



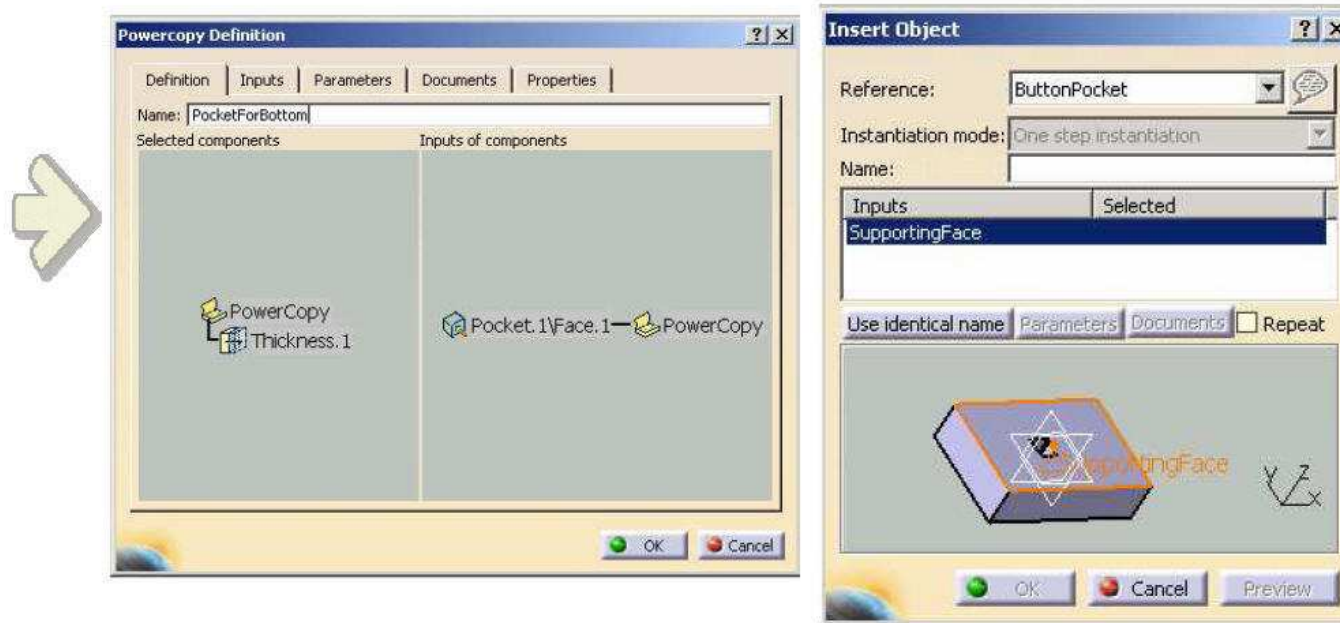
CATIA V5R16 - POWERCOPY



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PowerCopy Presentation

You will learn the concept of 'PowerCopy' and ways to use it.



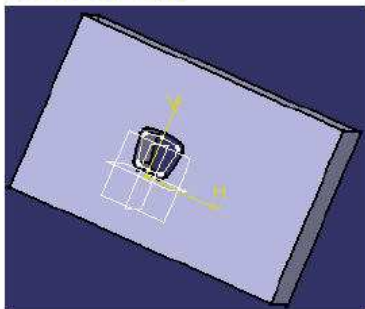
What is a PowerCopy ? (1/2)

PowerCopy is a set of design features grouped together to be reproduced: it is a kind of advanced copying tool

- ◆ You can edit it (set contained features, entries, previews ...)
- ◆ You can instantiate and customize it in the design of any part

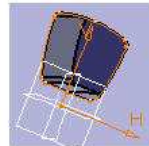
PowerCopy tools are available in the 'Insert' menu of these workbenches:
Part design,  Wireframe and Surface,  SheetMetal Design 

The PowerCopy you want to create and instantiate is made up of...



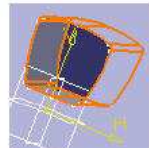
...One sketch (put on a face of a Pad)

 **Sketch.2**



... One pocket based on this sketch...

