shift:** *-leo* **Fourth plane:** Left face of the driver block
 - **Positioning plane:** Front face of the driver block
 - **Positioning shift:** *1.5mm*



Insertion of the repeated hinges

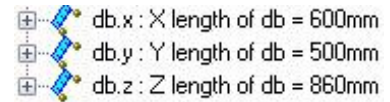
Creation of a parameter for the number of hinges based on the door height

- Create a new parameter using the **Parameter > Create** function.
- Adjust **Unit type = No unit** and click on the **Tabulated values** button.

Note: The **Unit type = No unit** mode will create a parameter that enables a quantity to vary. Here, this parameter will be used to vary the quantity of hinges on the door.

A parameter with **tabulated values** modifies the value of a parameter according to the value of another parameter. Here, the number of hinges will vary depending on the door height.

- Specify the height of the driver block on Z (generally *db.z*) as the **reference parameter**.



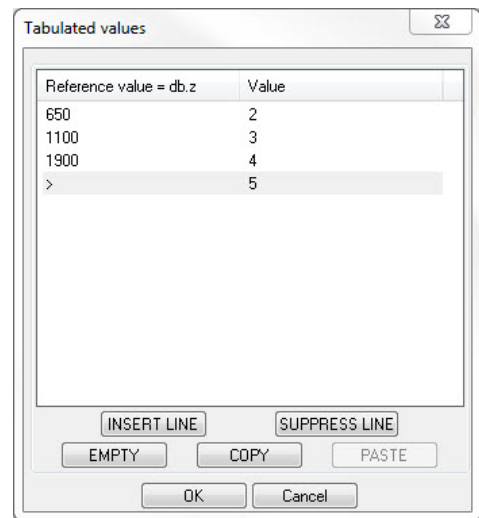
The **Tabulated values** window opens.

- Create the different lines by entering the **reference values of db.z** and the **values** as shown opposite.

The result is the following, with the door height as the reference:

- from 0 to 650mm => 2 hinges
- from 650 to 1100mm => 3 hinges
- from 1100 to 1900mm => 4 hinges
- beyond 1900mm => 5 hinges

- Validate the window with **OK**.
- Enter:
 - **Name:** *hq*
 - **Designation:** *Hinge quantity*

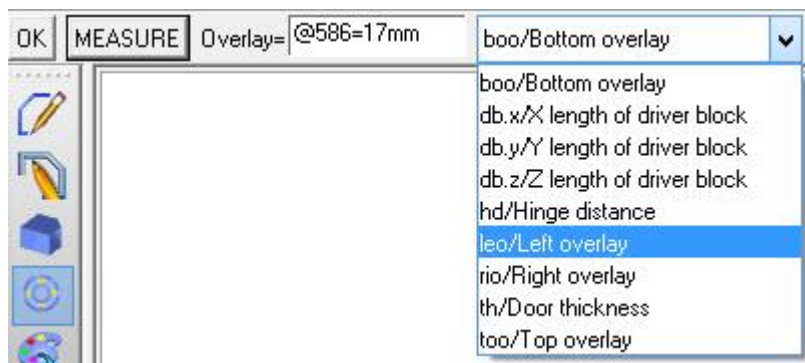


Insertion of hinges

- Make **layer 3** current and name it to *Hinges*.
- Hide **layer 0** and display **layer 1**.
- Include the mounted hinge using the **Assembly > Include standard** function.

The overlay parameter is required when the component is included. As this door is a right door, the hinge's overlay corresponds to the door's left overlay.

- Select the **leo/Left overlay** parameter from the drop-down list.



