

Catia V5

**Notiuni de Baza
- generare solizi -**



Generalitati



Vizualizare obiecte



Sketcher



Part design



Assembly design



Drafting

Generalitati

Computer Aided Three-dimensional Interactive Application

Atelierele de lucru in Catia V5



Infrastructura Catia V5

Creare schite

Creare solizi

Creare piese din table

Creare ansamblu de piese

Creare Plan 2D

Creare suprafete

Creare schite dupa fotografiile

Reconstructie suprafete

Analiza structural

Arhitectura centralei

Program de conturare numerica

Sistem Electric, Conducte si HVAC

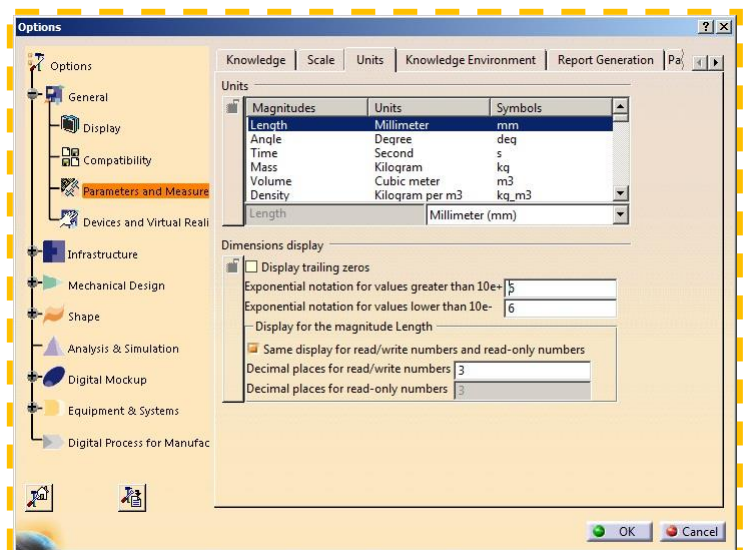
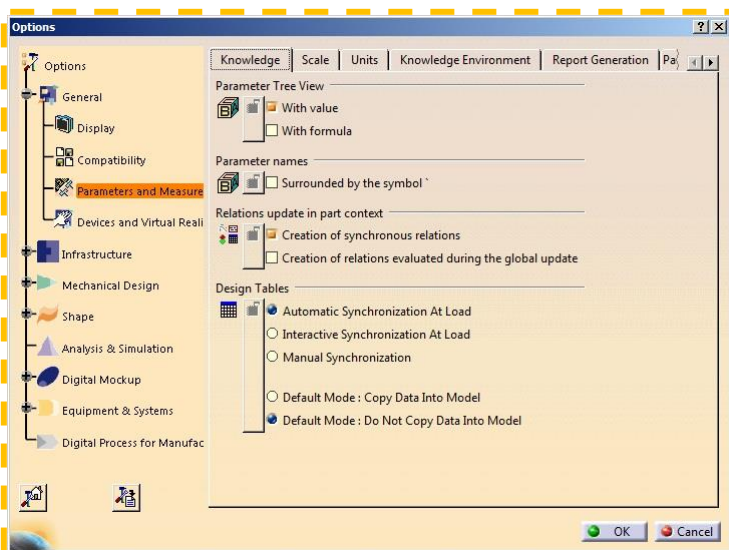
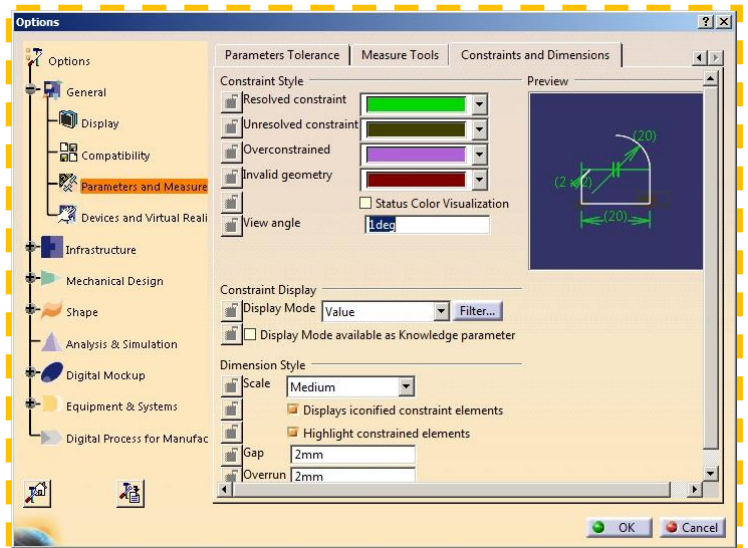
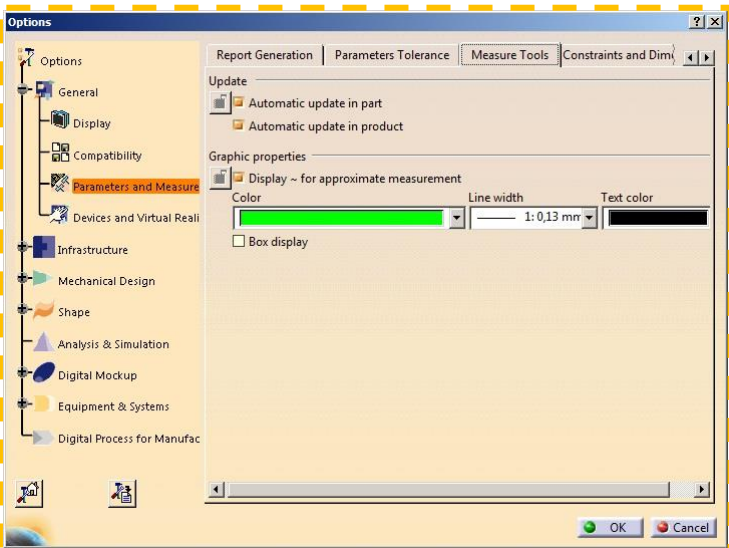
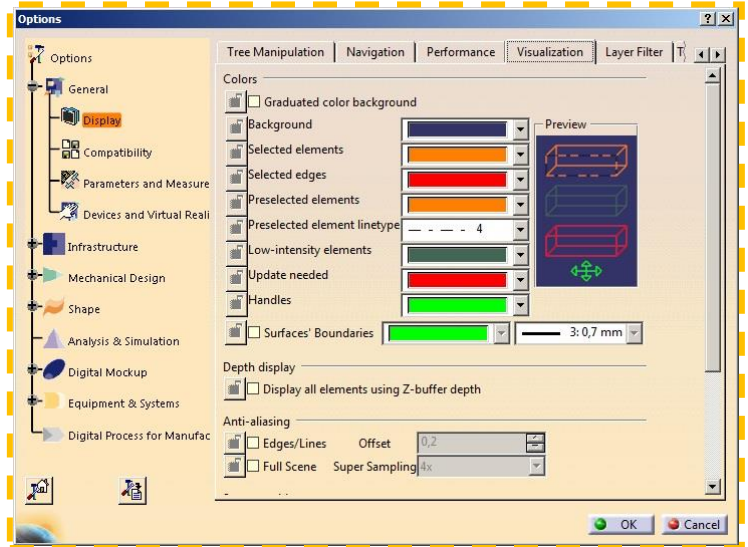
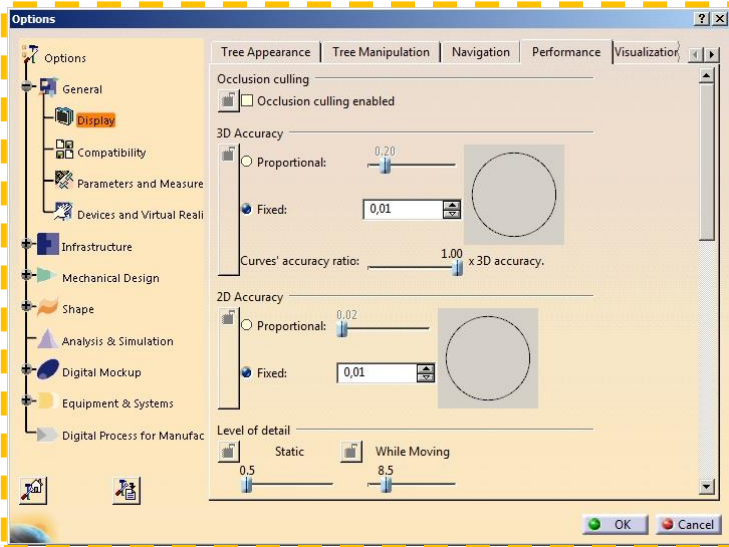
Program de conturare numerica

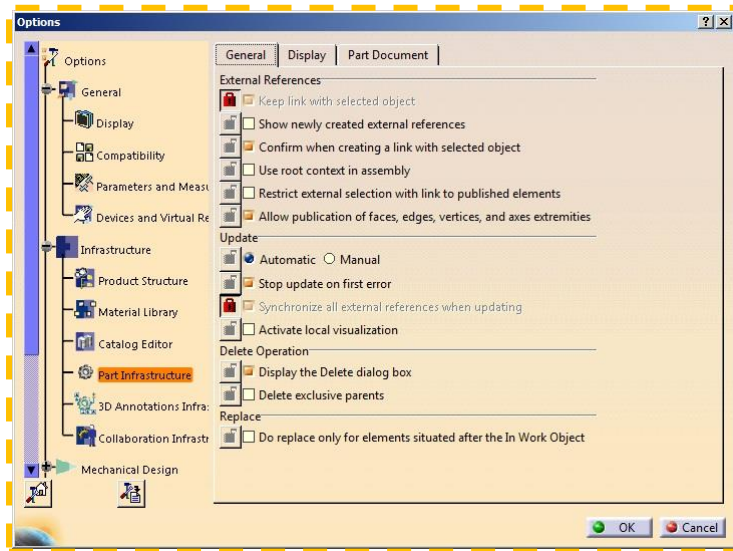
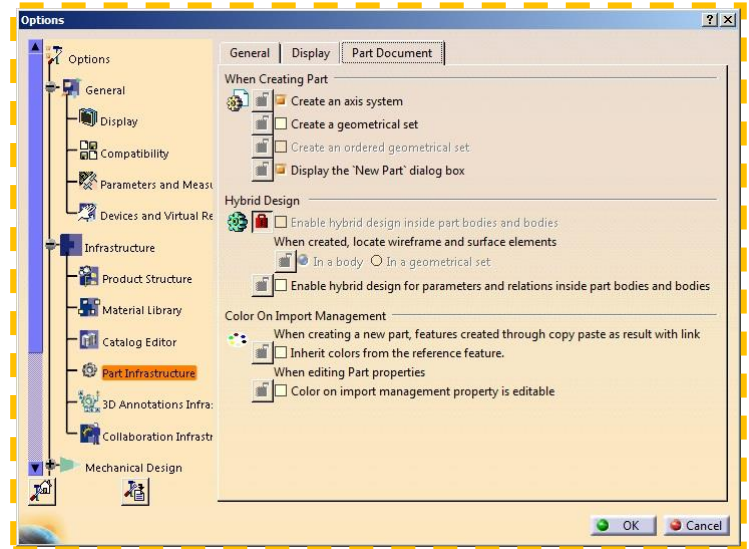
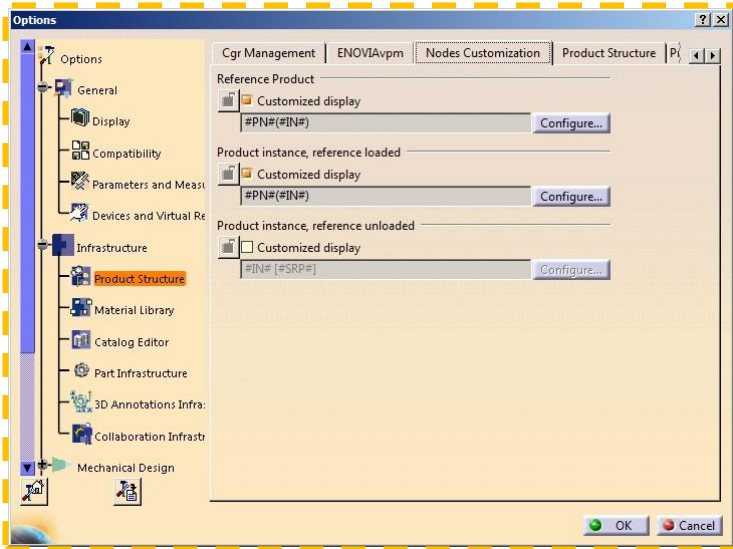
Analiza ergonomie , manechin

Utilizare parametri , formule

Conexiune Enovia (baza de date)

Personalizare – setari generale Catia v5

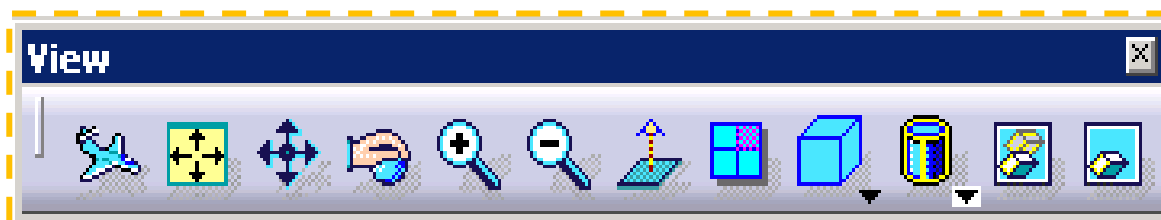




Vizualizarea obiectelor



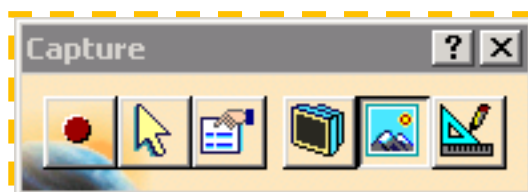
Fisier nou, Deschide fisier existent, Salveaza, Imprmana, (Cut,Copy,Paste,Undo,Redo) , Info Functie



Fly Mode, Translatie, Centreaza, Rotatie, Zoom +, Zoom -, Vedere normala, Multi View, Quick View, View Mode, Afiseaza/Ascunde, Schimba spatiul vizibil/invizibil



aplica : Culoare, Transaparenta, Grosime Linie, Tip Linie, Tip punct, Randare , Layer , Copiaza proprietati, Asistent Proprietati grafice



