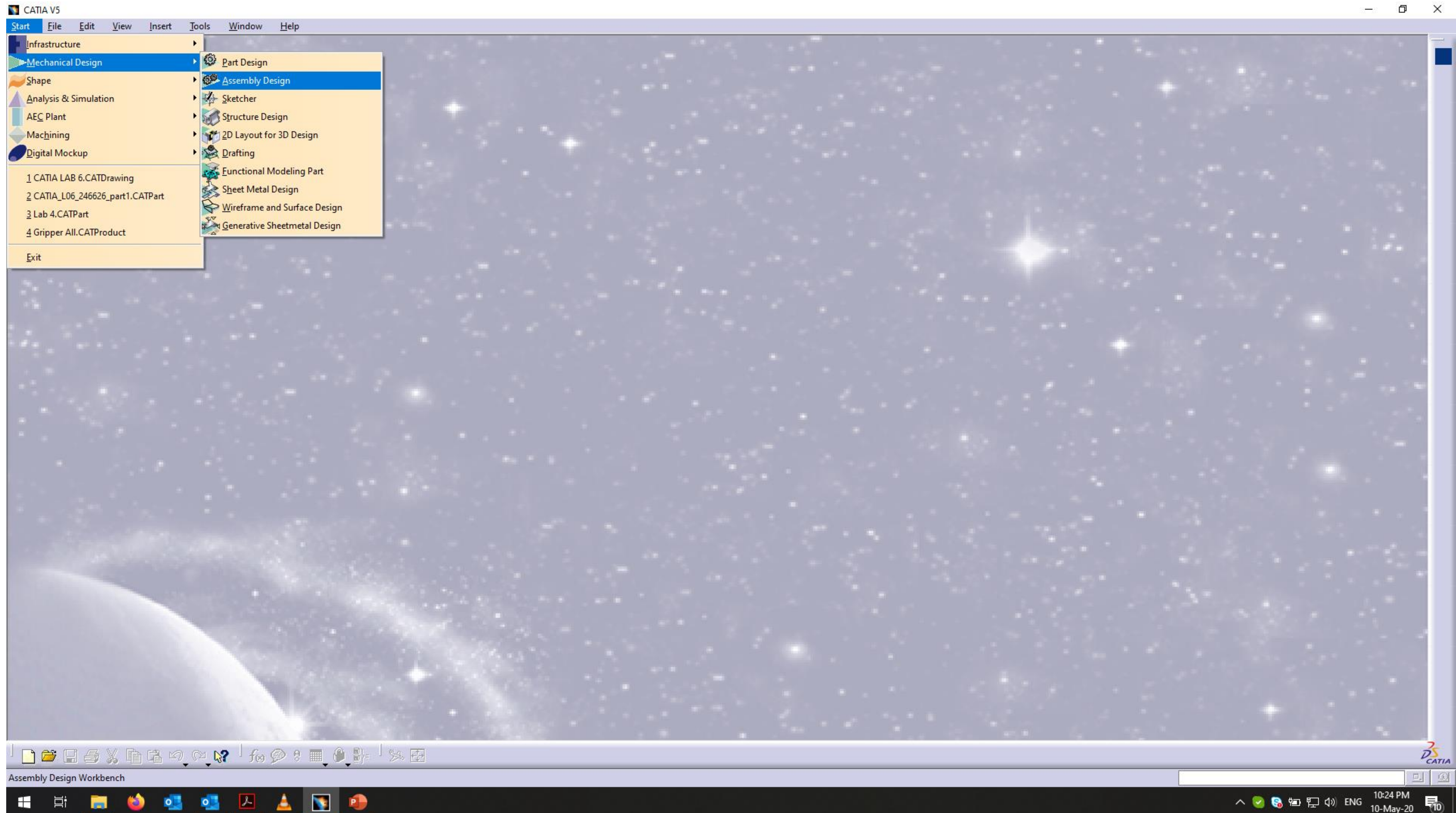
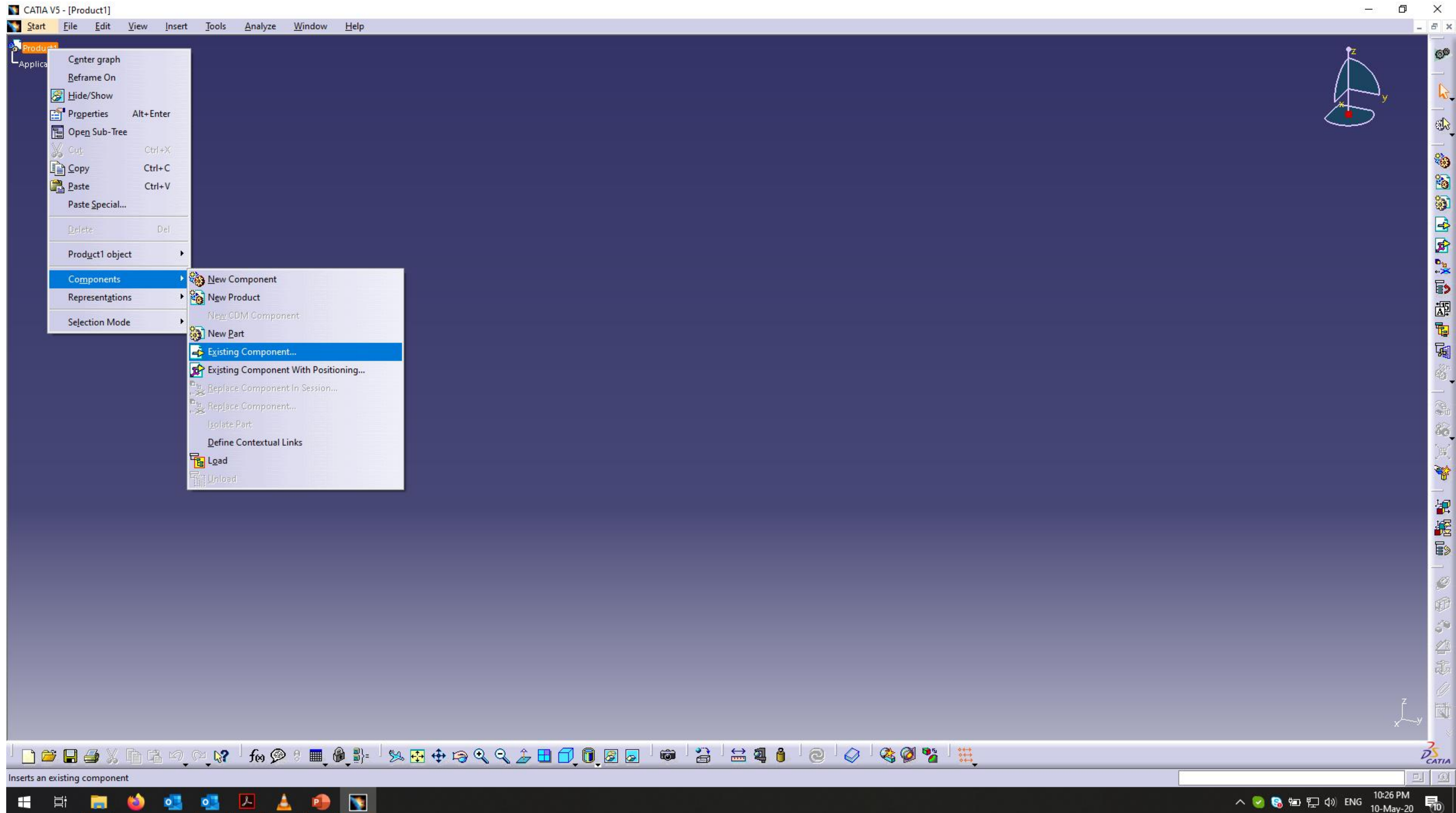


