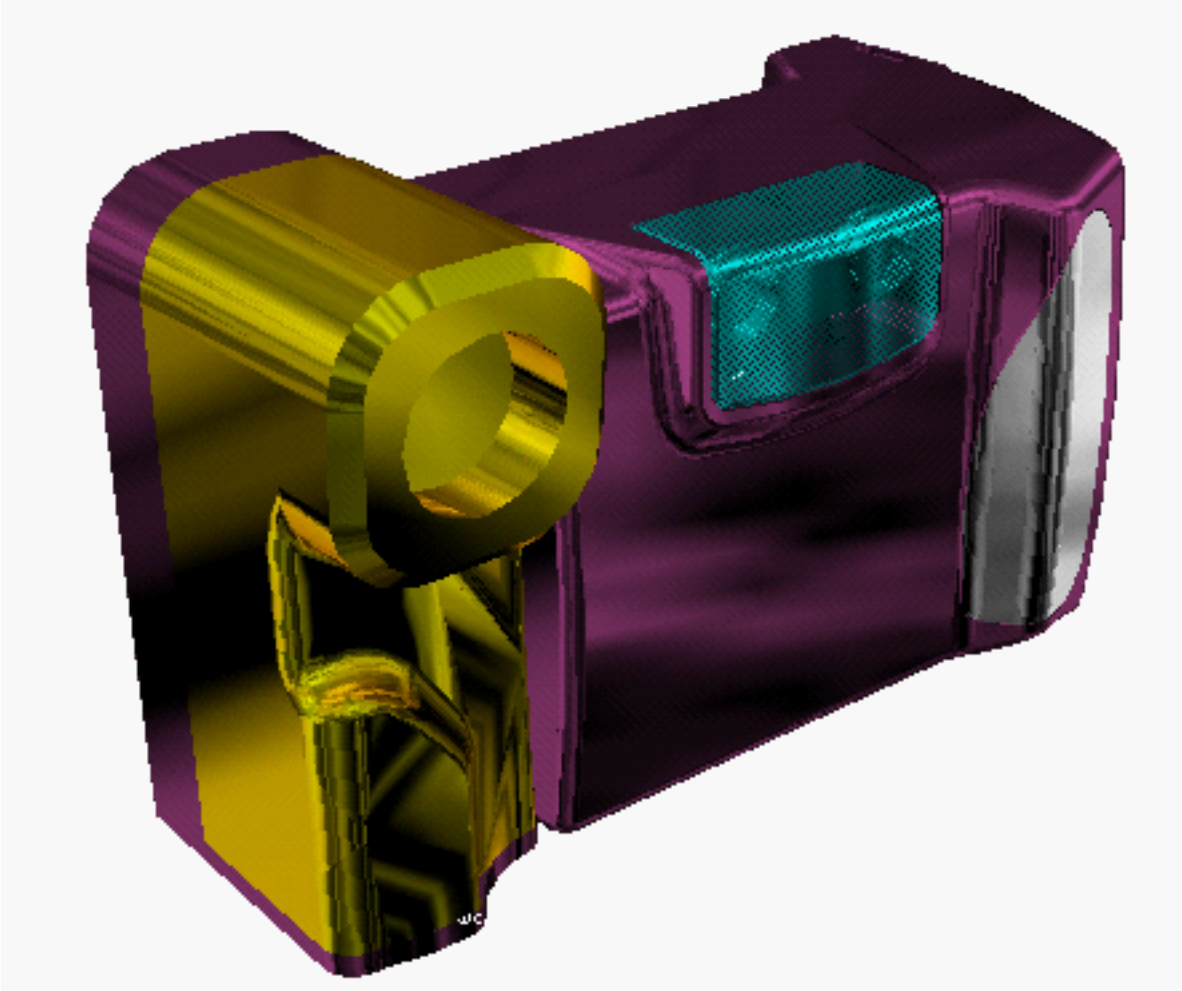
Video Camcorder Vignette



March 9, 1998

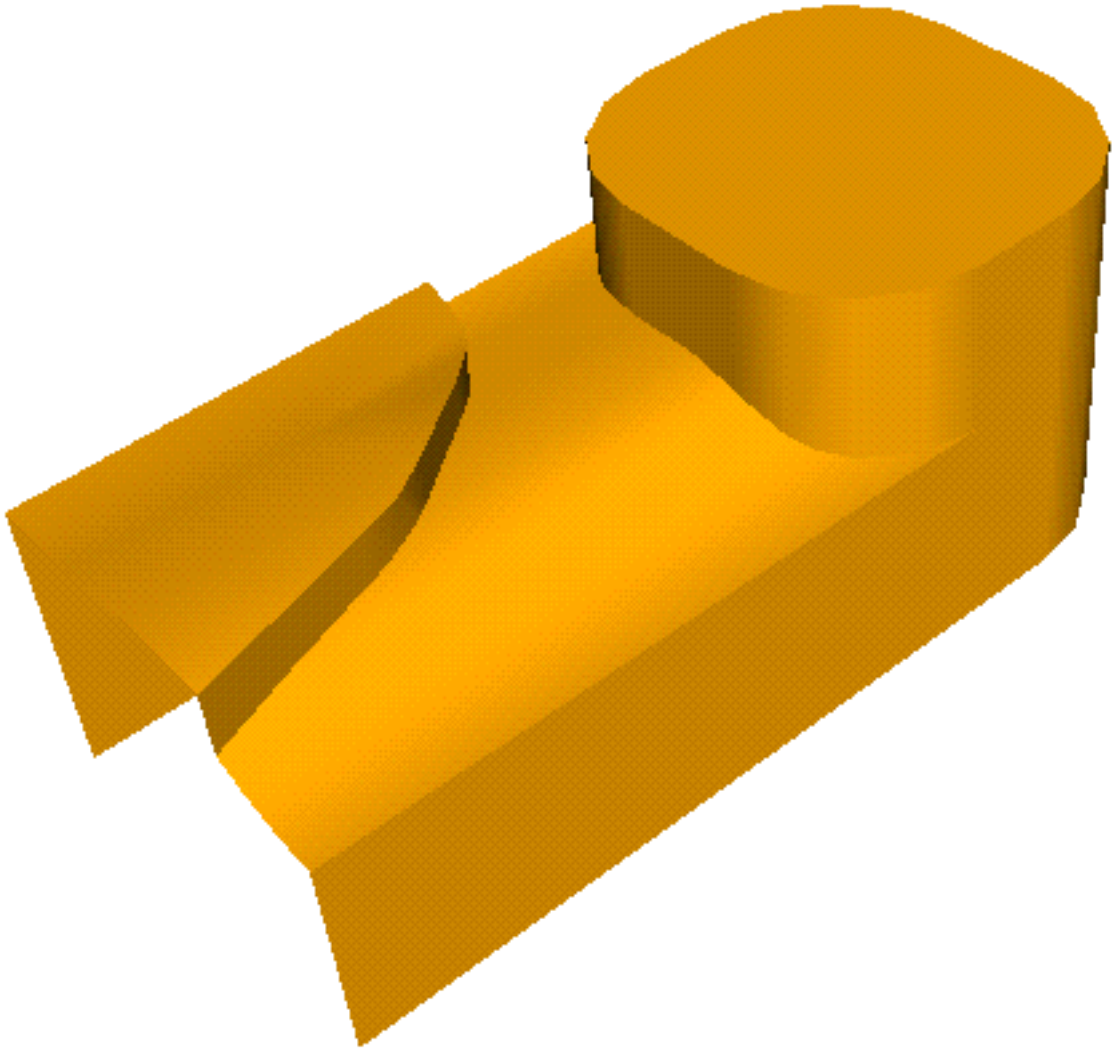
Demonstration Particulars

Installation

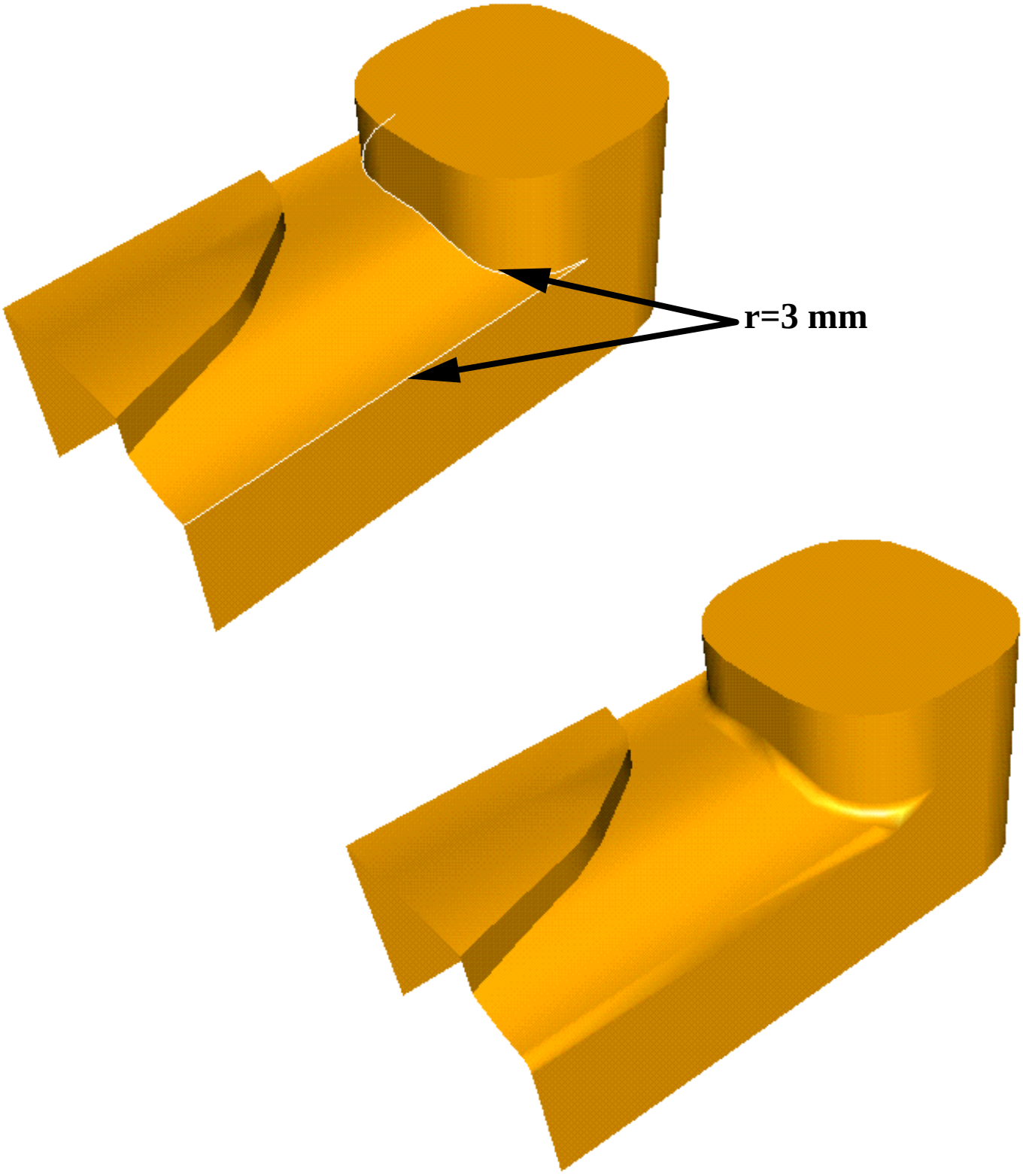
- Copy or unload the demo files to a local directory
- cd to the directory containing the demo files
- Start I−DEAS
  Project = **Any**
  Model File = **sharp**
  Application = **Design**
  Task = **Master Assembly**
- Import sharp.arc archive file
- Run startup.prg