Captura Imagine, Zona captura, Proprietati Captura, Captura Ecran, Captura in mod Pixel, Captura in Mod Vectorial



Masoara intre doua elemente, Masoara un element, Masoara Intertia

Funcțiile și manipularea mouse-ului în Catia v5



Buton 1 – Buton Principal : Selectie element sau Executie Comanda

Buton 2 – Buton Secundar : Meniu Contextual

Buton 3 – Buton auxiliar : Zoom +, Zoom –

Buton 3 + Buton 2 + Translatie = zoom +/- in 3D

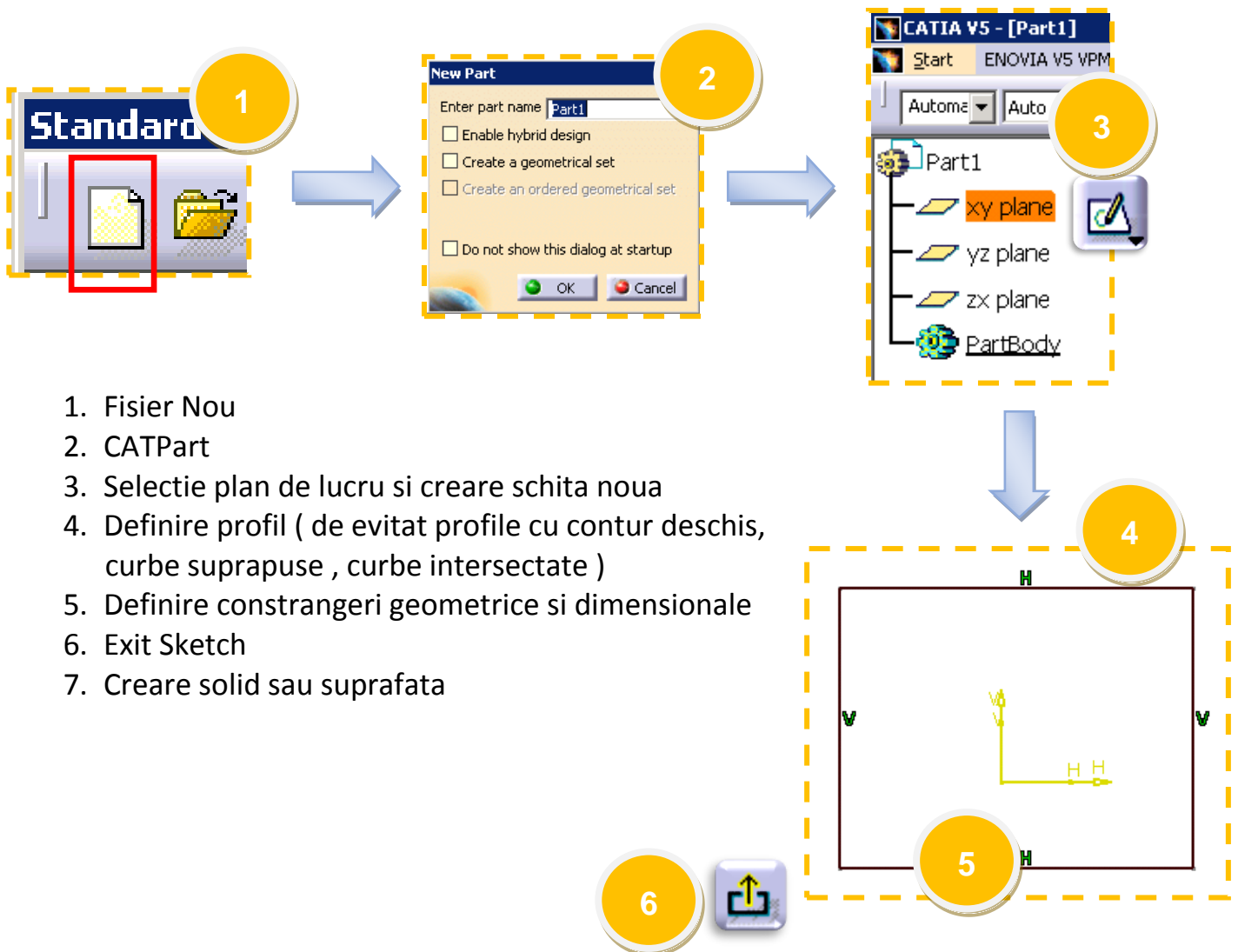
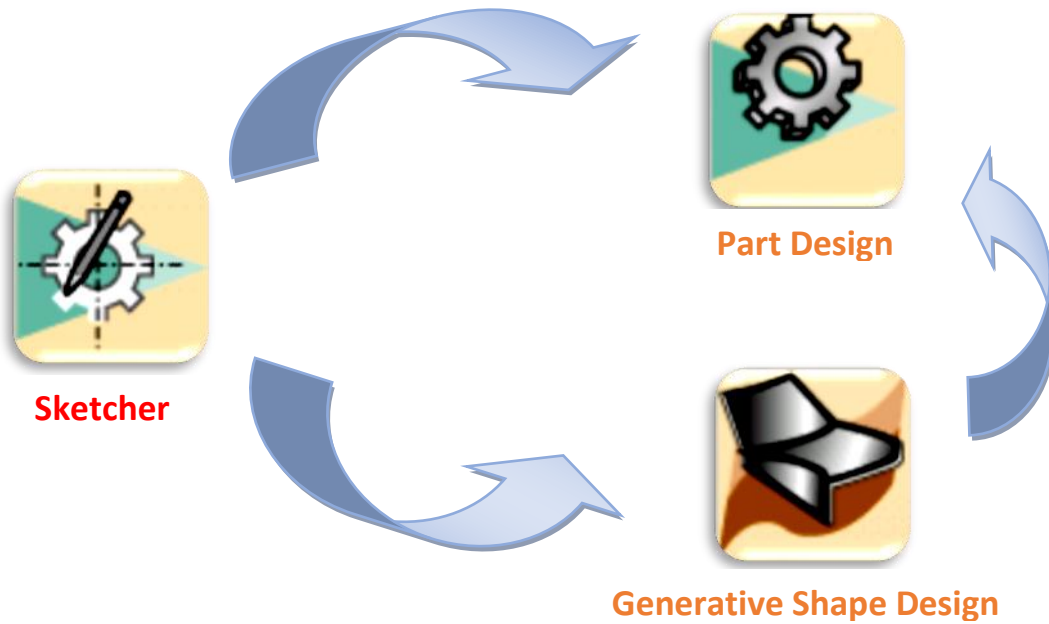
Buton 3 + Buton 2 + Rotatie = rotatie in 3D

Buton 3 + Translatie = Translatie in 3D

Tasta CTRL + Rotire Buton 3 = zoom +/- in arborescenta

Crearea obiectelor

Atelierul Sketcher



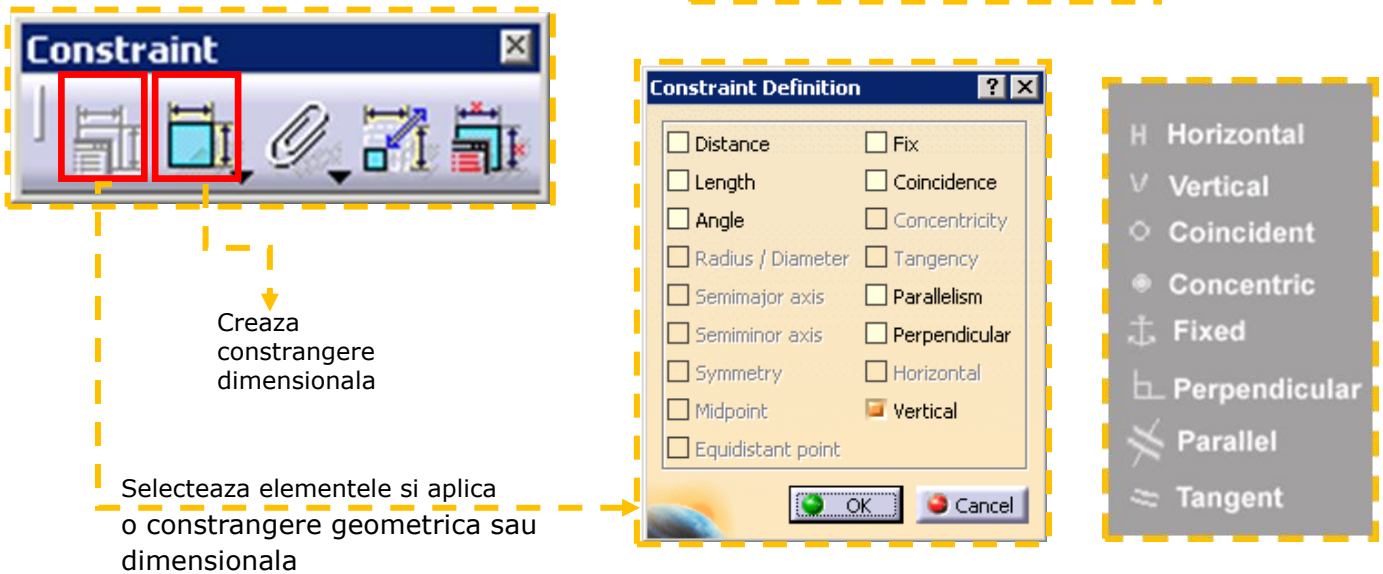
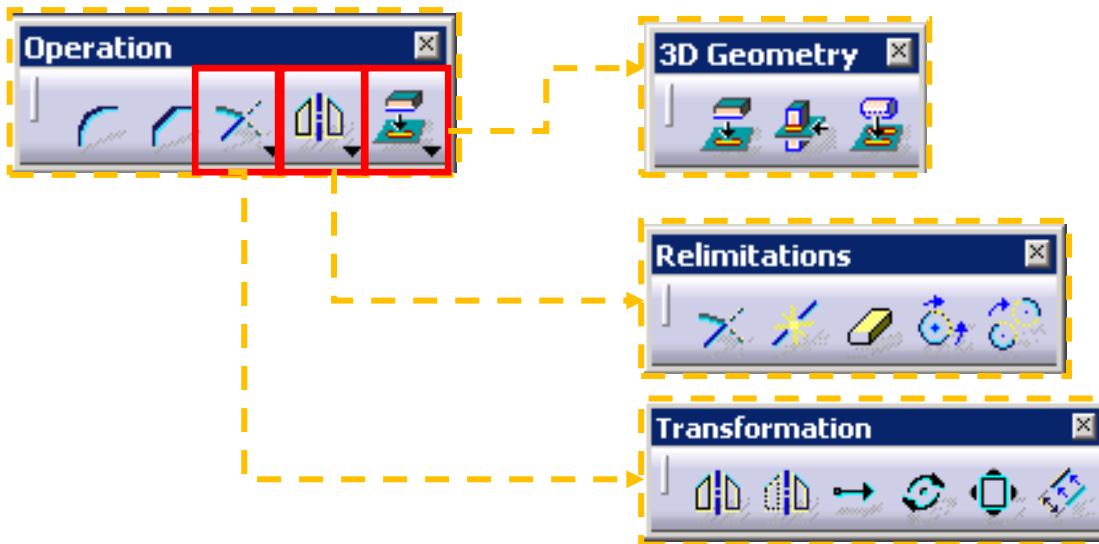
1. Fisier Nou
2. CATPart
3. Selectie plan de lucru si creare schita noua
4. Definire profil (de evitat profile cu contur deschis, curbe suprapuse , curbe intersectate)
5. Definire constrangeri geometrice si dimensionale
6. Exit Sketch
7. Creare solid sau suprafata



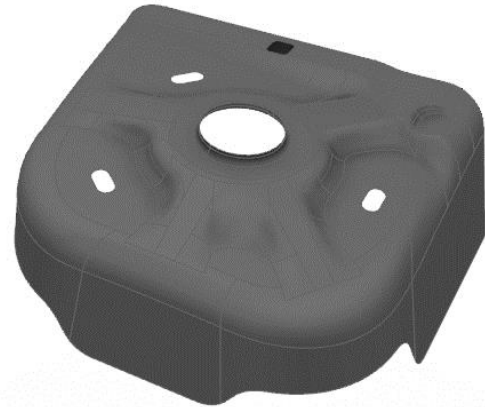
Creare Profil, Profile Predefinite, Optiuni creare Cerc, Curba , Optiuni creare elipsa, Linie, Axa , Punct



Activare/Dezactivare Grid, Optiuni increment Grid, Transforma in element de constructie , Activeaza crearea automata a constrangerilor geometrice, activeaza crearea automata a constrangerilor dimensionale.