Εκπαιδευτικό Παράδειγμα CATIA – ASSEMBLY DESIGN

Βήμα 1



Βήμα 2

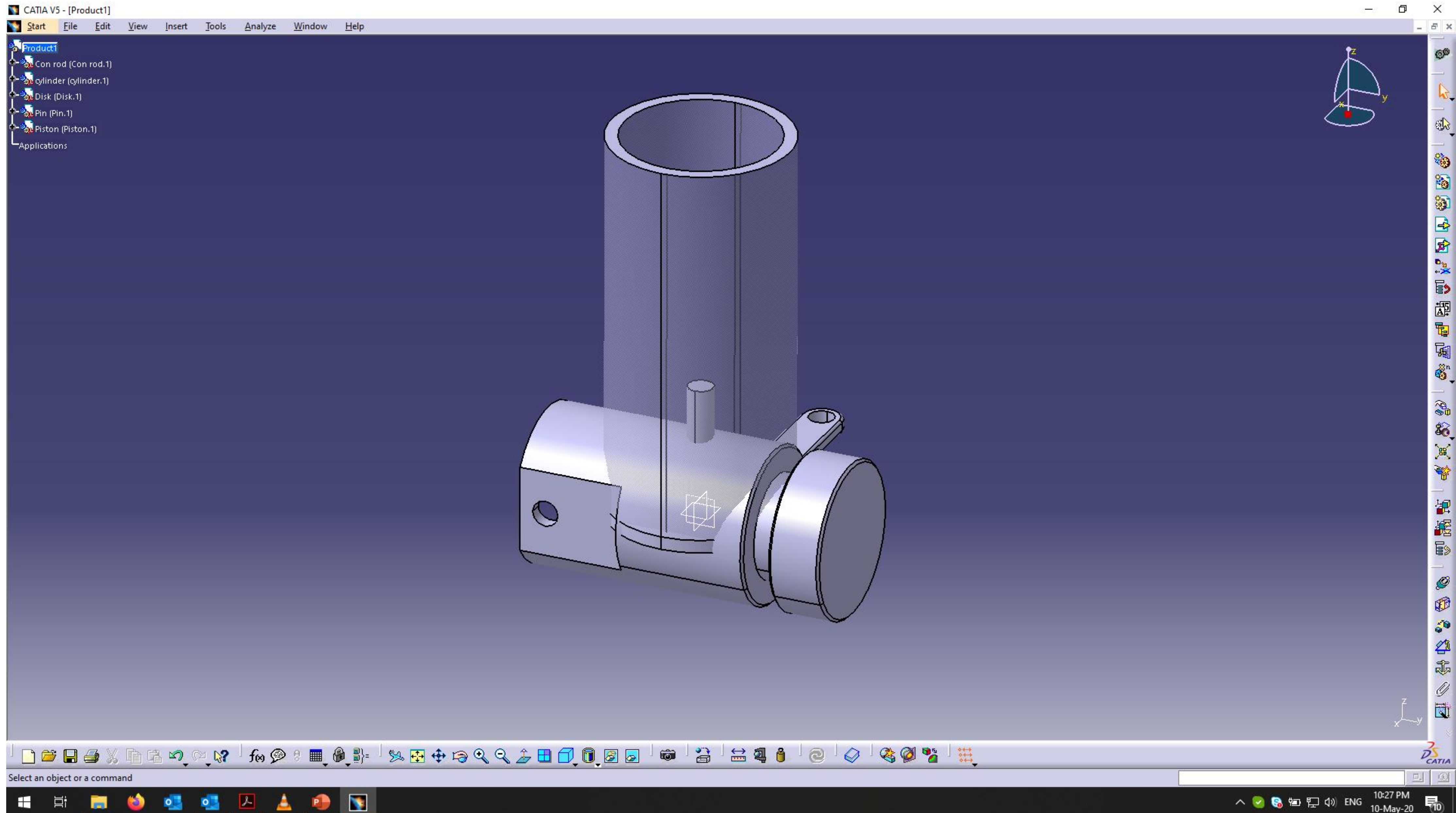


Βήμα 3

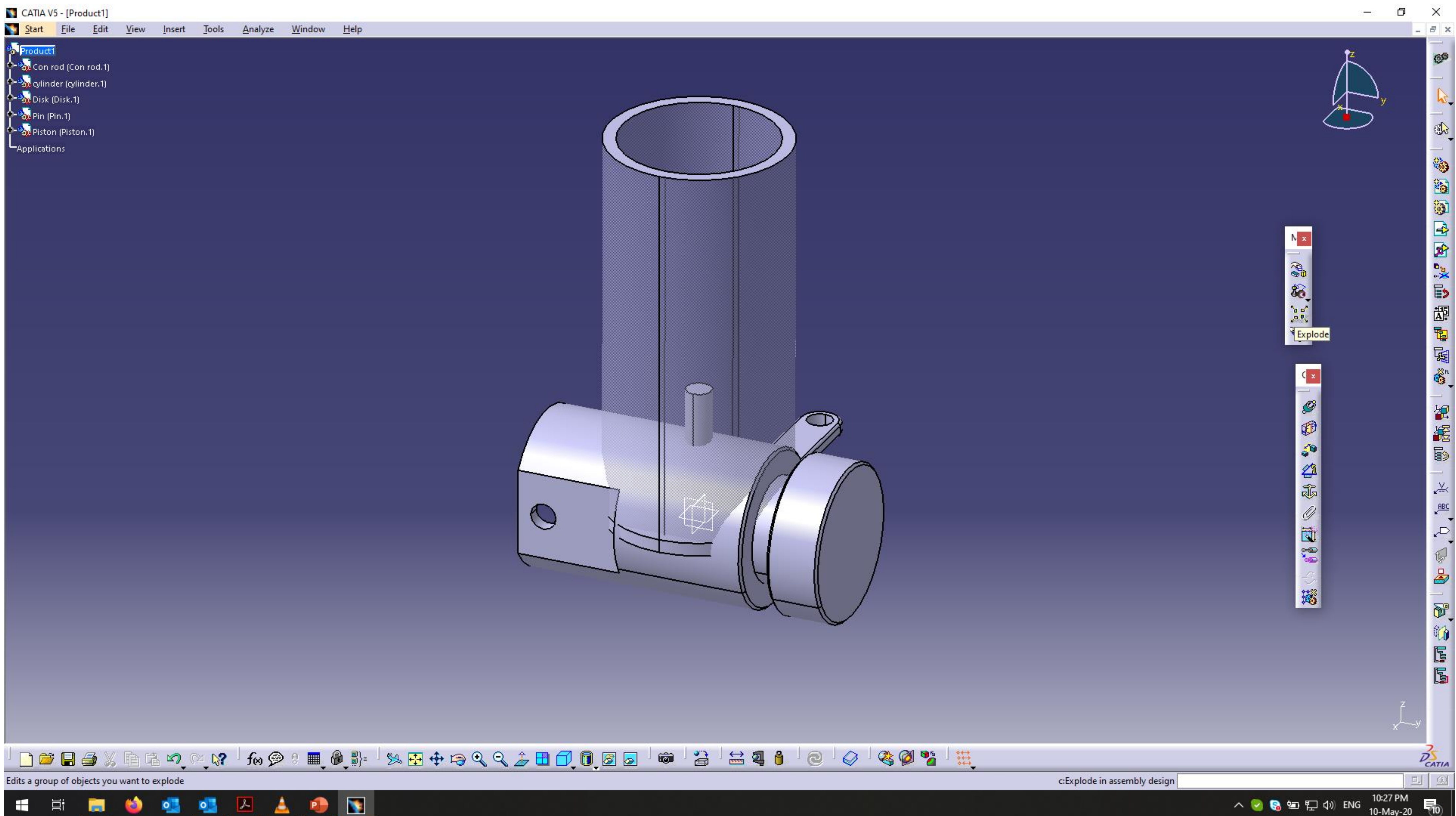
The screenshot displays the CATIA V5 interface with a 'File Selection' dialog box open. The dialog is navigating to the 'MFG CAD Lab' folder within the '02_M.F.G Labs' directory. It lists five files: 'Con rod', 'cylinder', 'Disk', 'Pin', and 'Piston'. The 'File name' field at the bottom of the dialog contains the text: "Con rod" "cylinder" "Disk" "Pin" "Piston".

Name	Date modified	Type	Size
Con rod	28-Oct-07 1:36 PM	CATIA Part	90
cylinder	29-Oct-07 9:14 PM	CATIA Part	60
Disk	29-Oct-07 8:54 PM	CATIA Part	63
Pin	28-Oct-07 1:31 PM	CATIA Part	52
Piston	28-Oct-07 2:21 PM	CATIA Part	169

