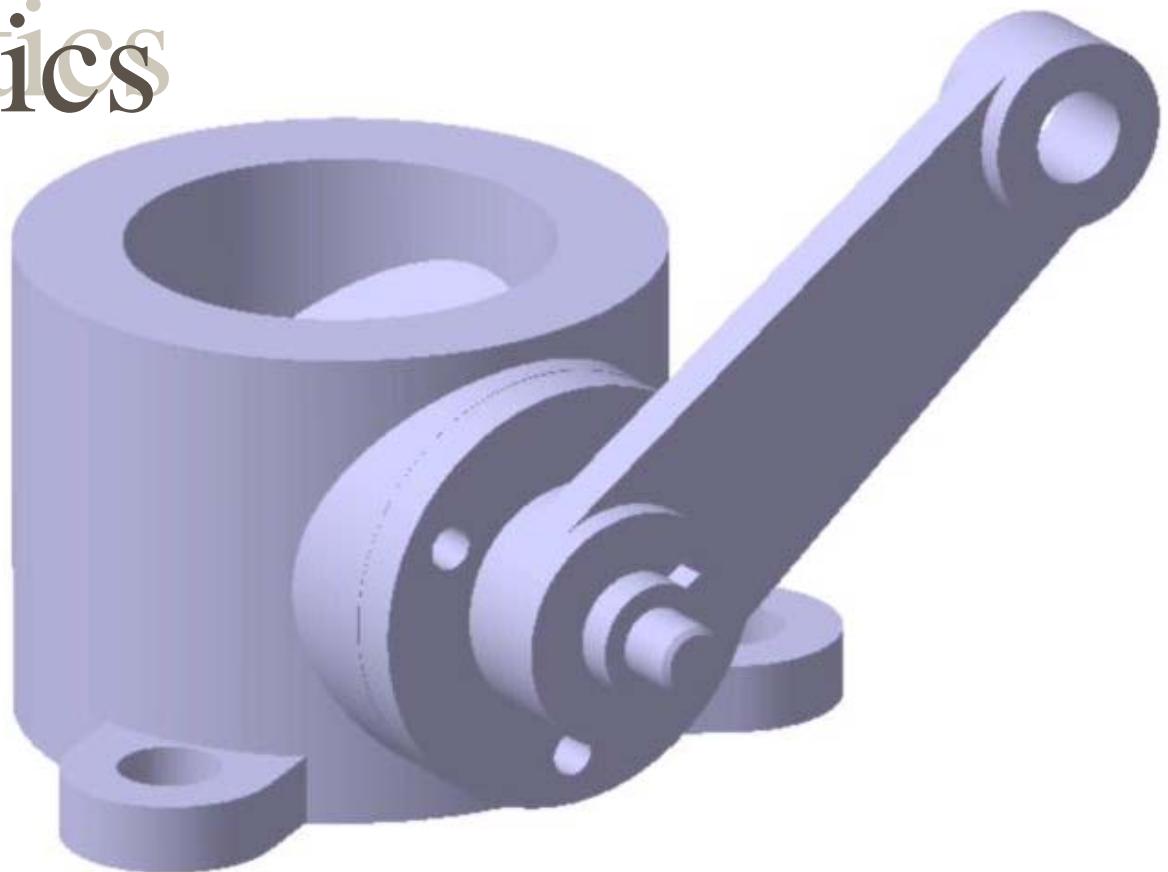


# Assembly & Kinematics

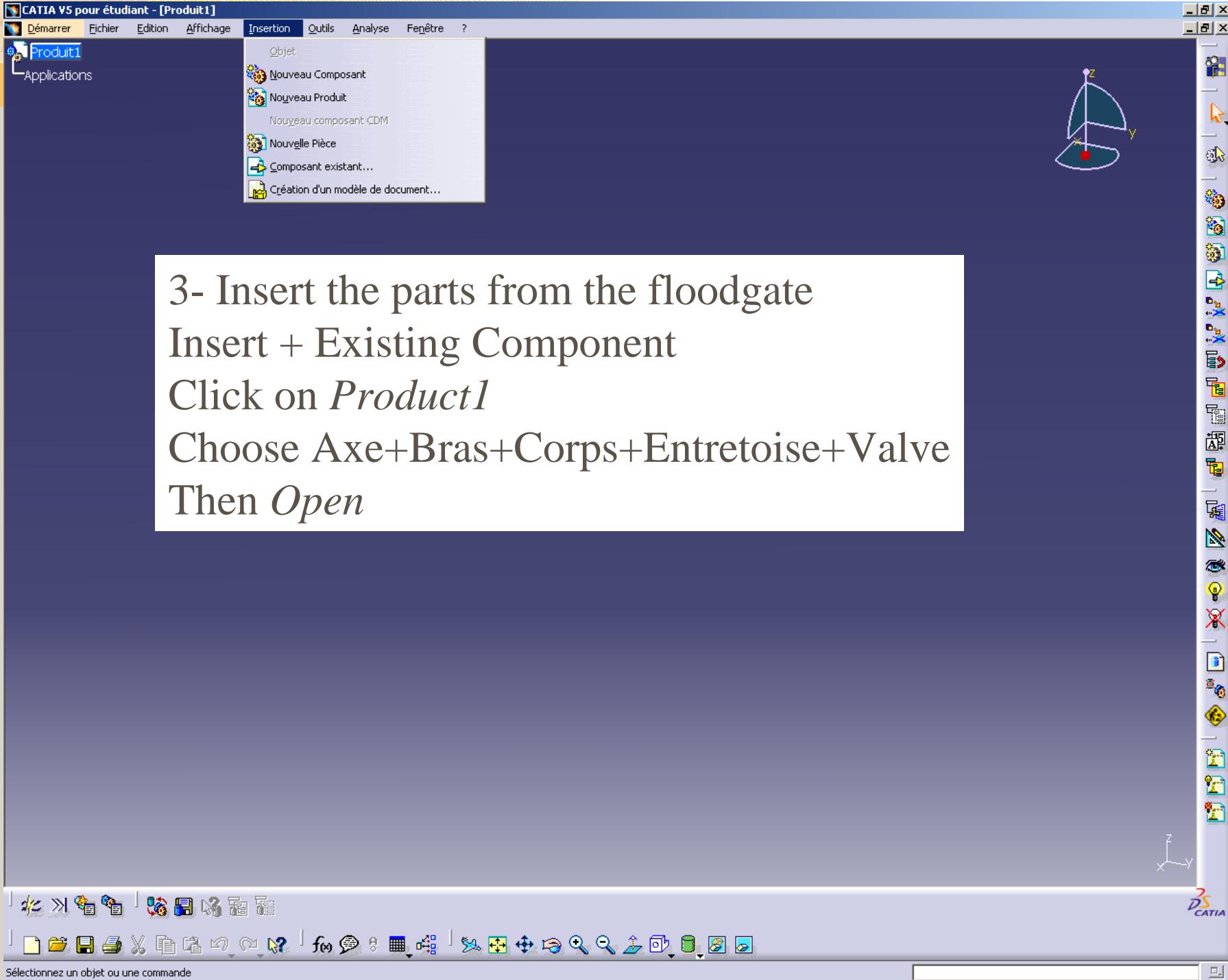


1: Open a new file *Product*

*File + New + Product*



2: Confirm with OK



3- Insert the parts from the floodgate

Insert + Existing Component

Click on *Product1*

Choose Axe+Bras+Corps+Entretoise+Valve

Then *Open*

- DMU Kinematics
- Assembly Design
- Photo Studio

## Infrastructure

## Conception Mécanique

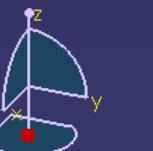
- Forme
- Analys & Simulation
- Construction d'usine
- Fabrication par NC
- Maquette Numérique
- Equipements & Systèmes
- Procédé Numérique de Fabrication
- Conception et Analyse Ergonomiques
- Gestion de la Connaissance

## 1 Produit1

- 1 vanne.CATProduct
- 2 verre.CATProduct
- 3 verre.CATPart
- 4 Verre\_6\_08..Part

Quitter

- Part Design
- Assembly Design
- Sketcher
- Product Functional Tolerancing & Annotation
- Weld Design
- Mold Tooling Design
- Structure Design
- Drafting
- Core & Cavity Design
- Healing Assistant
- Sheet Metal Design
- Sheet Metal Production
- Wireframe and Surface Design
- NEW Sheet Metal Design NEW
- Functional Tolerancing & Annotation

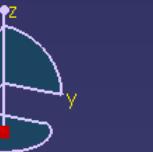


4: Activate workbench *assembly design*



Produit1  
Valve (Valve.1)  
Bras (Bras.1)  
Corps (Corps.1)  
Entretoise (Entretoise.1)  
Axe (Axe.1)  
Applications