Atelierul Part Design



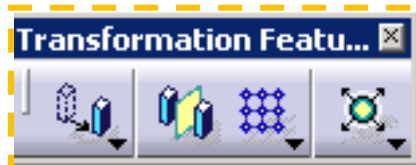
Pad, Pocket, Shaft, Groove, Hole, Rib, Slot, Solid Combine + Stiffener, Multi section Solid, Remove Multi section Solid



Split, Thick Surface, Close Surface, Sew surface



Filet, Chamfer, Draft Angle, Shell, Thickness, Thread, Remove Face



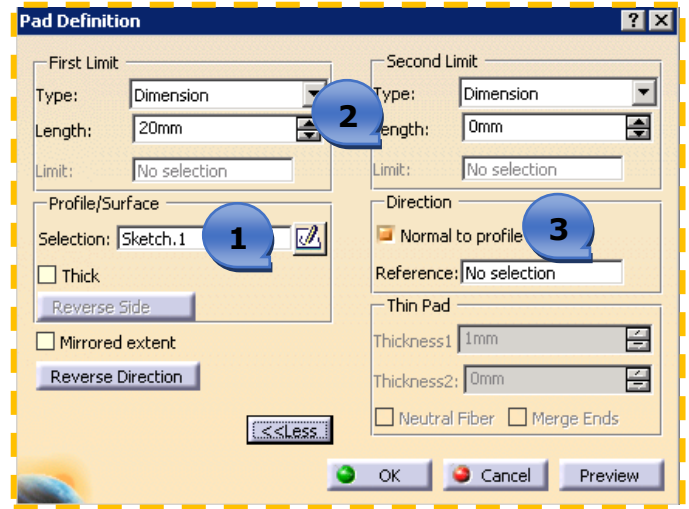
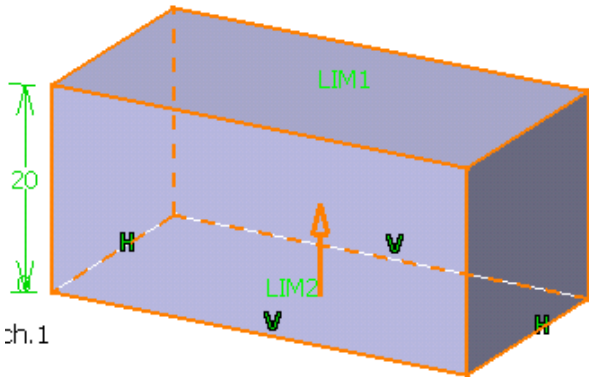
(Translation, Rotation, Symmetry, Axis to Axis), Mirror, (Rectangular, Circular, User Pattern), Scale



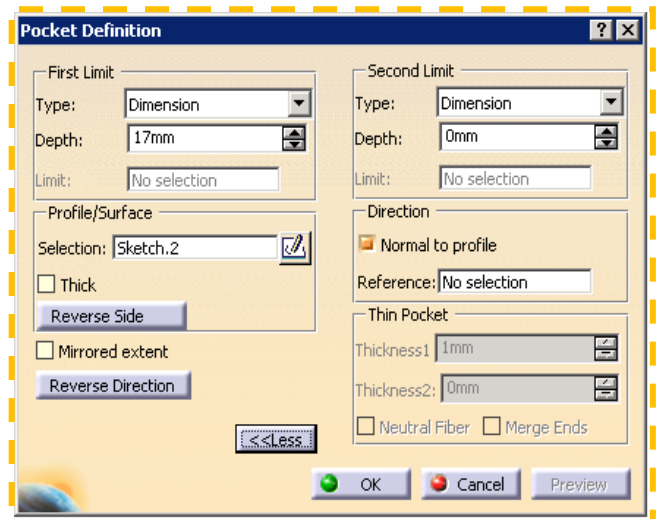
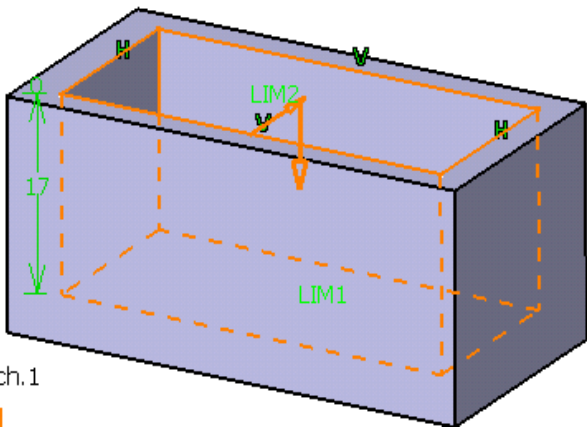
Add, Union-Trim, Intersect , Remove Lump



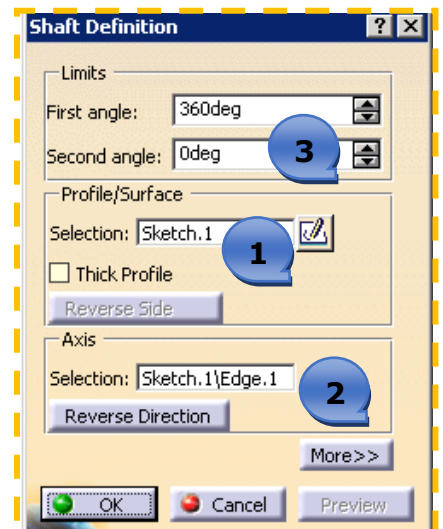
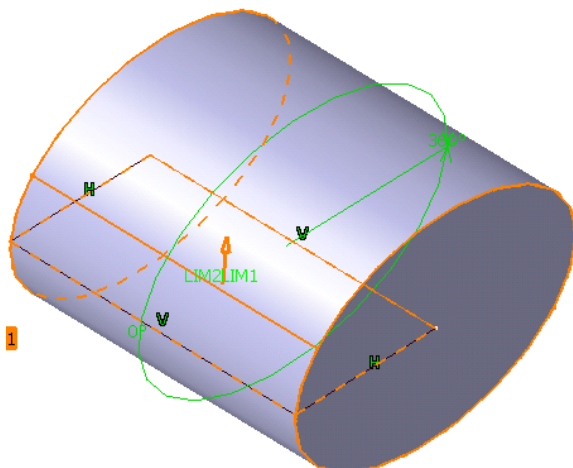
Pad



Pocket

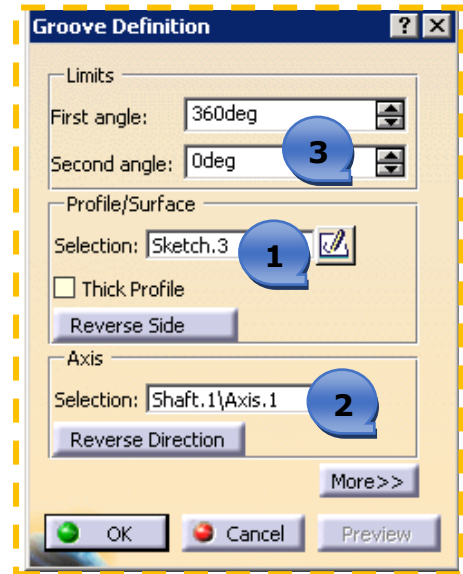
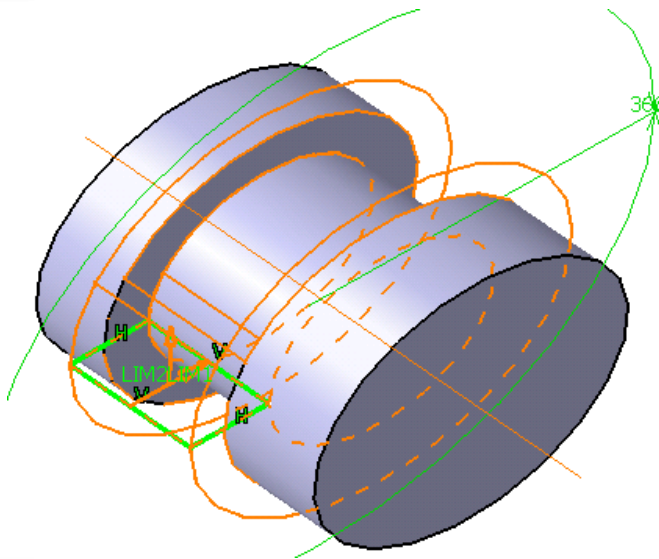


Shaft

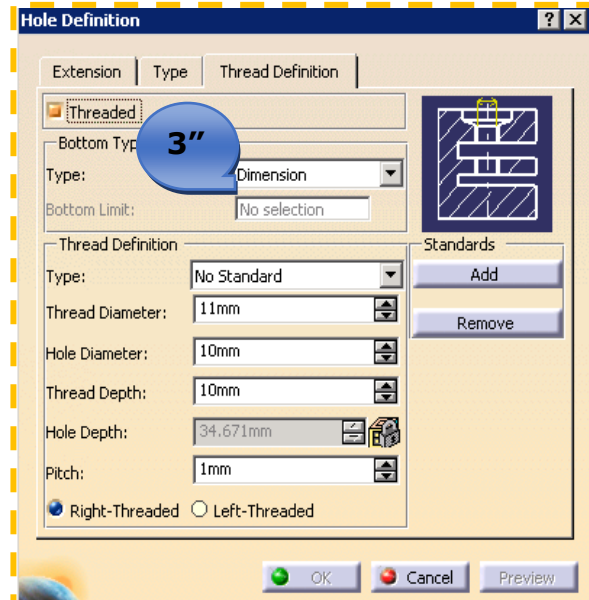
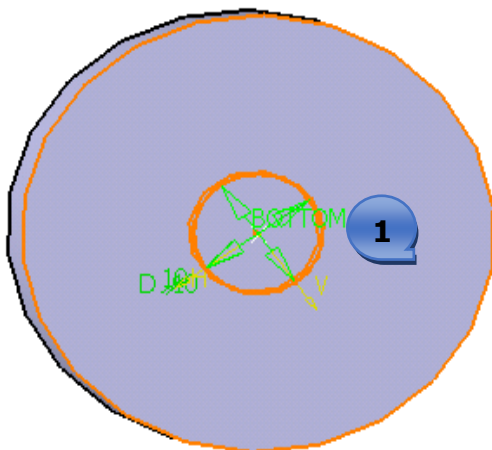
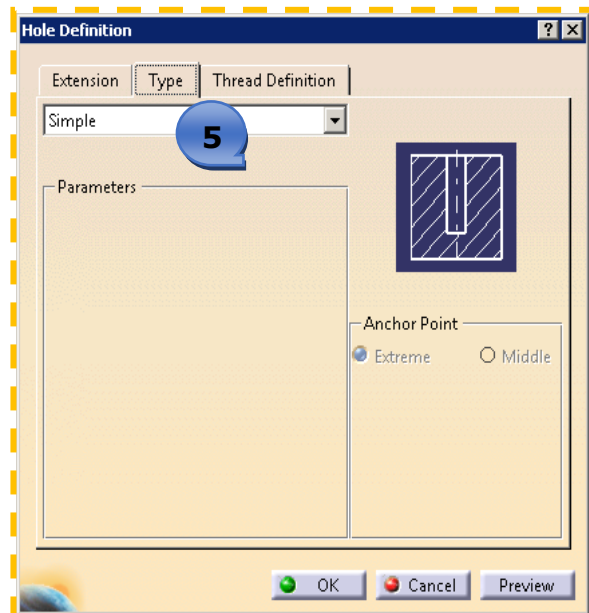
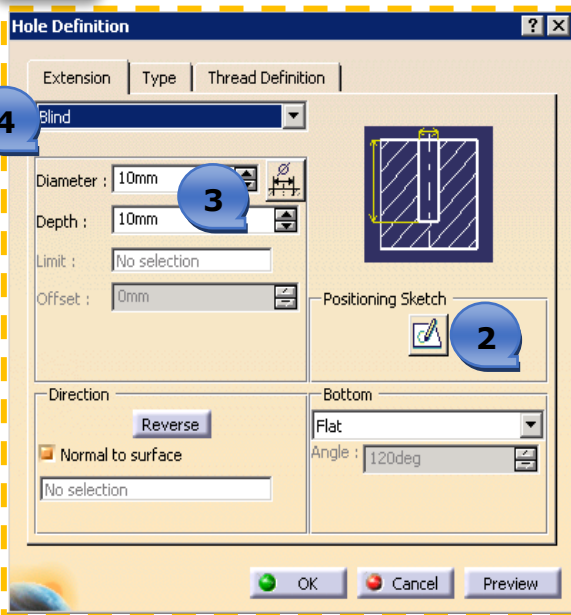