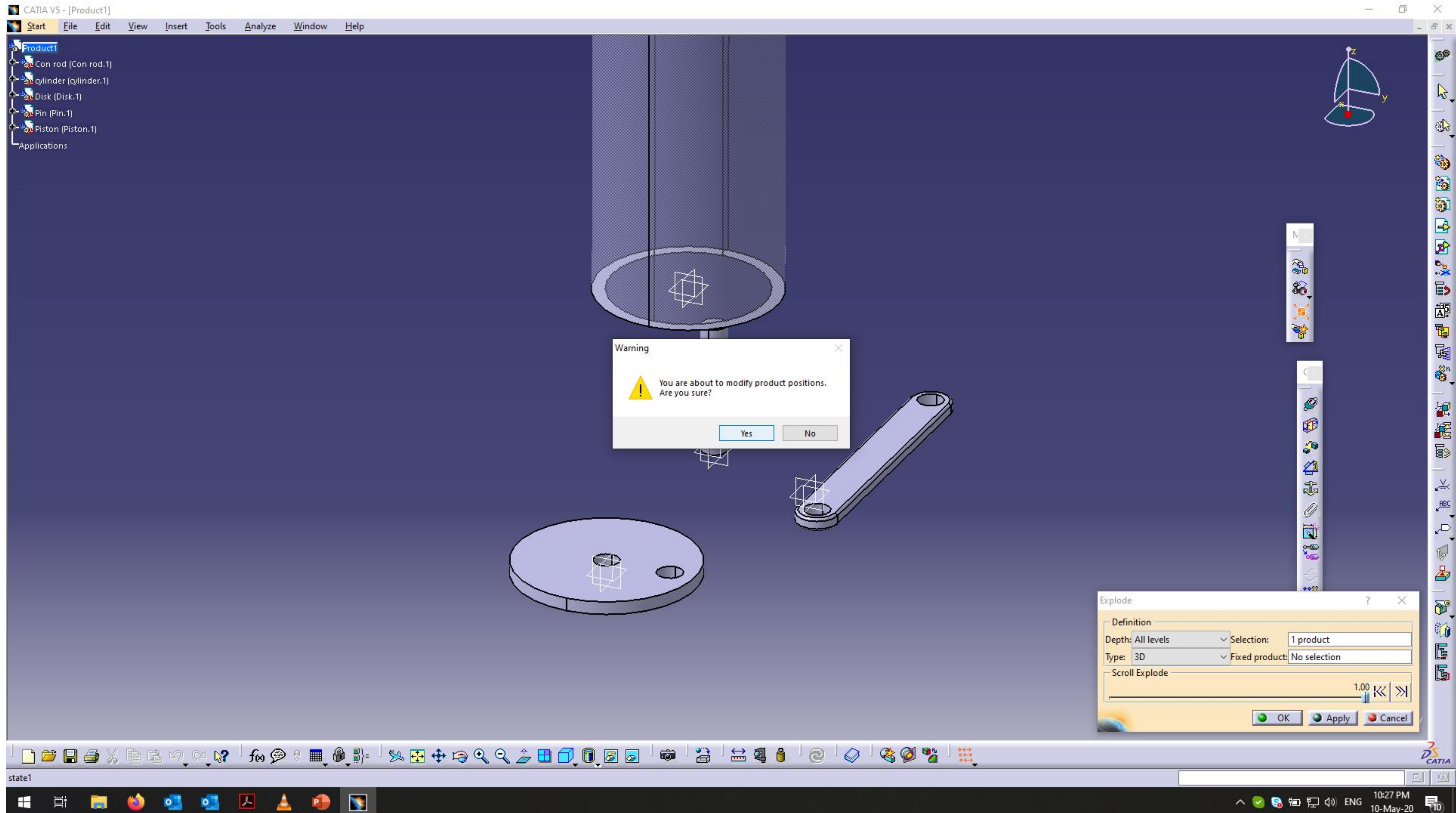
Βήμα 4



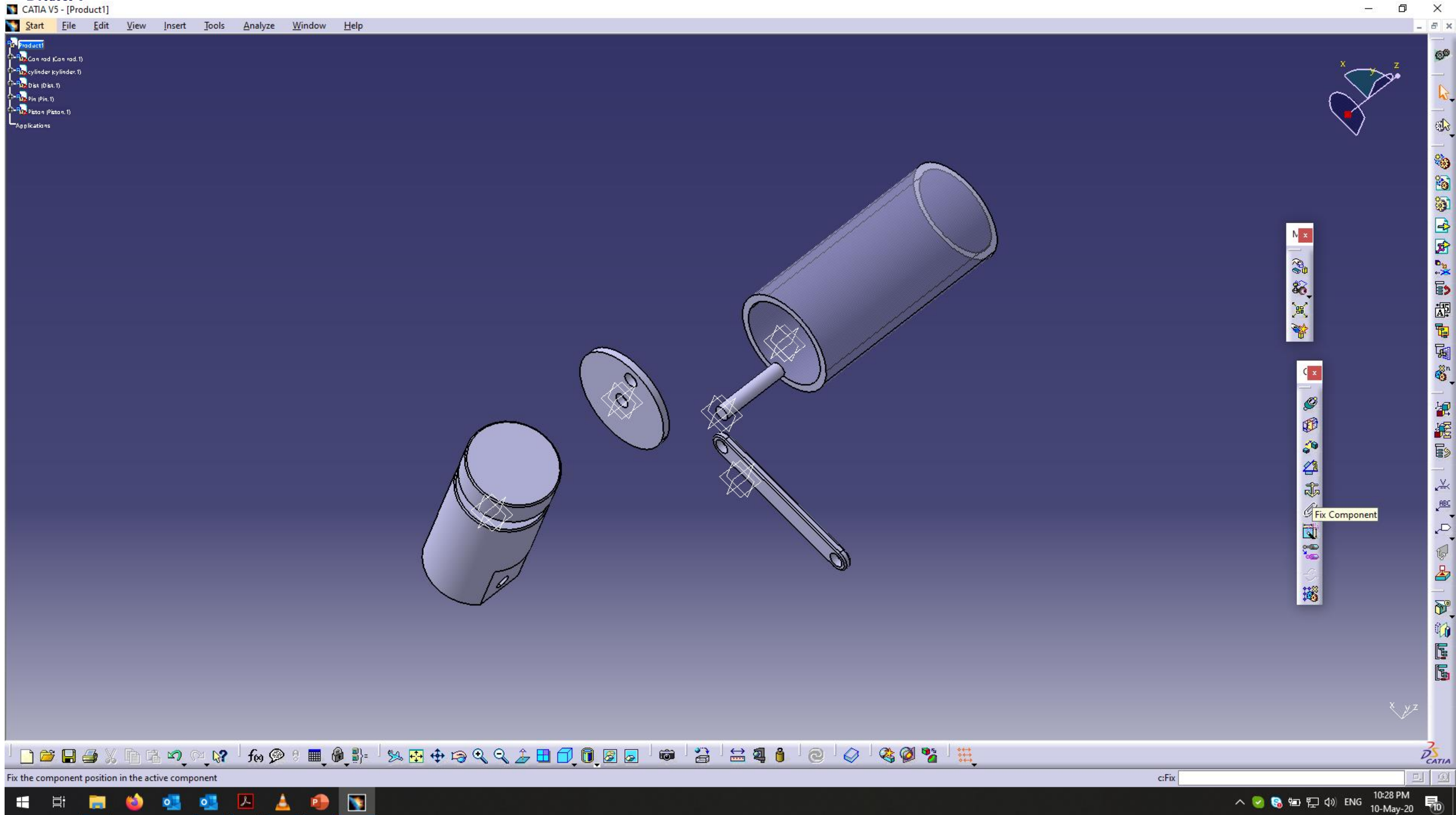
Βήμα 5



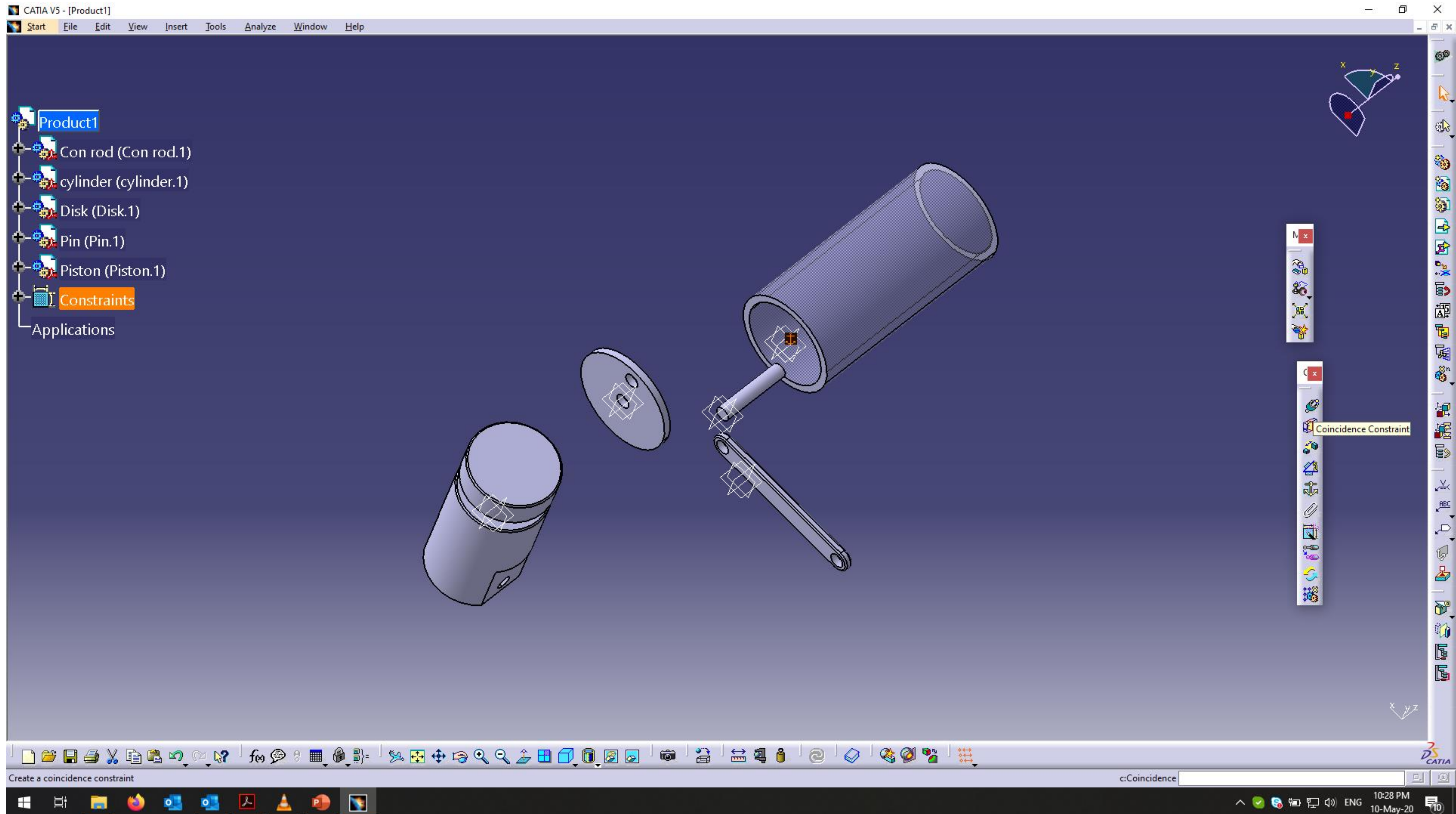
