

TP2

Support: hyper frequency box

Objectives: to simulate a machining process by integrating a machining assembly and the raw part. procedure :

make copies, in your working directory, of the following parts located in the TP2 directory:

- table.CATPart
- closed box.CATPart -
- raw box.CATPart

Remove the read-only attribute from your files

Before starting the simulation, you must create an assembly comprising the machining fixture (table.catpart), the raw part (raw box.CATPart) and the machined part (closed box.CATPart) in position.

Creating the assembly

- Open a new assembly by clicking on start>Mechanical design>Assembly design - name it: **boitier_phase_10** - create a new assembly and name it: **assembly_raw** - place the table in the assembly **assembly_raw**

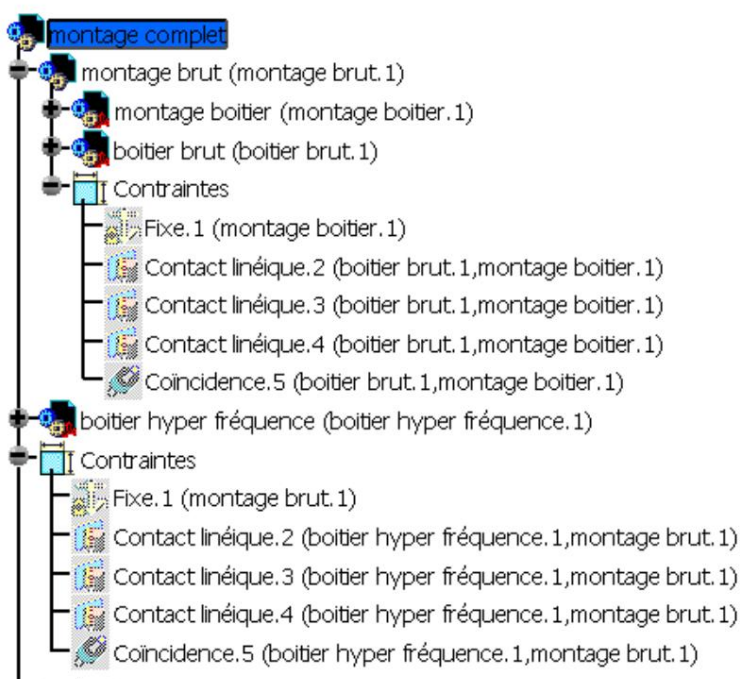
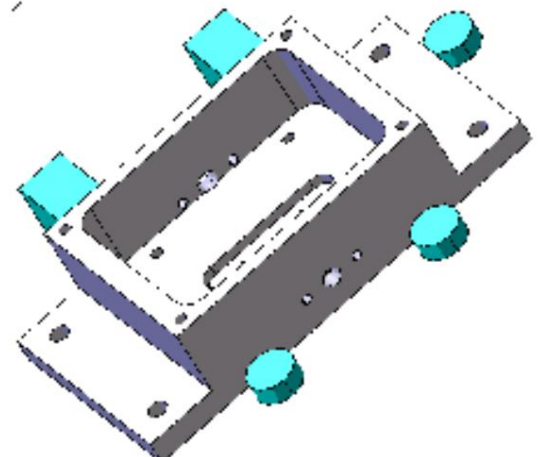
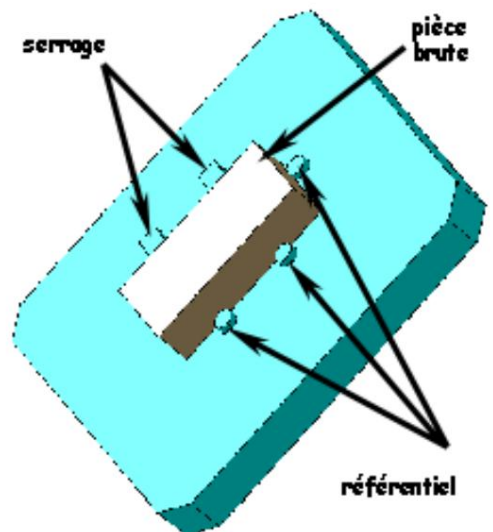
without moving the table fix the component by clicking on



then on **serrage**

the


table - insert the raw box constrain it as in the figure - insert the firm box - constrain it as in the figure - make a backup of the assembly under the name: **assembly_complete**