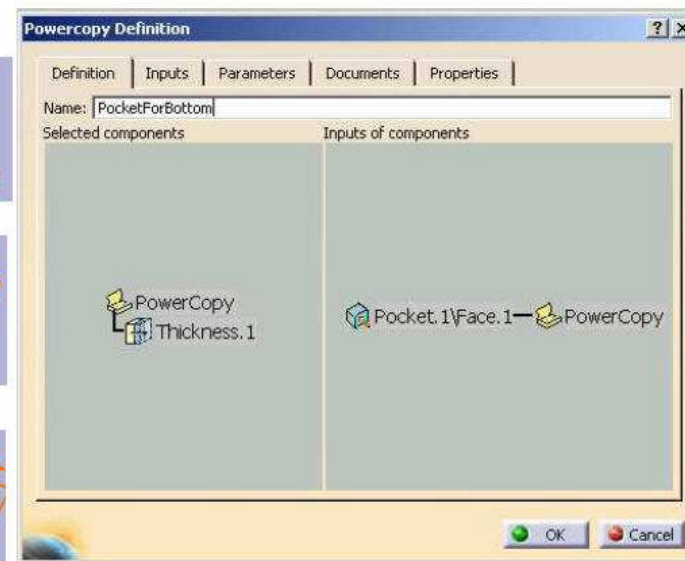
 **Pocket.1**



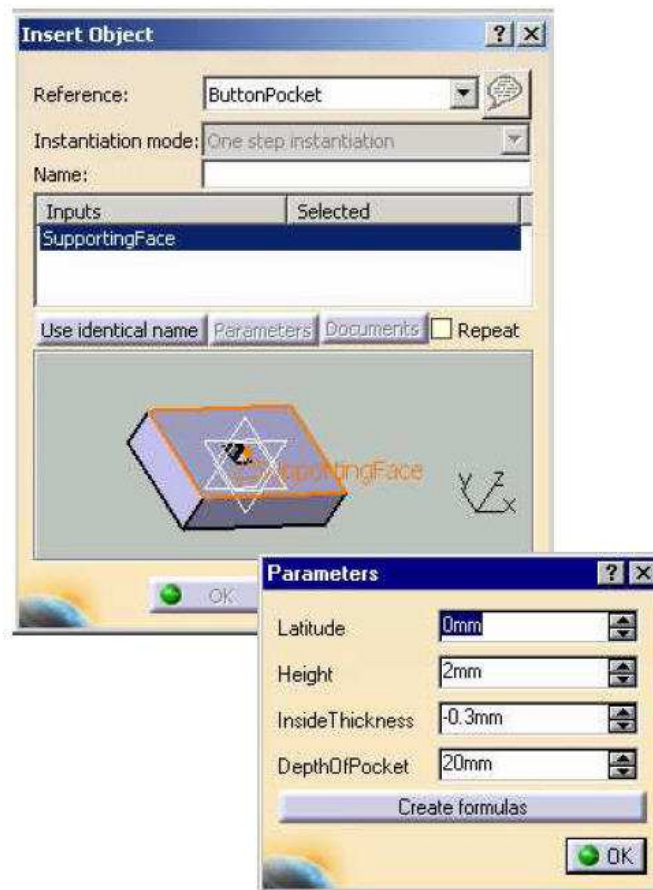
 **Sketch.2**

... And one thickness of a wall of this pocket

 **Thickness.1**



What is a PowerCopy ? (2/2)



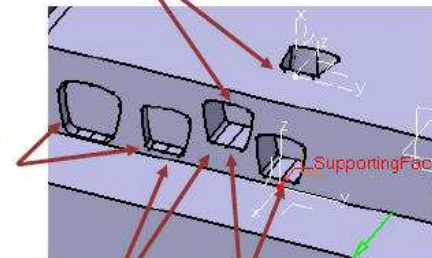
When instantiating the PowerCopy, you will be able to customize:

...The face supporting the sketch...

... The value of the thickness...

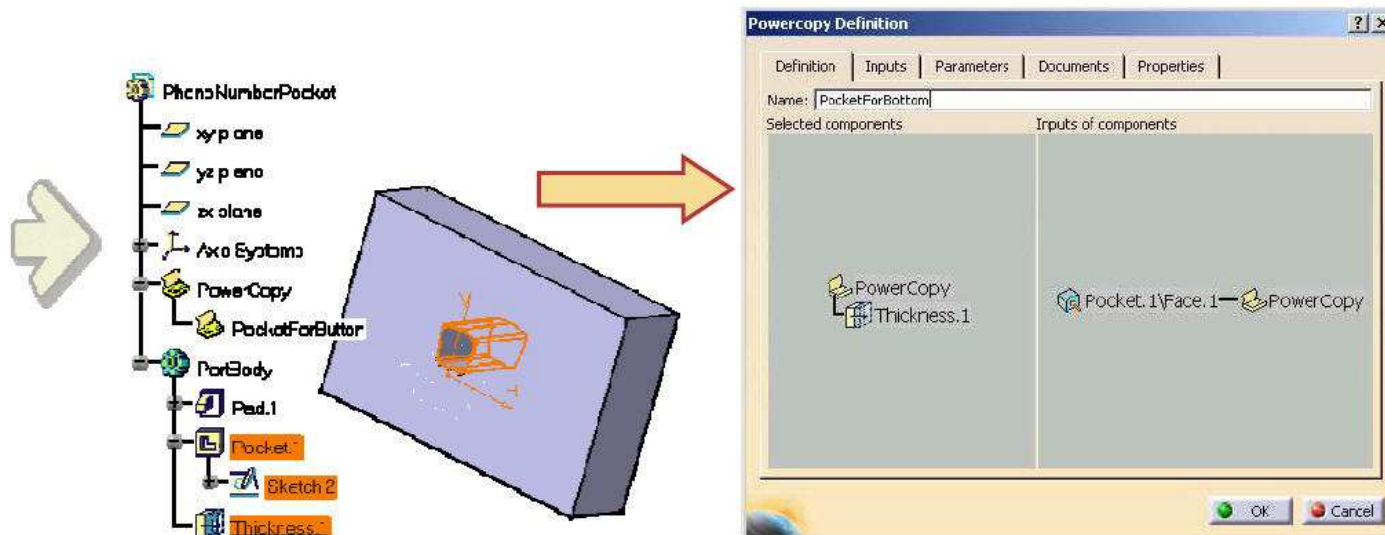
... the depth of the pocket...