5: With the function *manipulation* or *Explode*, move the parts

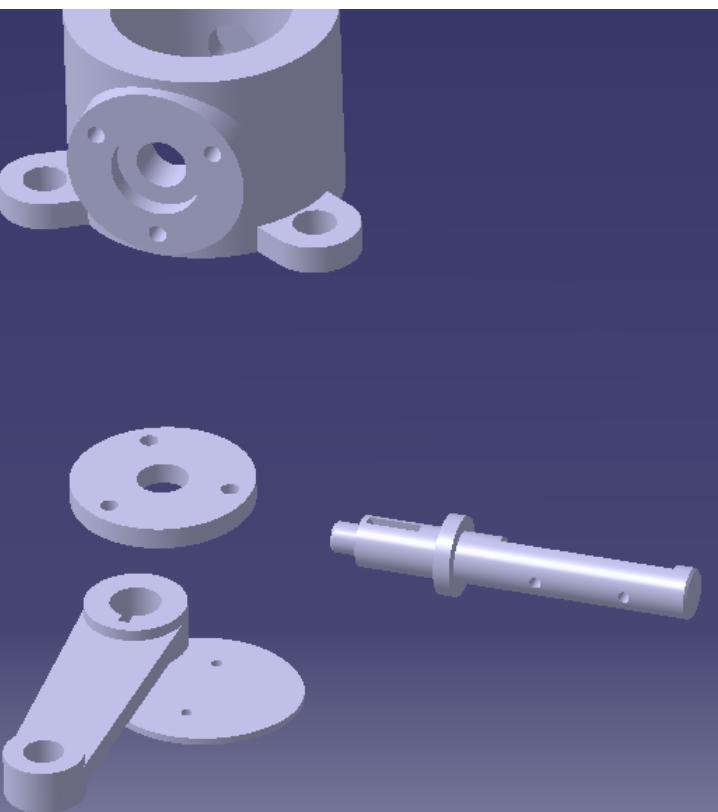


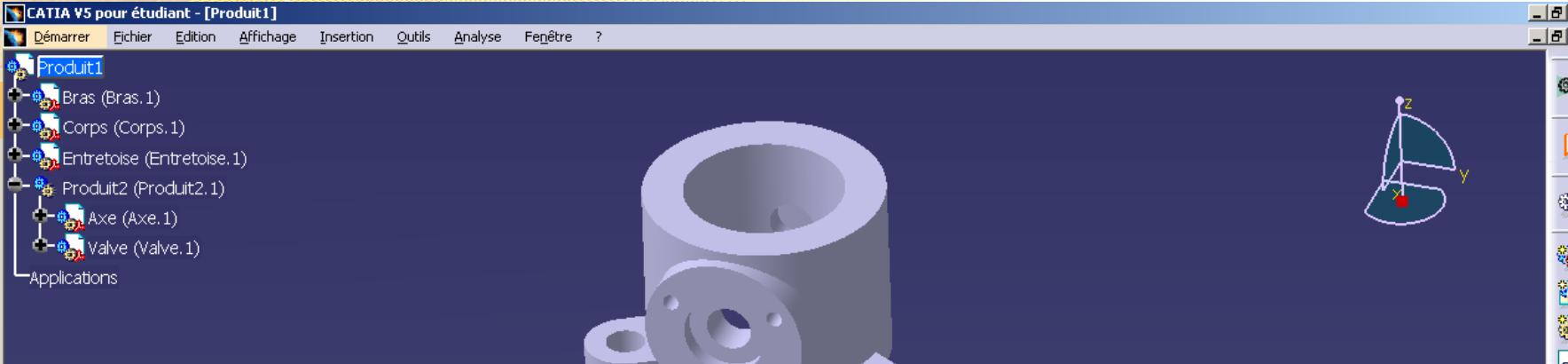
Manipulation



Produit1  
Valve (Valve.1)  
Bras (Bras.1)  
Corps (Corps.1)  
Entretoise (Entretoise.1)  
Axe (Axe.1)  
Produit2 (Produit2.1)  
Applications

## 6: Create a new product and move in this product the axe and the valve

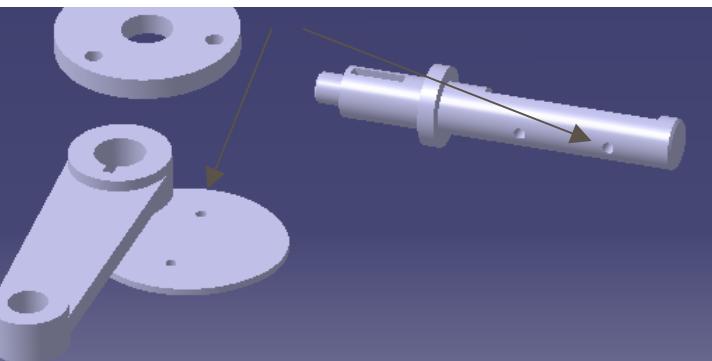




7: Assemble the axe and the valve

Double click on *Product2* (becoming blue)

Create coincidence constraint between the axis of the holes



Constraining de coïncidence





Nota: Constraints are in *Product2*

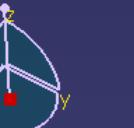
8: Define contact constraint between the two surfaces