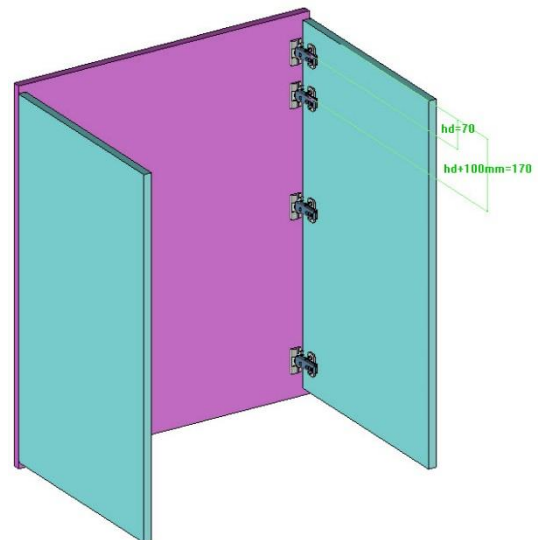
- Select the inner face of the left-hand supporting side as the **destination coordinate system**.
- Select the top face of the supporting side as the **first alignment face or edge**, and then enter **Distance: hd** .
- Select the front edge of the supporting side as the **second alignment face or edge**, and then enter **Distance: $37mm$** .
- Select the **Repeat** option.
- Adjust the following options:
 - **Propagation: Linear**
 - **Direction: Z-**
 - **Total distance: $db.z-(2*hd)$**
 - **Total number: hq**
- Select the **Automatic** option to create the drillings of the elements.

Insertion of an optional additional hinge

Note: On some door models, an additional hinge is added to the top of the door as reinforcement. This additional hinge can be added by the user by setting a parameter, or automatically according to the door width. These two procedures are described below.

Insertion of the additional hinge

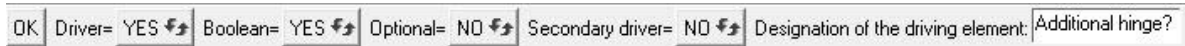
- Include the mounted hinge using the **Assembly > Include standard** function.
- Adjust **Overlay: leo/Left overlay** by selecting this parameter from the drop-down list.
- Select the inner face of the left-hand supporting side as the **destination coordinate system**.
- Select the top face of the supporting side as the **first alignment face or edge**, and then enter **Distance: $hd+100mm$** .
- Select the front edge of the supporting side as the **second alignment face or edge**, and then enter **Distance: $37mm$** .
- Click on **Stop** in order not to repeat the hinge, and then click on **Automatic** to trigger the processes.



Note: For now, the hinge is present in all cases. It should then be disabled when it is not needed.

Deactivation of the hinge according to a driver parameter

- Create the following parameter:
 - **Unit type:** No unit
 - **Value:** 1
 - **Name:** ah
 - **Designation:** Additional hinge?
- Define this parameter as a **Boolean** parameter.

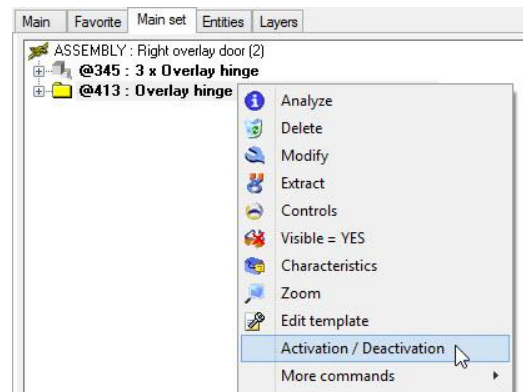


Note: A Boolean parameter is a parameter in which the only two possible values are **Yes** and **No**.

When set to **Yes**, the parameter has the value **1** and **0** when it is set to **No**.

This type of parameter can be used to configure a choice in a component such as, for example, whether an optional element is present or not.

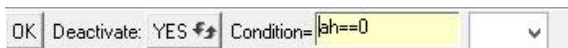
- Click on the **Main set** tab from the history tree.
- Right-click on the line corresponding to the additional hinge (unrepeated **Overlay hinge**) and select **Activation/Deactivation**.
- Adjust **Deactivate = Yes**.



Note: The **Condition** field allows you to specify in which cases you want the component to be disabled.

Here, the additional hinge must be disabled when the **Additional hinge?** parameter is set to **No**, or when the parameter **ah==1**.