... And the Position of the sketch (latitude and height parameters values)



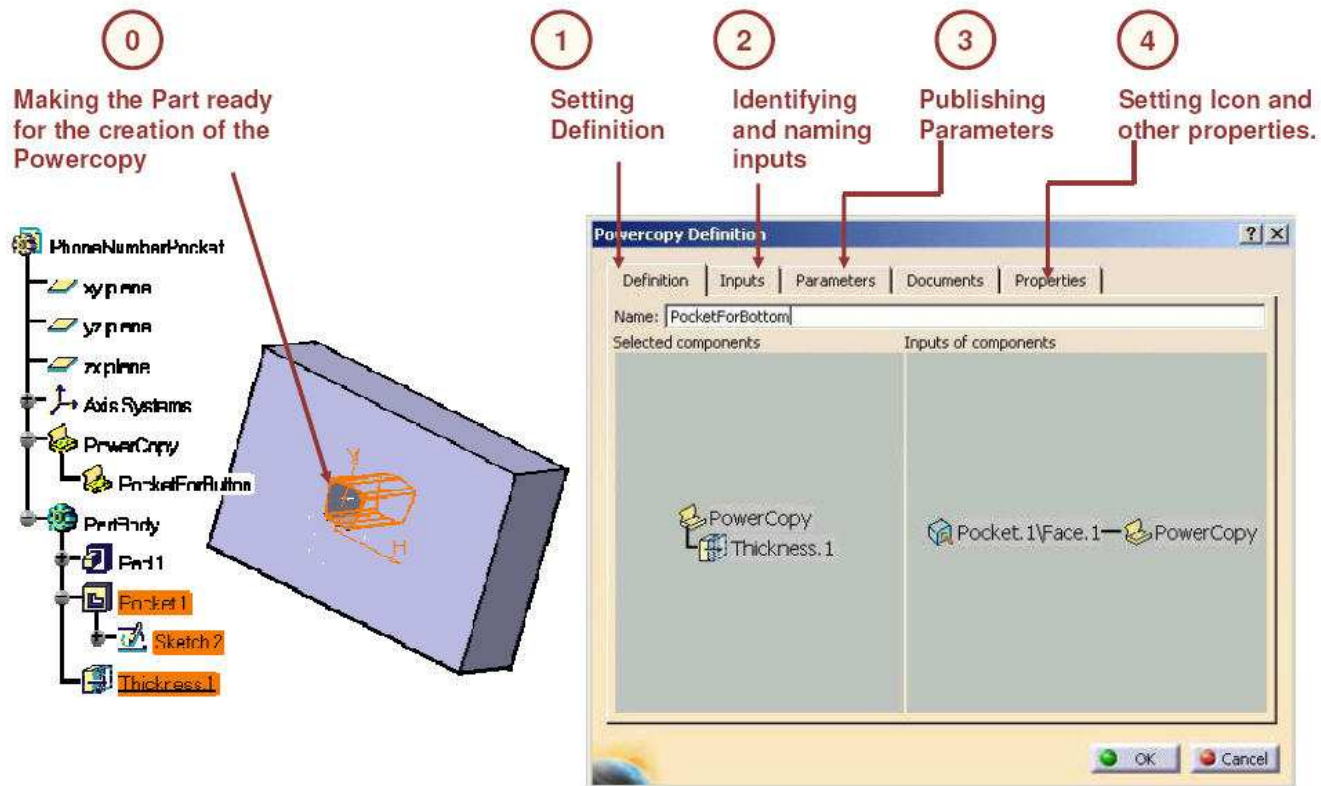
PowerCopy Creation

You will learn how to create a PowerCopy



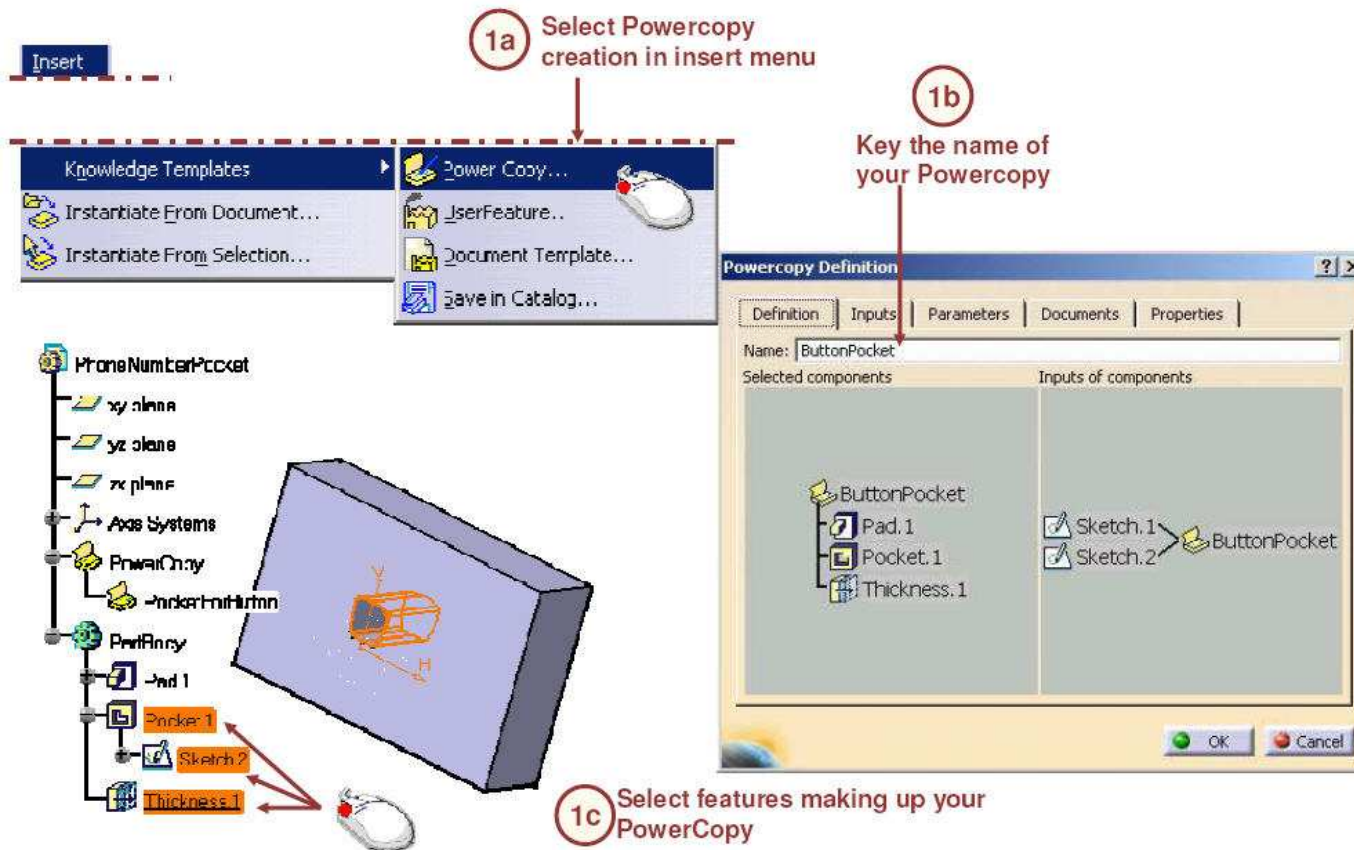
General Process to Create a Power Copy

Creating a Power copy consists of several steps that are shown below



Creating a PowerCopy (1/4)

Once you have the right geometry in your CATPart, you must build your powercopy with selected features.

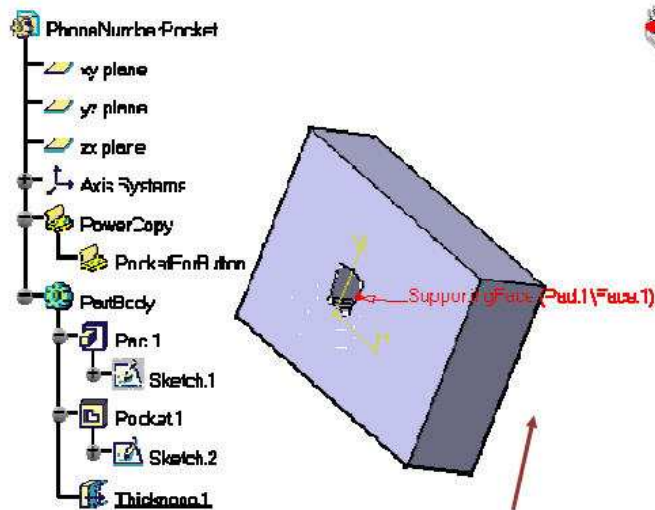


Creating a PowerCopy (2/4)

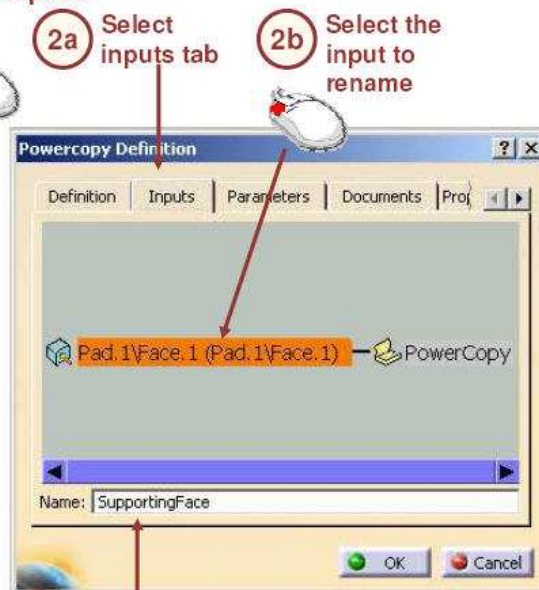
Once features making your powercopy are selected, you can rename the geometric inputs.

In our case, there is only one geometric input:
This is the face supporting the Sketch making up the powercopy.

To rename a geometric input...



When editing inputs tab,
required geometric inputs
are shown in geometry.



The geometric inputs totally depend on which features you selected to create your Powercopy. The user cannot define the geometric inputs.

Creating a PowerCopy (3/4)

Once geometric inputs are identified and renamed, you can choose and publish parameters. The user can input values for these published parameters during instantiation of power copy.

To publish parameters...

3a Select parameters tab

3b Select parameter

3c Check published option

3d If necessary, give a public name to the parameter

Available parameters	Value	Pub...	Name
PartBody\Pocket.1\Activity	true		
PartBody\Pocket.1\FirstLimit\DepthOfPocket	20mm	Yes	DepthOfPocket
PartBody\Pocket.1\SecondLimit\Depth	0mm		
PartBody\Sketch.2\Activity	true		
PartBody\Sketch.2\Parallelism.3\Activity	true		
PartBody\Sketch.2\Coincidence.4\Activity	true		
PartBody\Sketch.2\Coincidence.5\Activity	true		
PartBody\Sketch.2\Parallelism.6\Activity	true		

Published Name: DepthOfPocket

OK Cancel

In our case, there are four renamed parameter to publish (keep their names as public names):

- DepthOfPocket
- Height
- Latitude
- Inside Thickness



Note that it will be easier for you to recognize them if you have already renamed parameters with knowledgeware tools

Creating a PowerCopy (4/4)

Once parameters are published, you can select the icon for your powercopy and take an image of screen to create a preview of your powercopy for catalogs.