9: Do an update

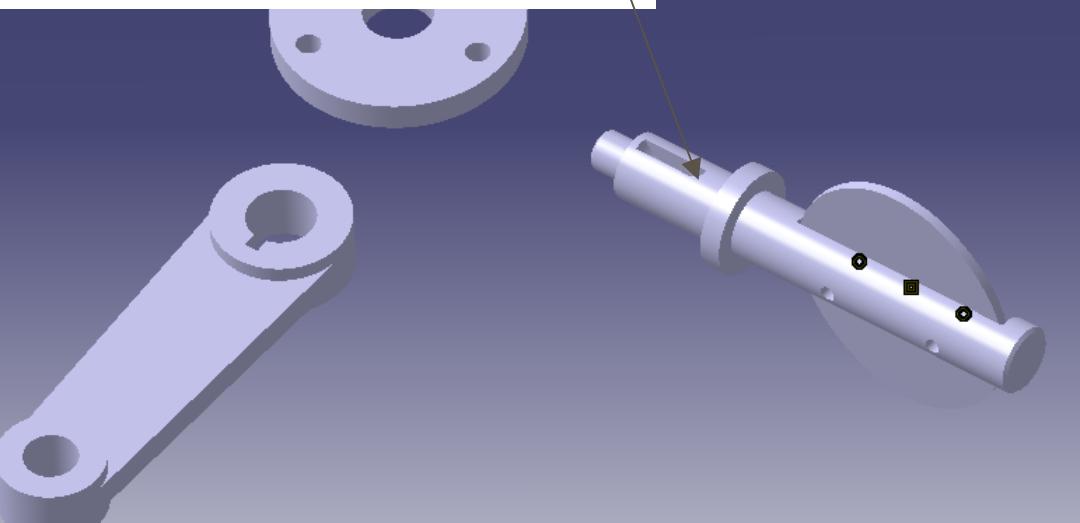


Produit1  
Bras (Bras.1)  
Corps (Corps.1)  
Entretoise (Entretoise.1)  
Produit2 (Produit2.1)  
Axe (Axe.1)  
Valve (Valve.1)  
Contraintes  
Applications

10: Activate *product1*  
assemble *Product2* and the *Corps*



11: Fix the *Corps*  
12: Create a coincidence constraint





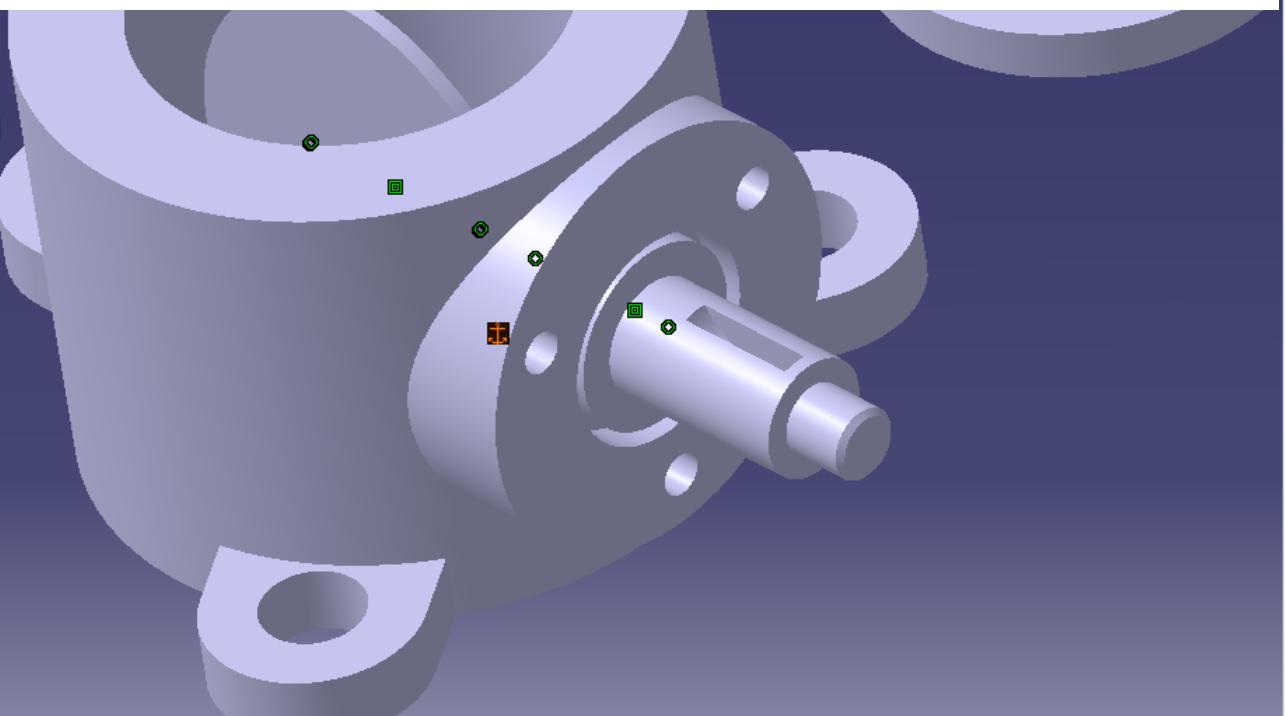
## 12: Contact constraint to put the axis in place