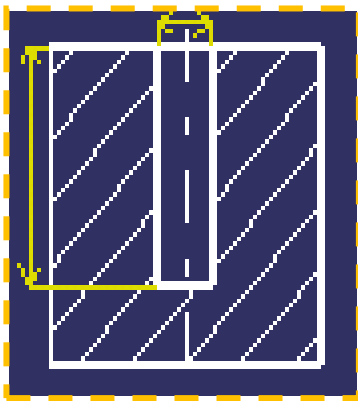
Groove



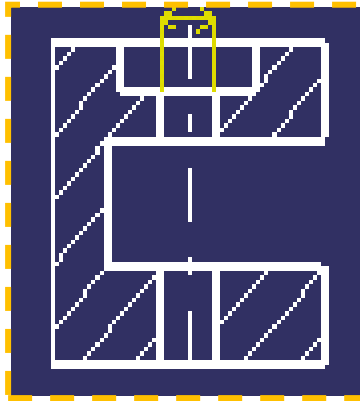
Hole



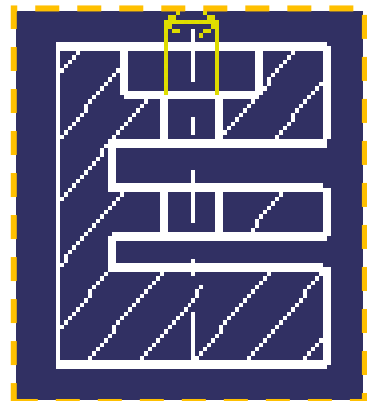
Hole > Extension Type



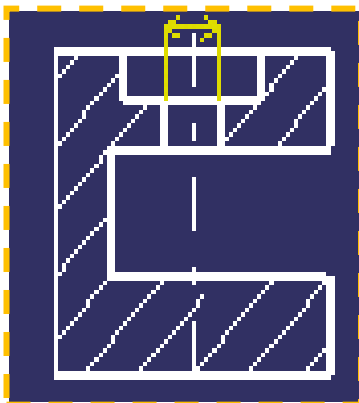
Blind



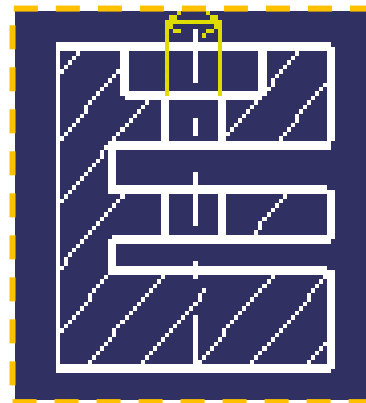
Up To Last



Up To Plane

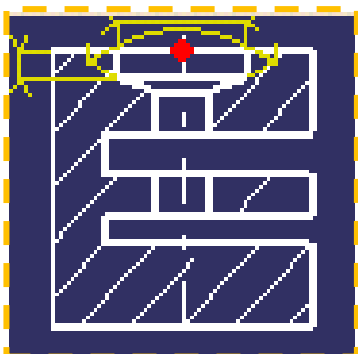


Up To Next

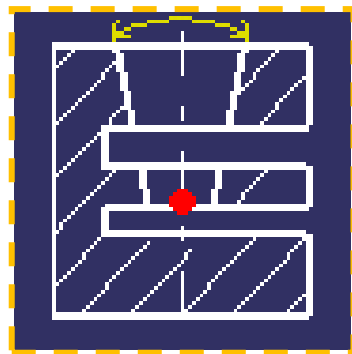


Up To Surface

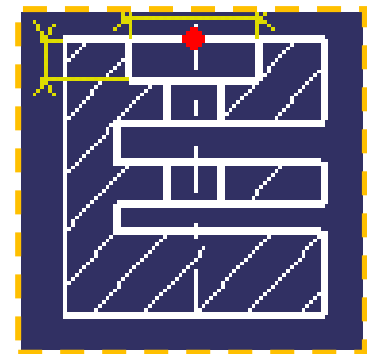
Hole > Type



Counterdrilled



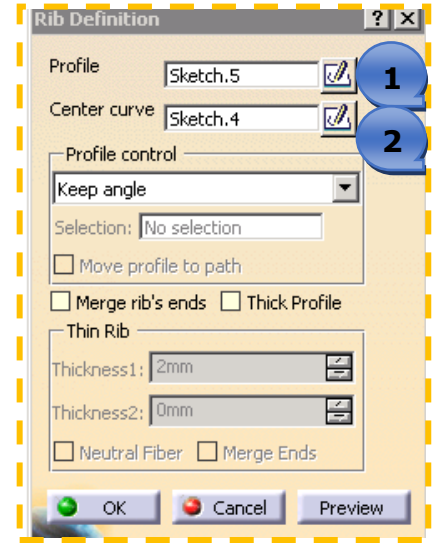
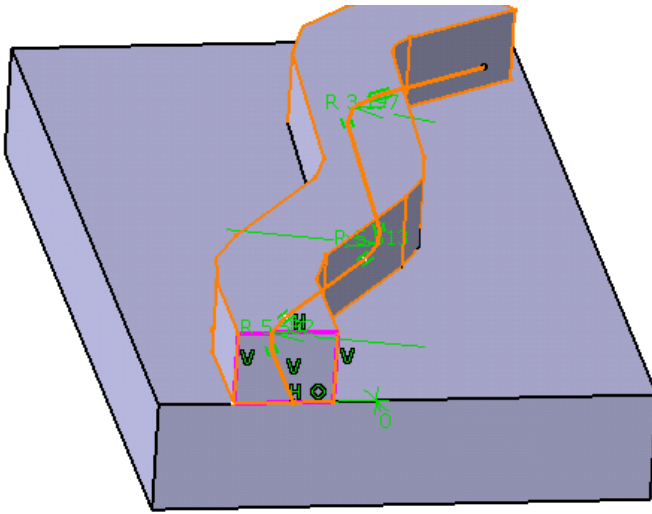
Tapered



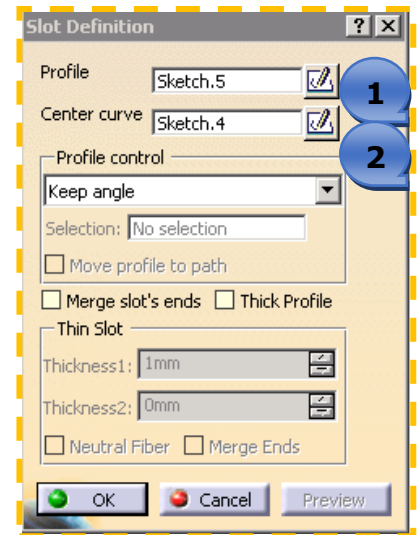
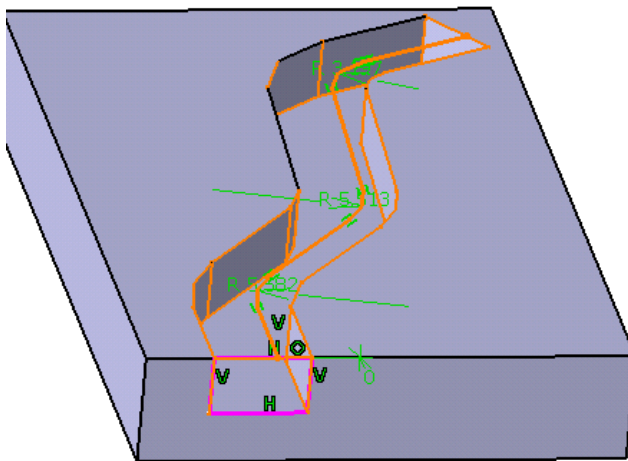
Counterbored



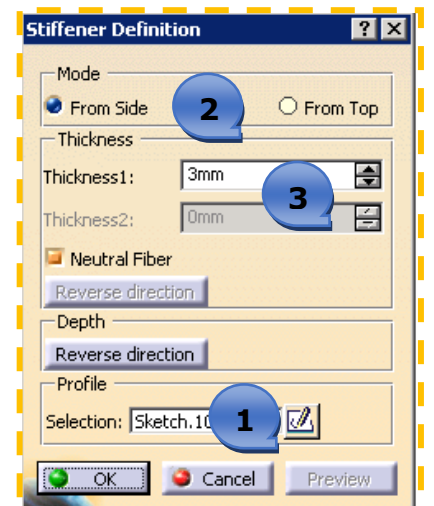
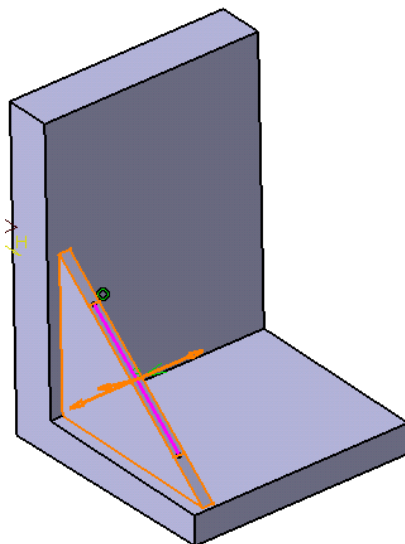
Rib



Slot

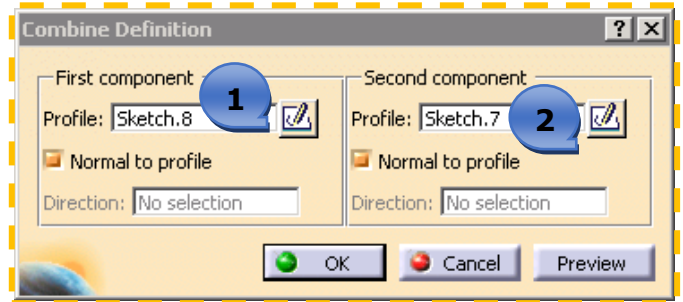
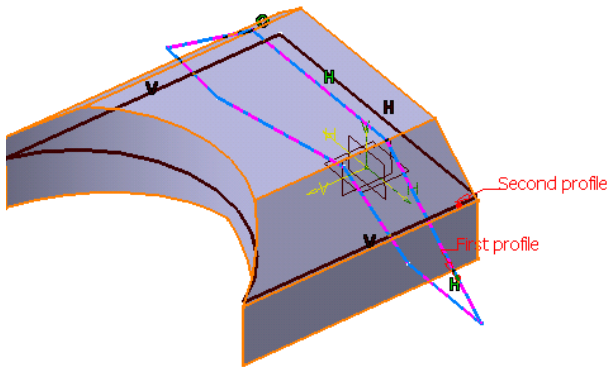


Stiffener

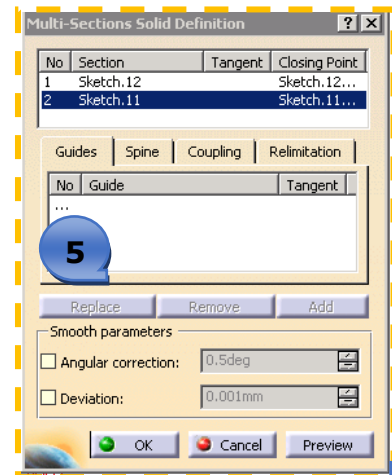
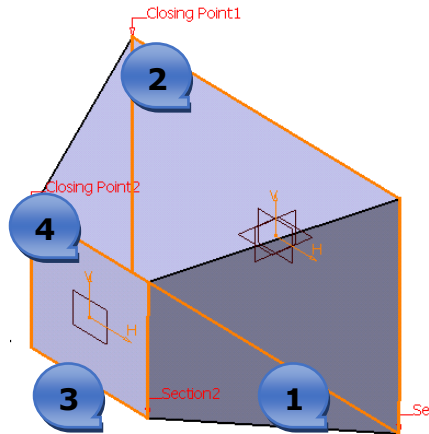




Solid Combine



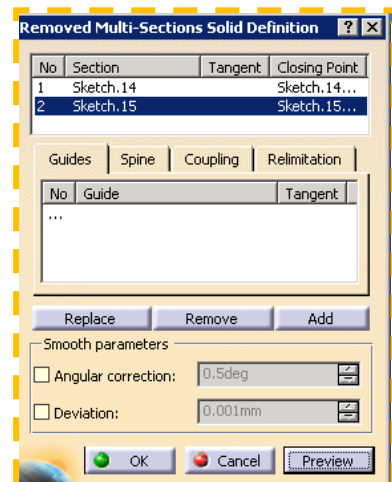
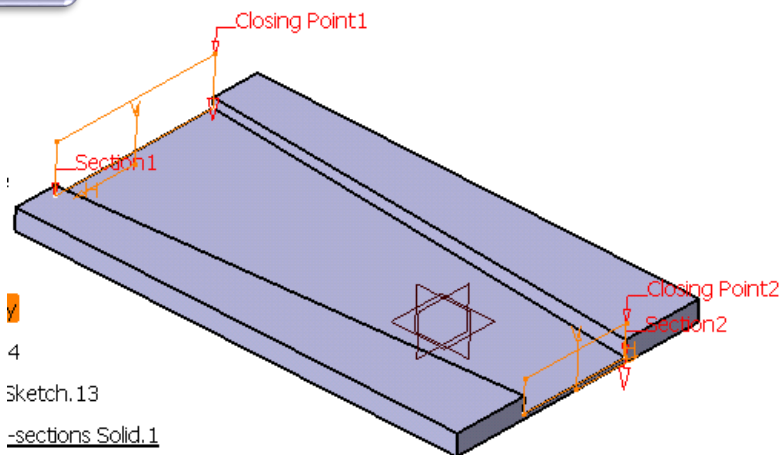
Multi Section Solid



- > Ambele "Closing Points" trebuie sa fie pozitionate pe aceiasi curba de ghid , iar directia in fiecare "Closing Point" sa fie orientata in acelasi sens.
- > Se aleg "Guide Curves" daca sectiunile sunt intersectate de curbele de ghid
- > Se alege "Spine" daca sectiunile nu sunt intersectate de curba de ghid.



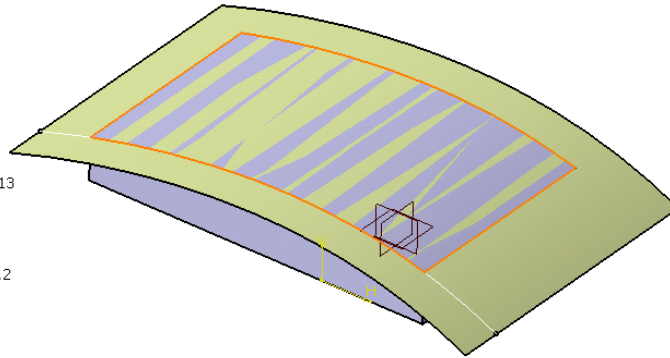
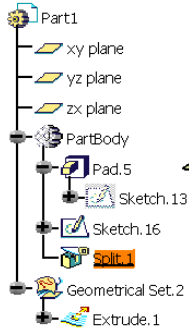
Remove Multi Section Solid



! Se aplica aceleasi indicatii de la Multi Section Solid



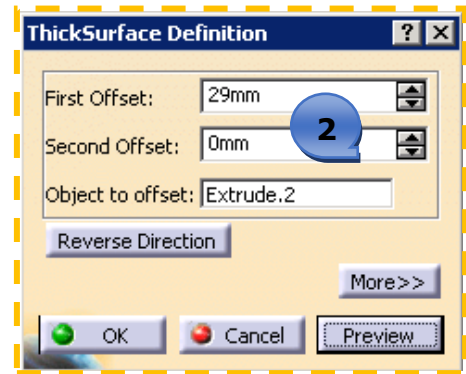
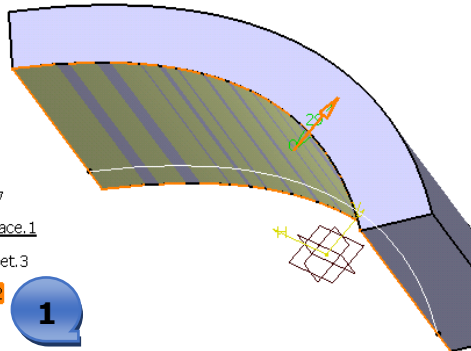
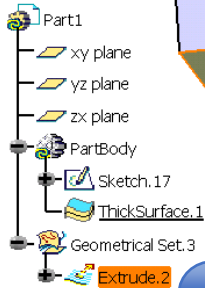
Split



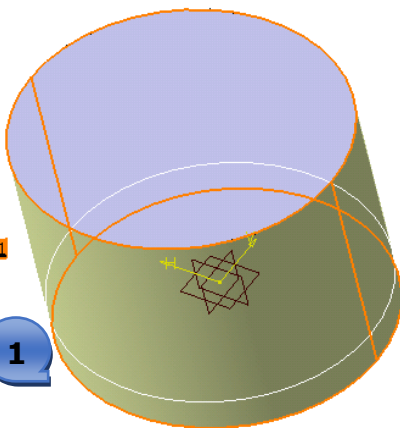
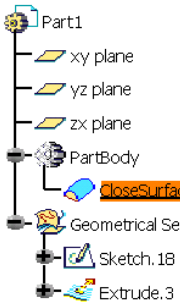
! Functia Split, are efect in Body setat ca activ(Define in work Object)