Files:

Archive file	**sharp.arc**
SGI Showcase documentation	**sharp.sc**
Adobe Acrobat File	**sharp.pdf**



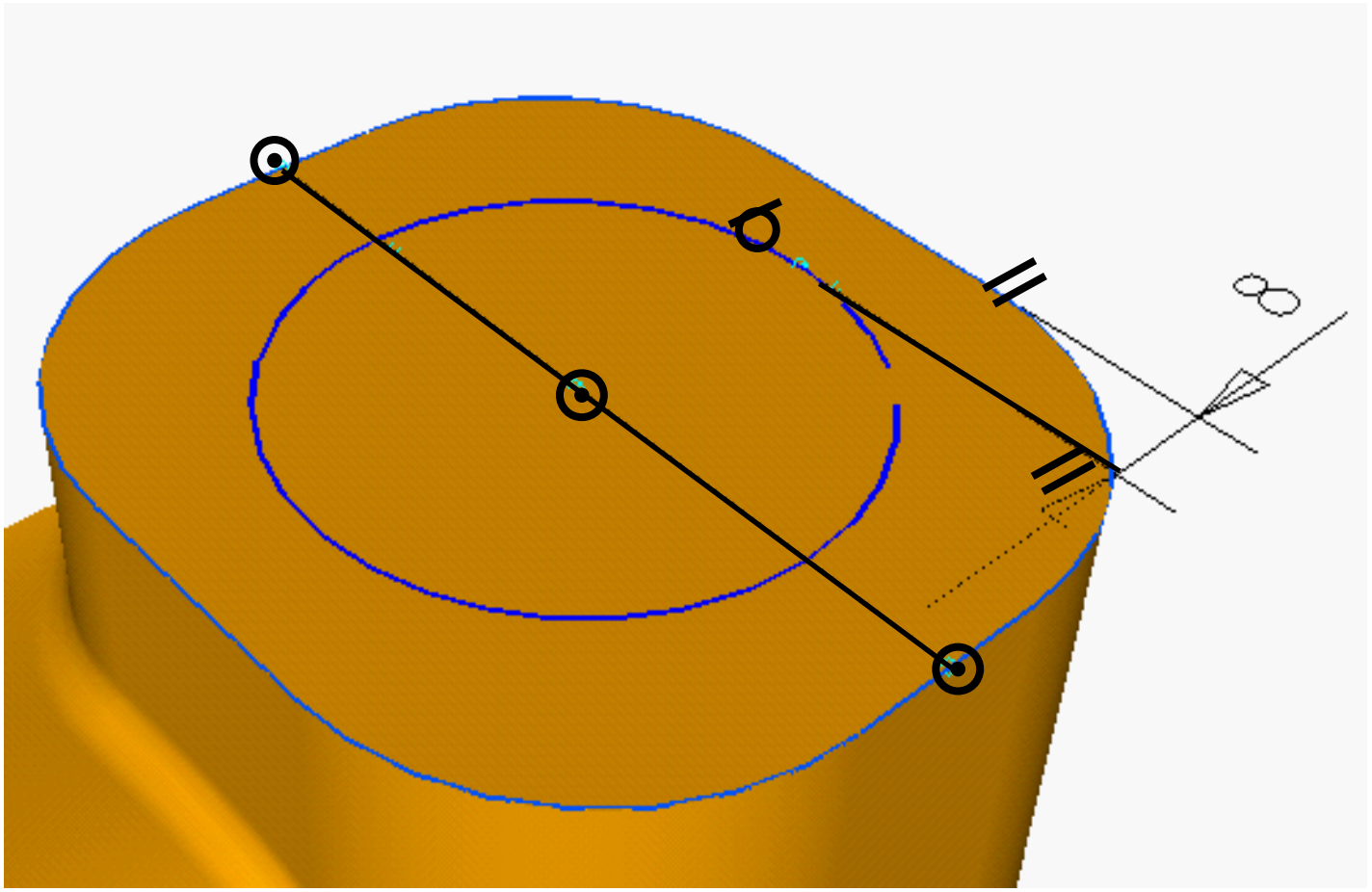
Display Filters
Assembly Off
Parts On



Fillet

Select the curves as shown
r=3 mm

Hold down your right mouse button, and turn edge chaining on if it isn’t already



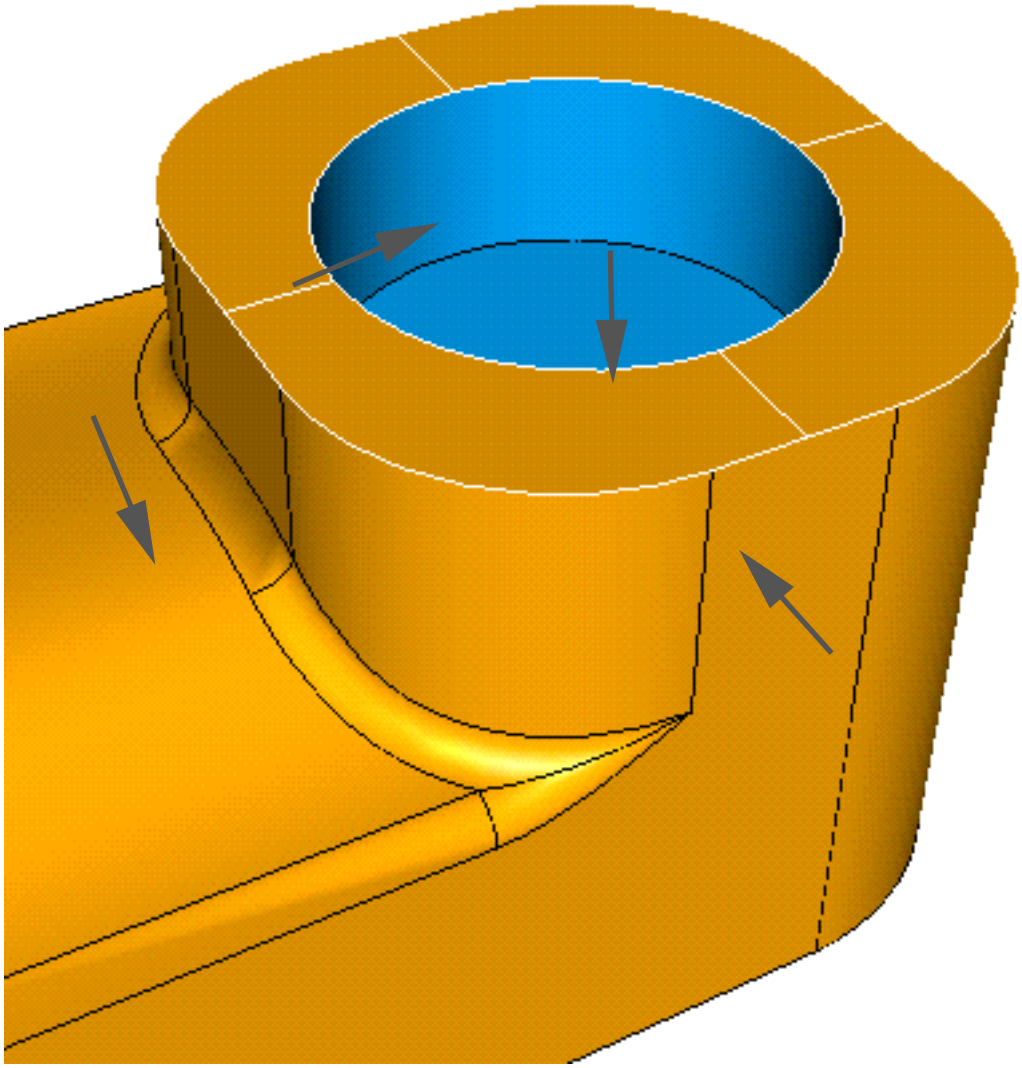
Sketch in Place
Select the top face of the part

Line
Navigate to the center of each outside edge

Circle Ctr/Edge
Navigate to the center of the face, drag circle

Line
Navigate a line tangent to the circle and parallel to the top edge

Modify
Change the dimension to the edge to 8 mm

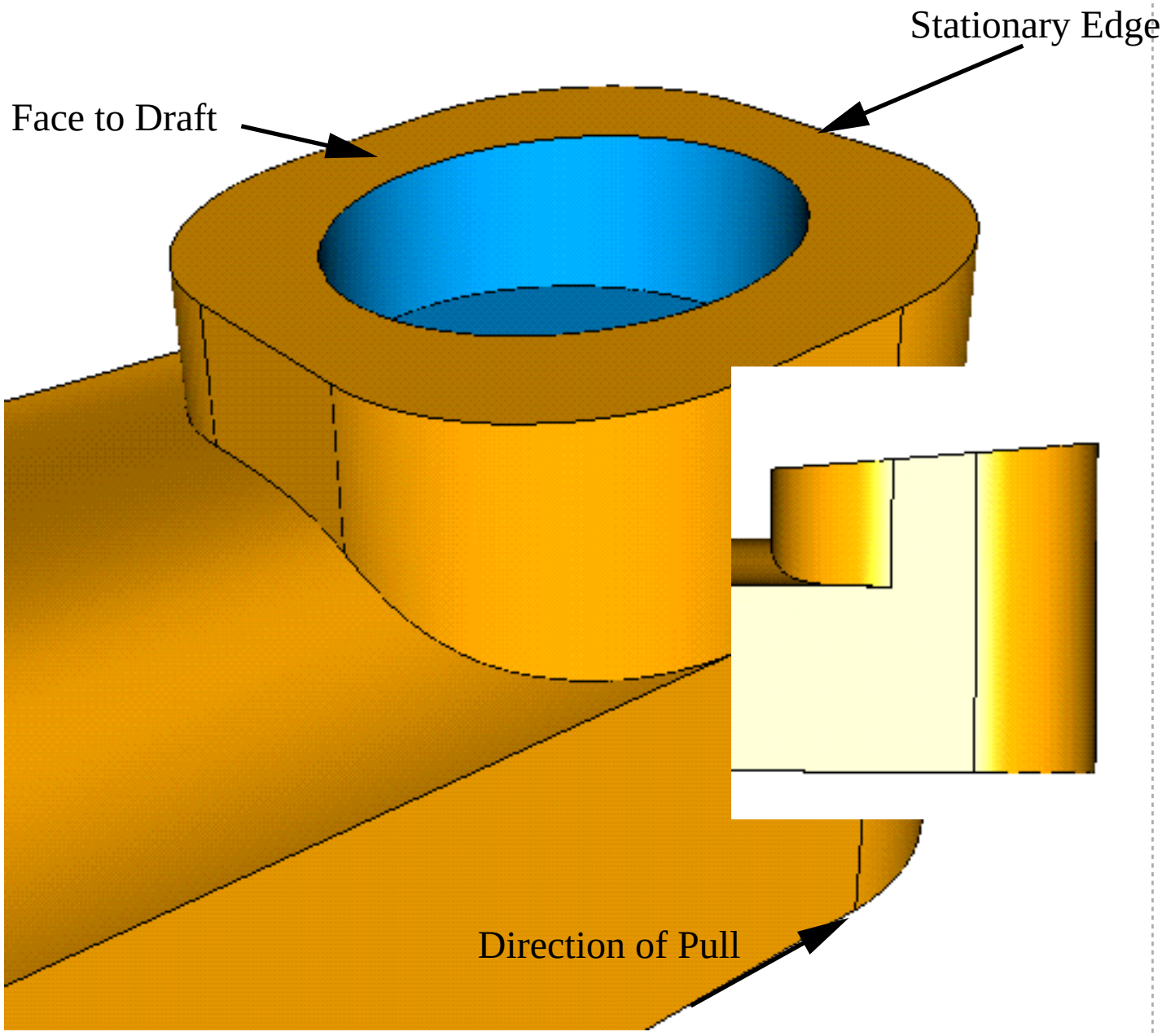


Material Side

Select the top surface, change the direction to point toward the inside of the part