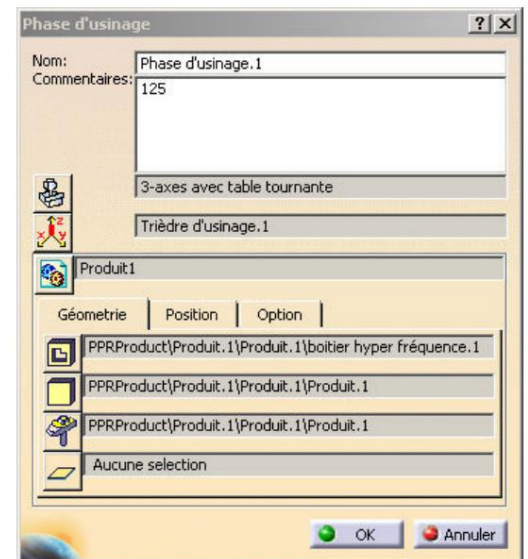
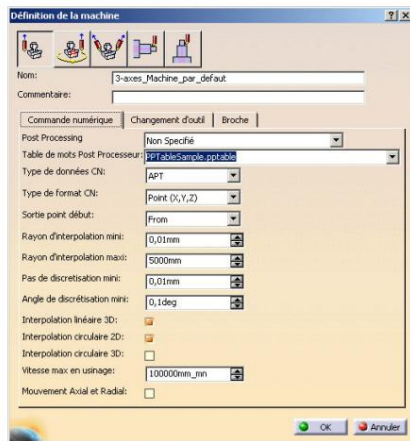



Open the CAM workbench by clicking Start>NC Manufacturing>Prismatic Machining

double click  Phase d'usinage.1 in the tree, the following window opens

choice of machine

click on  the machine dialog box appears

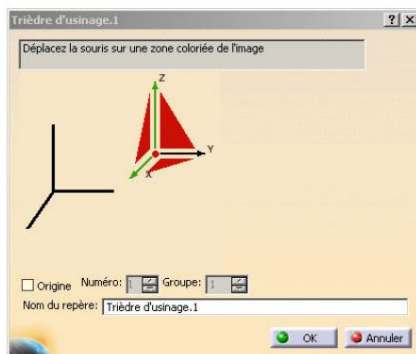


choose the 3-axis machine by clicking on 

click on OK to validate

Choice of machining mark

click on  the marker dialog box appears

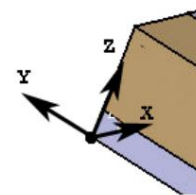


click on an area in red



the dialog box disappears

click on the part mark



the dialog box reappears click OK

declaration of the geometries used for the simulation

geometry of the machined


part click on the  dialog box click in the tree

on

 boitier hyper fréquence (boitier hyper fréquence.1)

double click outside to validate the selection


geometry of the raw part

click on the  dialog box appears click in the tree on

 boitier brut (boitier brut.1)