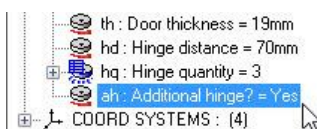
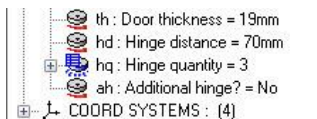
- Enter **ah==0** in the **Condition** field, and then validate by pressing **Enter**.



- Validate the component deactivation with **OK**.

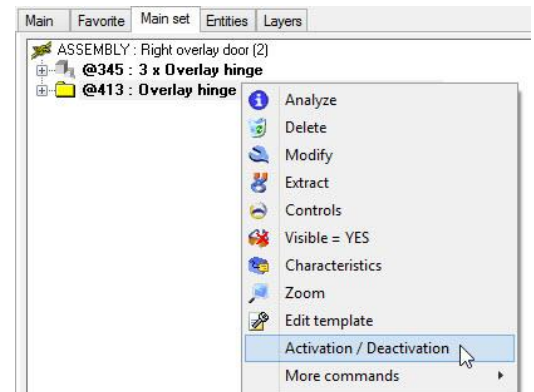
Note: The component is still displayed in the document in which it was inserted and then deactivated. However, it will no longer be visible in the assembly.

In all cases, the deactivated component is no longer displayed in the bill of material and the related processes are not performed anymore.



Deactivation of the hinge according to the door width

- Click on the **Main set** tab from the history tree.
- Right-click on the line corresponding to the additional hinge (unrepeated **Overlay hinge**) and select **Activation/Deactivation**.
- Adjust **Deactivate** = **Yes**.

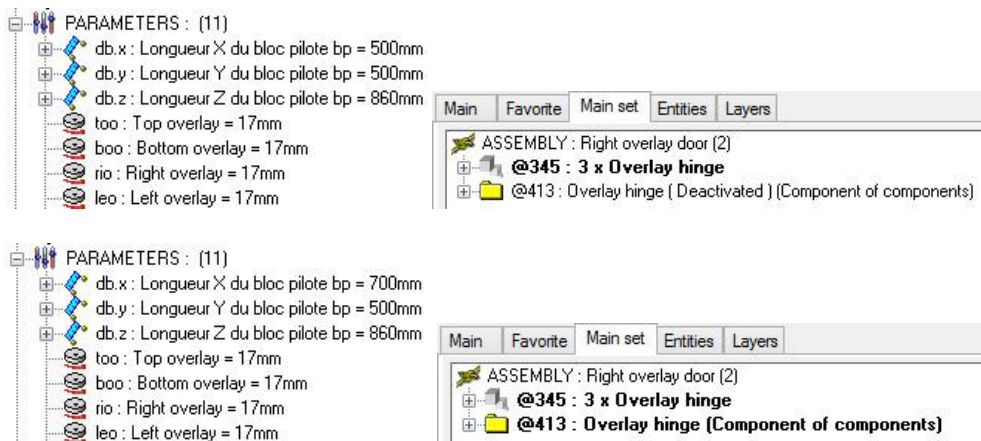


Note: The **Condition** field allows you to specify in which cases you want the component to be disabled. Here, the additional hinge must be disabled when the door width is less than 600mm.

- Enter $(db.x+rio+leo)<600mm$ in the **Condition** field, and then validate by pressing **Enter**.
- Validate the component deactivation with **OK**.

Note: The component is still displayed in the document in which it was inserted and then deactivated. However, it will no longer be visible in the assembly.

In all cases, the deactivated component is no longer displayed in the bill of material and the related processes are not performed anymore.



Definition of elements

If the door panel is always a simple part or a panel with edges and/or laminates, then the part can be defined directly in this document.