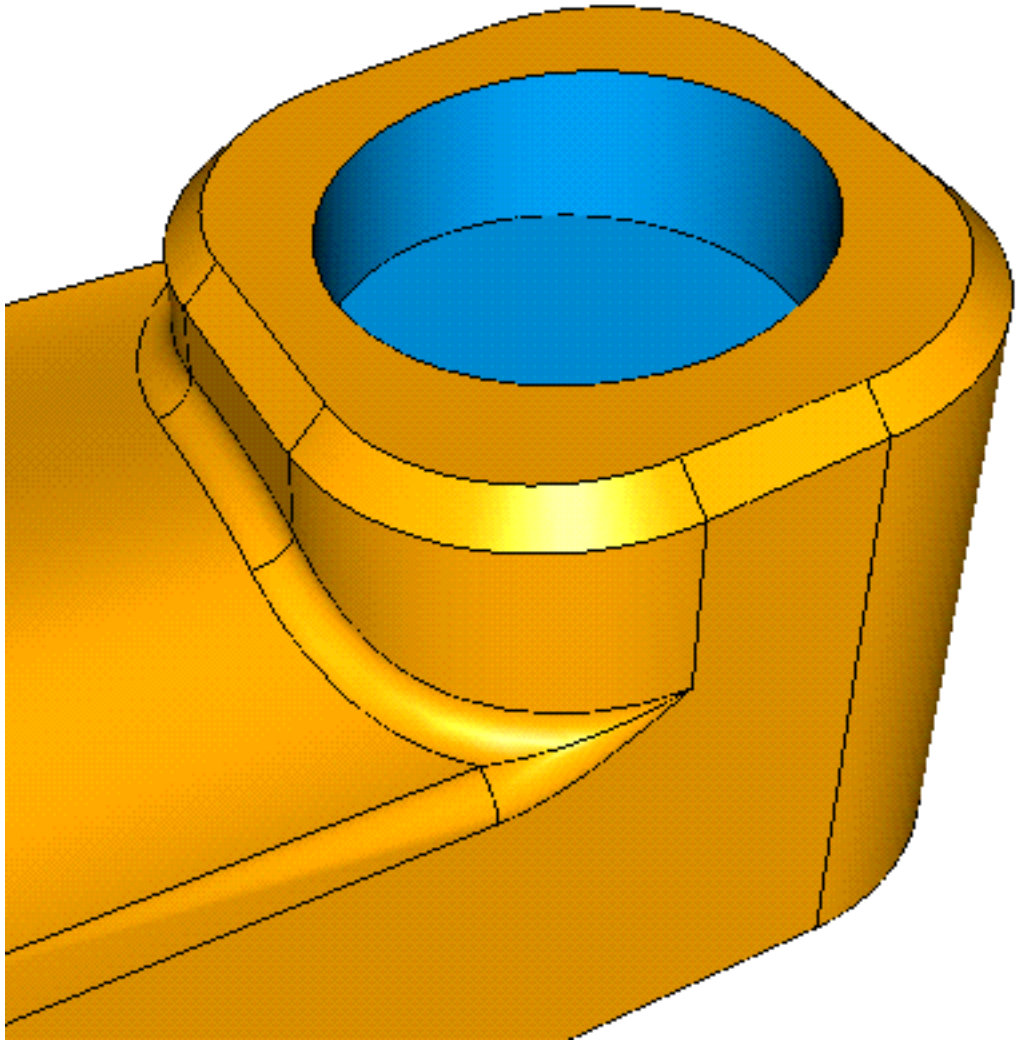
Extrude

Select the circle
Distance = 15 mm
Cutout



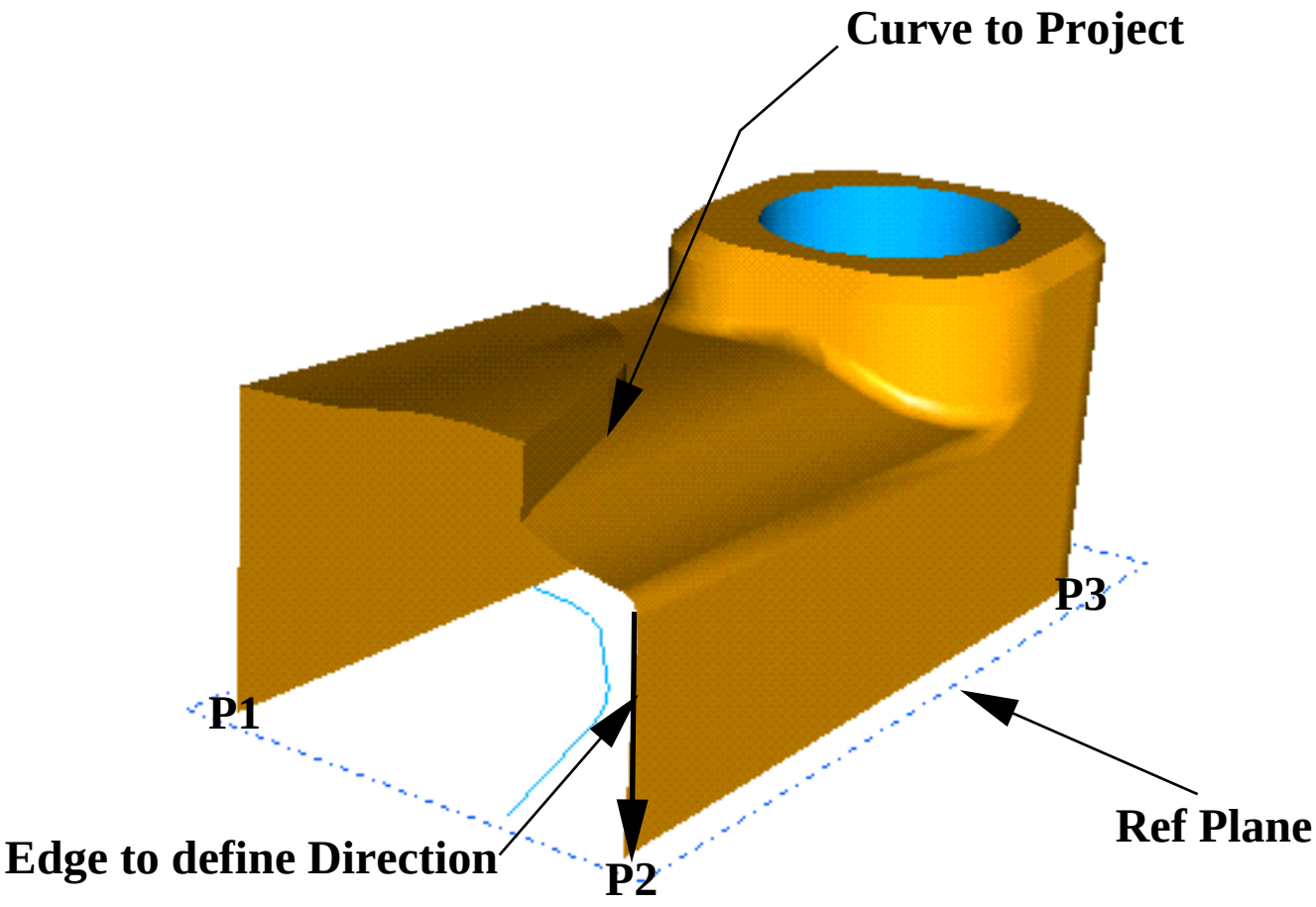
Draft

Select lower edge to define direction of pull,MB2
Select the top face,MB2
Select the outside edge as Stationary Edge,MB2.MB2
Draft = 5 degrees, Preview,OK



Chamfer

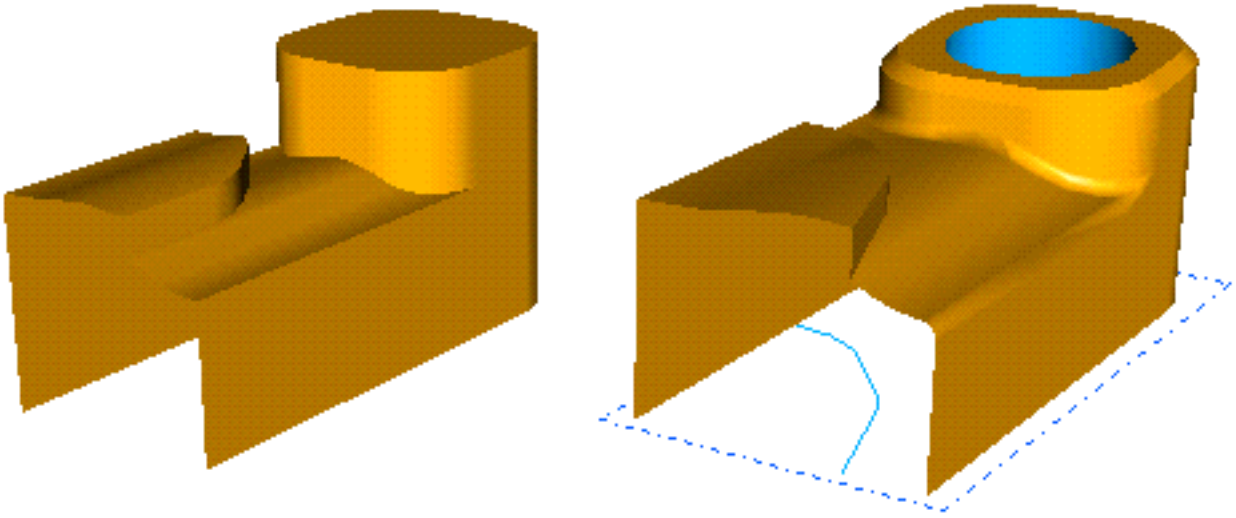
Select the chain of edges on the top face
d=3 mm



Master Modeler....Master Surfacing

Reference Plane
Select the three points shown to define plane
Sketch in Place
Select the reference plane

Project Curve
Pick the curve to project
Select the reference plane
select edge shown as projection vector