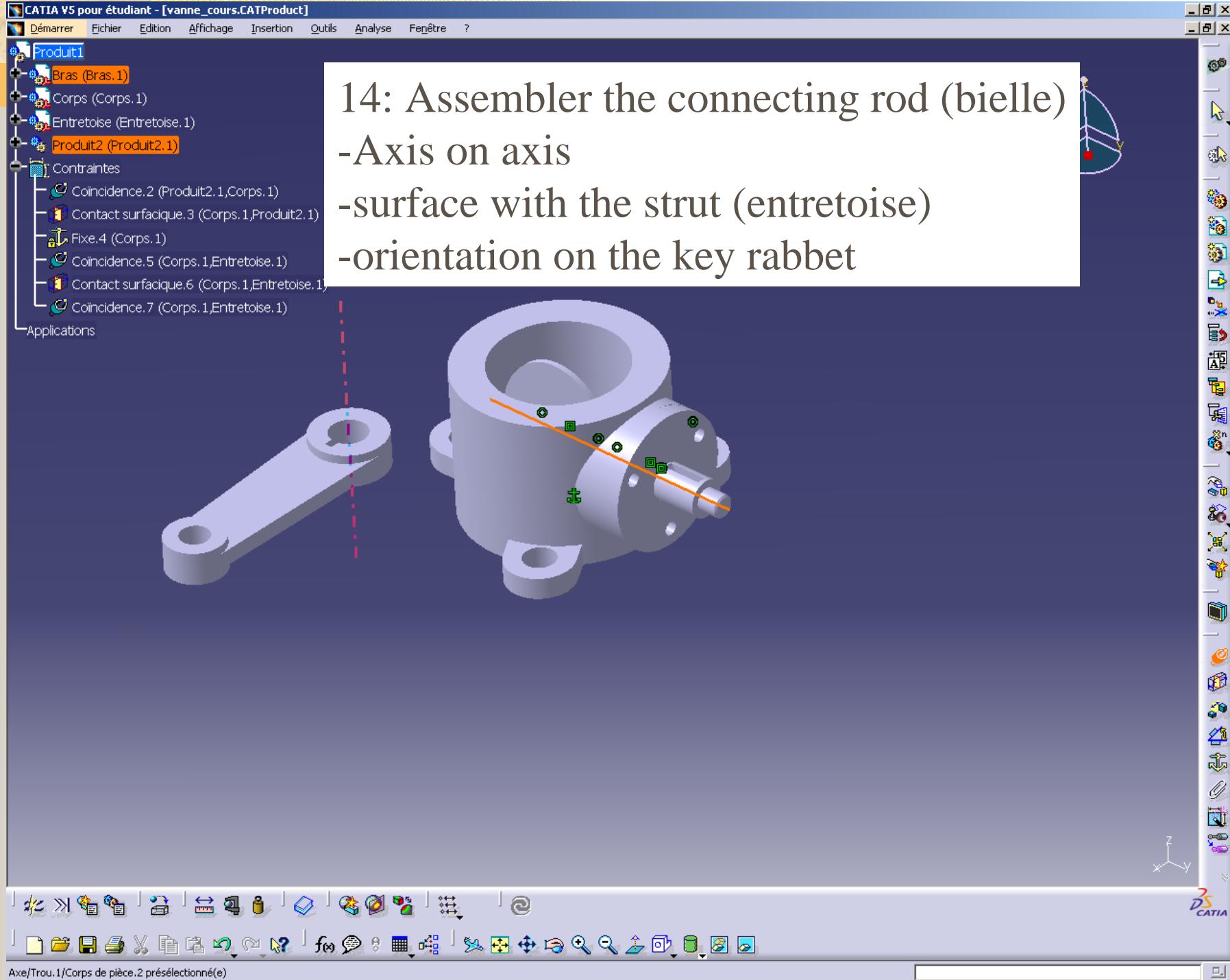
13: Assemble the strut (entretoise) and the body (corps)

- axis on axis (choose the body)
- surface on surface
- positionning thanks to the hole



Nota: you can hide the component





14: Assembler the connecting rod (bielle)

- Axis on axis
- surface with the strut (entretoise)
- orientation on the key rabbet