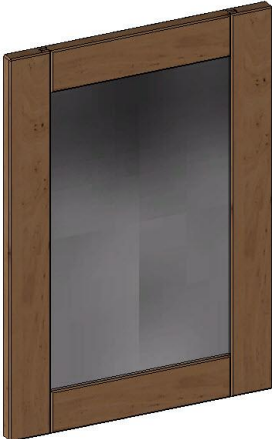
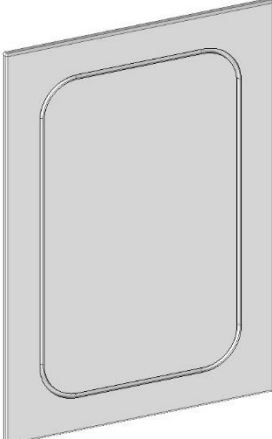
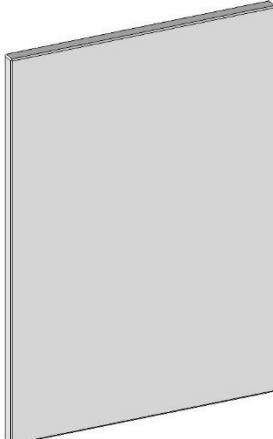
If the type of door panel is bound to change with subcomponents (next exercise), the door panel that was drawn will be used as a construction volume for these subcomponents; it must not be defined.

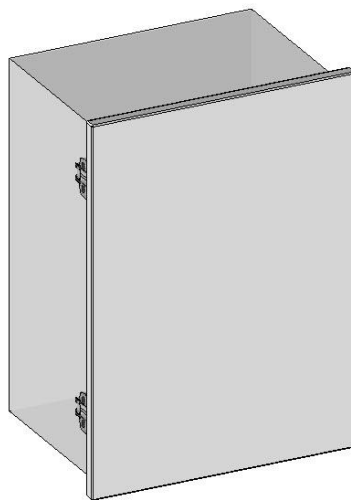
- If necessary, define the door panel.
- Define the set:
 - **Designation:** *Right overlay door*
 - **Assembly nature:** **Sub-assembly**

Creation of door panel subcomponents

Note: Subcomponents will be created in order to be included as subcomponents of the door. Consequently, once the door has been included in an assembly, you can choose the type of door panel you want.

In addition, as each **door panel** subcomponent is designed differently, each of them can have different drivers. For example, for the **Wood and mirror panel**, only the crosspiece widths can be driven, while for the **Grooved panel** both the groove offset and the groove width can be driven.

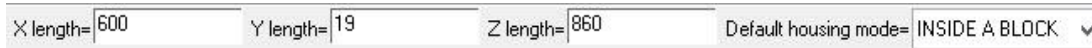
Wood and mirror panel	Grooved panel	Simple panel
		
<p>- Crosspiece width parameter</p>	<p>- Groove offset - Groove width</p>	




Creation of subcomponents

Creation of the Wood and mirror panel

- Create a **new Design document**.
- Create a driver block using the **Assembly > Define component > Define drivers > Driver block** function.
- Adjust the default dimensions of the driver block:
 - **X length:** 600mm
 - **Y length:** 19mm
 - **Z length:** 860mm
- Select **Default housing mode = Inside a block**.