Βήμα 6



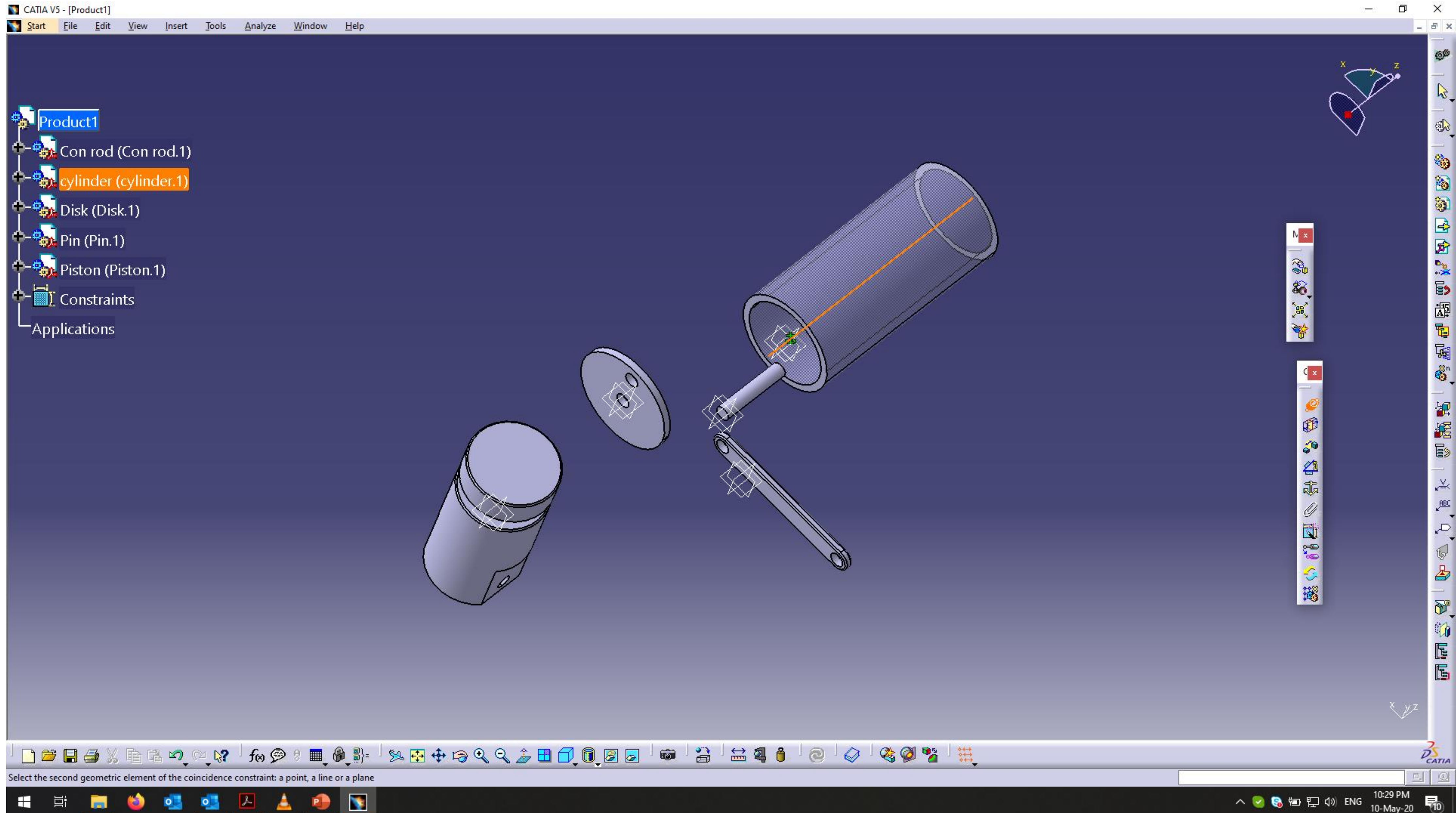
Βήμα 7



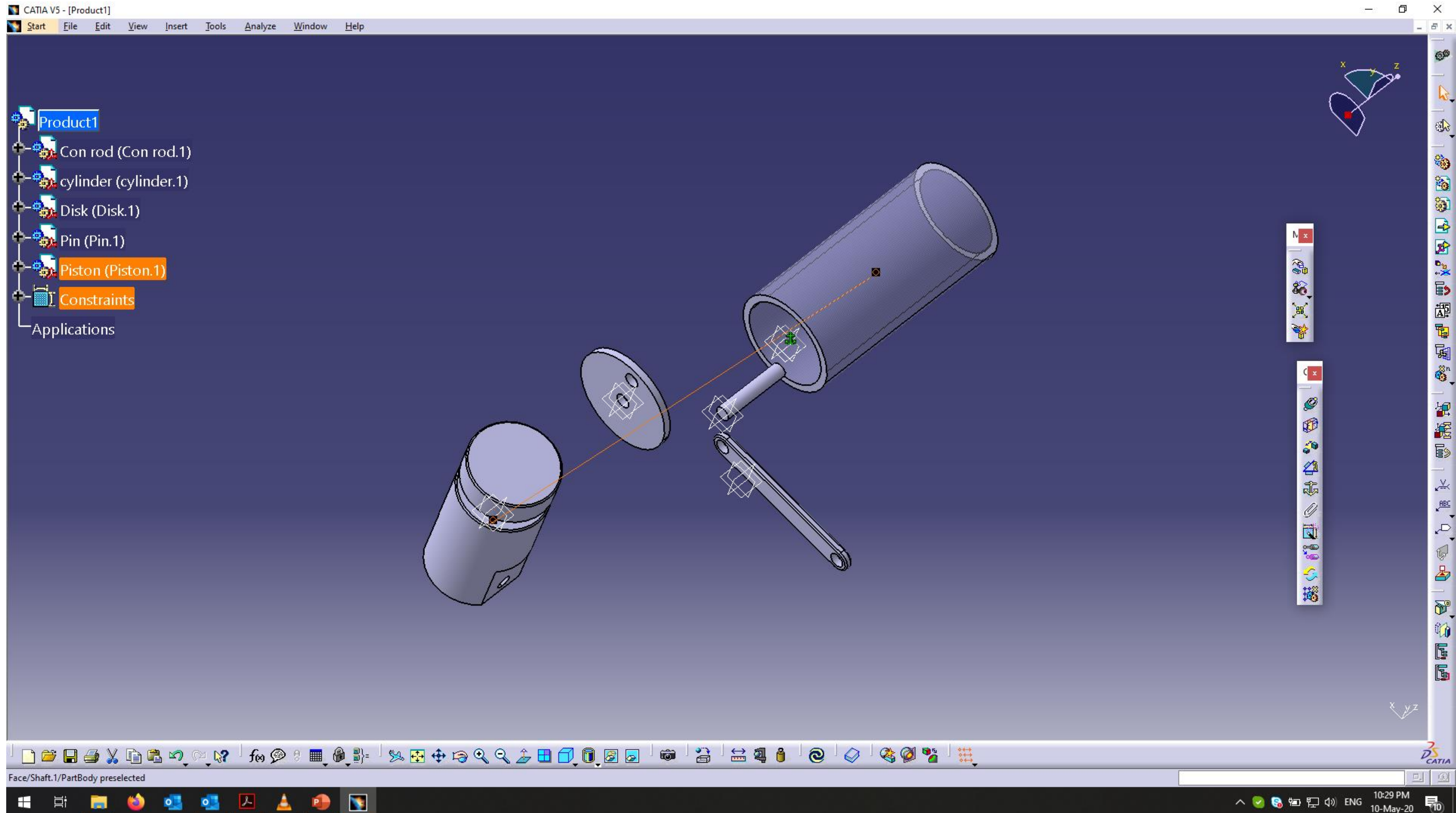
Βήμα 8