Get

Get the **Updated Surface Data** part from the Main Bin

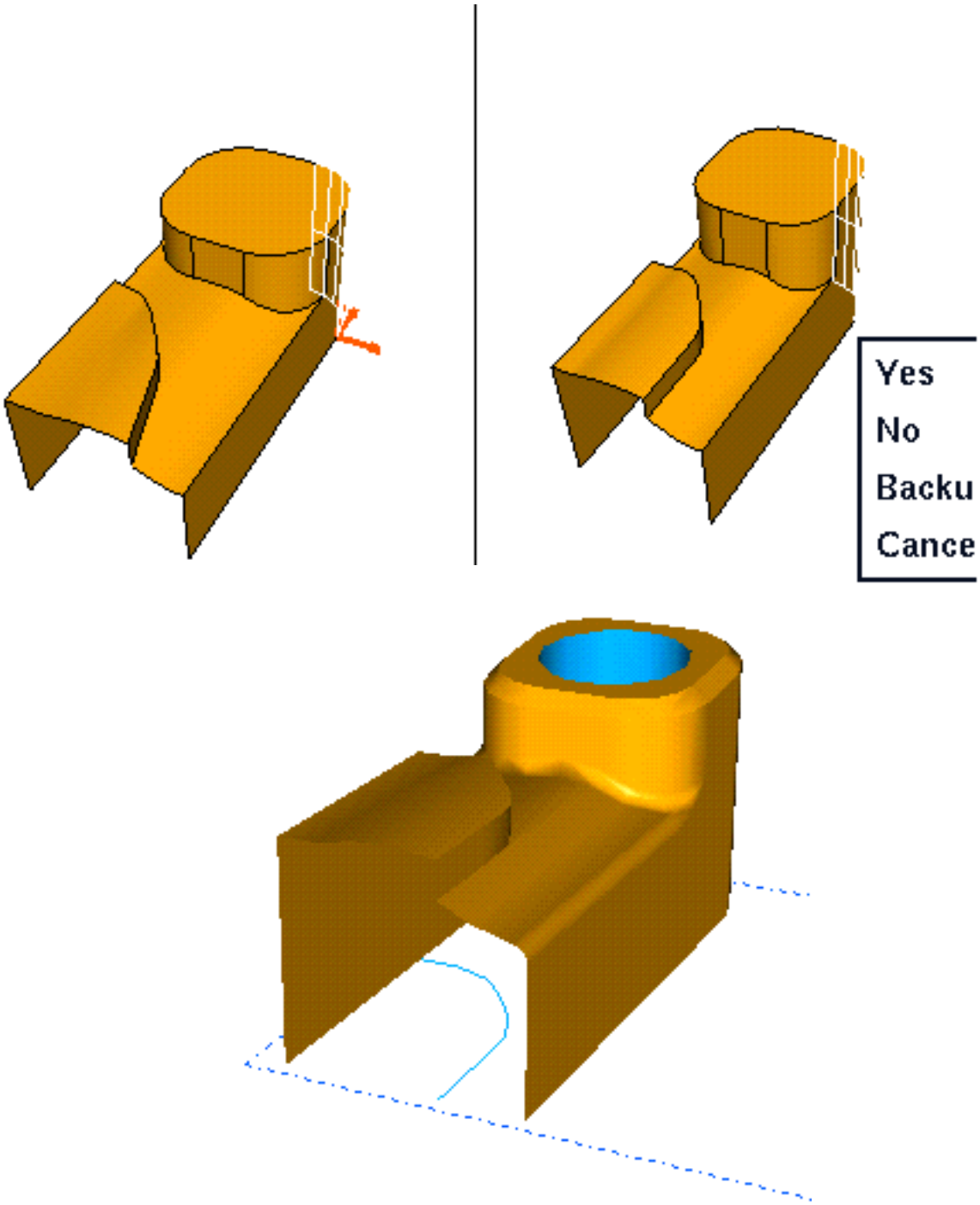
Move

Pick the Updated Surface Data part.

Hstory Tree

Pick the original part, MB2
Highlight the first node in the history, Imported Surfaces,Modify, Replace Feature, Select the **Update Surface Data** part, Yes to control the copy of references

See the next Page

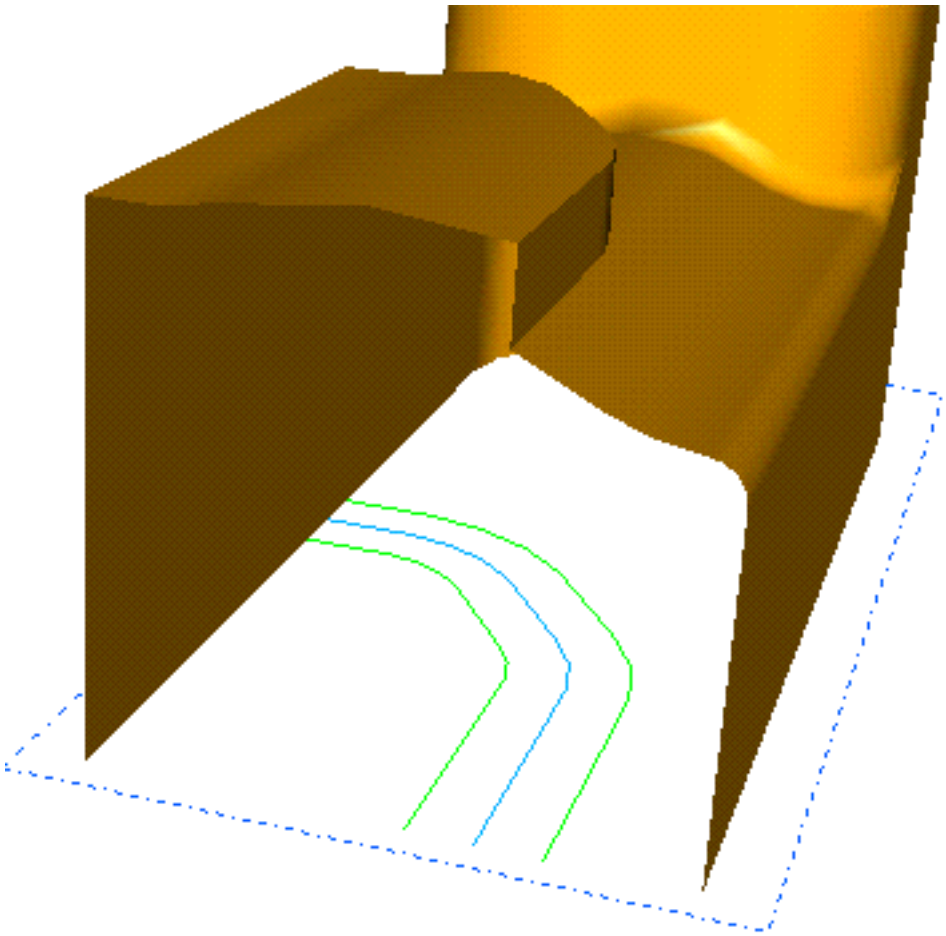


You may individually go through the surfaces to explain mapping, and then type a : to automatically accept the default mapping.

Update

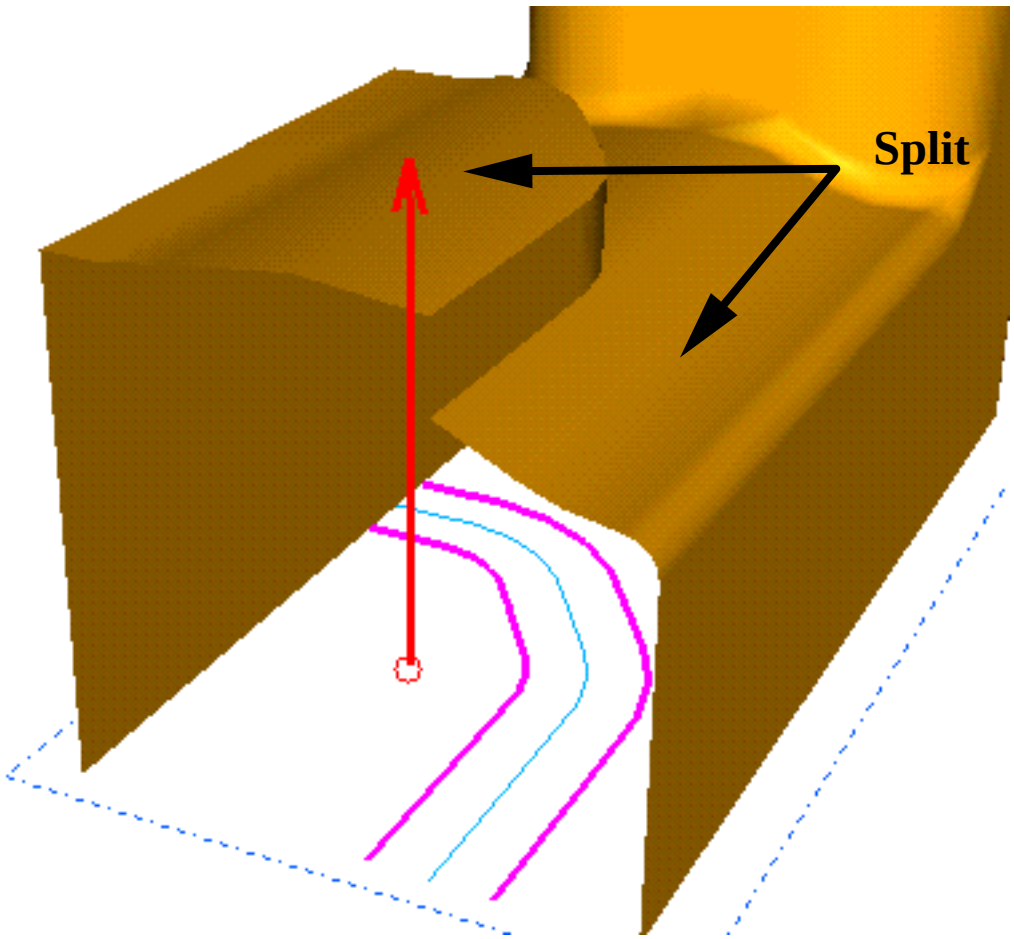
Zoom All

Note that all of the features are up to date as well as the projected curves.



Offset

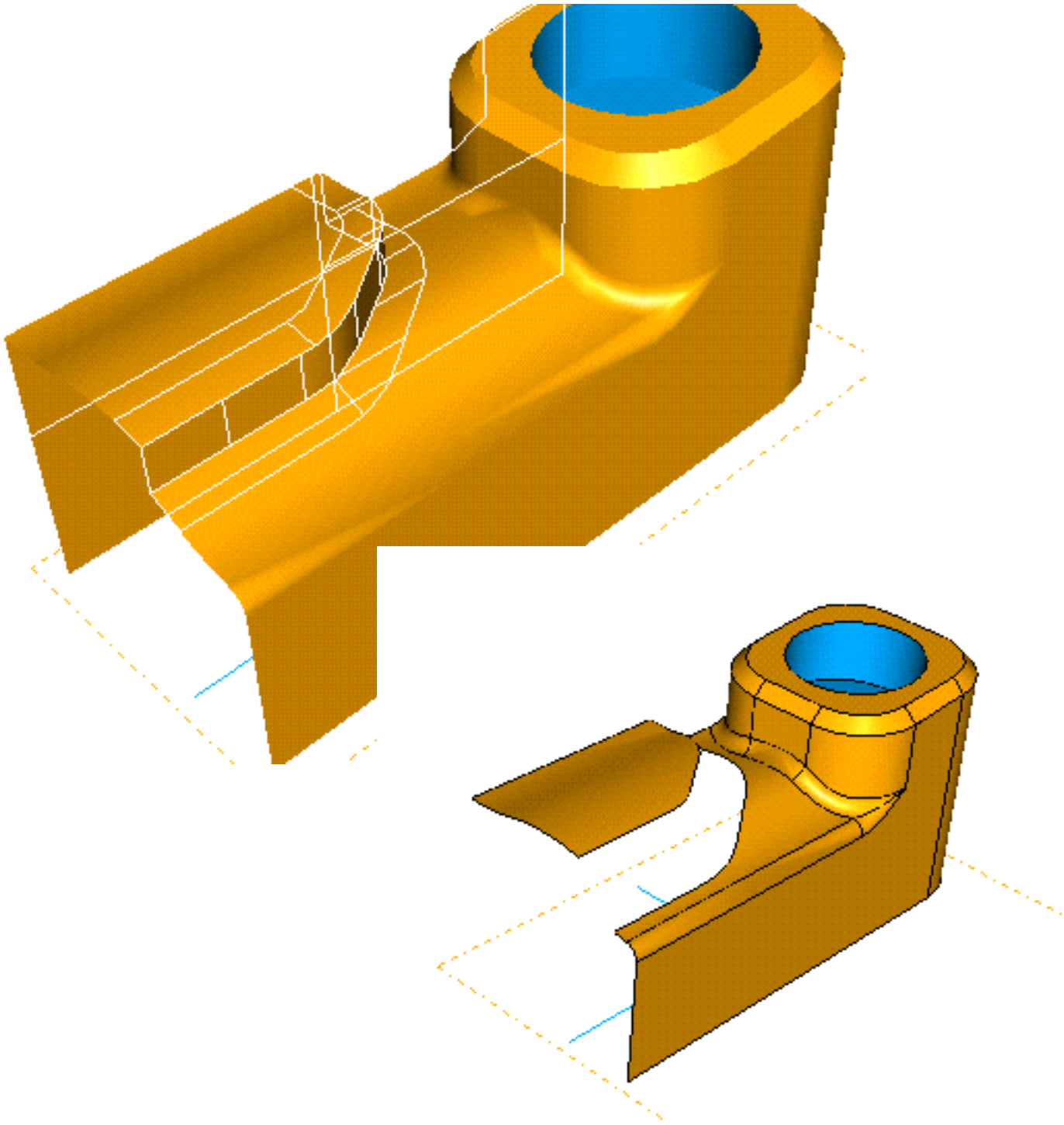
Select the projected curve, offset d=5 mm, pull down to offset on both sides