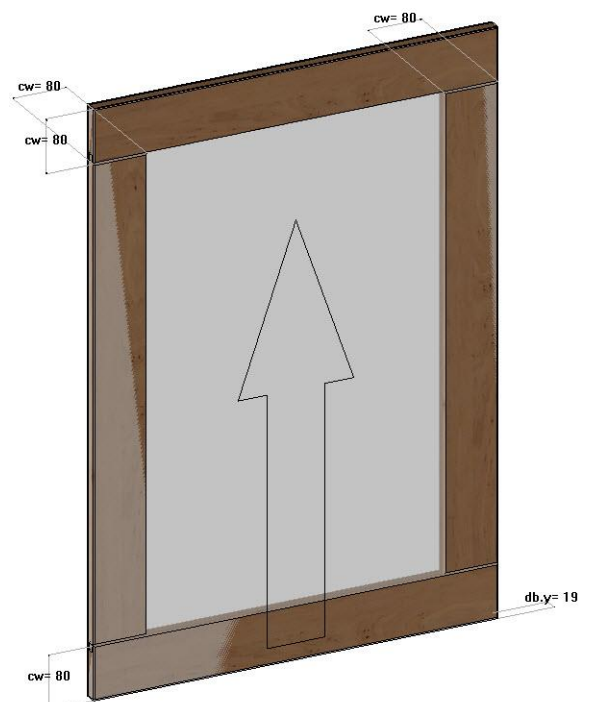


- Save this file in the library :
 - **Standard:** My 3D Standard
 - **Family:** Cabinet fitting
 - **New type:** Door panels
 - **New variant:** Wood and mirror panel
- Create the following parameter:
 - **Value:** 80mm
 - **Name:** cw
 - **Designation:** Crosspiece width
- Define this parameter as a driver. When defining the parameter as a driver, enable the **Secondary driver** option.



Note: In the case of subcomponents, the secondary drivers allow you to create specific parameters for each subcomponent. Consequently, these parameters will be available when the subcomponent is modified at one or more assembly levels.


- Make **layer 1** current.
- Using the **Constrained block** function, draw the two jambs and the two crosspieces of the panel:
 - **Thickness:** db.y
 - **Width:** cw
- Position these four parts inside the driver block.
- Use the **Constrained block** function to create the mirror:
 - **Thickness:** 8mm
 - The mirror goes inside the crosspieces by 10mm
 - **Positioning shift:** db.y/2
 - **Positioning plane:** Front face of the driver block
- Groove the parts:
 - **Tool type:** Saws
 - **Parameters:** Centred
 - **Gap distance:** db.y/2
 - **Groove width:** 8mm
 - **Groove depth:** 11mm



- Define the four supports of the panel:
 - **Designation:** *Left jamb / Right jamb / Top crosspiece / Bottom crosspiece*
 - **Material:** **TopSolid'Wood** > **Hardwoods** > **Alder**
- Define the mirror:
 - **Designation:** *Mirror*
 - **Material:** **TopSolid'Wood** > **Glasses** > **Mirror**
- Define the set:
 - **Designation:** *Wood and mirror panel*
 - **Assembly nature:** **Sub-assembly**
- Save and close this file.



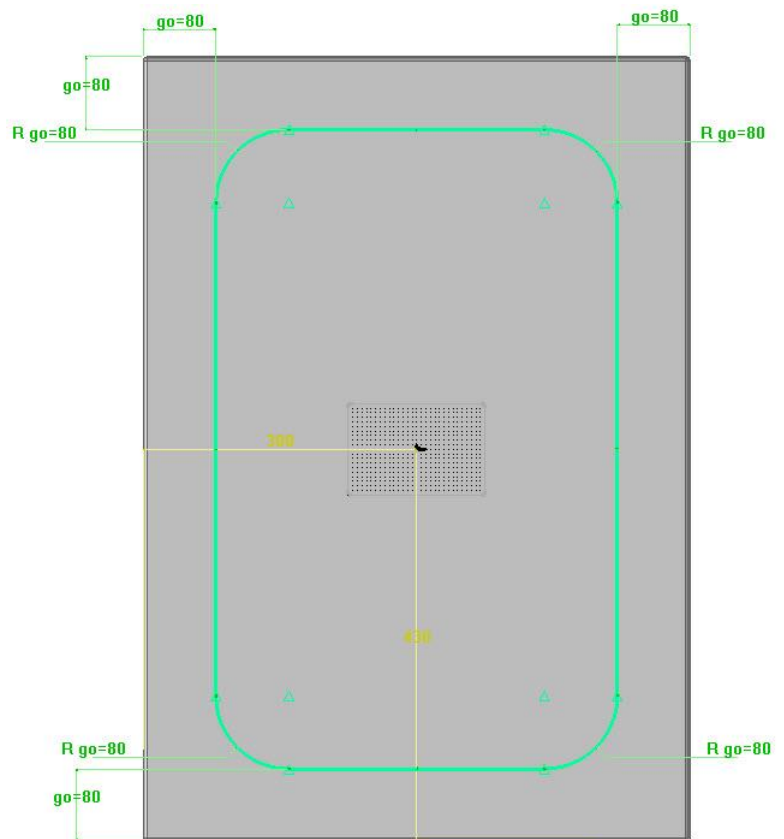
Creation of the grooved panel

- Create a new **Design** document and create a driver block in the same way as before.
- Save this file in the library :
 - **Standard:** **My 3D Standard**
 - **Family:** **Cabinet fitting**
 - **Type:** **Door panels**
 - **New variant:** *Grooved panel*
- Create the following two parameters:



