

TP2

Support :machining fixture of the vice base phase 10

Goals :make an assembly composed of rigid and flexible sub-assemblies

Procedure :

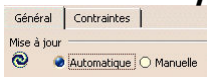
Checking Options.

- Click on **Tools->Options**
- click on **Infrastructure->Product Structure**
- click on the tab



- tick the

- click on **mechanical concept**



- check the box

- click on **okay**

Creation of the assembly tree

- click on or on **File->New->product**
- name the reference: **Assembly_sole_complete**
- click on **okay**

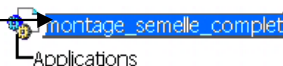
- insert a new product by clicking on



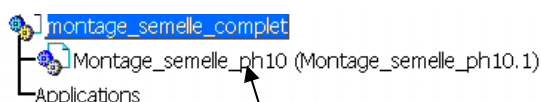
Or on **Insert ->New Product**

- click in the construction tree on

- name the reference: **Mounting_sole_ph10**



The tree structure is enriched with a new branch



- insert a new product by clicking on

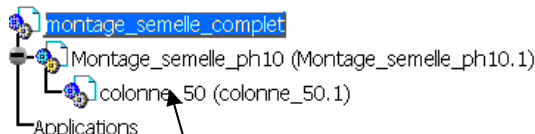


Or on **Insertion -**

- > New Product**

- click in the construction tree on

- name the reference: **Column_50** The tree structure is enriched with a new branch



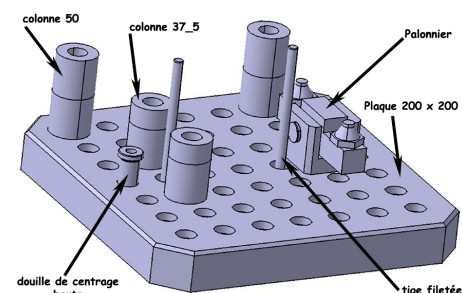
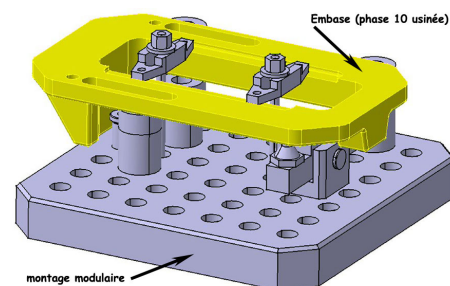
- insert a part by clicking on

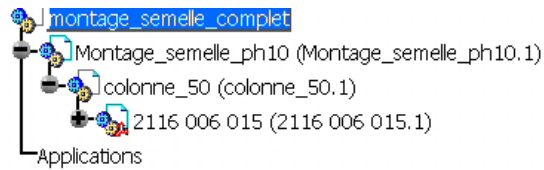


Or on **Insert ->Existing component**

- click in the construction tree on

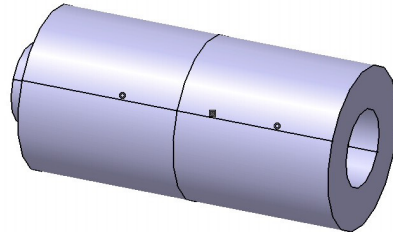
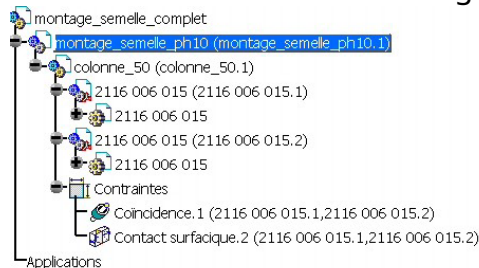
- choose the file **column 25** in the directory **mounting element** from the directory **tp2** The tree structure is enriched with a new branch





duplicate column of 25

- double click on the colonne_50 (colonne_50.1) in the specification tree
branch should turn blue
- select branch 2116 006 015 (2116 006 015.1)
- right click and choose copy
- select branch colonne_50 (colonne_50.1)
- right click and choose paste
- move one of the two columns using the compass
- constrain the two columns to obtain the following set:



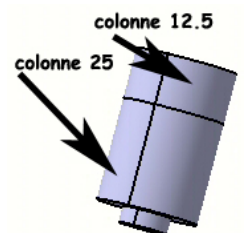
duplicate column assembly_50


- double click on the Montage_selle_ph10 (Montage_selle_ph10.1) in the specification tree
branch should turn blue
- select branch colonne_50 (colonne_50.1)
- right click and choose copy
- select branch Montage_selle_ph10 (Montage_selle_ph10.1)
- right click and choose paste
- move one of the two columns using the compass