double click outside to validate the selection

workpiece carrier geometry

click on the  dialog box disappears click in the tree on

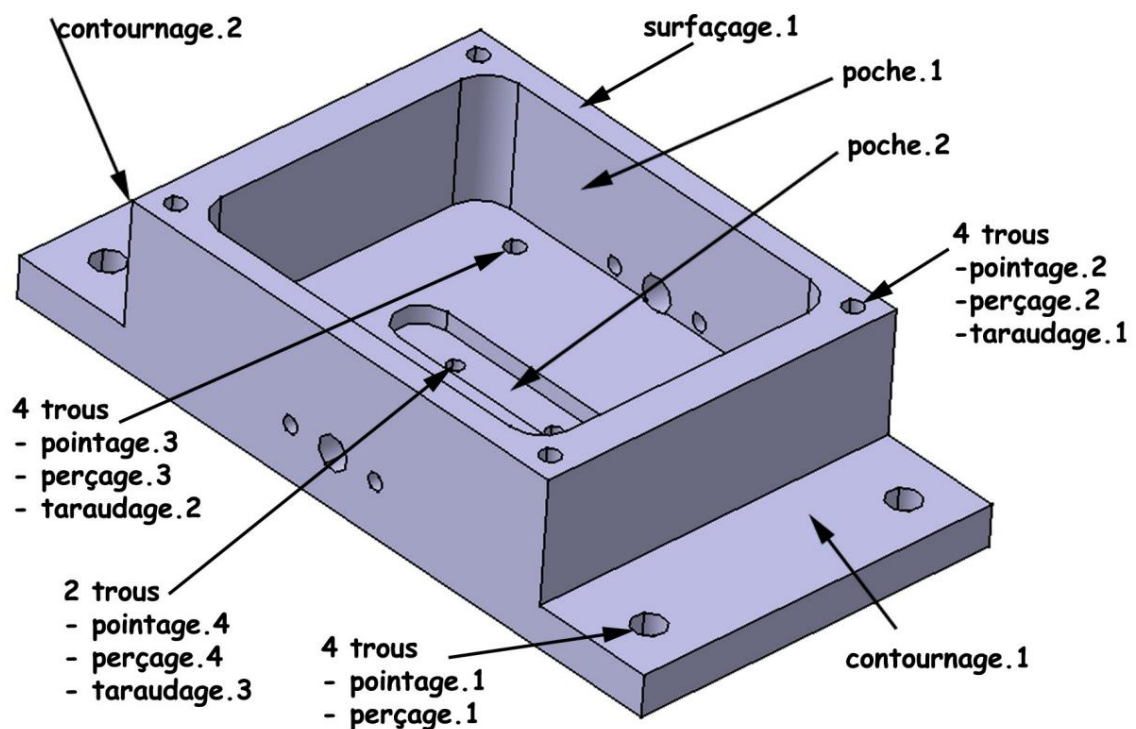
 montage boitier (montage boitier.1)