Value	Name	Designation
<i>80</i>	<i>go</i>	<i>Groove offset</i>
<i>10</i>	<i>gw</i>	<i>Groove width</i>

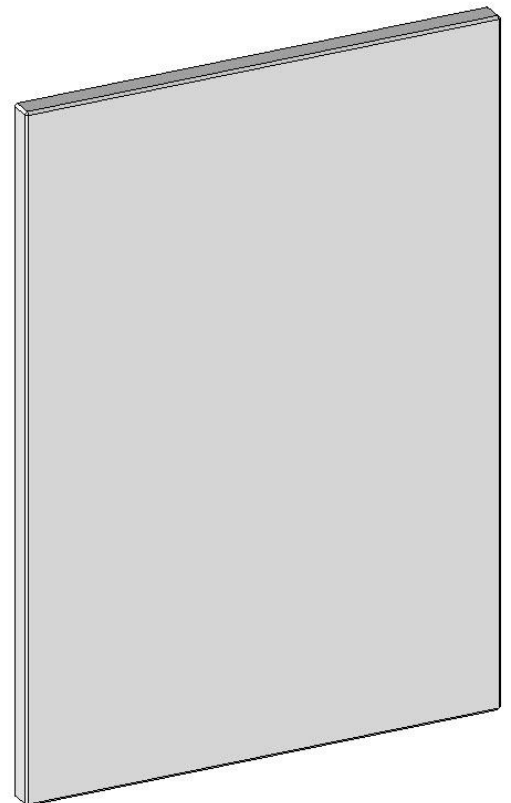
- Define these parameters as **secondary drivers**.
- Make **layer 1** current.
- Using the **Constrained Block** function, create the door panel with a **thickness** = *db.y*.
- Position this part inside the driver block.

- Create a sketch on this part as shown here.
- Then use this sketch to groove the panel:
 - **Tool type:** Routers
 - **Groove mill**
 - **Parameters:** Centred
 - **Gap distance:** 0mm
 - **Groove width:** gw
 - **Groove depth:** 10mm
- Define the panel:
 - **Designation:** Grooved panel
 - **Material:** TopSolid'Wood > Panels > Colors > White
- Save and close this file.



Creation of the simple panel

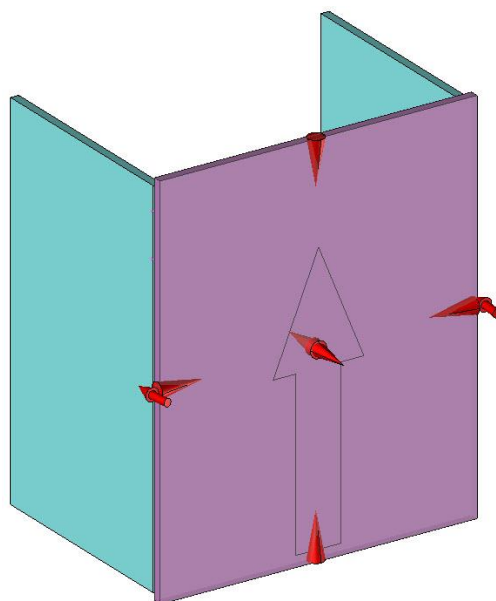
- Repeat the previous steps to create a third panel subcomponent:
 - No parameters
 - Panel using a constrained block with a thickness of *db.y*
- Create the chamfer on the panel:
 - Use the **Shape > Chamfer** function 
 - **Length:** 2mm
 - Select the **Shape** mode to apply the chamfer on all the panel's edges automatically
- Define the panel:
 - **Designation:** Simple panel
 - **Material:** TopSolid'Wood > Panels > Colors > White
- Save this file in the library :
 - **Standard:** My 3D Standard
 - **Family:** Cabinet fitting
 - **Type:** Door panels
 - **New variant:** Simple panel




Configuration of subcomponents

Insertion of subcomponents

- Edit the **Right overlay door** component.
- Make **layer 4** current.
- Insert the **Wood and mirror panel** component.
- For the driver block, select the building block of the door on layer 2.
- Validate the default parameter values.
- Hide **layer 2**.