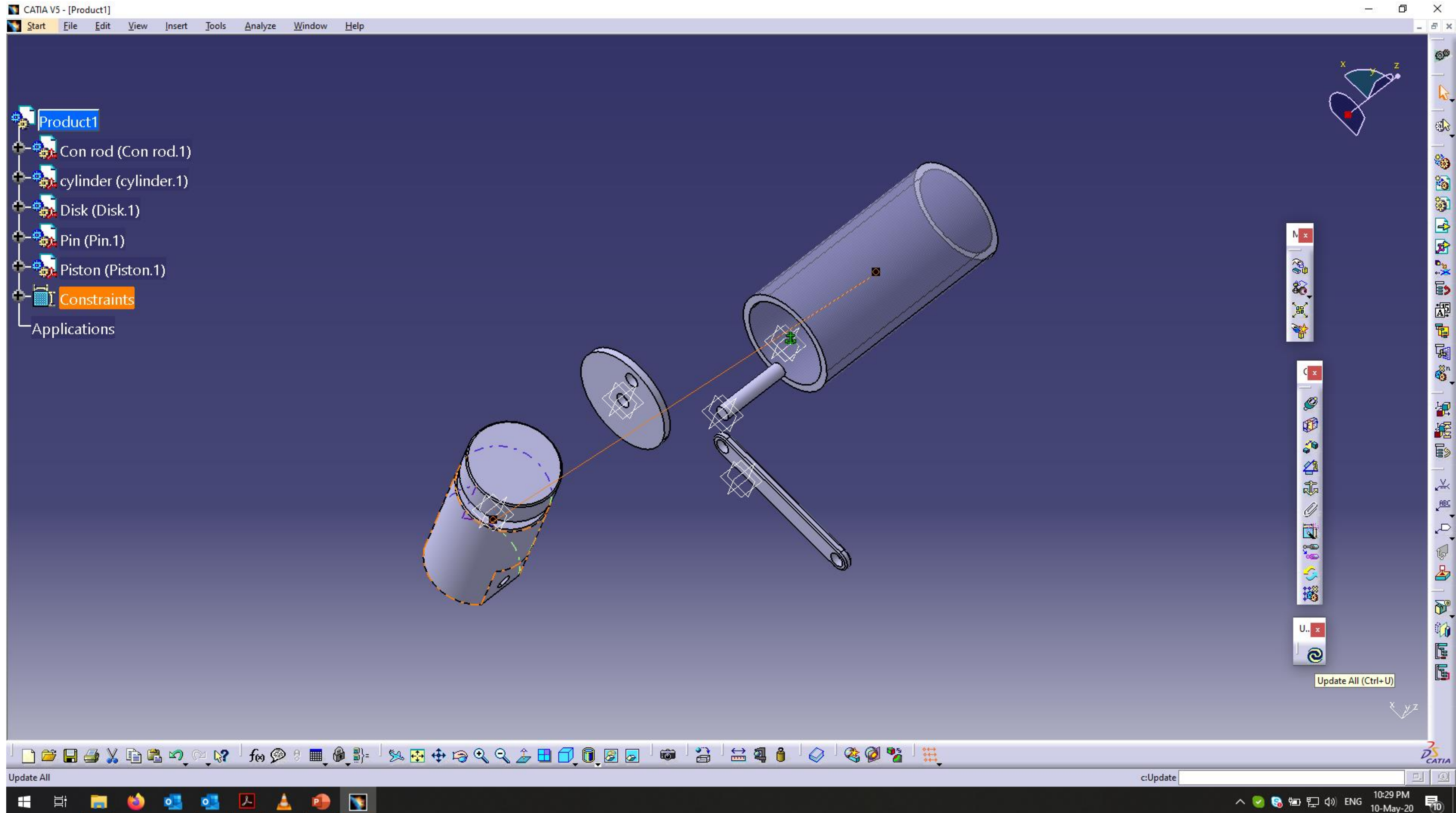
Βήμα 9



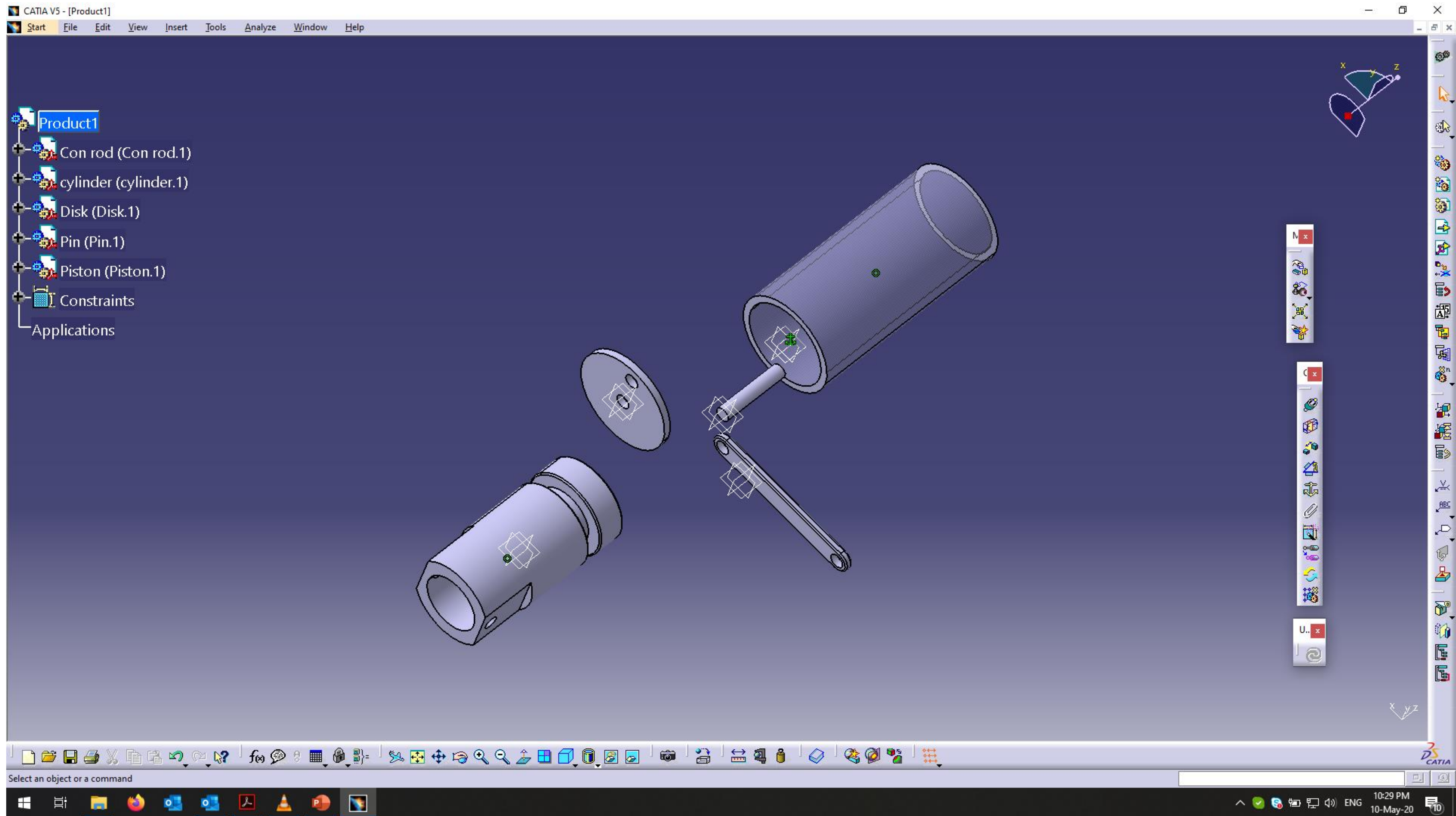
Βήμα 10



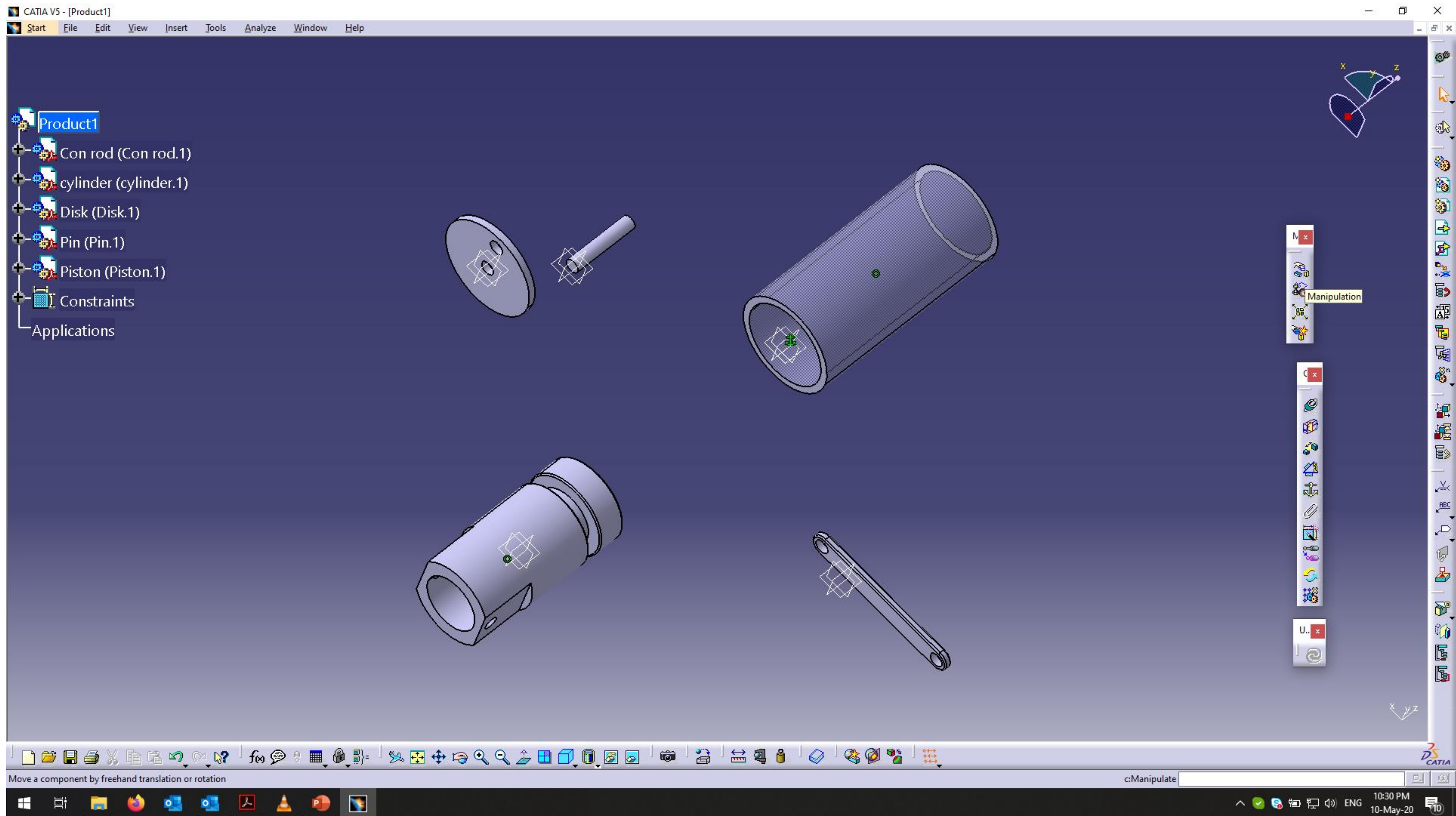
Βήμα 11