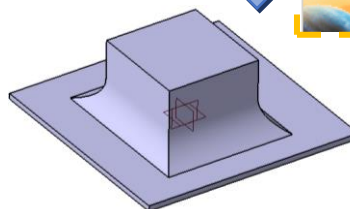
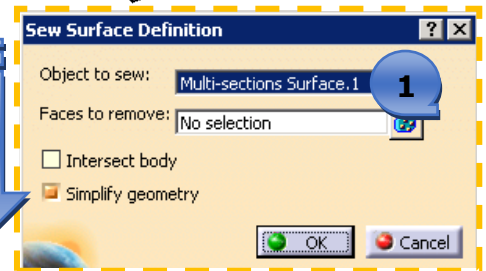
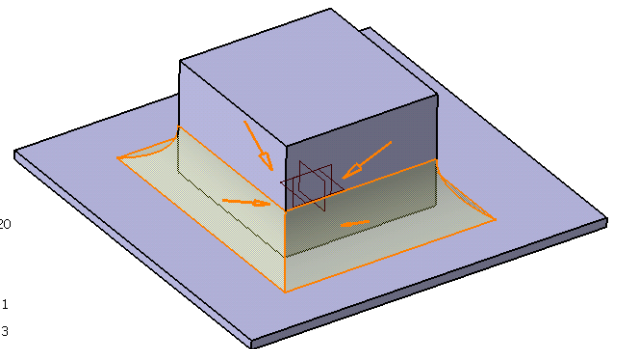
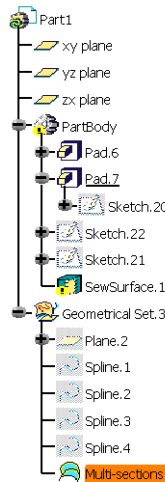
Thick Surface



Close Surface

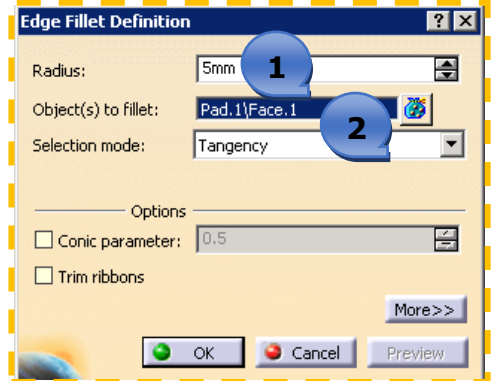
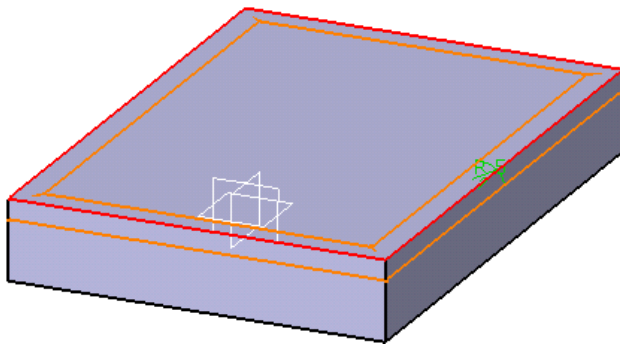


Sew Surface

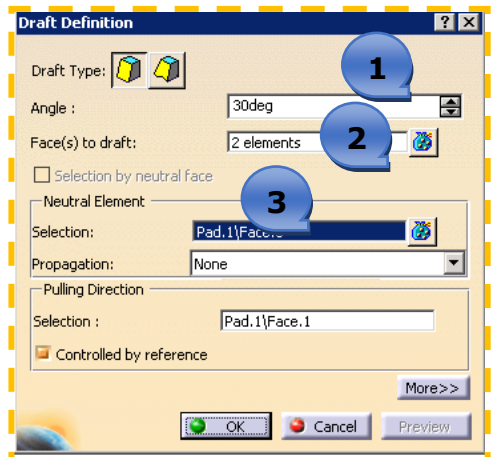
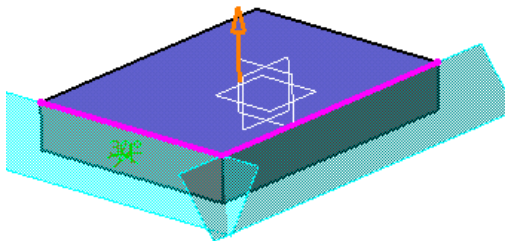




Filet



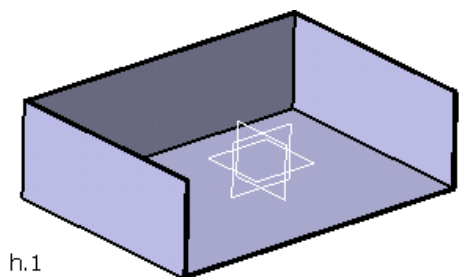
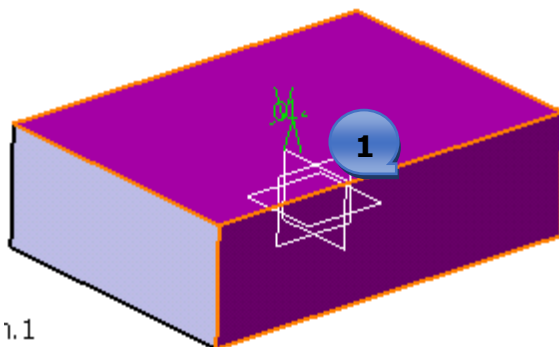
Draft Angle



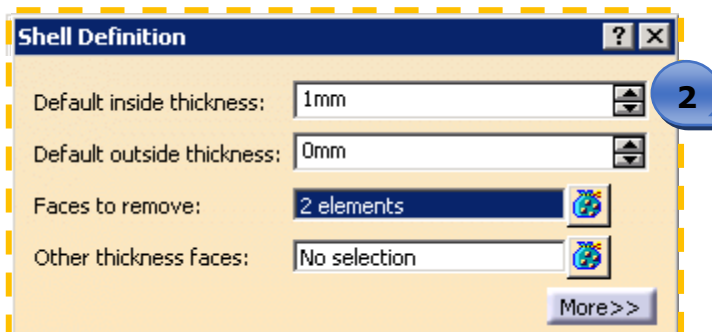
**! „Neutral Element” defineste o curba neutra la care se va raporta modificarea .
Sectiunea definita de acest element nu va suferi modificari in urma acestei
operatii de definire a unugului de demulaj**



Shell

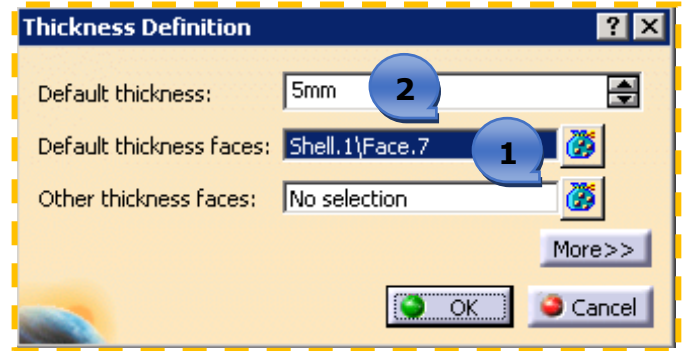
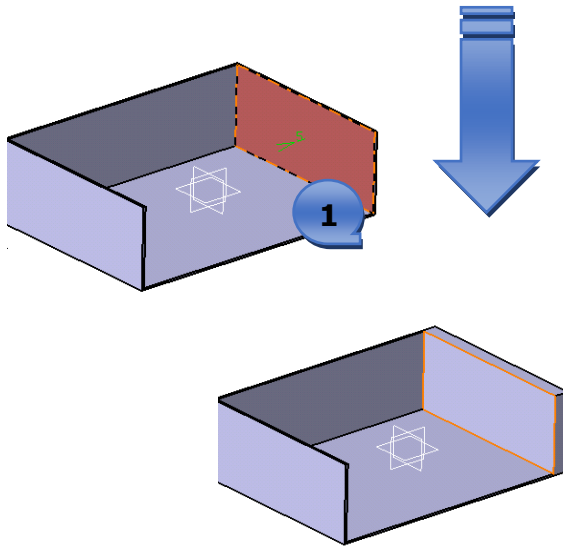


h.1

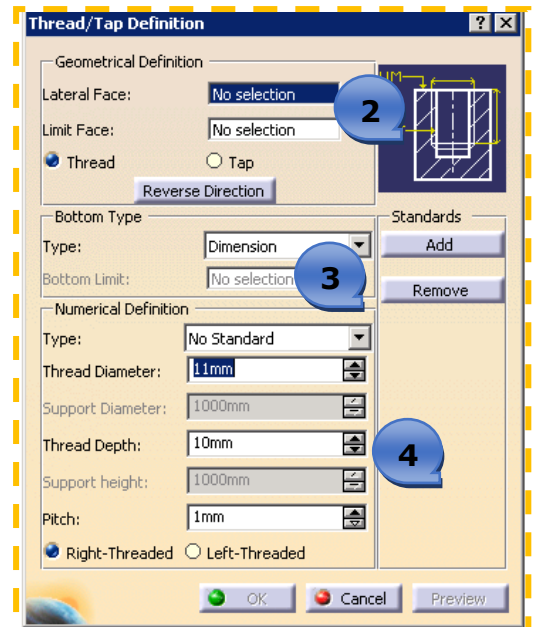
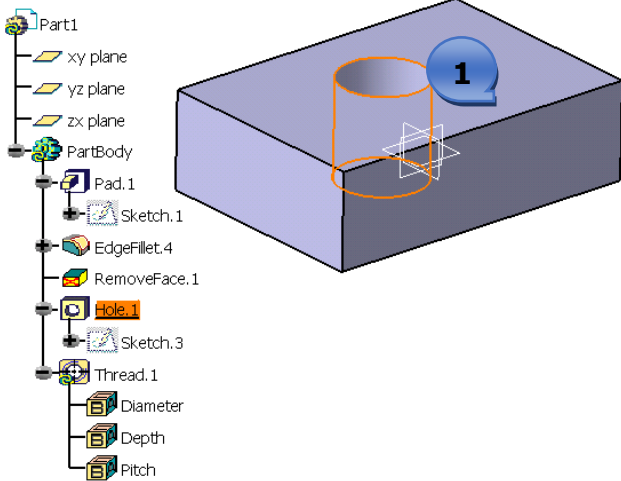




Thickness



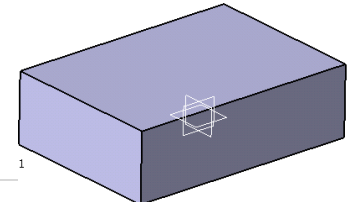
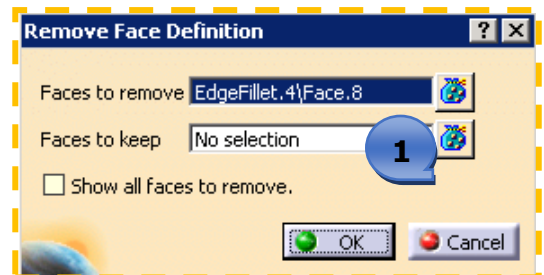
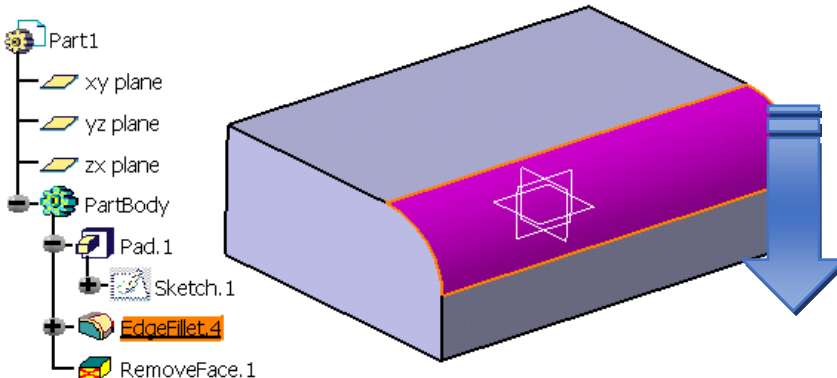
Tap Thread



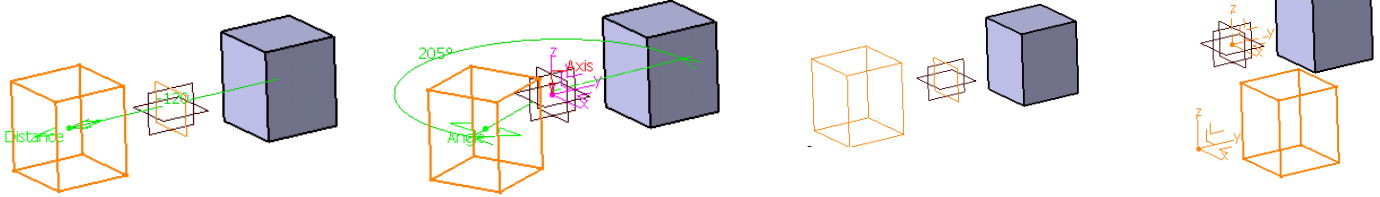
! „Tap Thread” aplica proprietatile unui filet, pe o gaura normala (Hole) .Efectul functiei aplicate va fi vizibil in arborescenta 3D si in planul 2D (Drafting)