Extrude

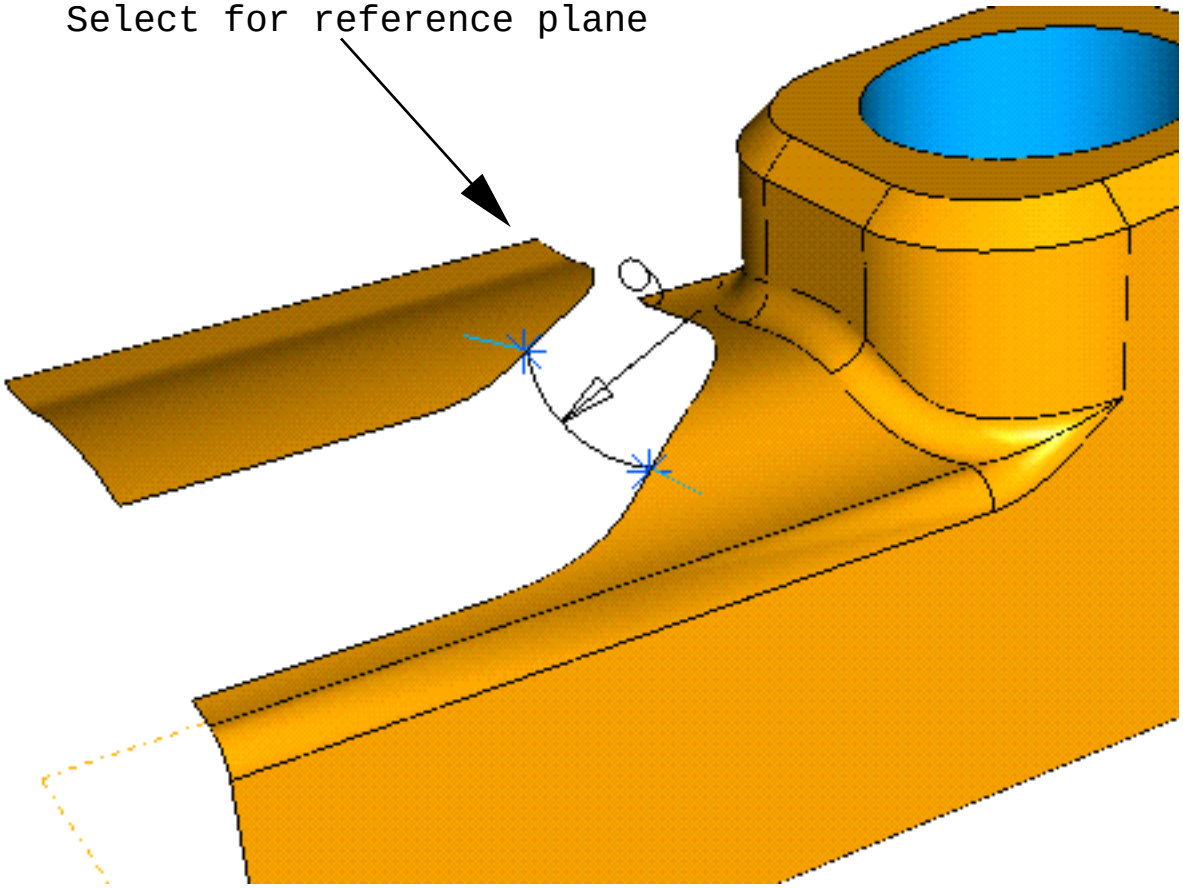
MB3, Split Surface,
Select the offset curves (2) , MB2, Flip direction,
OK, Select the two surfaces shown to split

NOTE: MAY NOT WORK IN ACCEPTANCE CODE. PROTRUDE SECTION TO PART AND DELETE SURFACES AS A WORKAROUND. THIS WILL HAVE THE SAME AFFECT AS SPLIT TO CREATE EDGES NEEDED



Delete

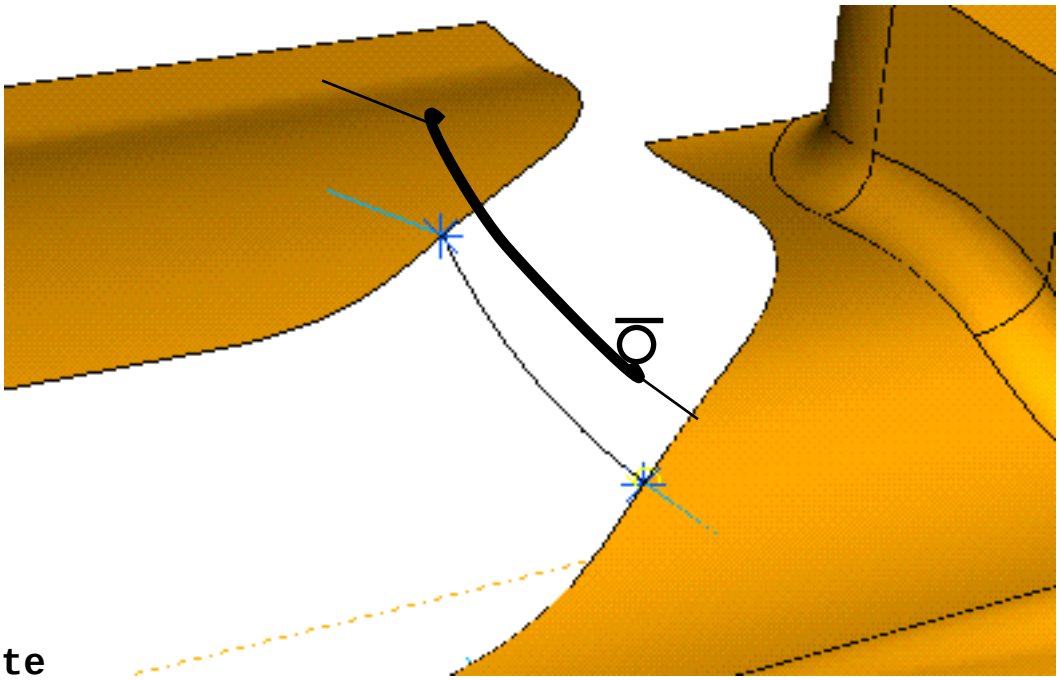
Delete the three top surfaces as well as the rear surfaces shown



Reference Plane
MB3, On curve, Select the upper curve where shown

Sketch in Place
Pick the reference plane

Arc – Three Points On
MB3, intersect, pick the lower curve, pick the blue endpoint, intermediate point, and the other curve blue endpoint to define the arc.



Delete

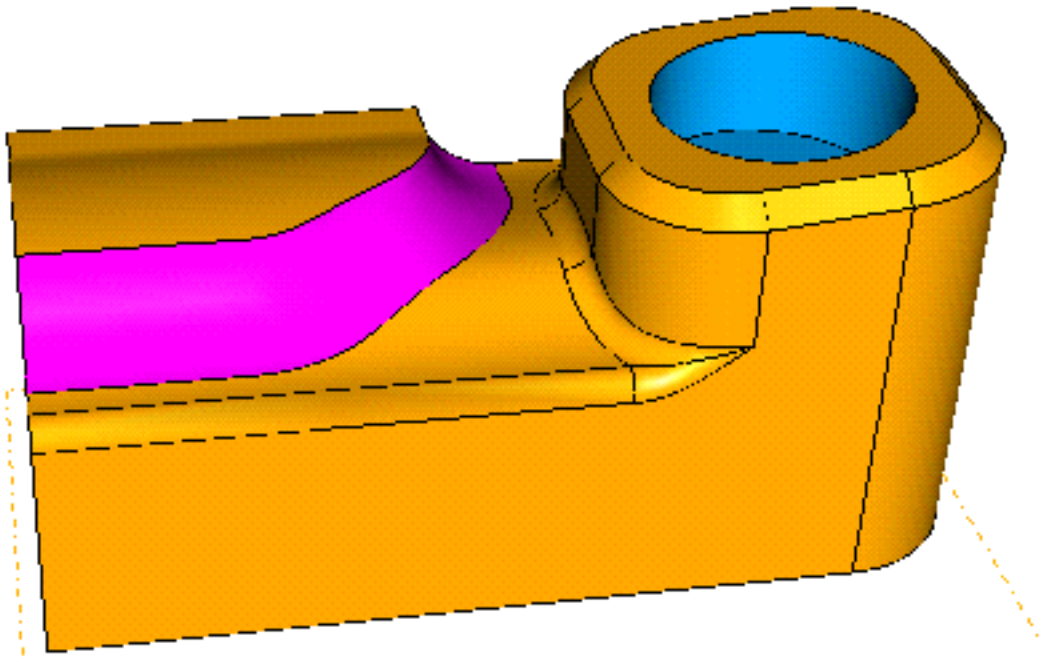
Delete the arc radial dimension if it was created