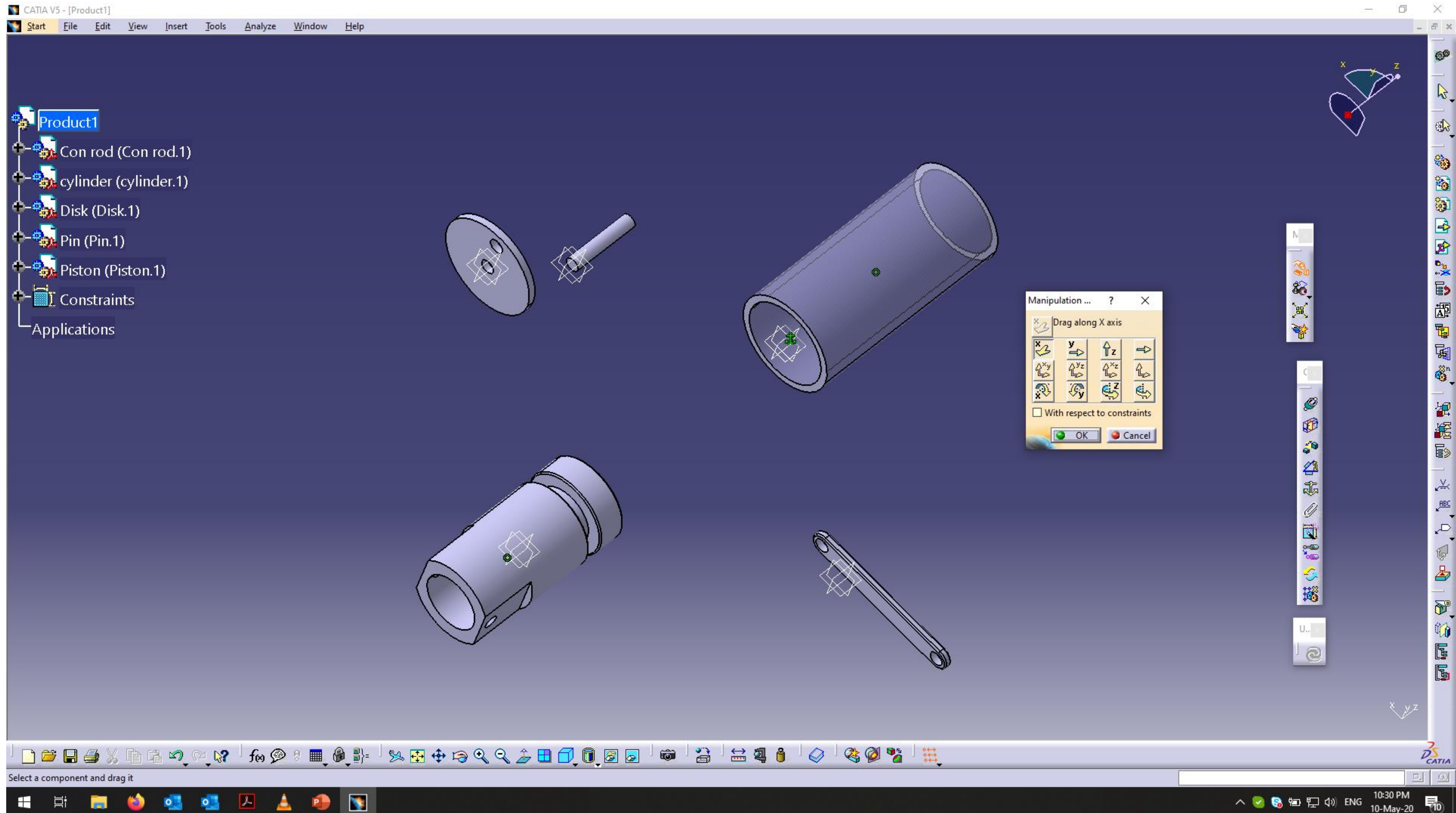
Βήμα 12



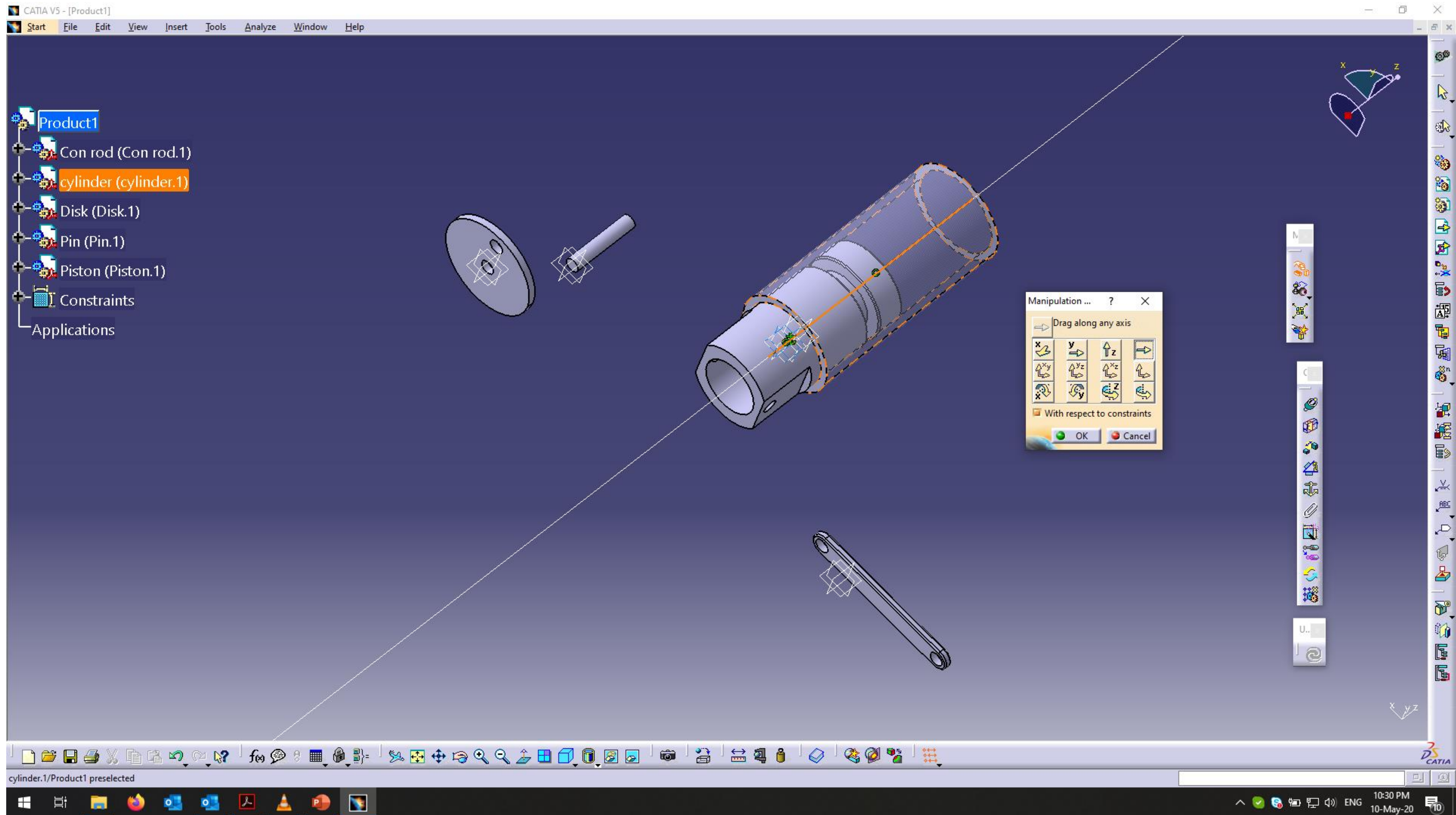
Βήμα 13



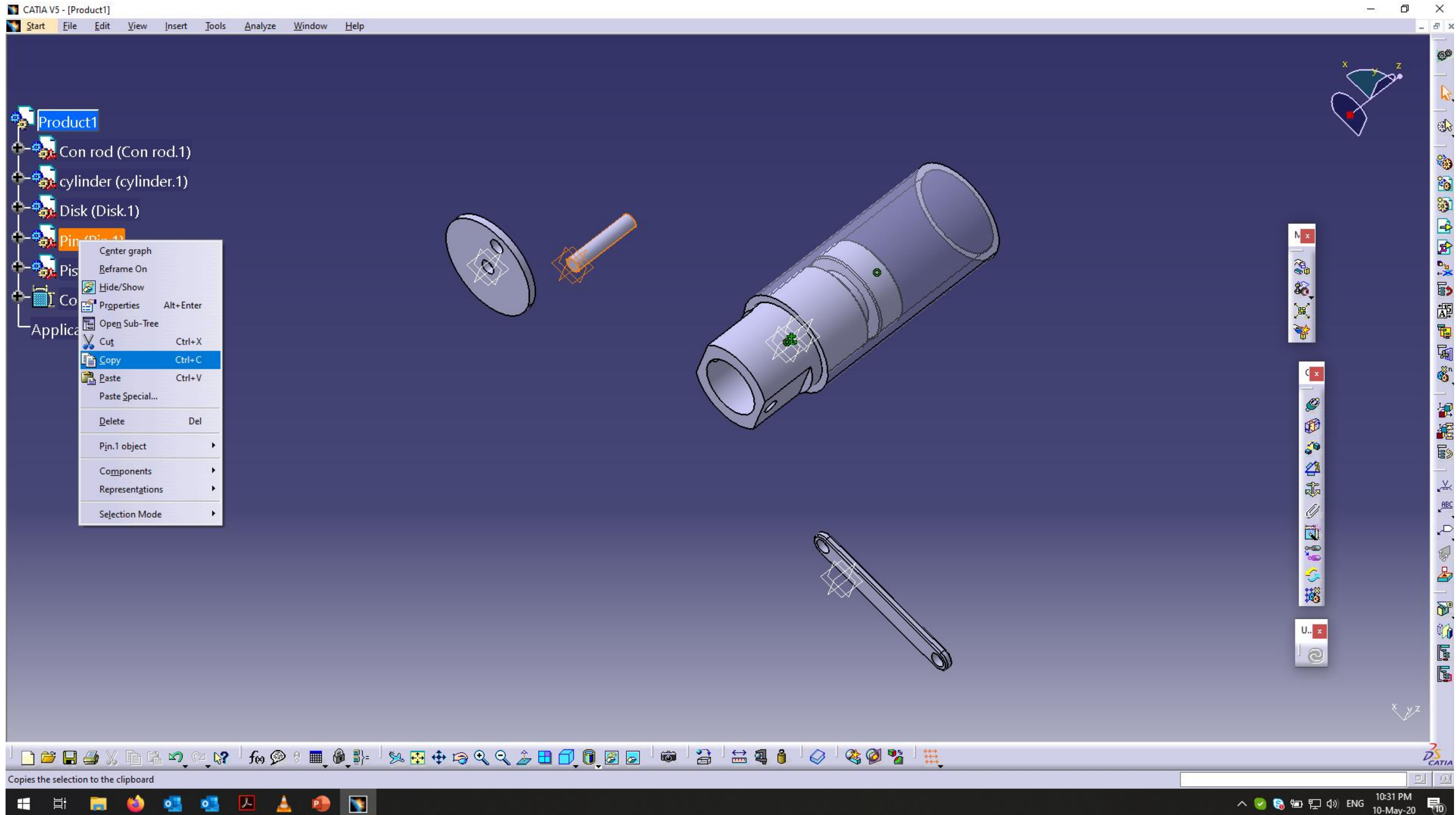