Nota: you can define the normal at the contact point



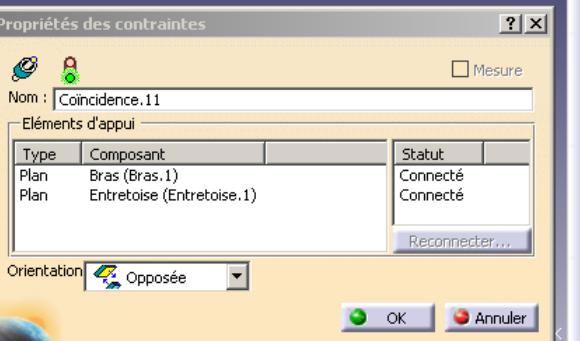
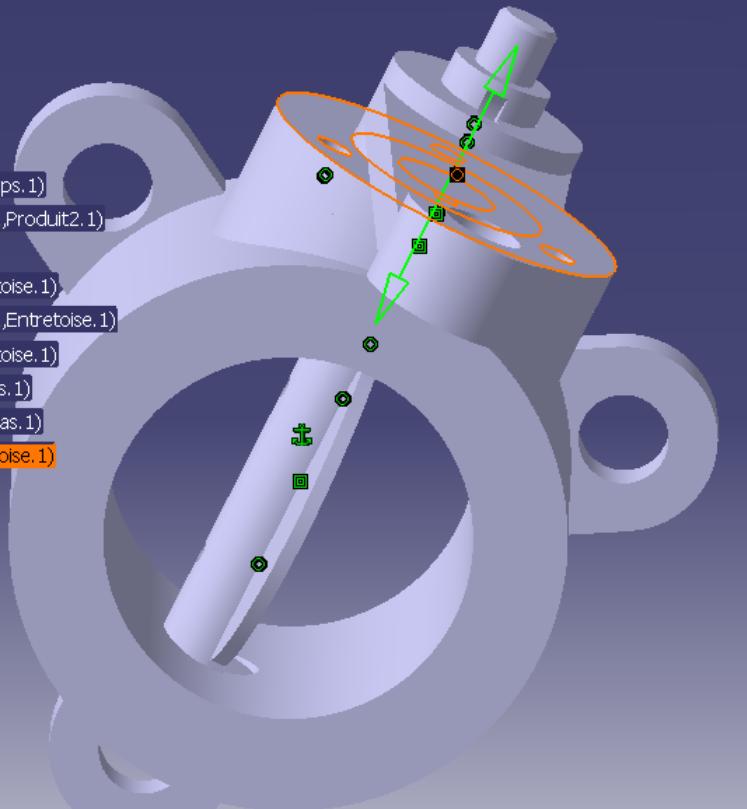
## Produit1

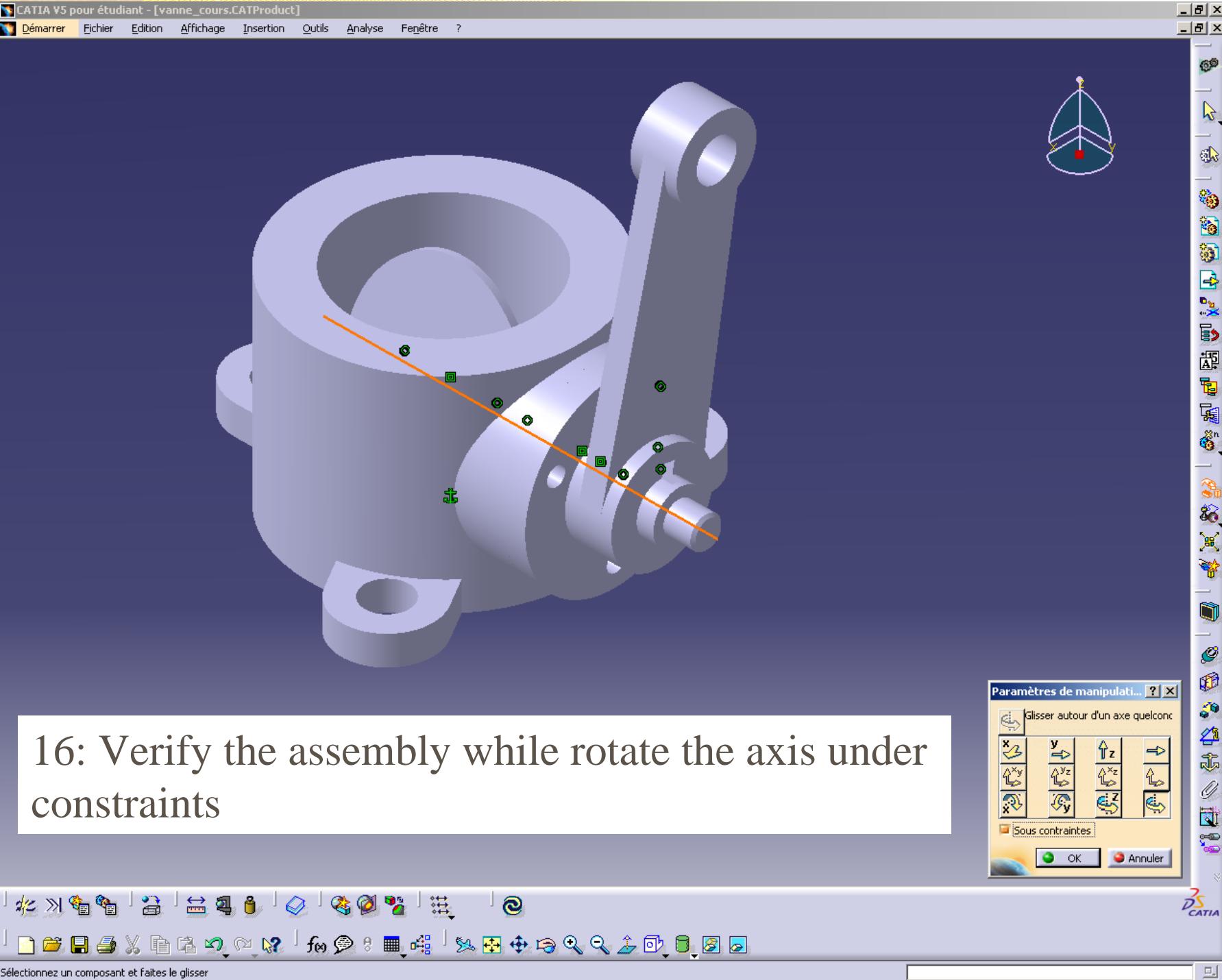
- Bras (Bras.1)
- Corps (Corps.1)
- Entretoise (Entretoise.1)
- Produit2 (Produit2.1)