3a Select the last Properties Tab

3b Select icon

3c Prepare the CATPart window for the grab screen

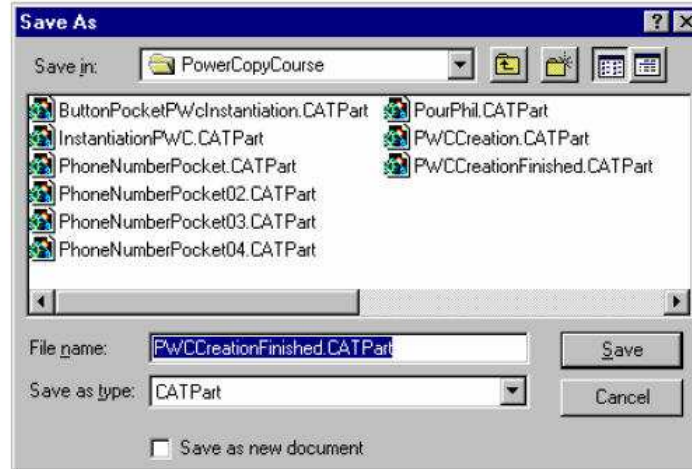
3d Make a grab screen to have a preview

3e You can now validate

To prepare the grab screen, you can remove tree and compass from the window to get the correct view point.

Saving a PowerCopy

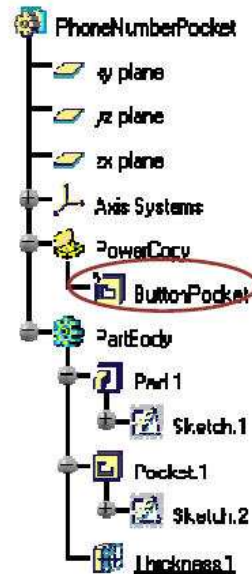
You will learn ways to save a Powercopy



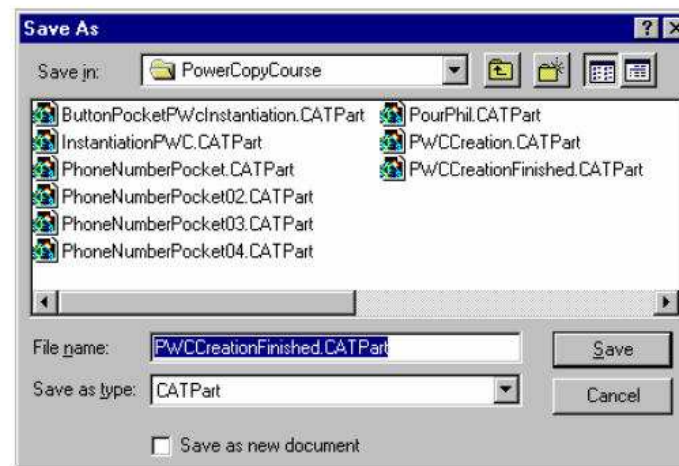
How to Save a Power Copy

It is necessary to save a power copy before using it.

To save a powercopy, you must save the CATPart which contains the powercopy



Powercopies are stored under powercopy node of CATPart

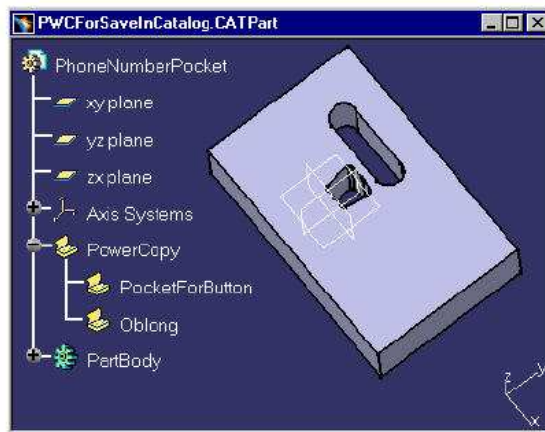


You can also create or update a catalog which has a reference to all powercopies of your CATPart.



Saving a PowerCopy in a Catalog (1/2)

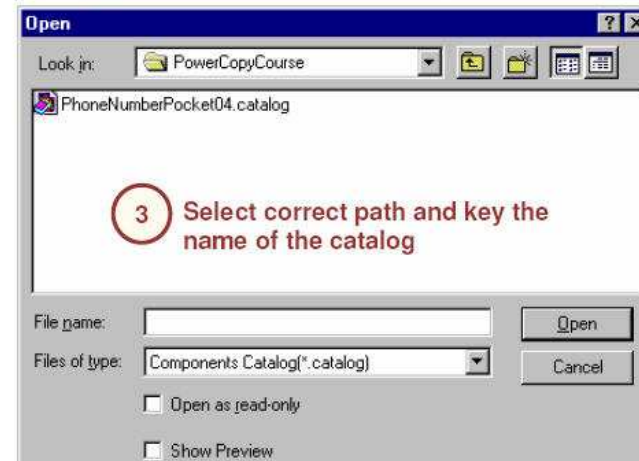
0 To be able to make a « save as Catalog », the CATPart file must not be in modified state.