Βήμα 14



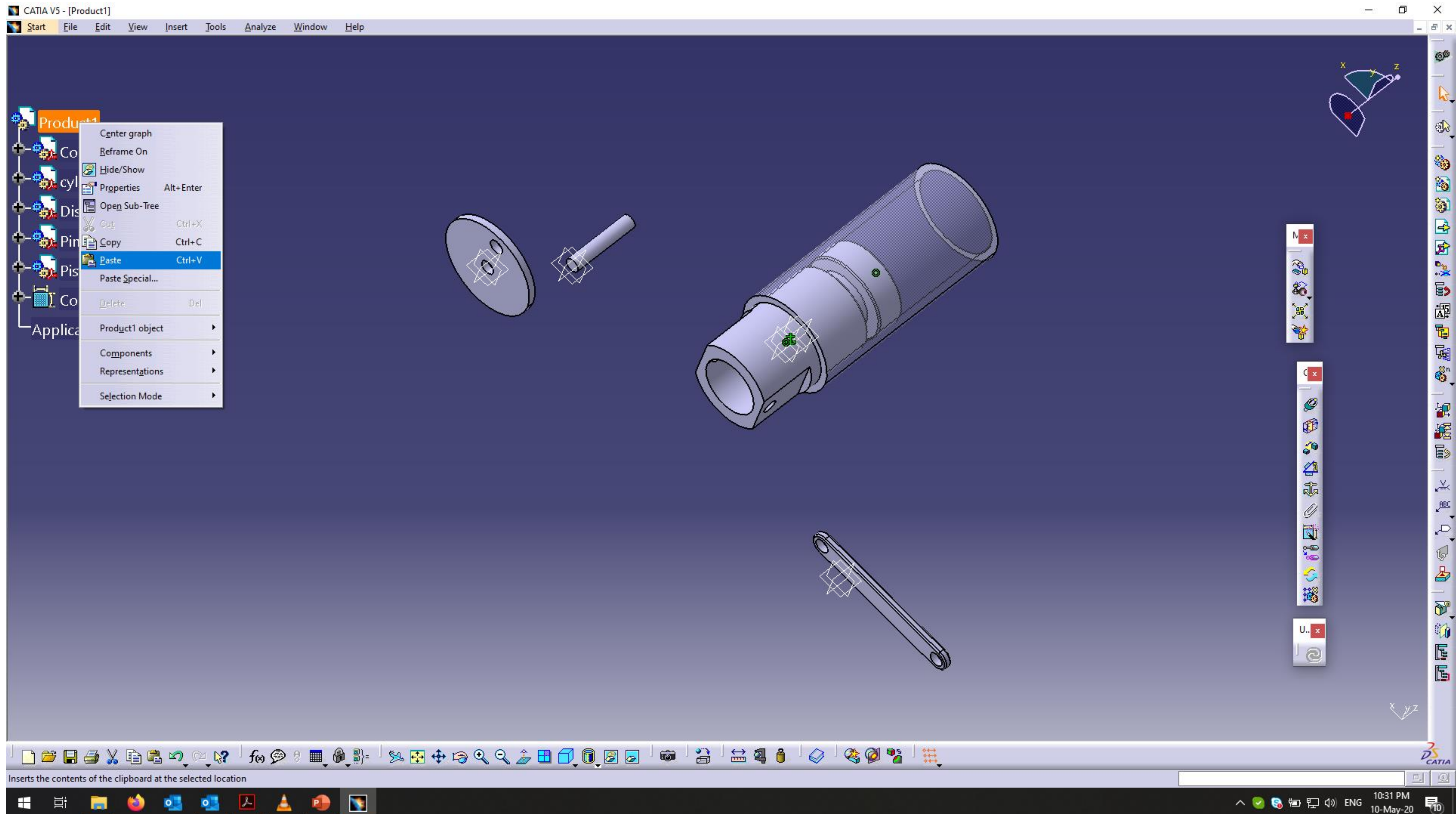
Βήμα 15



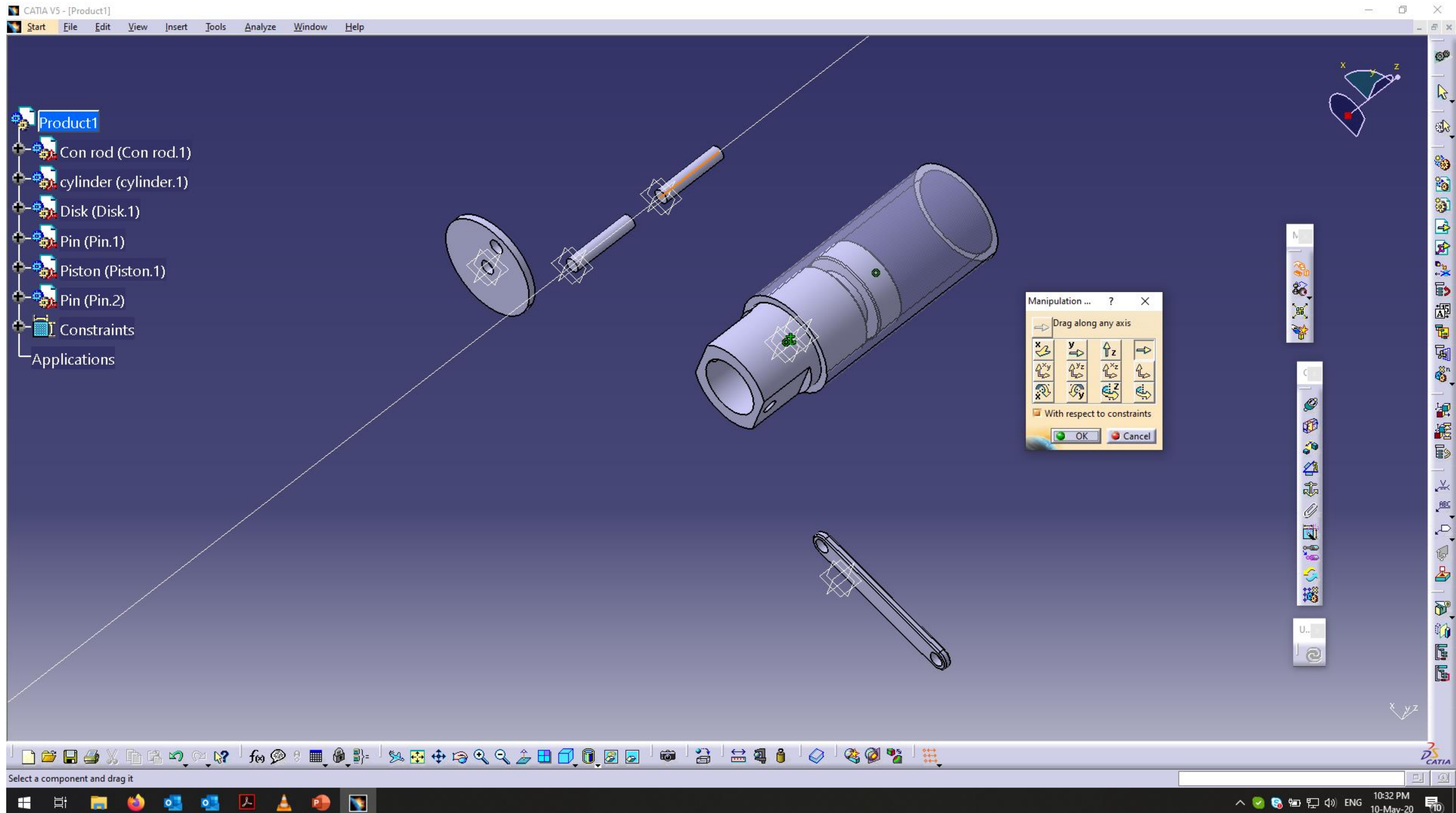
Βήμα 16