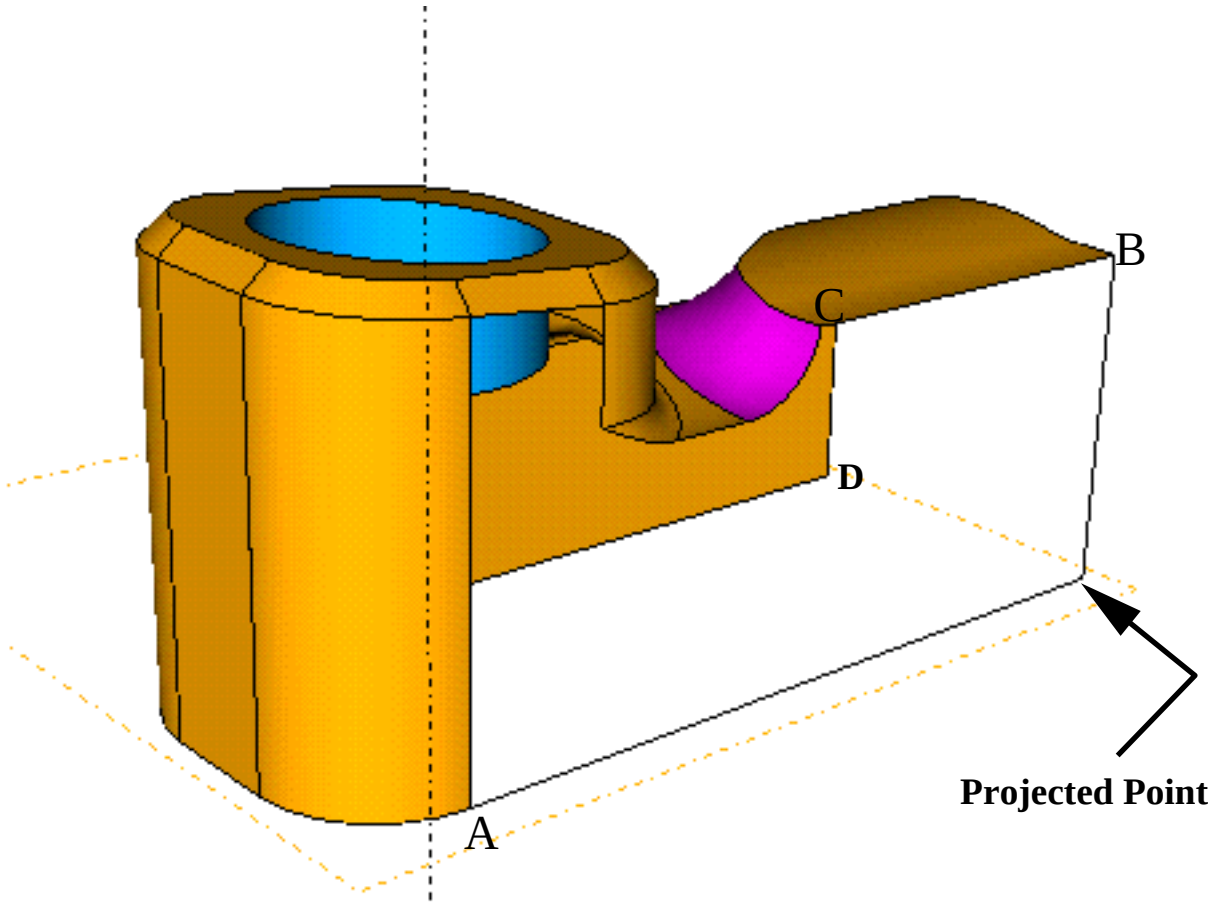
Constrain and Dimension

Assign a tangent constraint between the lower arc point and the intersect line

Variational Sweep

Pick the upper curve for the path, Done
Pick the arc as the cross section, deselect the two intersect curves on the surfaces if necessary, MB2
Highlight stitch, OK