Remove Face



Transformations



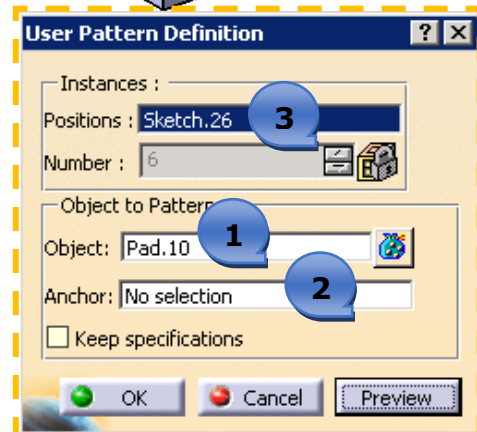
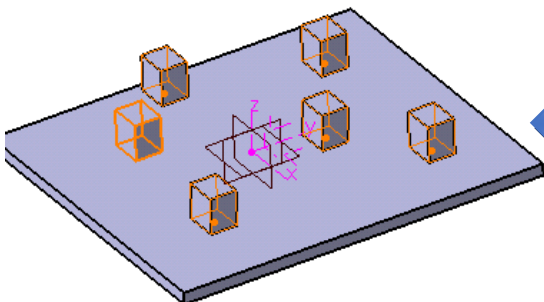
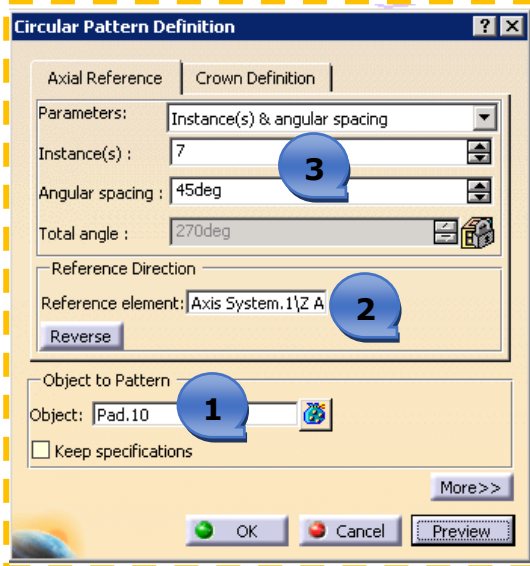
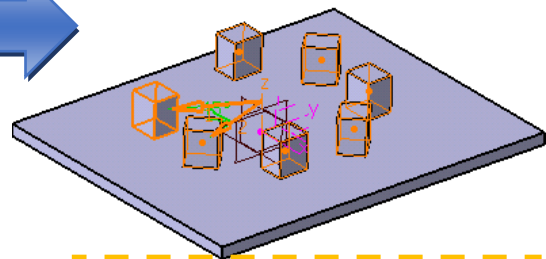
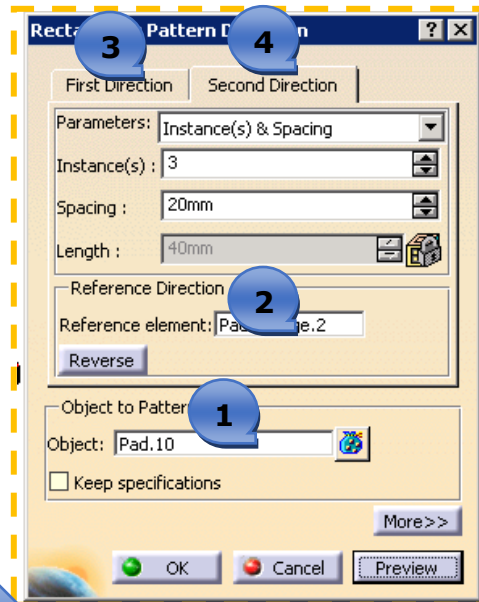
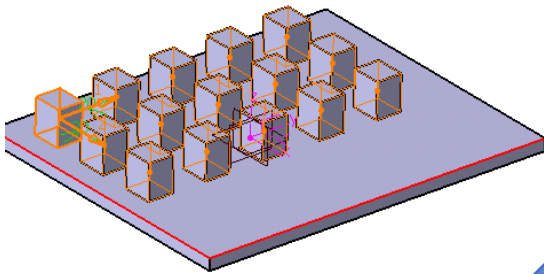
Translation

Rotation

Mirror

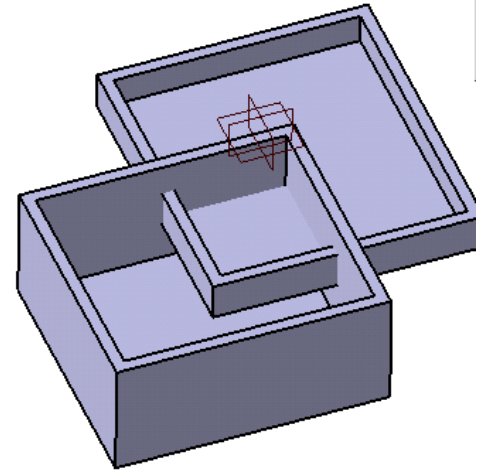
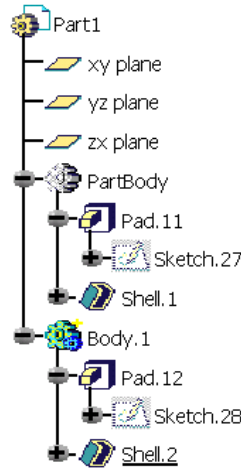
Axis to Axis

Patterns

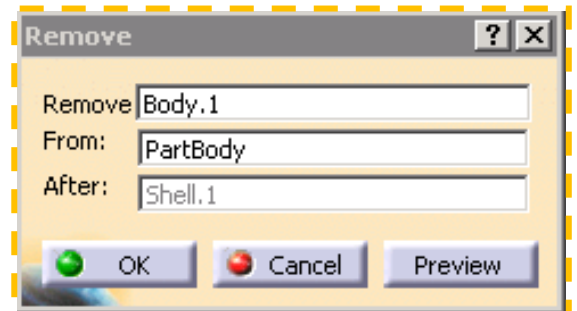
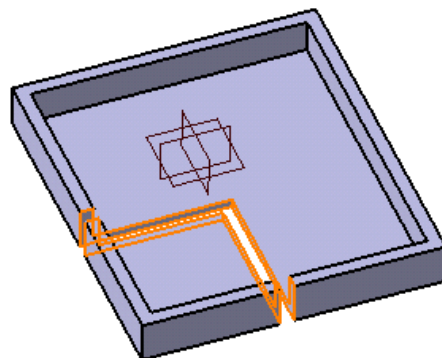
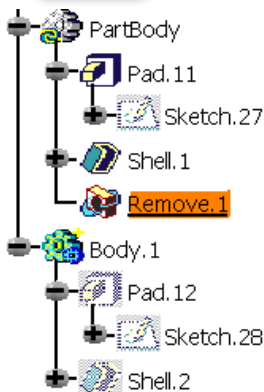


Operatii Booleene

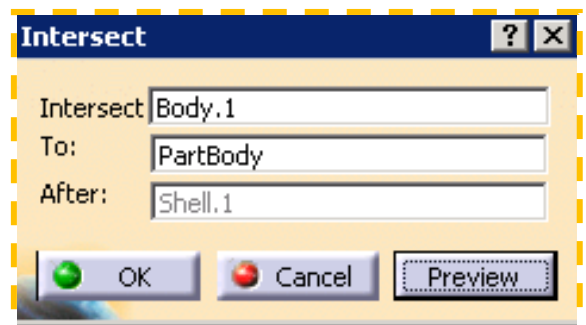
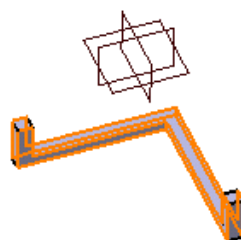
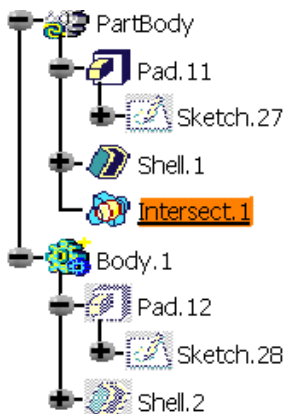
! Pentru a putea utiliza functiile booleene, este necesara inserarea unui Body nou, in care se va modela un alt corp de solid



Remove

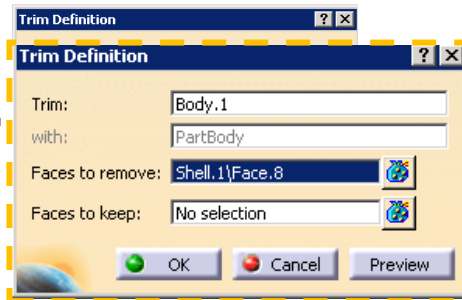
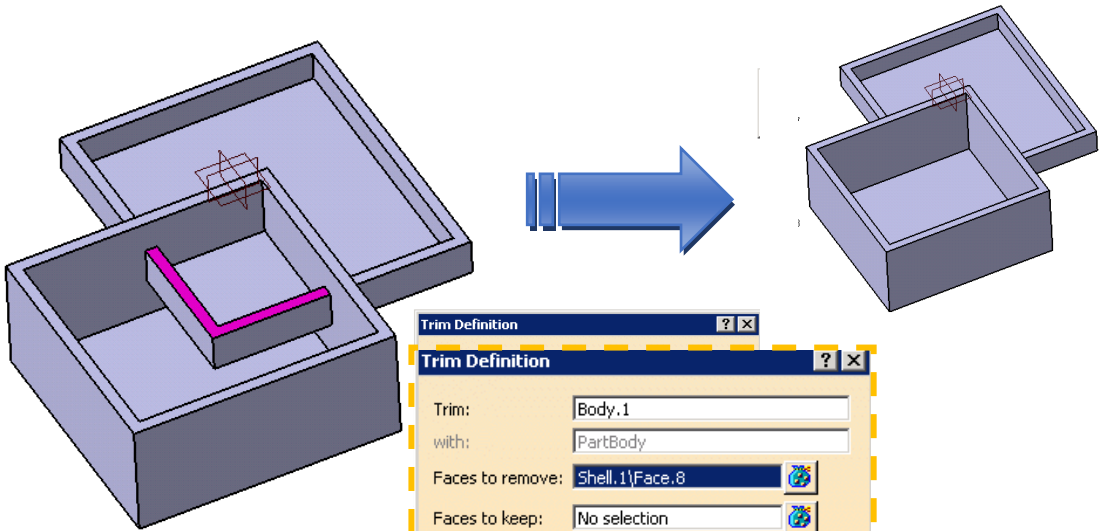
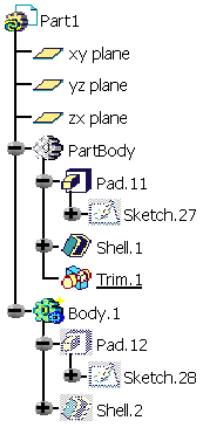


Intersect

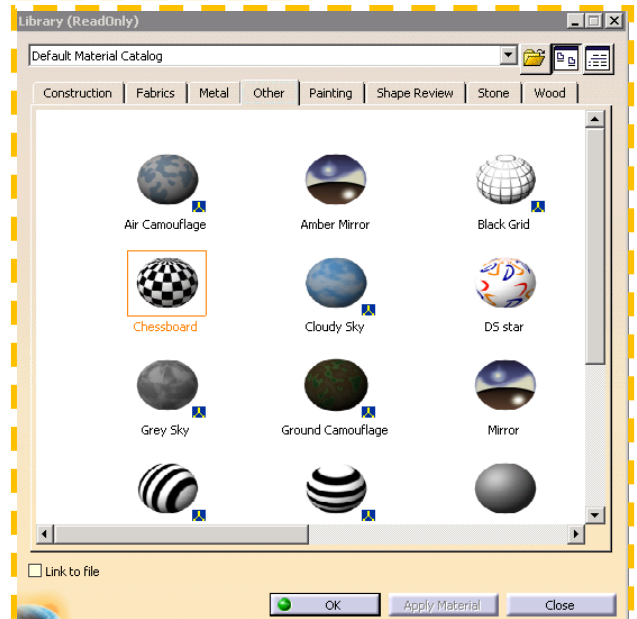
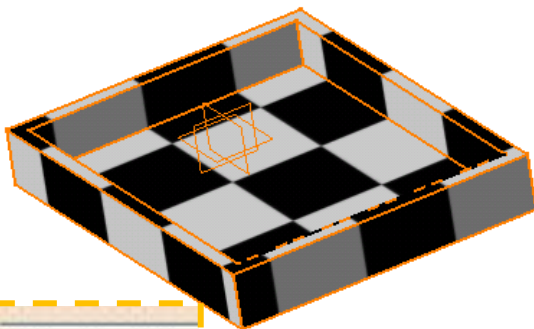
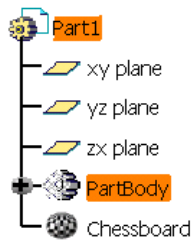




Trim

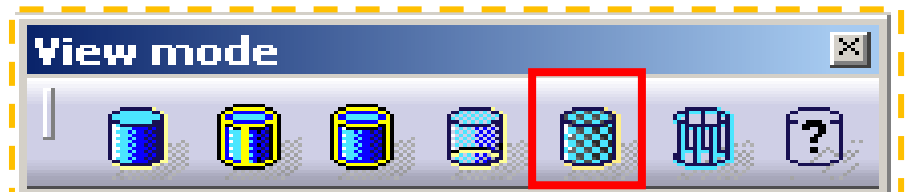


Apply Material



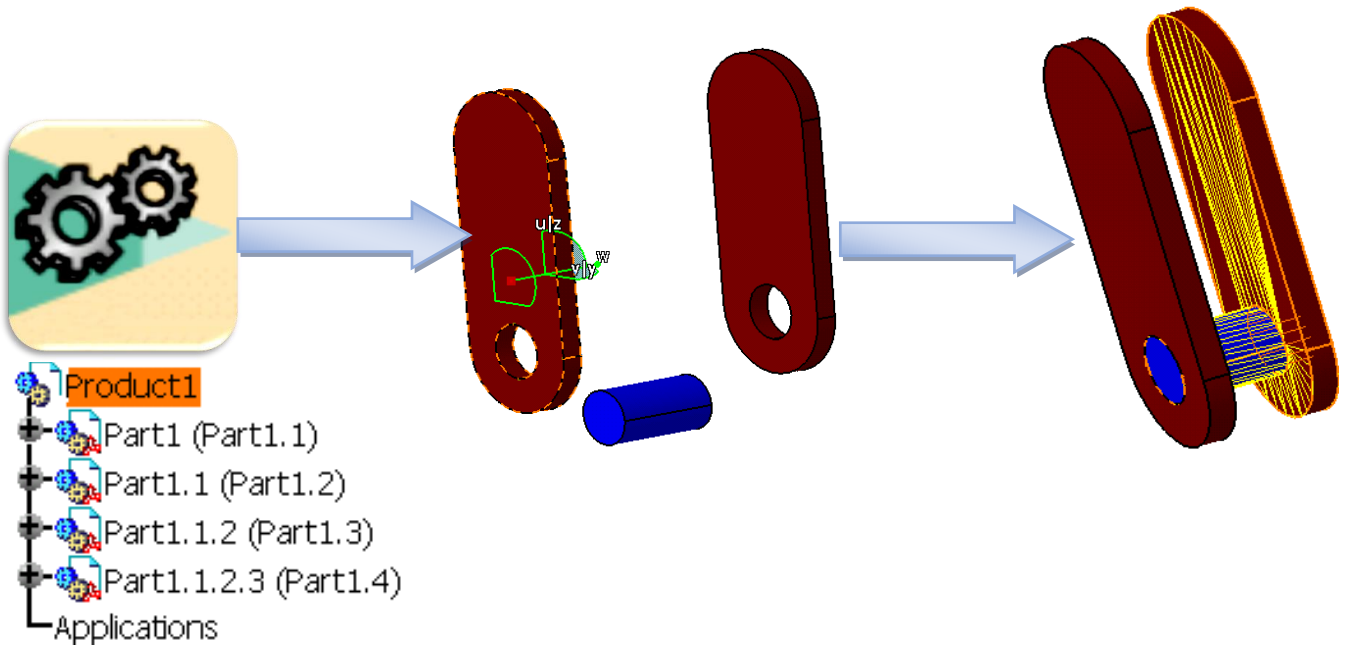
Characteristics	
Area	0.015m ²
Volume	5.836e-005m ³
Density	1000kg_m ³
Mass	0.058kg