## Contraintes

- Coincidence.2 (Produit2.1,Corps.1)
- Contact surfacique.3 (Corps.1,Produit2.1)
- Fixe.4 (Corps.1)
- Coincidence.5 (Corps.1,Entretoise.1)
- Contact surfacique.6 (Corps.1,Entretoise.1)
- Coincidence.7 (Corps.1,Entretoise.1)
- Coincidence.8 (Produit2.1,Bras.1)
- Coincidence.10 (Produit2.1,Bras.1)
- Coincidence.11 (Bras.1,Entretoise.1)

## Applications





16: Verify the assembly while rotate the axis under constraints

- DMU Kinematics
  - Assembly Design
  - Photo Studio
  - Infrastructure
  - Conception Mécanique
  - Forme
  - Analyse & Simulation
  - Construction d'usine
  - Fabrication par NC
  - Maquette Numérique
    - DMU Navigator
    - DMU Space Analysis
    - DMU Kinematics
    - DMU Fitting
    - DMU 2D Viewer
    - DMU Optimizer
  - Équipements & Systèmes
  - Procédé Numérique de Fabrication
  - Conception et Analyse Ergonomiques
  - Gestion de la Connaissance
- 1 vanne\_cours.Product
- 1 vanne\_cours.Product
  - 2 vanne.CATProduct
  - 3 verre.CATProduct
  - 4 verre.CATPart
  - 5 Verre\_6\_08..Part
- Quitter