1 Click on Save in Catalog command.

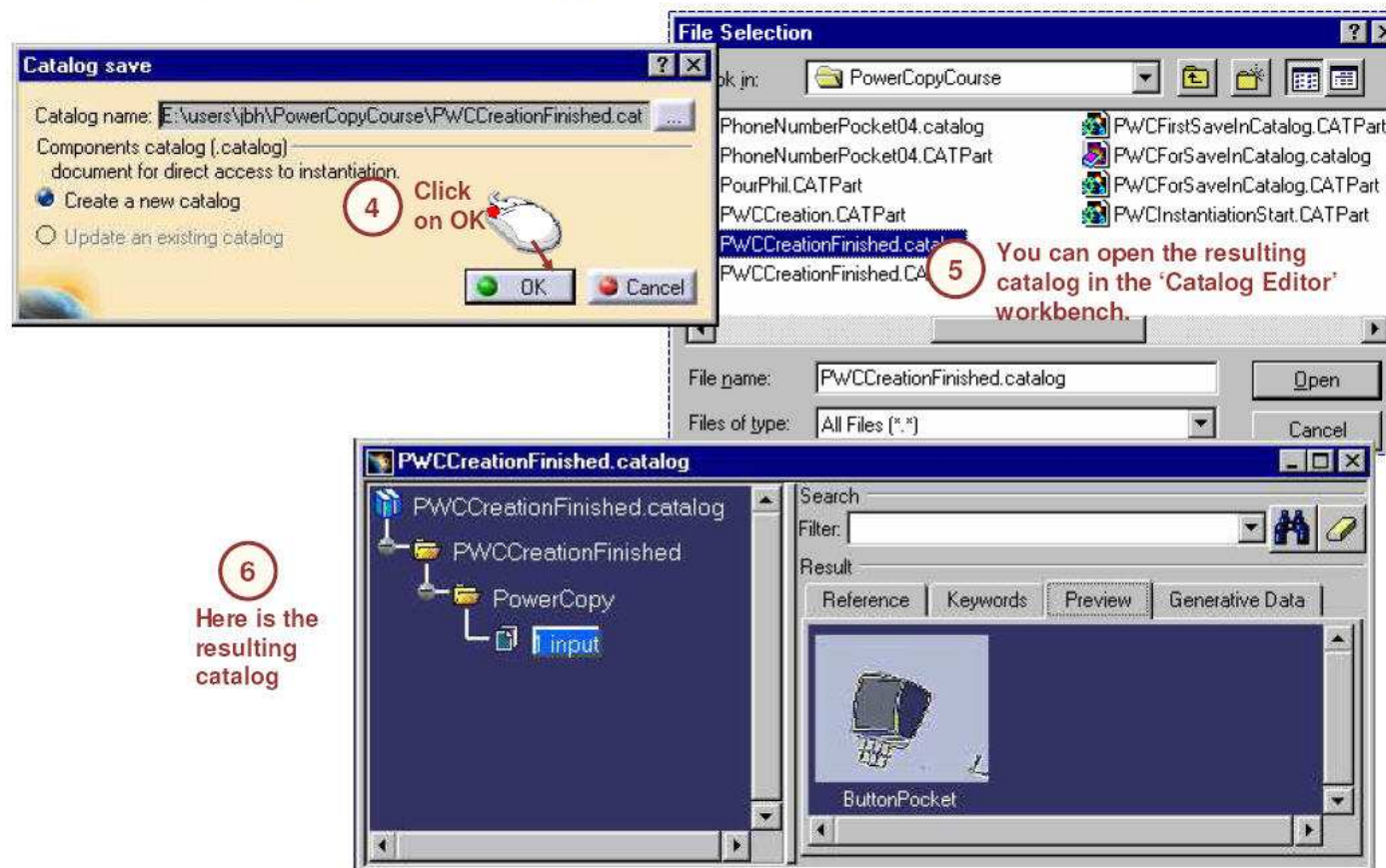


2 Click on this button to access a browser if you want to change the current folder location for saving the catalog.



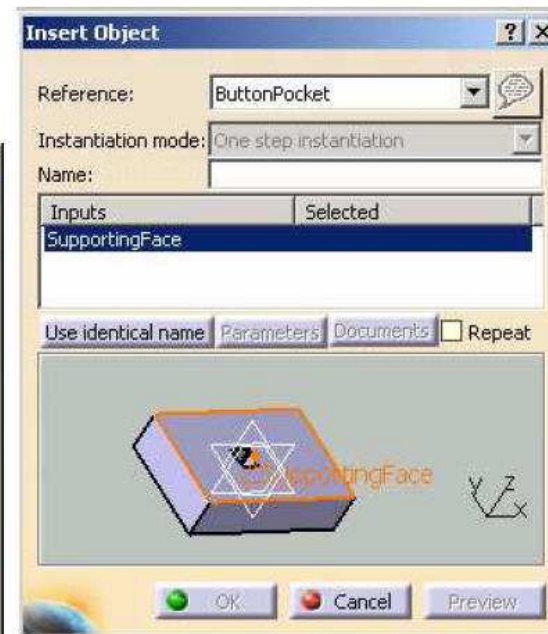
Saving a PowerCopy in a Catalog (2/2)

The resulting catalog can be edited using catalog editor workbench



PowerCopy Instantiation

You will learn how to instantiate a power copy using various options of instantiation.



Instantiating a PowerCopy (1/4)

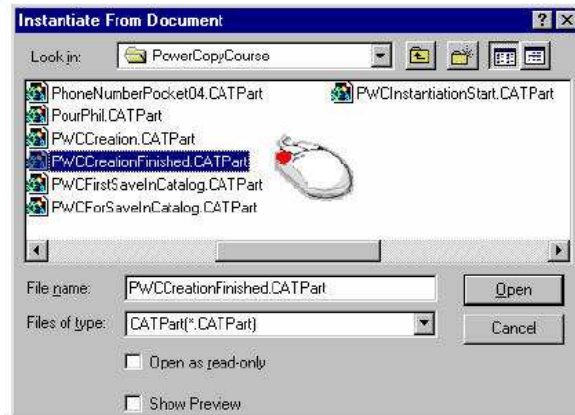
First step of the powercopy instantiation is accessing the powercopy: you can do it:

- a) by selecting the CATPart file containing it.
- b) by browsing a catalog having it as reference.