Hide

Hide the reference planes

Display Filters

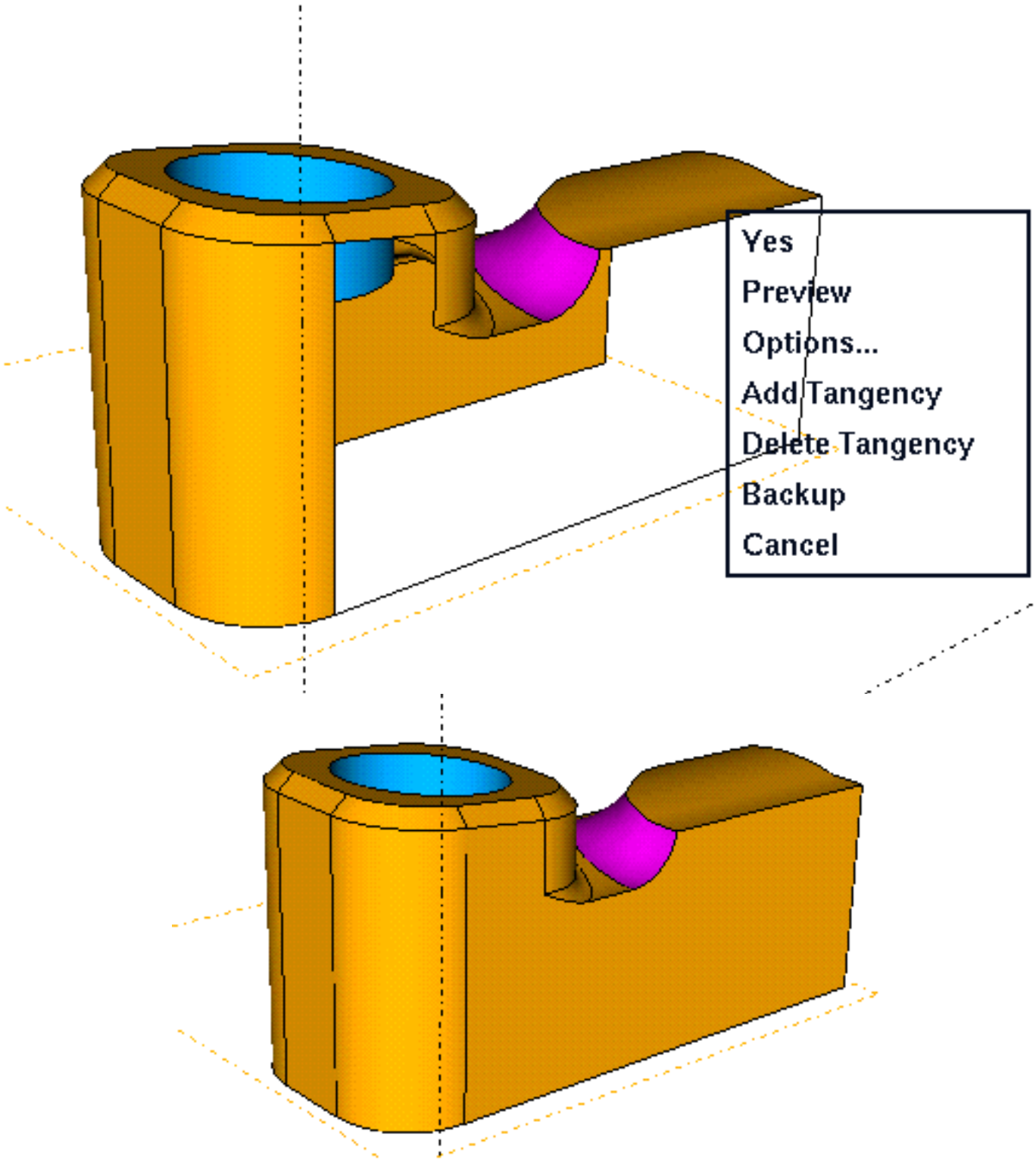
Toggle on the workplane

Align

Select the Workplane, MB3 Plane, select A,B,C as shown

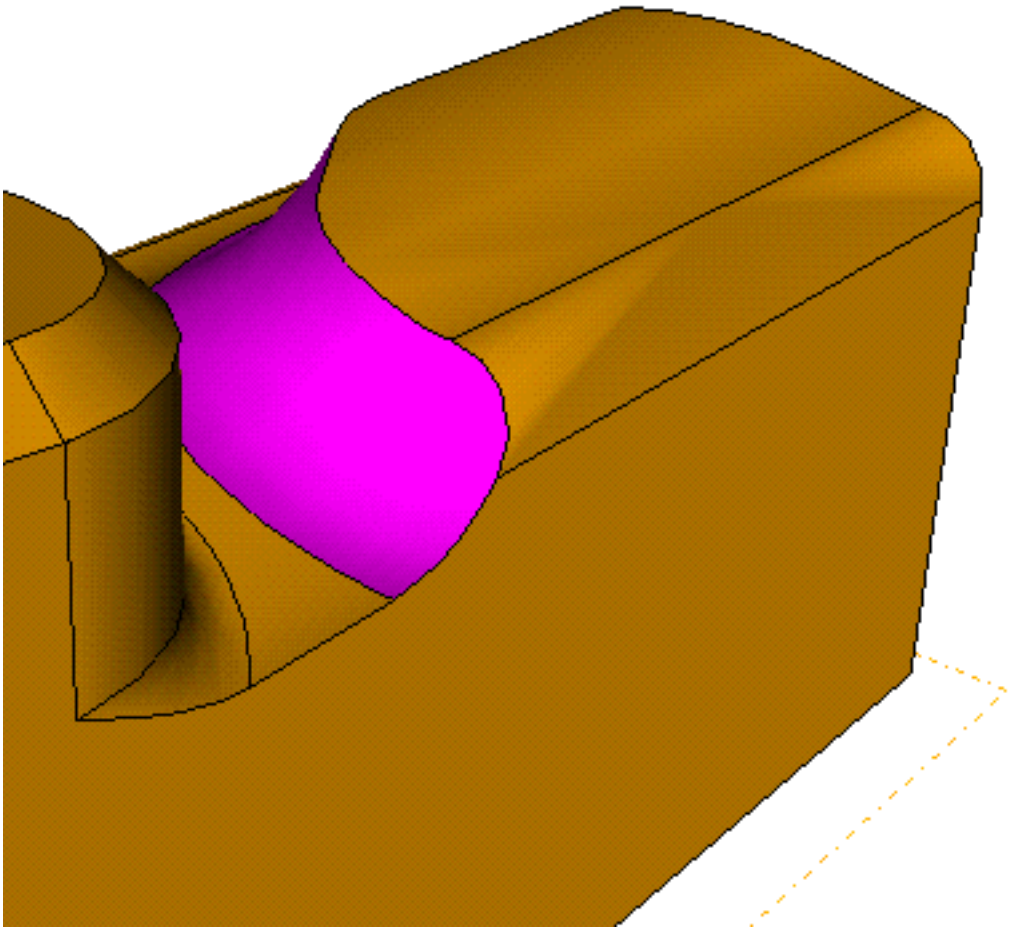
3D lines

pt to pt.
Pick A as shown
MB3, project switch on, **pick D**,
pick B, MB2, MB2



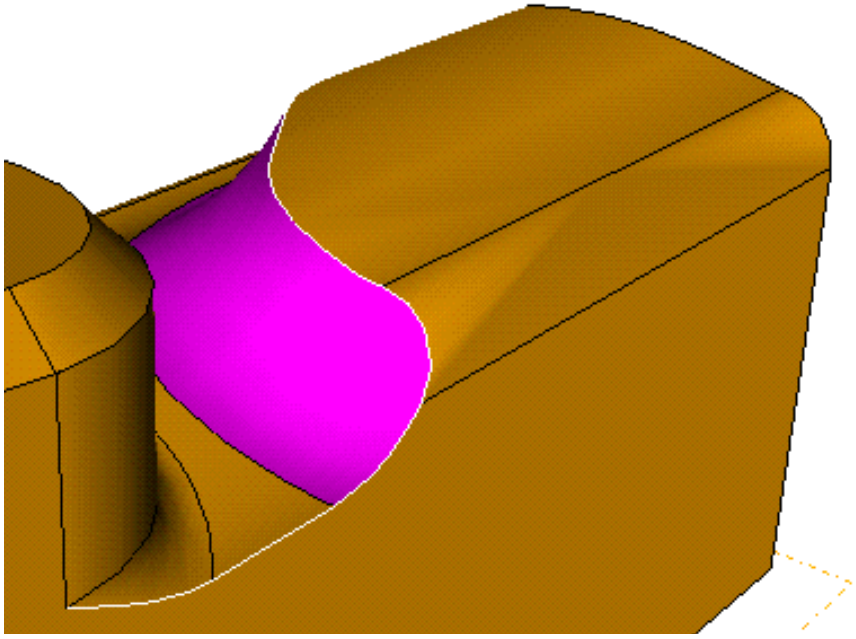
Surface By Boundary

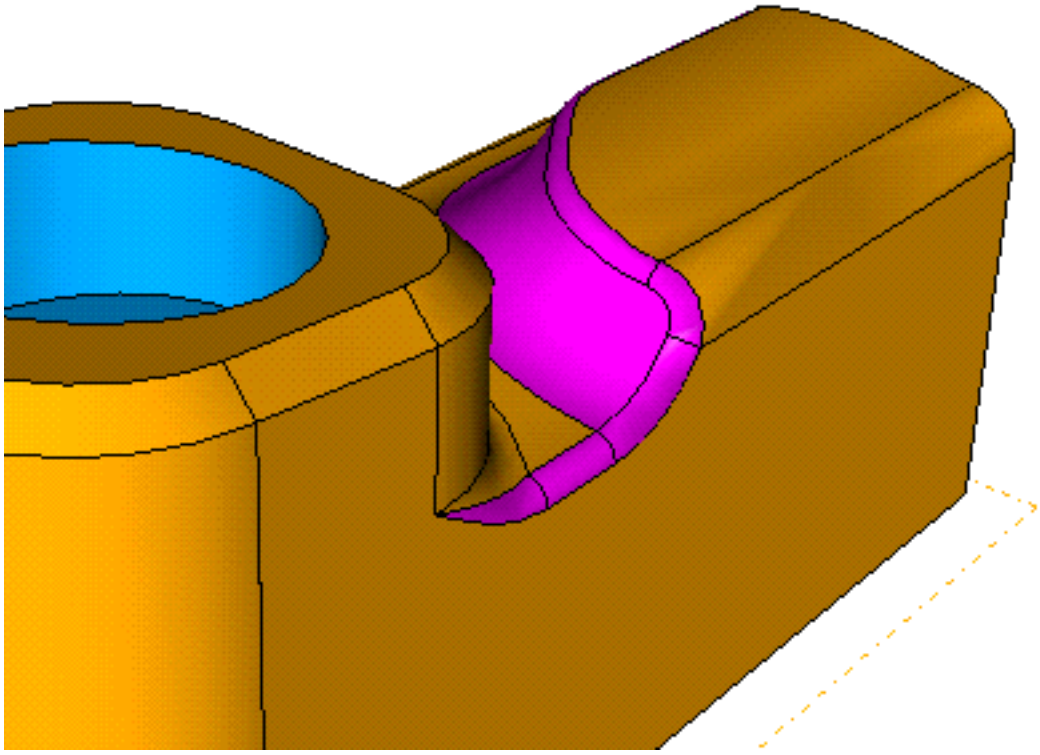
Pick wireframe curve and continue to close surface



Fillet

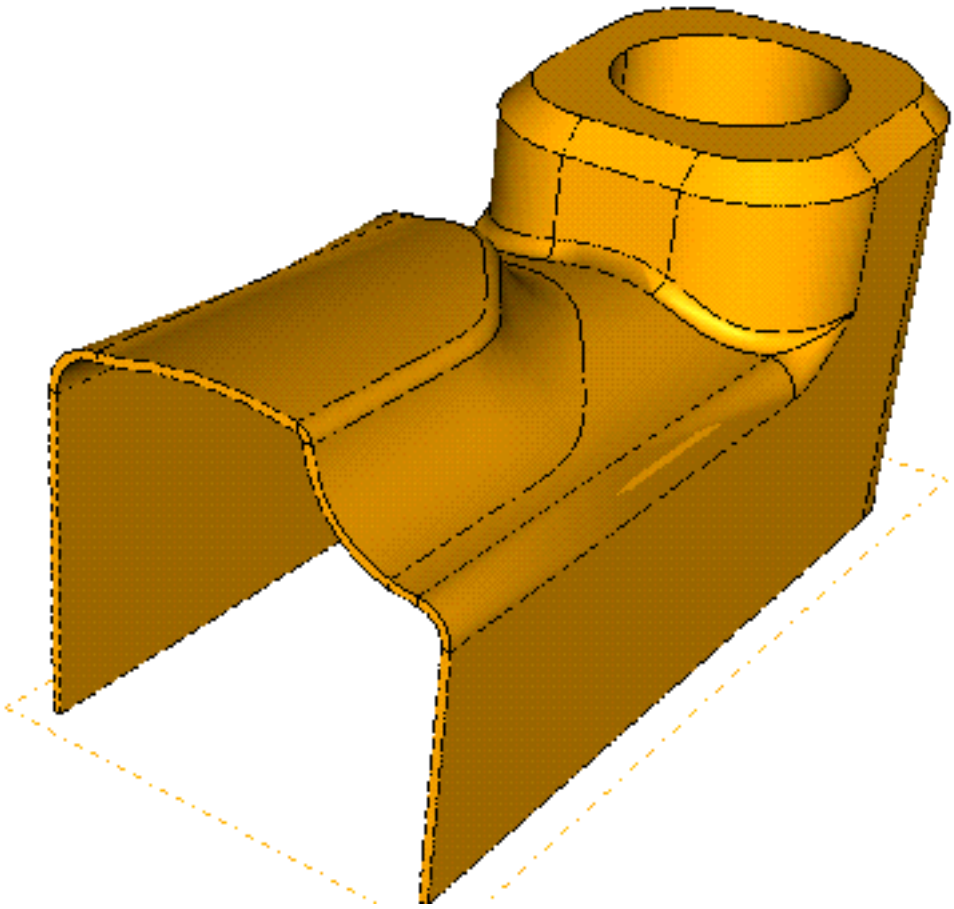
Select the edge shown
R=5 mm





Fillet

Fillet the chained edge **r=2 mm**

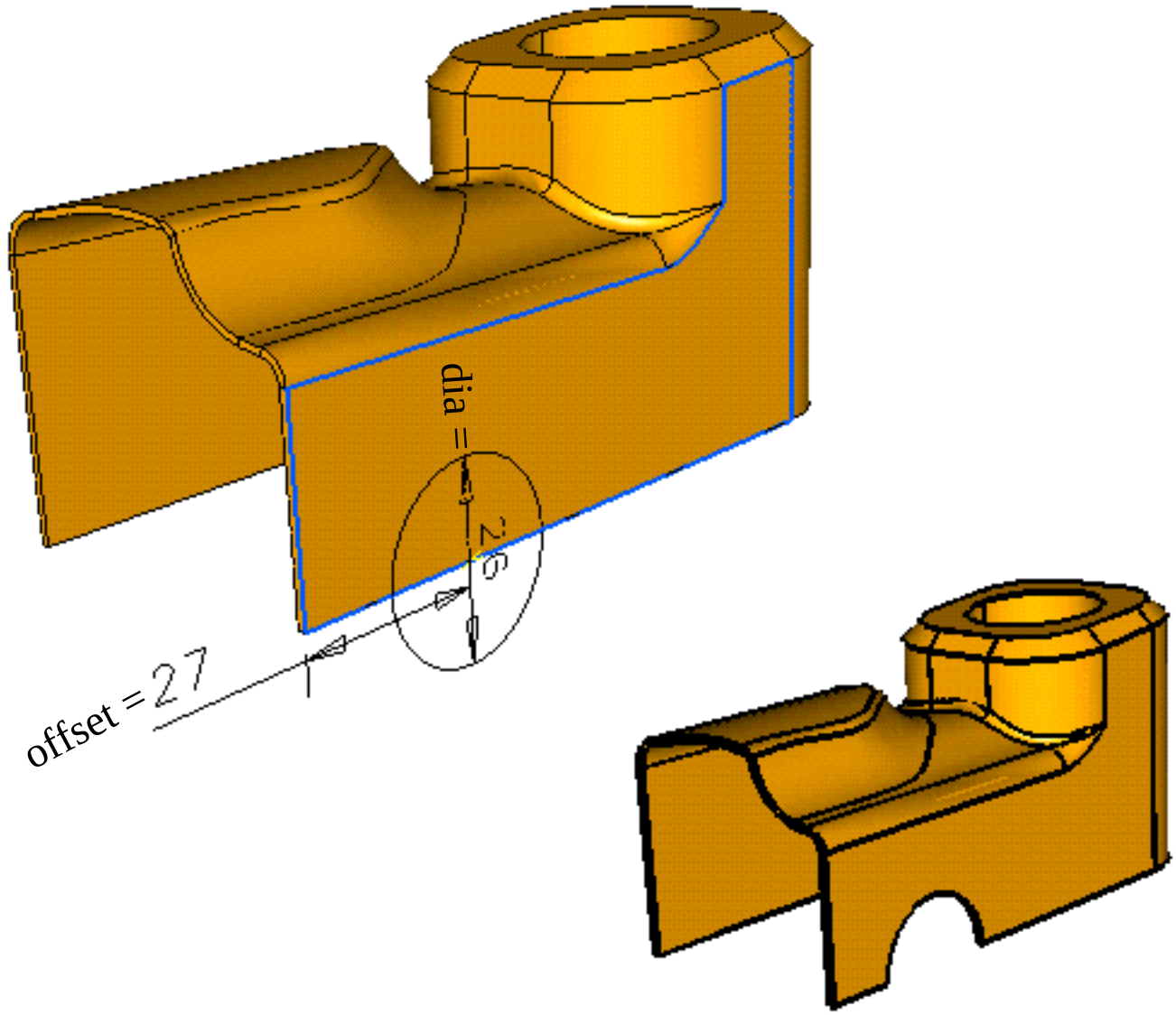


Shell

Pick the part, d=1 mm, flip direction to shell in the outer direction

Display Filters

Workplane Off



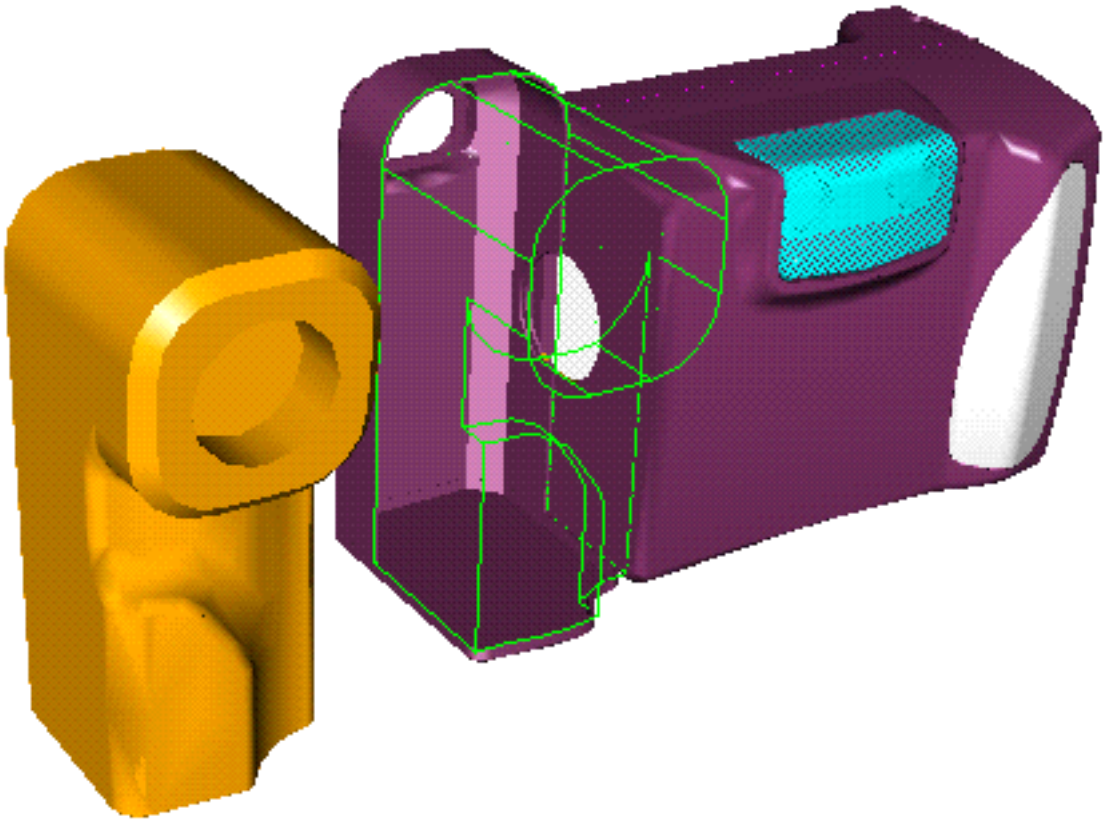
Sketch in Place
Attach the workplane to the side surface