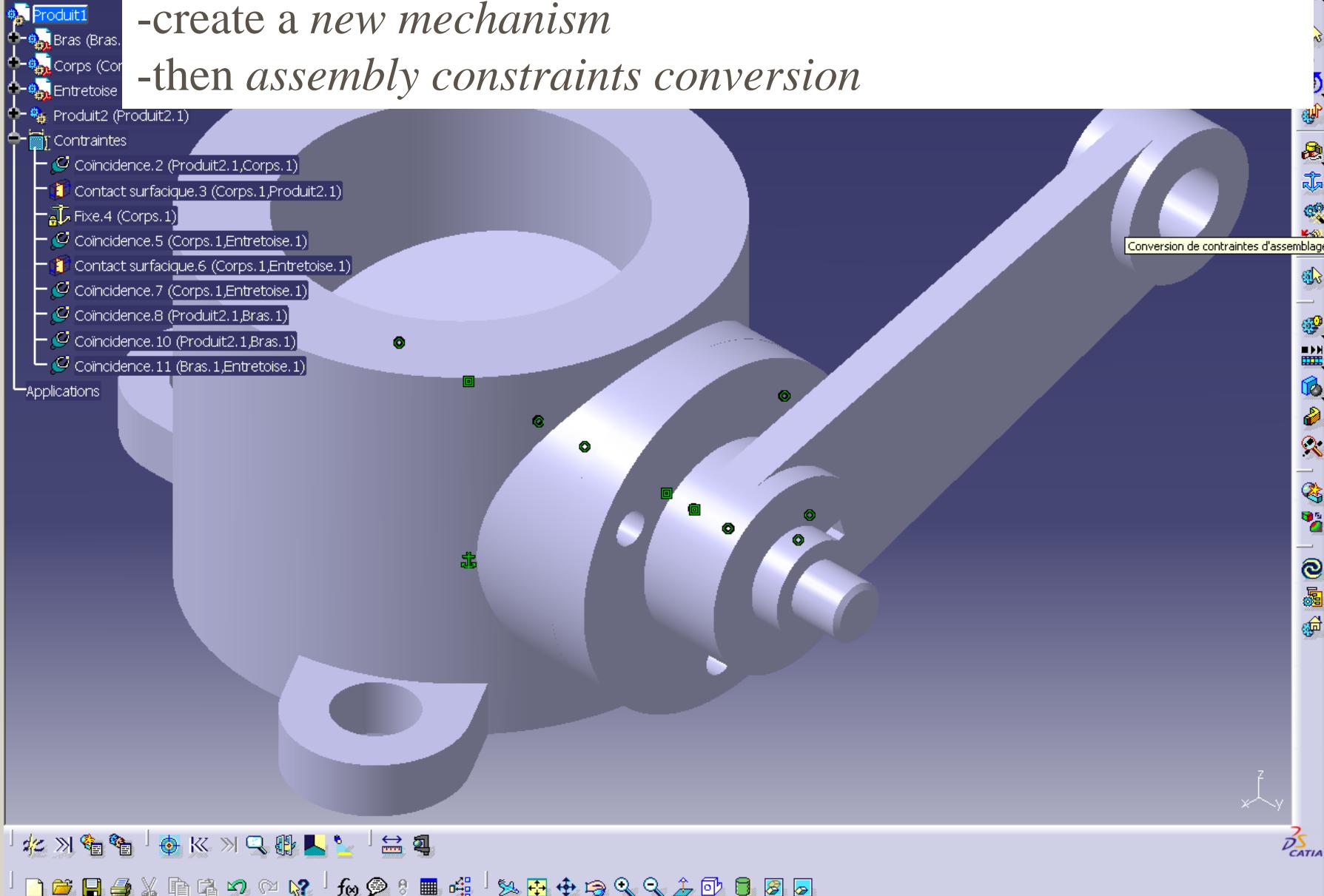
# 17: Convert into a mechanism

## Change workbench *DMU Kinematics*



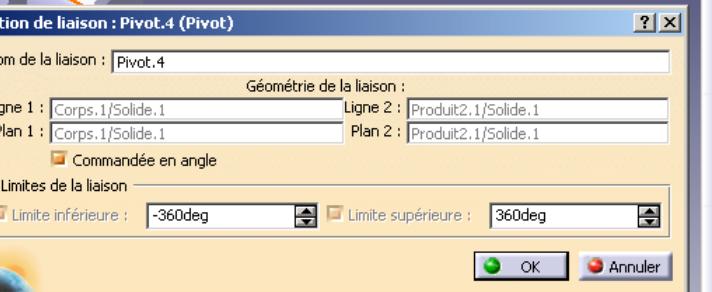
# 18: Convert the assembly constraints in kinematics constraint

- create a *new mechanism*
- then *assembly constraints conversion*



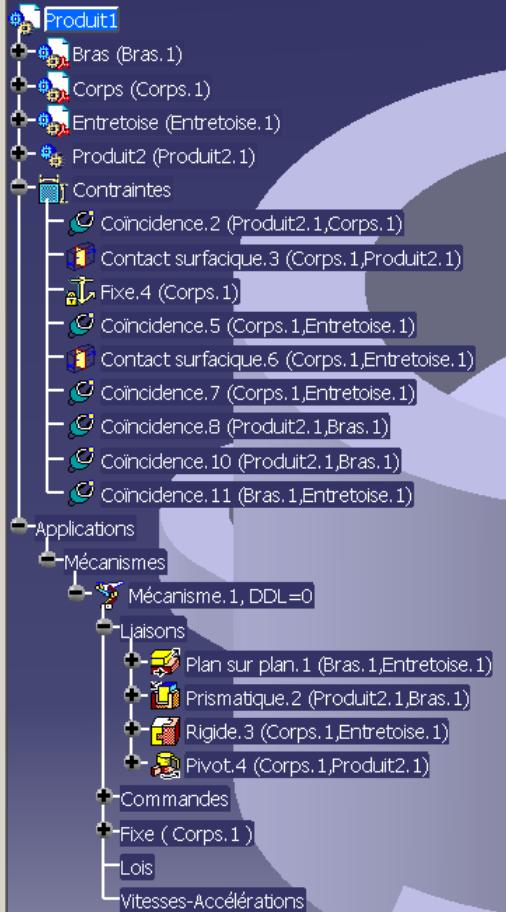


## 19: Edit the parameter of the revolute joint -add simulation with command



Nota: you can simulate the mechanism





20: Simulate the valve behaviour

21: Activate the function *collision*