Note: When hinges were included, the **Automatic** option was used in order to create the associated machinings. However, the parts to operate have just been inserted (door panel). The file needs to be regenerated so that the hinges can operate the door.


- Launch the **File > Regenerate** function. 
- Click on **This document.**

Note: If the door is not drilled after the file is regenerated, it means the **Automatic** option was not used when the hinges were included. However, it is still possible to enable it using the **Assembly > Use process > Select the hinge > Automatic** function.



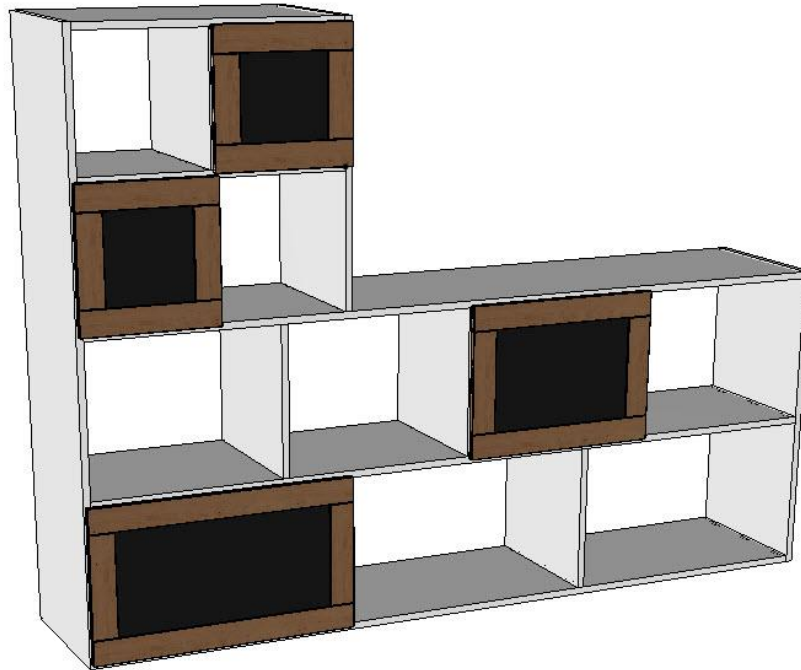
Definition of subcomponents

Note: To modify the type of door panel once the door is included in a project, it must be defined as a **subcomponent**.

- Launch the **Assembly > Define component > Define sub-component**  function.
- Select the door panel as the **component**.
- Enter **Name = Panel**.
- From the **Sub-component definition** window that appears, check the **Variant** option.
- Validate the window with **OK**.
- Finally, validate the dialog box by clicking on **Stop.**
- Save and close this file.

Using the door

- Open the provided file called *Storage cabinet.top*.
- Include the **Right overlay door** component in some of the cabinet's compartments.
- Adjust the top and bottom overlay parameters to *8.5mm*.
- Leave the left and right overlay parameters to their default values of 17mm.
- Use the **Automatic** option to create the drillings of the mounting plates in the storage cabinet.



- Launch the **Modify element** function and select the panel of one of the included doors. 
- Select the **Sub-component** option.