Circle – Center Edge
Navigate to the lower part edge, and drag a circle as shown

Dimension
Add a linear dimension from the edge to the circle center

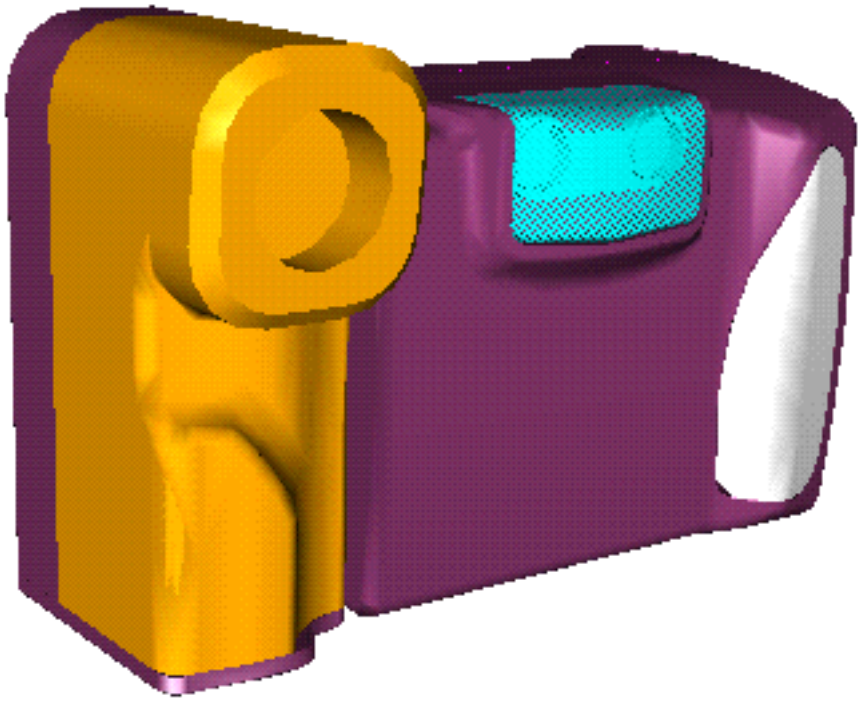
Modify
Select each dimension and change the labels to something unique (i.e. dia and offset)

Extrude
Select the wireframe circle, pull down **until next**, **cutout**



Display Filters

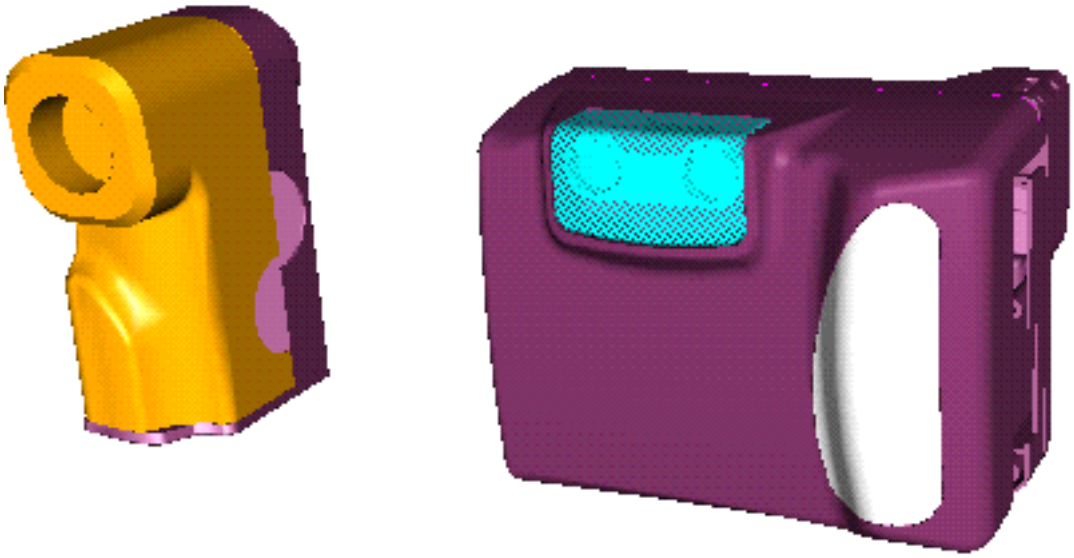
Turn on the assembly display



Master Model...Master Assembly

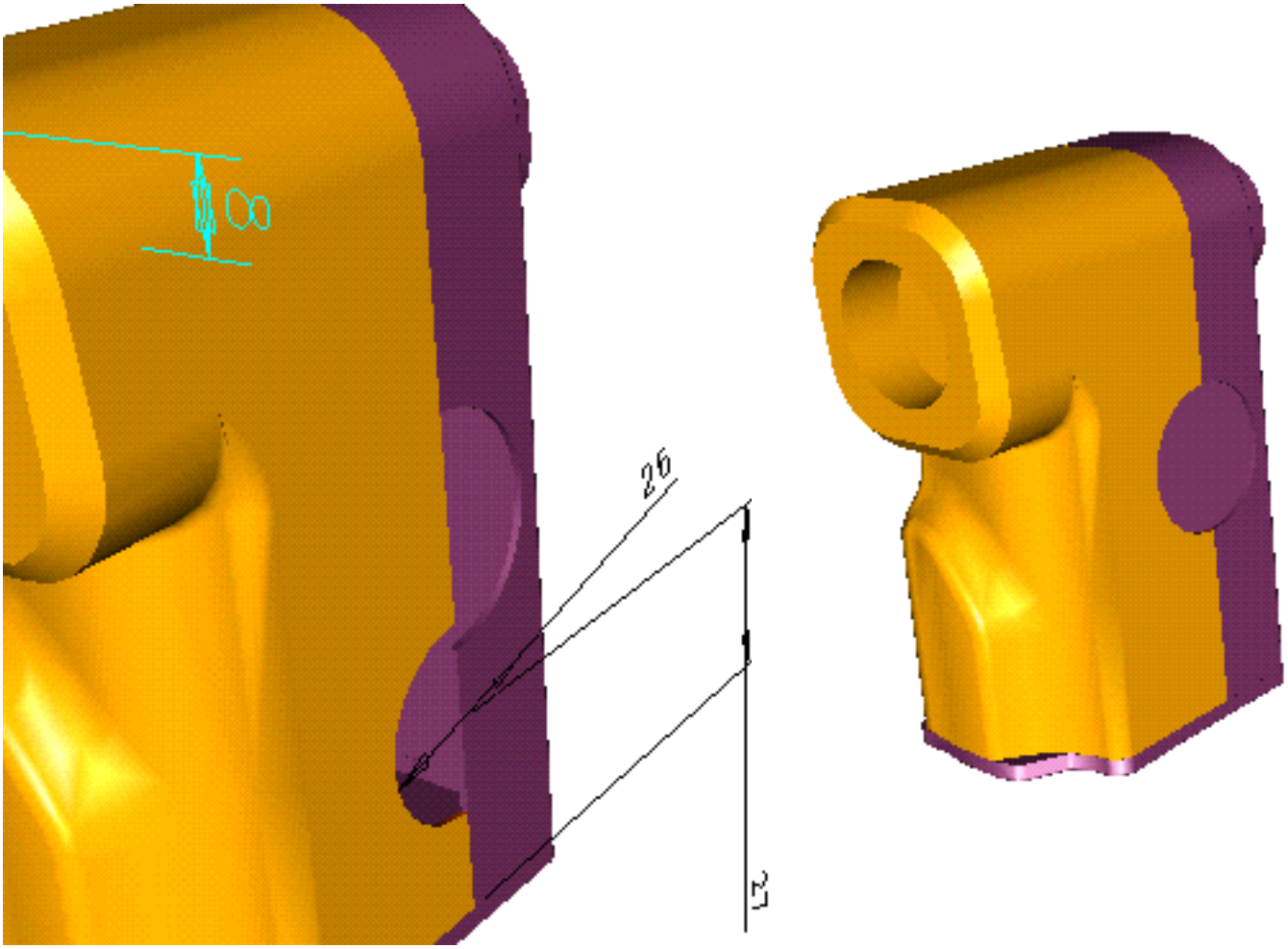
Replace Instance

Select the wireframe lense housing, replace it with your new model. The new part should snap to the wireframe assembled location.



Manage Configurations

Highlight "Lense Exploded", select arrow to move to the left, Dismiss



Modify

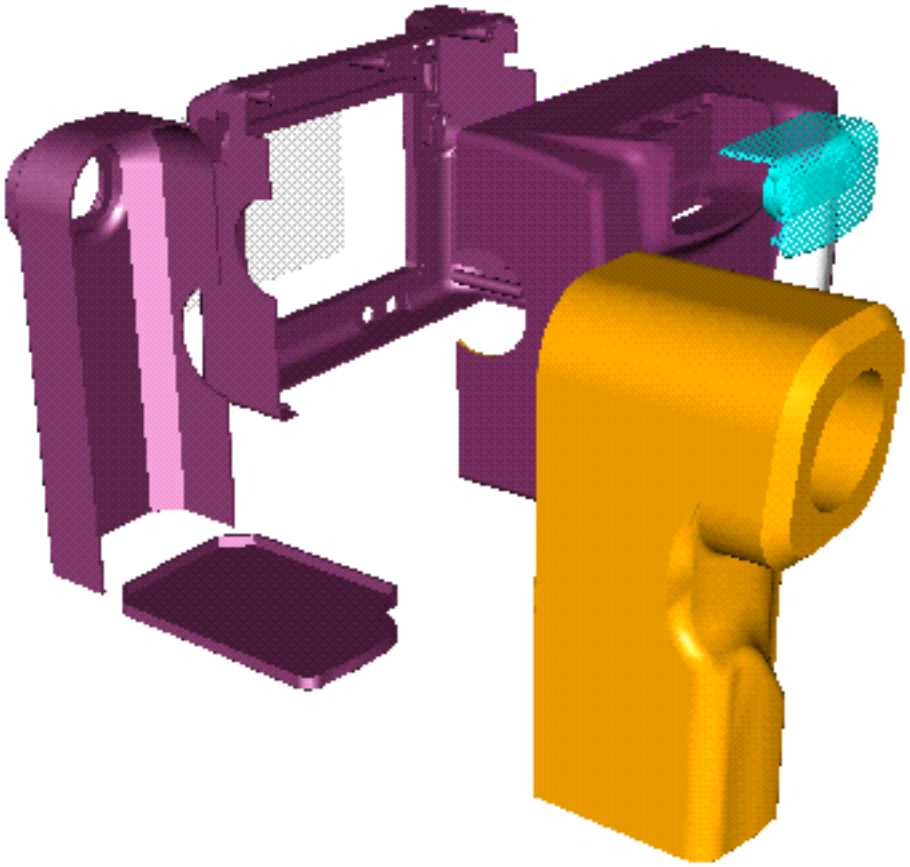
Select the new part, show dimensions

Assembly Equations

Create, select the radial dimension and set equal to **"rad"**

Select the linear dimension and set equal to **"ht"**

Update



Manage Configurations

Highlight Assembled, select arrow to move left

Highlight Exploded, select arrow to move left

Dismiss