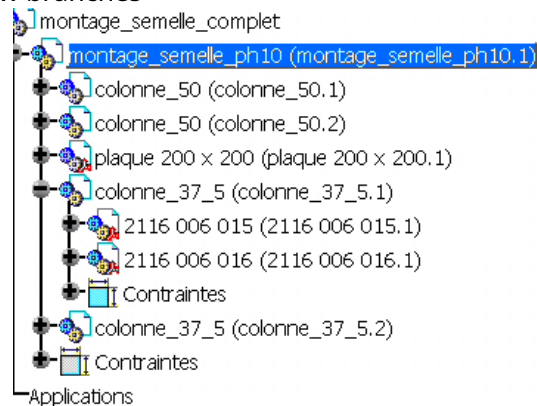
Inserting the plate


- double click on the Montage_selle_ph10 (Montage_selle_ph10.1) in the specification tree
branch should turn blue
- insert a part by clicking on Or on **Insert -> Existing component**
- click in the construction tree on Montage_selle_ph10 (Montage_selle_ph10.1)
- choose the file **plate_200x200** in the directory **mounting element** from the directory **tp2** The tree structure is enriched with a new branch
- put a fixity constraint on the plate
- constrain the columns by 50 as in the previous figure (note Montage_selle_ph10 (Montage_selle_ph10.1) must be blue)

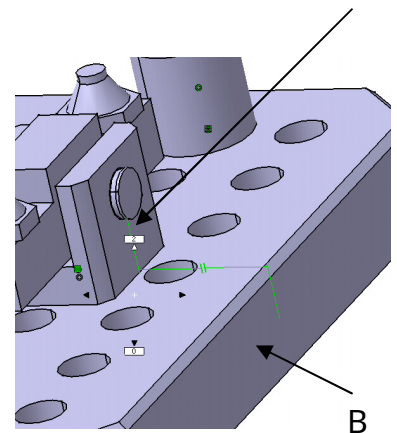
creation of the columns of 37.5





- create in assembly  Montage_semelle_ph10 (Montage_semelle_ph10.1) an assembly for 37.5 columns (follow the same procedure as for the columns of 50) The tree structure is enriched with new branches

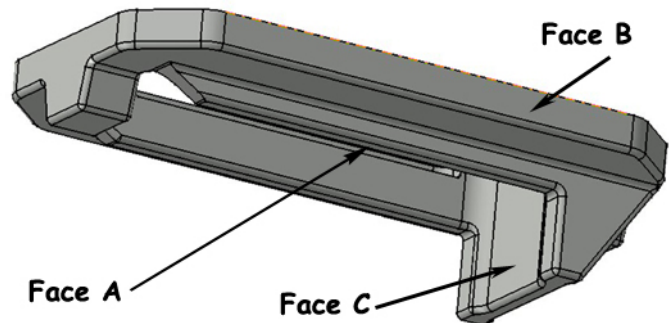
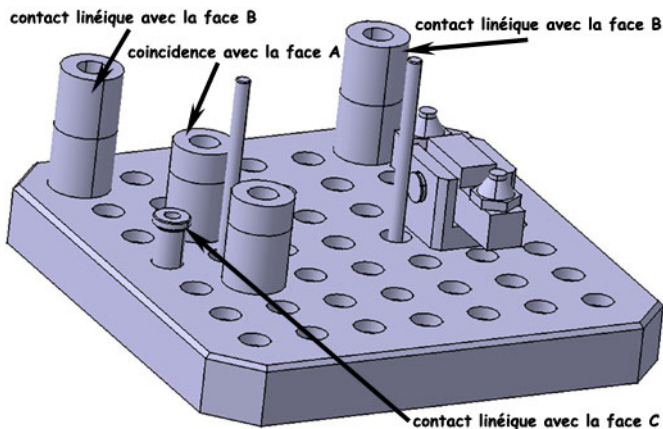


- complete assembly  Montage_semelle_ph10 (Montage_semelle_ph10.1) with :
 - threaded rods
 - the upper centering sleeve
 - the lifter (the assembly is stored in the lifter directory)
- put a parallelism constraint between face A and face B by clicking on



Inserting the raw base

- insert the raw base by clicking on  Or on **Insert ->Existing component**
- click in the construction tree on  montage_semelle_complet
- choose the file **raw base** in the directory **tp2**

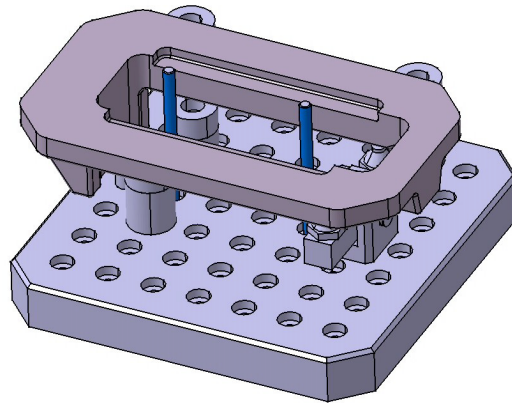
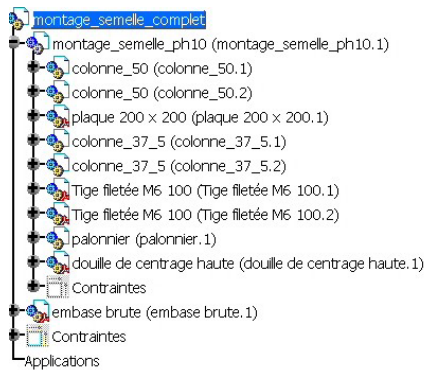


- constrain the base on the assembly, respecting the conditions indicated in the previous figures.