- 1 Select from Insert Menu > Instantiate From Document. OR



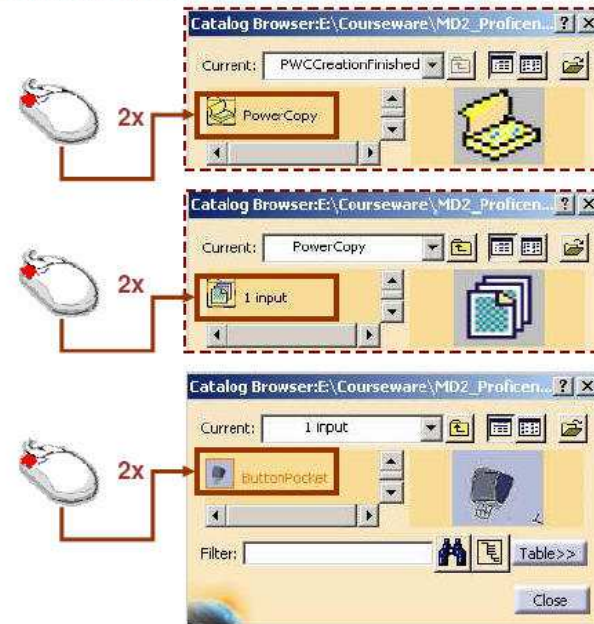
- 2 Select the CATPart file.



- 1 Click on Catalog browser.



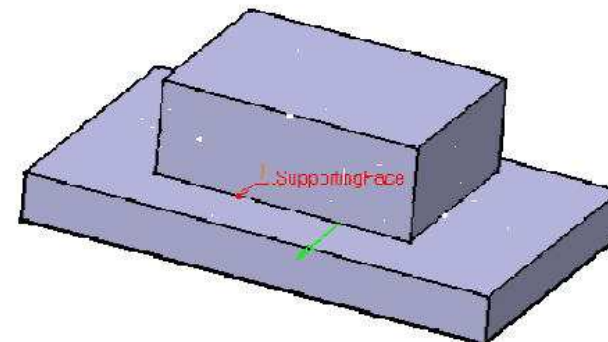
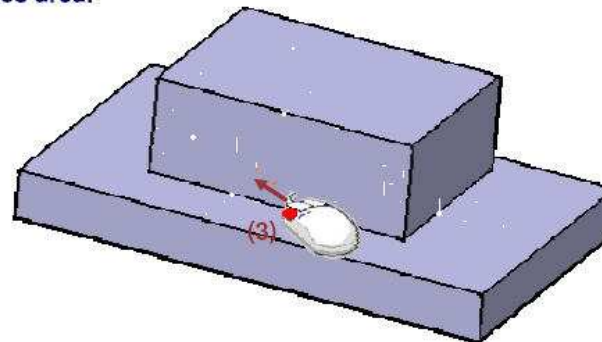
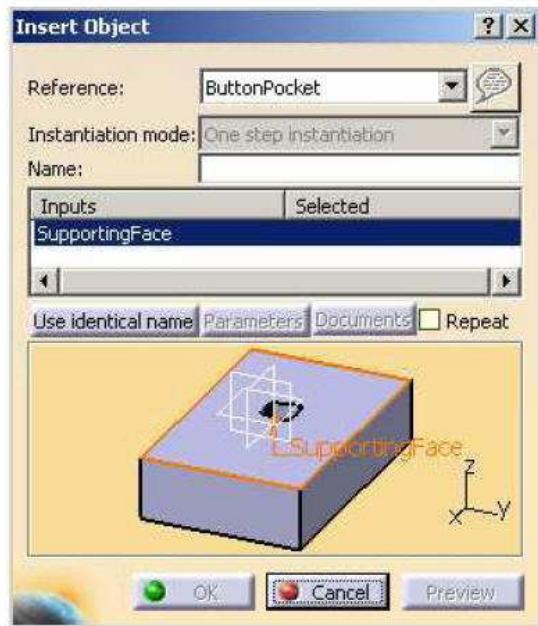
- 2 Double click on the feature.



Instantiating a PowerCopy (2/4)

Second step of the powercopy instantiation is defining the geometric inputs of the powercopy.

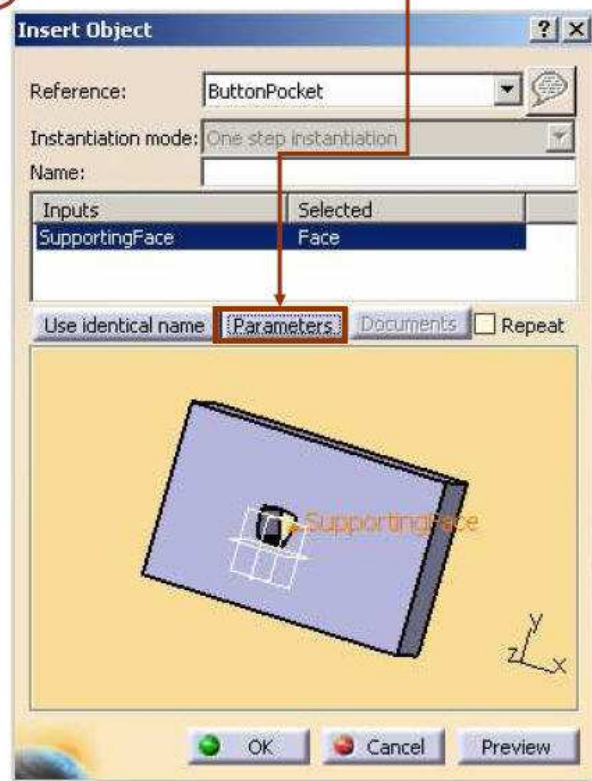
- 3 Select the inputs in the graphics area
Selected ,geometric inputs are shown in the graphics area.