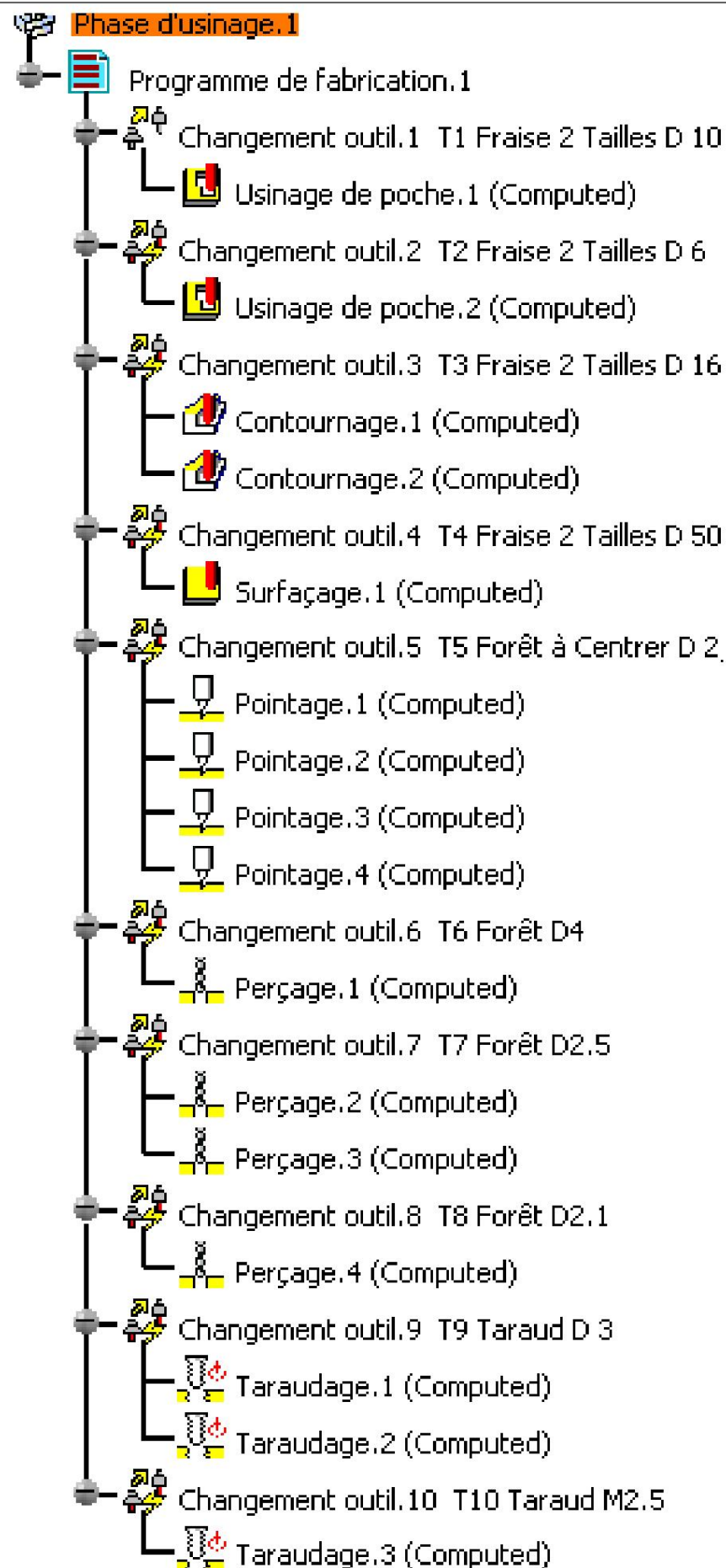
double click outside to validate the selection

validate by clicking on OK

make a backup under the name of: **Gamme_boitier_phase_10**

do the machining process corresponding to the next page shaft






setting parameter: **for**

pocket.1



click on the inner side of the pocket **in the operation window** the window disappears click on the edge marked with arrow 1 then on the edge with arrow 2

click on  to select the outline then OK
declare the bottom and the top of the pocket



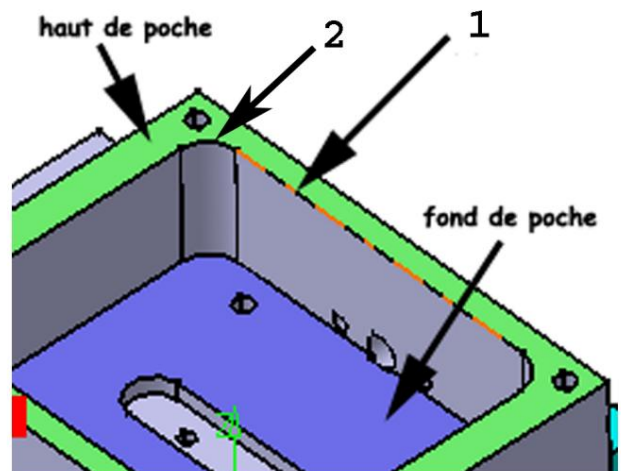
set -
corner radius $R_c=0$ mm



adjust
- the machining mode on: spiral outwards - the
axial pass grip on the mode: maximum depth of cut maximum
depth of cut: 5mm



adjust
- approach on: spiral height 20 mm -
withdrawal on vertical: height 20 mm



for pocket.2



- click with the right button on the bottom of the pocket **in the operation window** -
choose contour detection - click on the bottom of the pocket **in the operation window**, the window disappears: - click on the bottom of the pocket - declare the top out of pocket



name the tool T2 Cutter 2 sizes D 6
- set the corner radius $R_c=0$ mm and the diameter to 6 mm