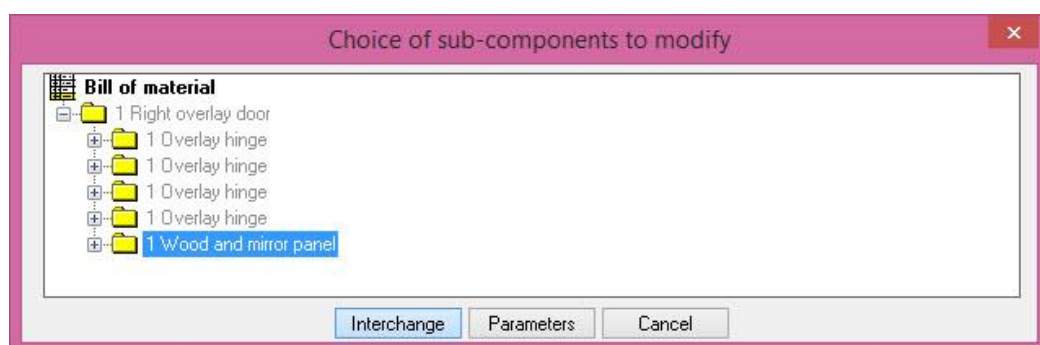
Note: If some elements of a component are defined as subcomponents, this option is then available when modifying the component included in an assembly.

This option lets you make changes to the component such as the secondary drivers, and lets you modify its code and/or variant depending on what settings you made in the subcomponent definition.

In the **Choice of sub-components to modify** window, the elements of the component being modified are displayed. The editable elements defined as subcomponents are displayed in bold and can be selected.

Once a subcomponent is selected, the following three options are available:

- **Interchange:** Allows you to modify the code and/or the variant of the subcomponent.
- **Parameters:** Allows you to modify the secondary drivers of the subcomponent.
- **Cancel:** Allows you to exit the function.



- Select the **Wood and mirror panel** subcomponent.
- Click on the **Interchange** button.
- Select the **Grooved panel** subcomponent, and then validate with **OK**.

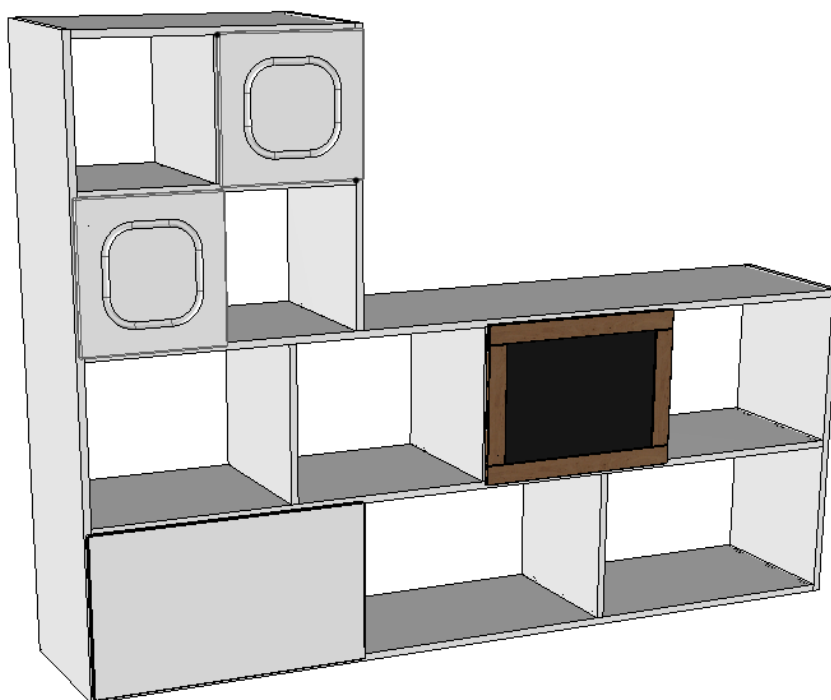
Note: Once a subcomponent has been interchanged, an option in the dialog bar asks whether you want to change all the other identical subcomponents of the document automatically.

Modify the other ones 'Wood and mirror panel: NO YES

- Click on **No** in order not to change the other door panels.

Finally, you can modify the secondary parameters of the subcomponent in the dialog bar, if necessary.

- Adjust the groove width to *20mm*.



Notes

A series of horizontal dotted lines for taking notes.

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