In tabelul cu materiale sau pe materialul aplicat se pot vizualiza proprietatile materialului.
(clic dreapta + properties)



Mode : „Shading with Material” , pentru vizualizarea materialului aplicat

Atelierul Assembly Design



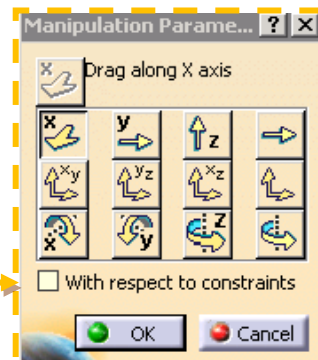
New Component, New Product, New Part, Existing Component, Replace Component, Reorder, Generate Baloons, Manage Manage Representation, Multi Instantiation



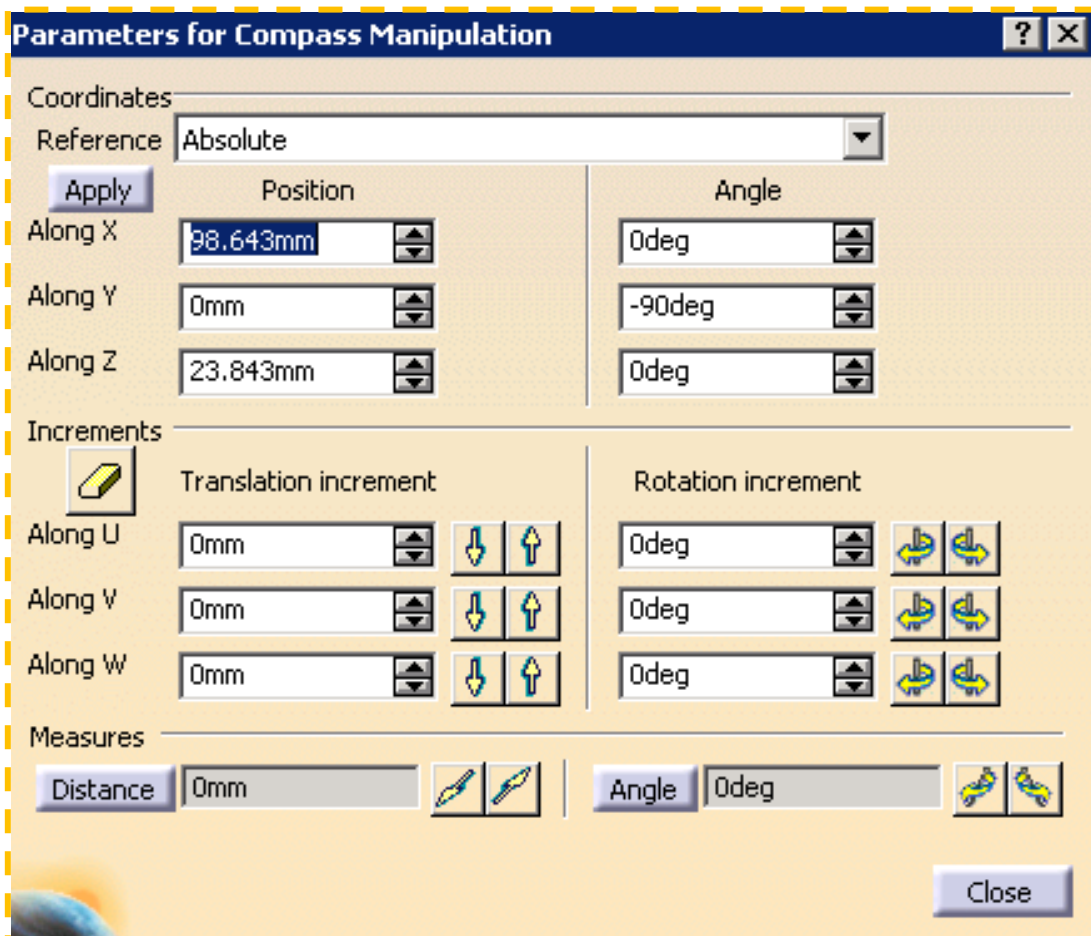
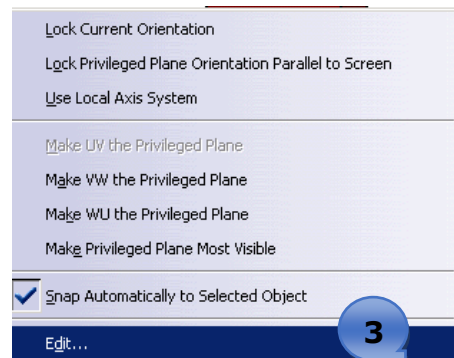
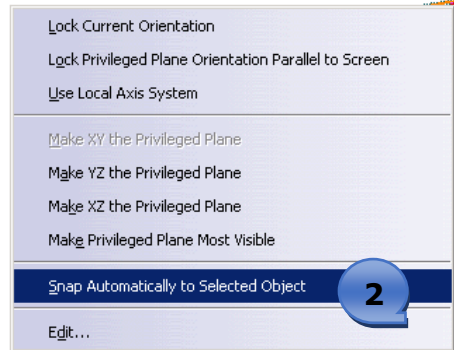
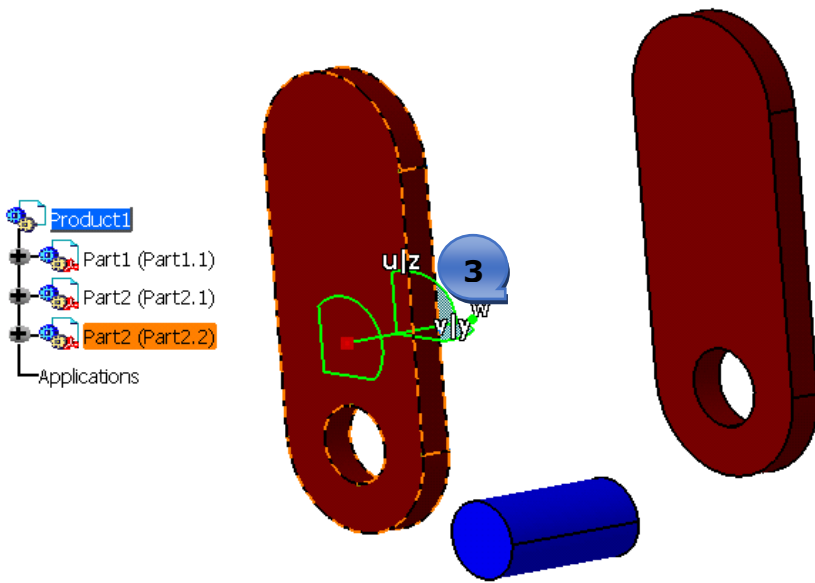
Coincidenta, Contact, Distanta, Unghi, Fix, Fix Impreuna, Constrangeri Automate Rigiditate, Activeaza Constrangeri , Pozitionare pe grid



Manipulation
Snap
Explode
Stop Manipulation On Clash

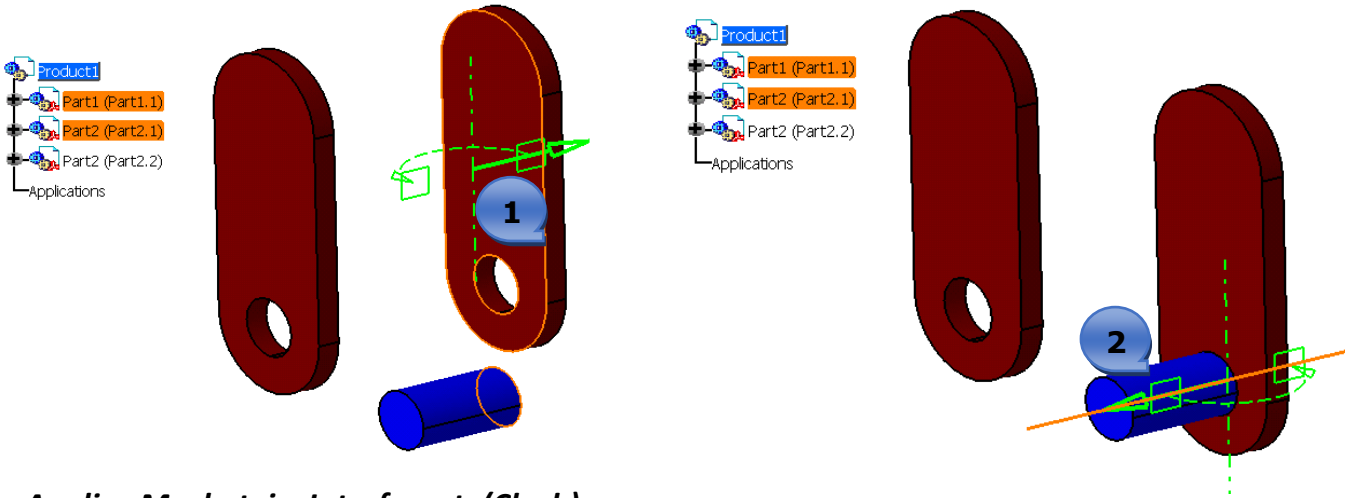


Pozitionare cu Busola

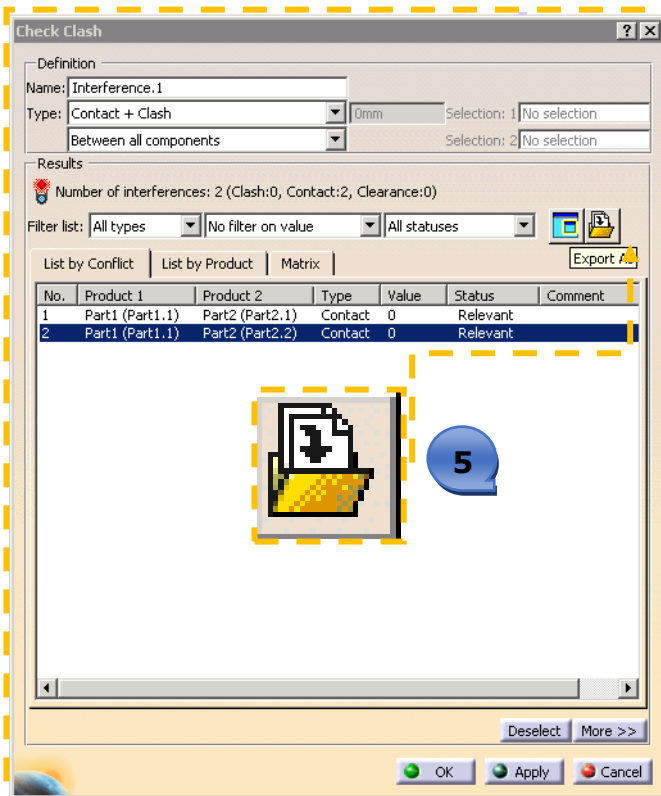
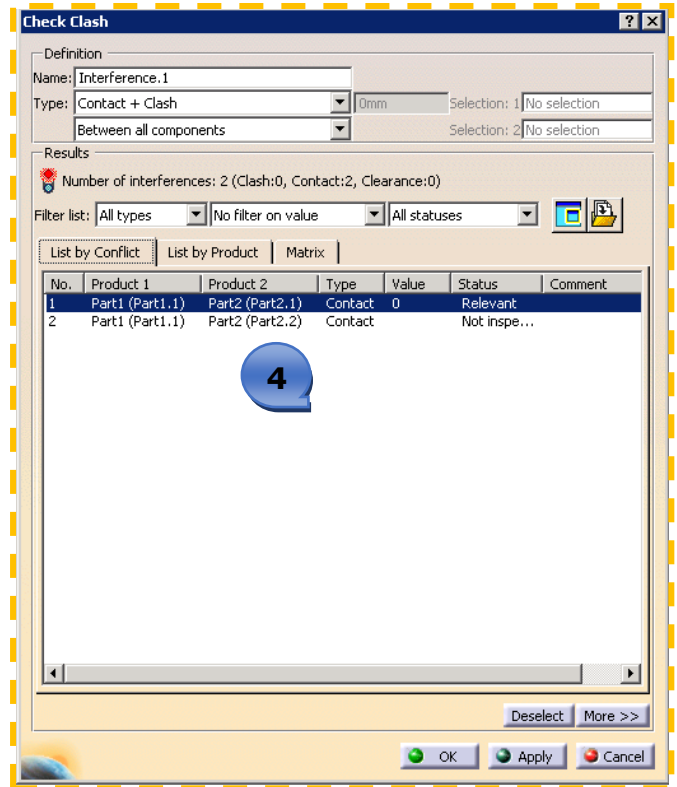
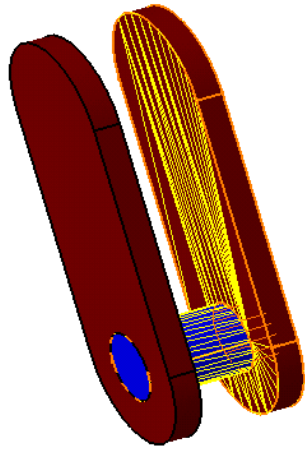
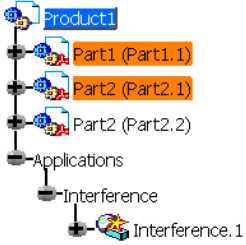




Pozitionare cu comanda Snap



Analiza Machetei – Interferente(Clash)