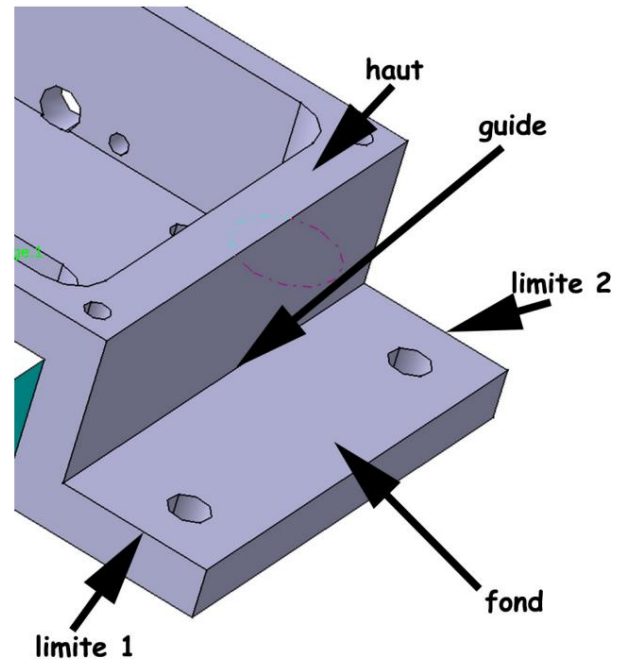
ditto pocket.1



adjust
- the approach on: vertical height 20 mm -
the withdrawal on vertical: height 20 mm

for contouring.1

- click on the shoulder of the contour **in the operation window** the window disappears - click on the edge marked guide - click on the bottom of the contour **in the operation window** the window disappears - click on the bottom of the shoulder - click on a limit face **in the operation window** the window disappears - click on the edge marked limit 1 - same for the other limit face (limit2) - click on the top of the contour **in the operation window** the window disappears - click on the face marked top - set the start and end of the contour to outside by right-clicking on end and start



name the tool T3 Cutter 2 sizes D 16

- set the corner radius $R_c=0$ mm and the diameter to 16 mm



set -

the machining mode to: one way -

the axial pass setting to the mode: maximum depth of cut depth of pass: 5mm



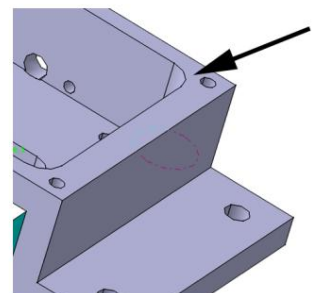
adjust

- the approach and withdrawal on  and the vertical height about: 20 mm

for contouring.2 same procedure as for contouring.1

for surfacing.1

- click on the upper face **in the operation window** the window disappears - click on the marked face - set the overthickness on bottom to: -0.5





name the tool T4 Milling cutter 2 sizes D 50

- set the nose radius $R_c=0$ mm and the diameter to 50 mm



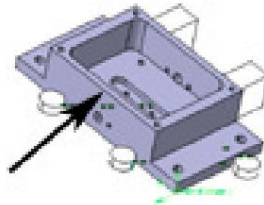
set -

the machining mode to: one way -

the end of the pass to: outside - click

on the arrow named Machining direction - click on

the edge marked by the arrow - click on OK to validate



adjust

- approach and withdrawal with a vertical height of: 10 mm

for the scores

see procedure in tp1

remark for score 1



adjust

- the approach, the withdrawal and the links (link on collision withdrawal and approach) on: height of 20 mm for the other scores do not select the links

for drilling.1



- set to opening the hole by left-clicking on Extension - locate the four holes

using repeat machining) click on the top of the hole **in the operation window**

the window disappears - click on the top face of the hole click on the bottom of

the hole **in the operation window** the window disappears - click on the top

face of the assembly



name the tool T6 Drill D 4

- set the diameter to 4 mm



set -

breakthrough B to:

1mm - depth mode to: by taper-tool (Ds)



adjust

- the approach, the withdrawal and the links (connection on collision withdrawal and approach) on: height of 20 mm

same approach for the other drilling and tapping operations.