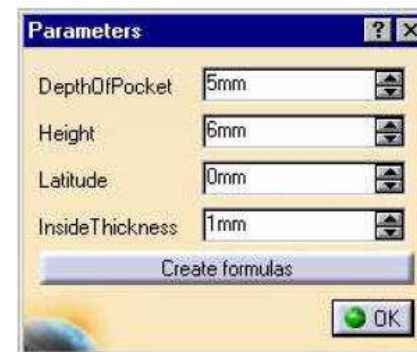
Instantiating a PowerCopy (3/4)

Third step of the powercopy instantiation is setting values of parameters that have been published at the creation of the powercopy.

4 Click on Parameters



5 Set values



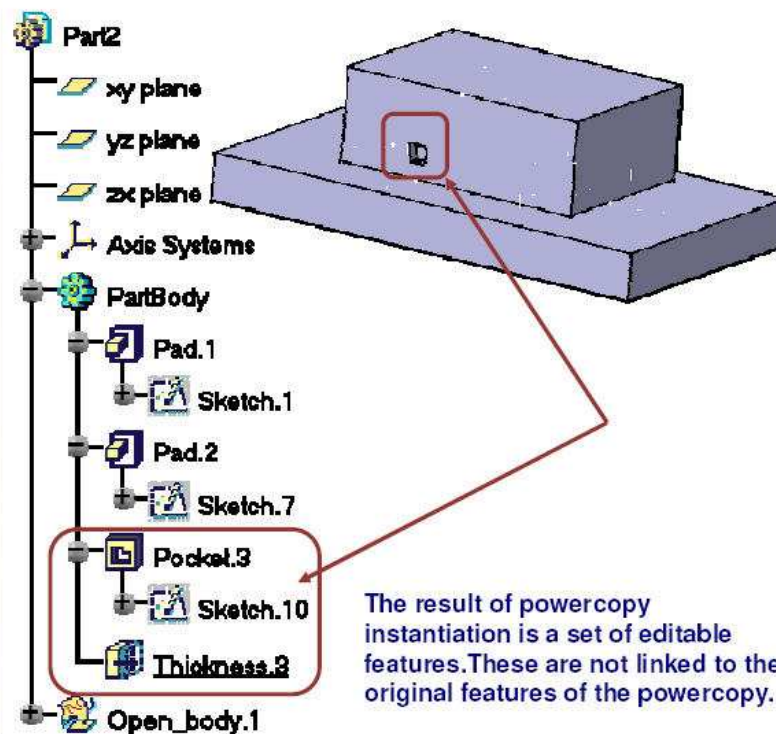
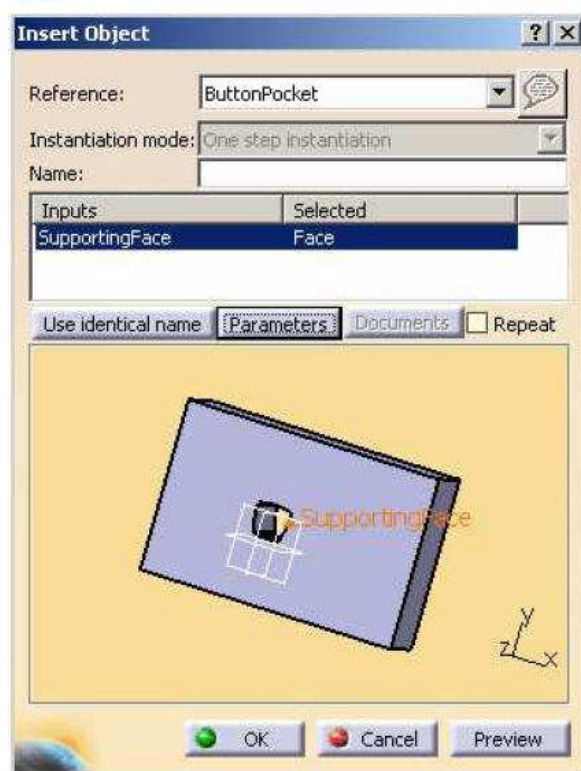
If you want you can create formulas on the fly using the 'Create formulas' button.

6 Click OK to the 'Parameters' panel

Instantiating a PowerCopy (4/4)

The result of the powercopy instantiation is inserted just after the “In Work object”.

7 Click on OK



To Sum Up ...

You have learned:

- What is a Powercopy. Powercopy is a set of design features grouped together to be reproduced. It is advanced copy tool. Powercopy tools are available in Insert menu in Part design, Wireframe and surface, sheet metal design workbenches.



- How to create a powercopy. During creation you have to set definition, Identify and name inputs, publish parameters, select icon and preview.
- How to save a powercopy. Saving of powercopy is necessary, if not saved, powercopy can never be instantiated. This can be done through Insert menu > Advanced replication tools > save in catalog.
- Ways to instantiate a powercopy. For instantiation you have to first select powercopy which is previously created. This can be done through two ways. First way is through catalog and second way is from Insert menu > Instantiate from document.

THANK YOU