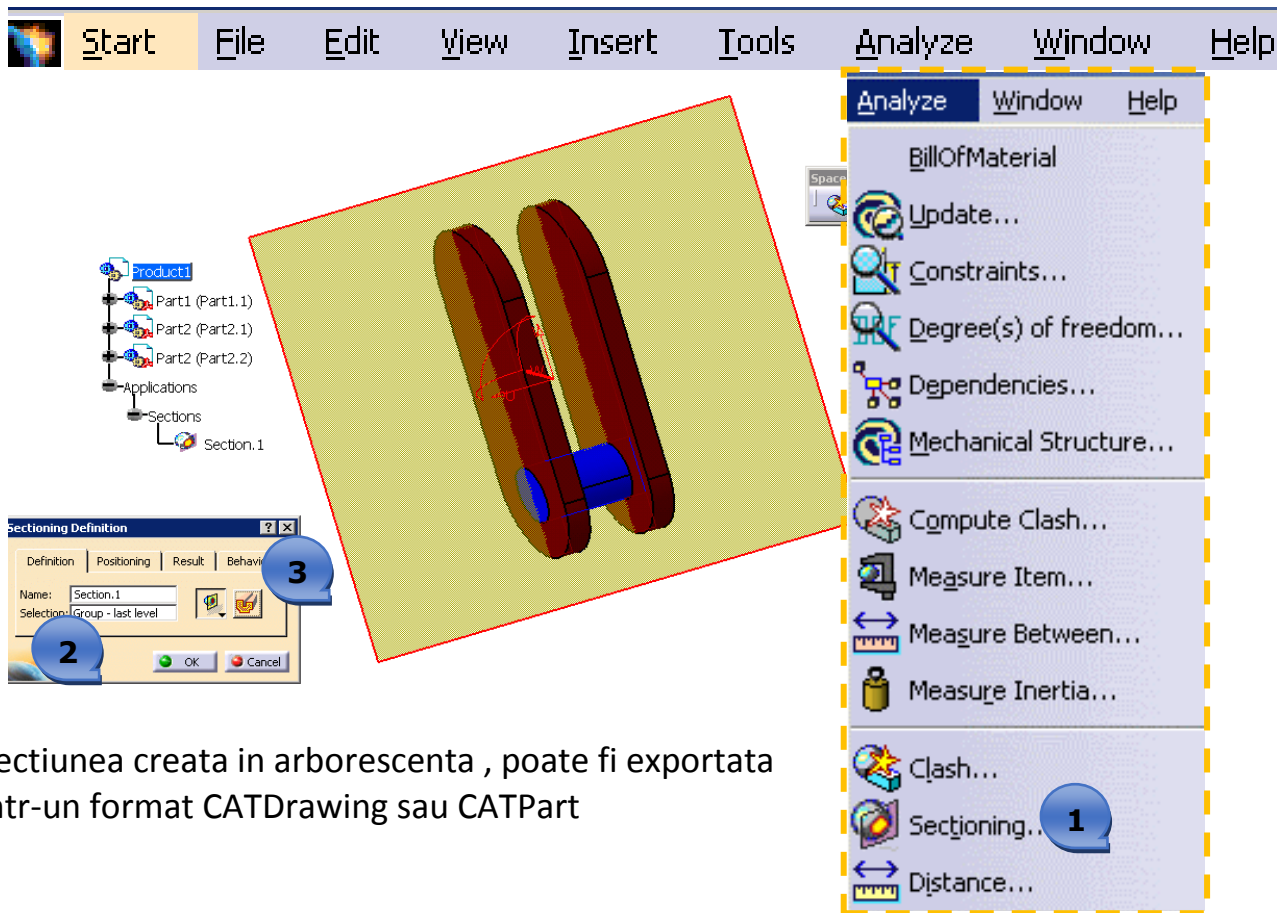


Product name	Shape name	Process mode
Part1 (Part1.1)	Shape 1	Flat files
Part2 (Part2.1)	Shape 1	Flat files
Part2 (Part2.2)	Shape 1	Flat files

Computation Result

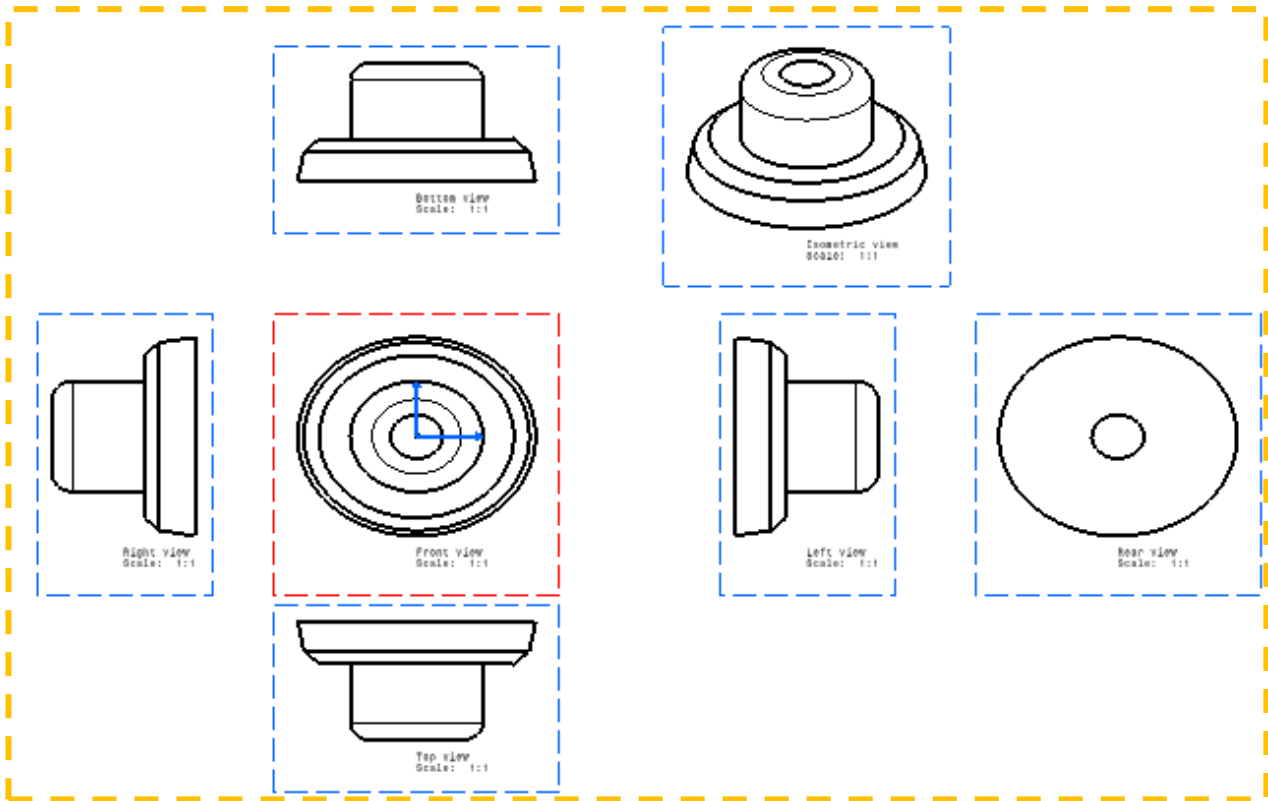
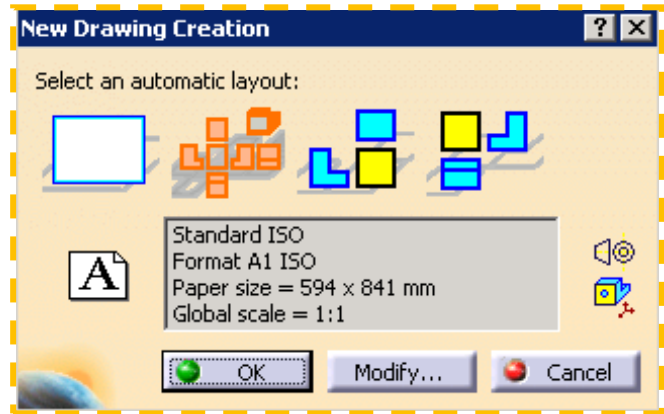
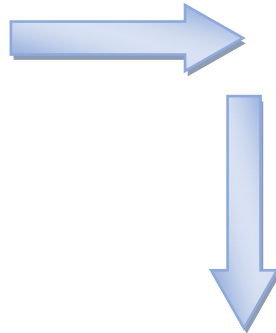
Product vs product	Link
	DataBase/Part1 (Part1.1) -- Shape 1+++Part2 (Part2.1) -- Shape 1+++1.xml
	DataBase/Part1 (Part1.1) -- Shape 1+++Part2 (Part2.2) -- Shape 1+++2.xml

Analiza Machetei - Sectiune

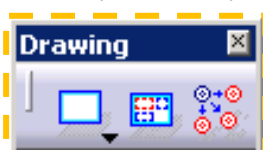


Sectiunea creata in arborescenta , poate fi exportata intr-un format CATDrawing sau CATPart

Atelierul Drafting



Vedere, Sctiune, Detaliu, Vedere Partiala, Vedere Rupta, Asistent Creare vederi



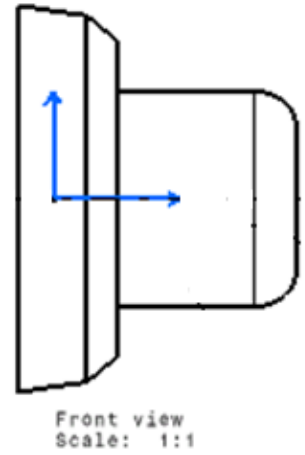
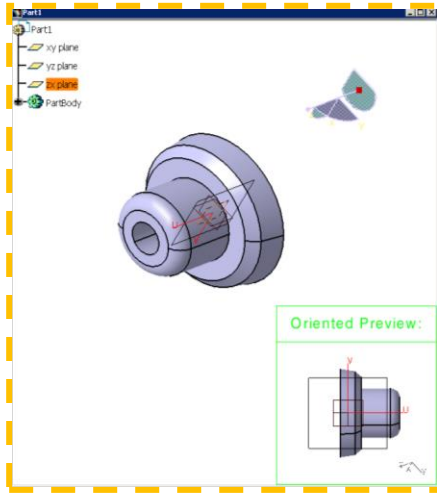
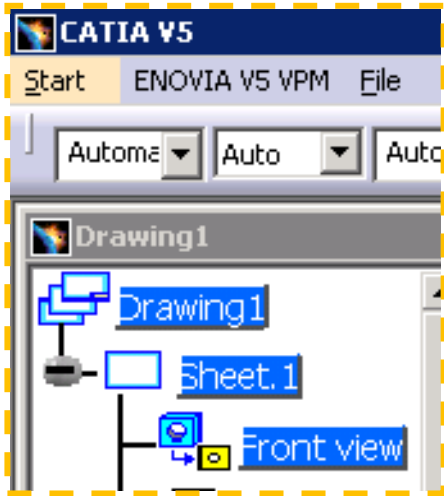
Plansa noua, Inserare Vederi dimensiuni, Inserare Detaliu



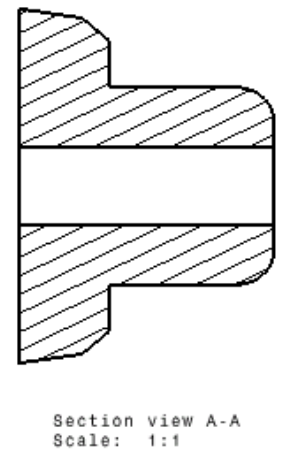
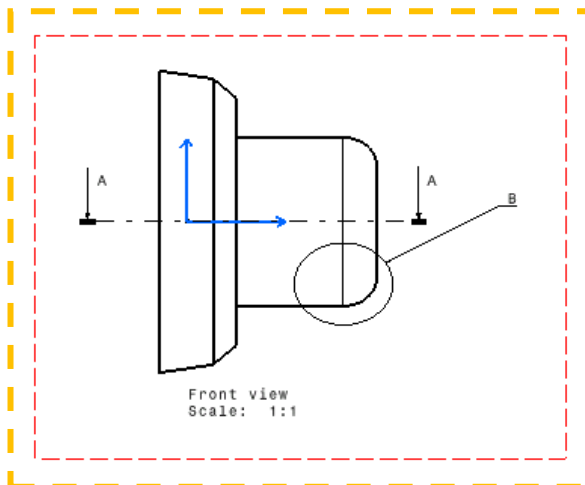
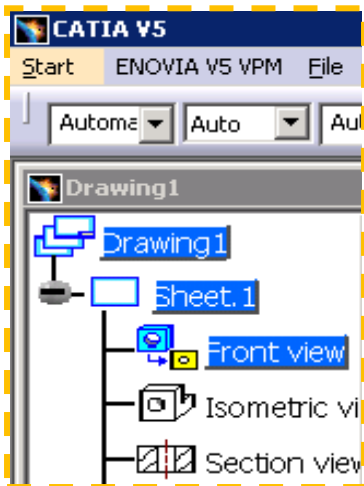
Dimensiuni, Modificare Intrerupere, tolerante



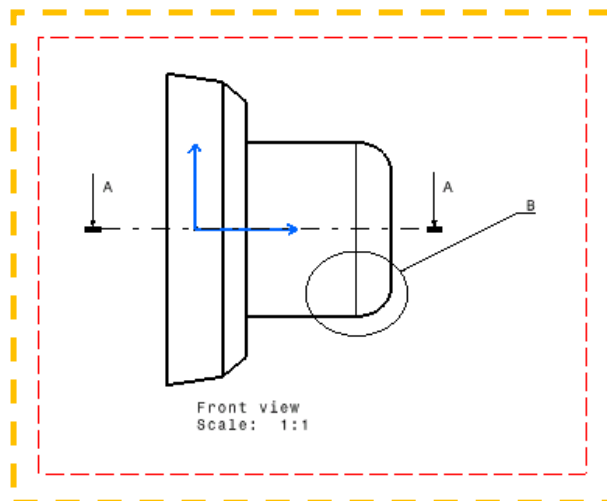
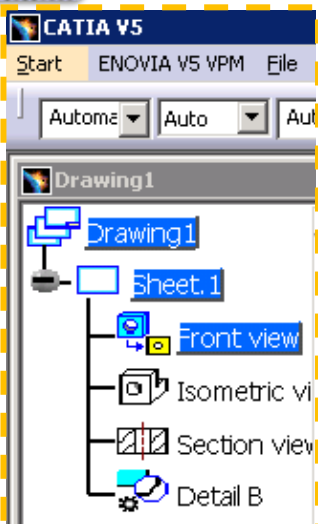
Crearea unei vederi



Crearea unei sectiuni



Crearea unui Detaliu



Proprietatile unei Vederi/Sectiune/Detaliu