To create a constraint of the type: line contact, click on You obtain the following tree structure and assembly:



and choose the direction



- hide the raw base and the ph10 sole assembly



- - insert a new product by clicking on or on **Insert ->New Product**

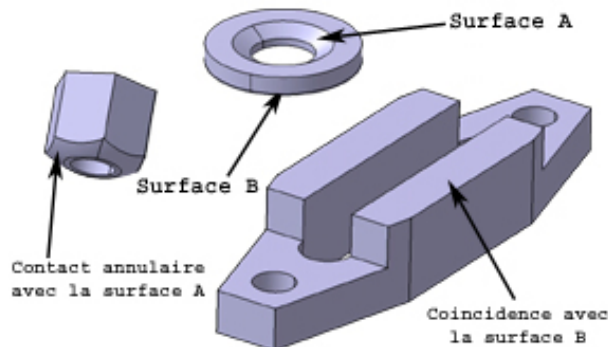
- click in the construction tree on

- name the reference: **clamping**

- complete assembly bridge (bridge.2) with :

- the bridle
- the nut
- and the washer

- double click on the bridge (bridge.2) in the specification tree
branch should turn blue



- constrain the nut, the washer and the flange respecting the two conditions indicated in the previous figure.
To create a constraint of the type: annular contact, click on



- double click on the Montage_selle_ph10 (Montage_selle_ph10.1) in the specification tree
branch should turn blue

- duplicate the bridle

assembly flexibility



bridge (bridge.2)

- right click on

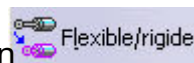


bridge (bridge.2)

Choose

Objet bridade.

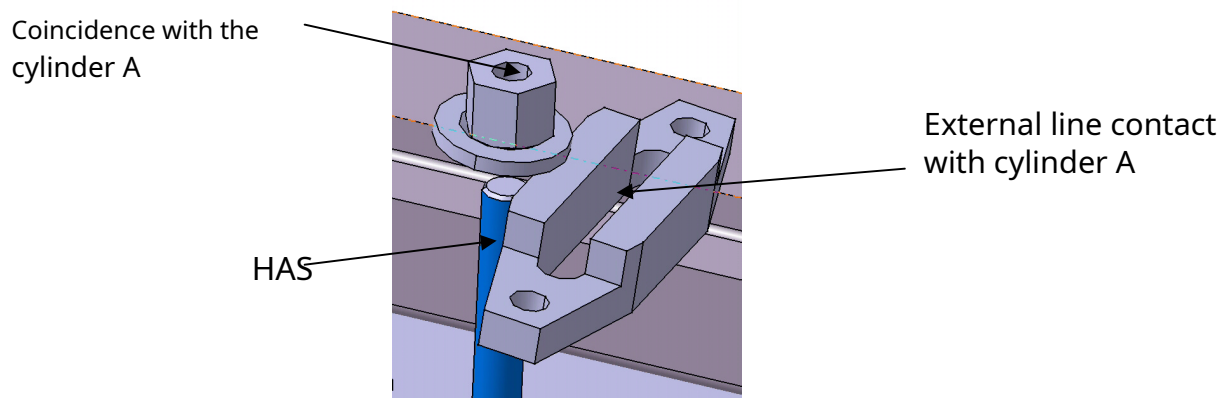
then



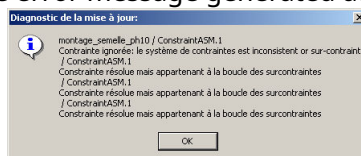
Flexible/rigide


- make the second bridle flexible

constrain the restraints by respecting the two conditions indicated in the following figure.



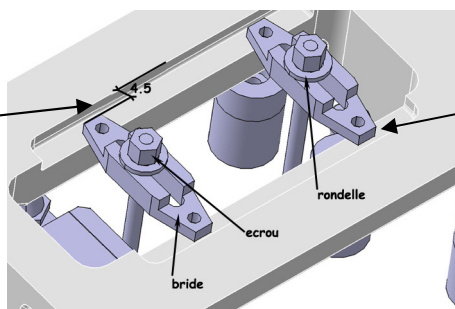
Note: do not take into account the error message generated at the time of the constraints:



- double click on the  **montage_semelle_complet** in the specification tree branch should turn blue

constrain the restraints in accordance with the conditions indicated in the following figure.

Constraint of distance between the end of the flange and the inner face of the sole



Contact stress between the underside of the flange and the vice