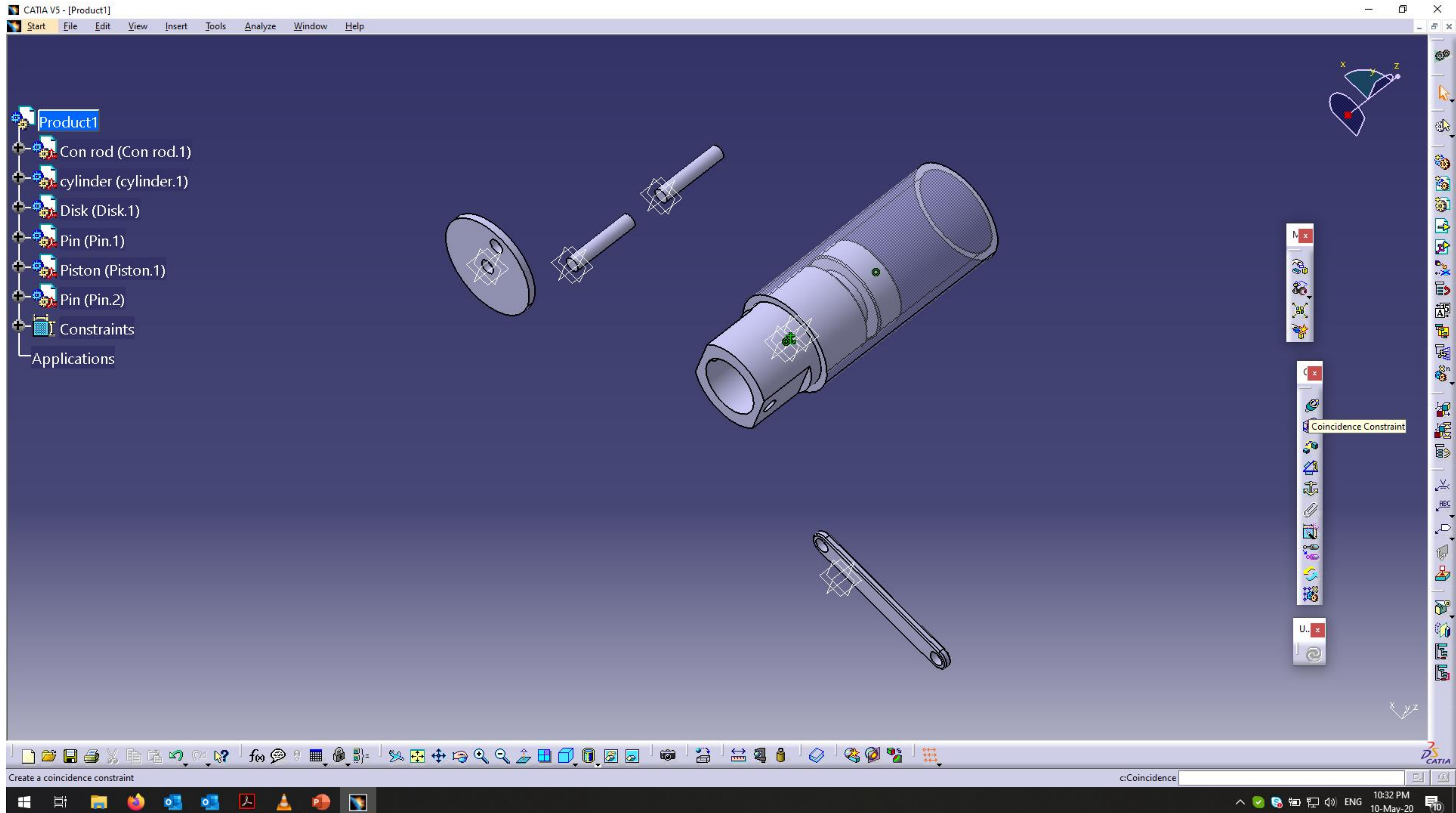
Βήμα 17



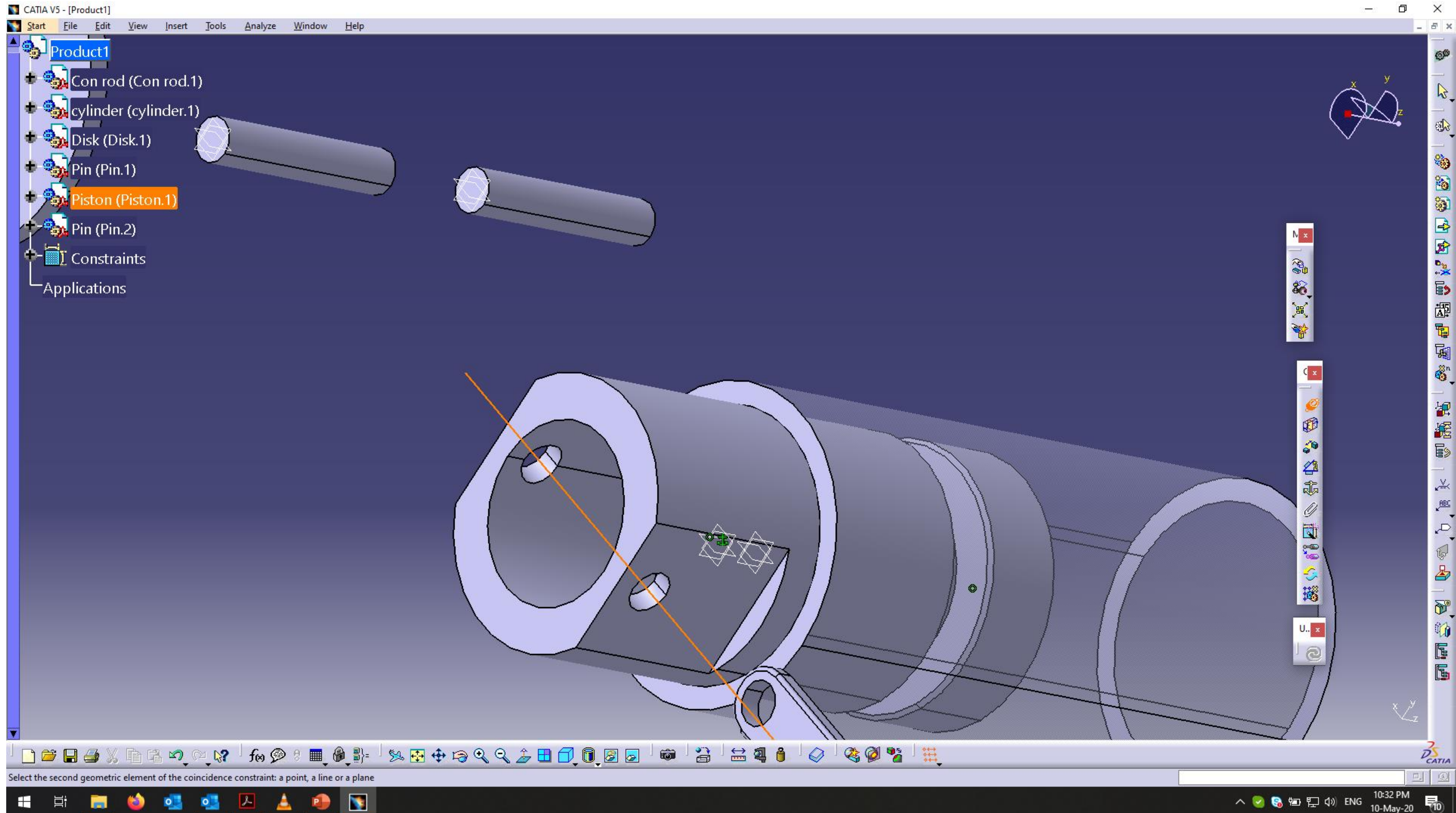
Βήμα 18



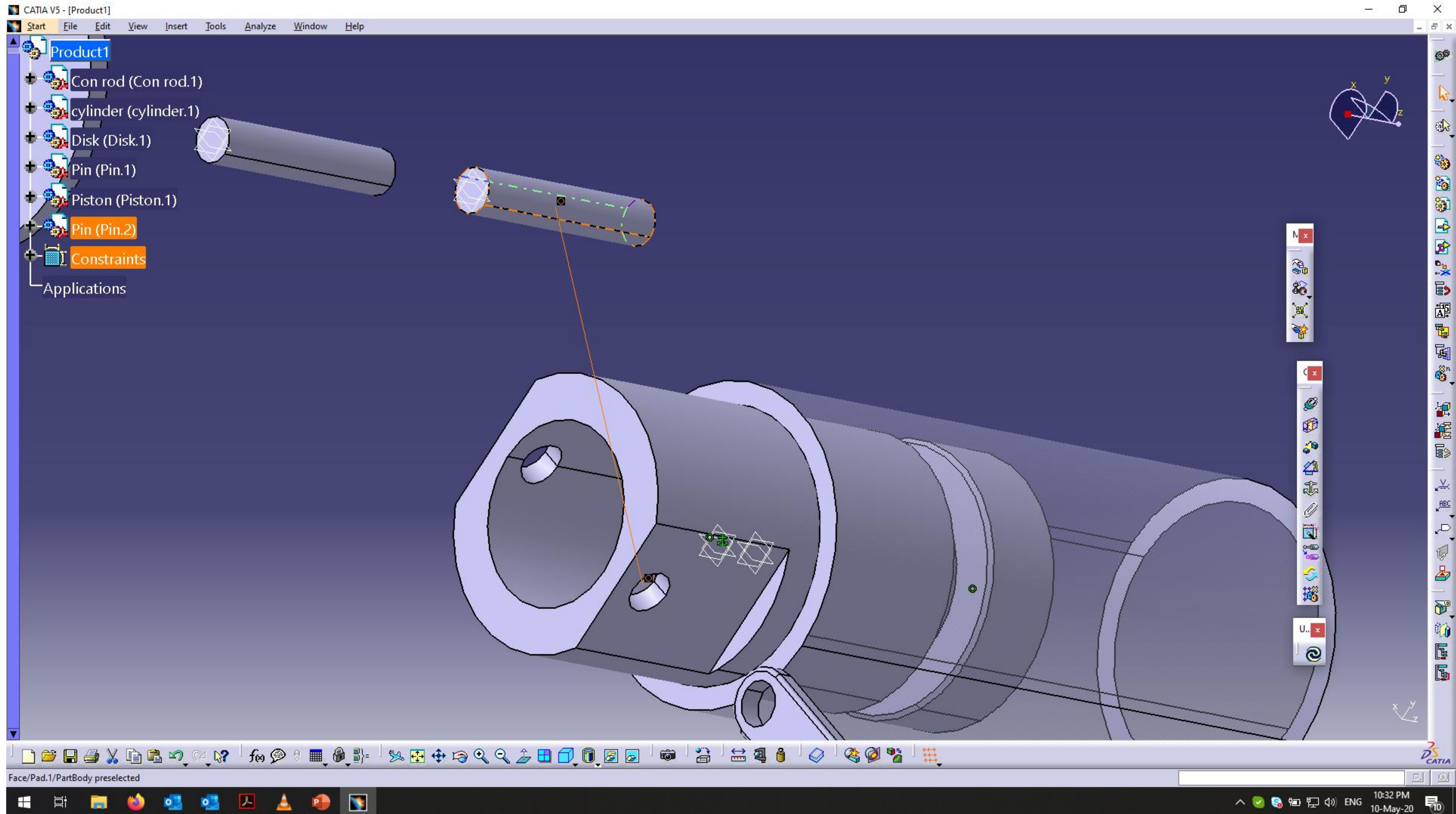
Βήμα 19



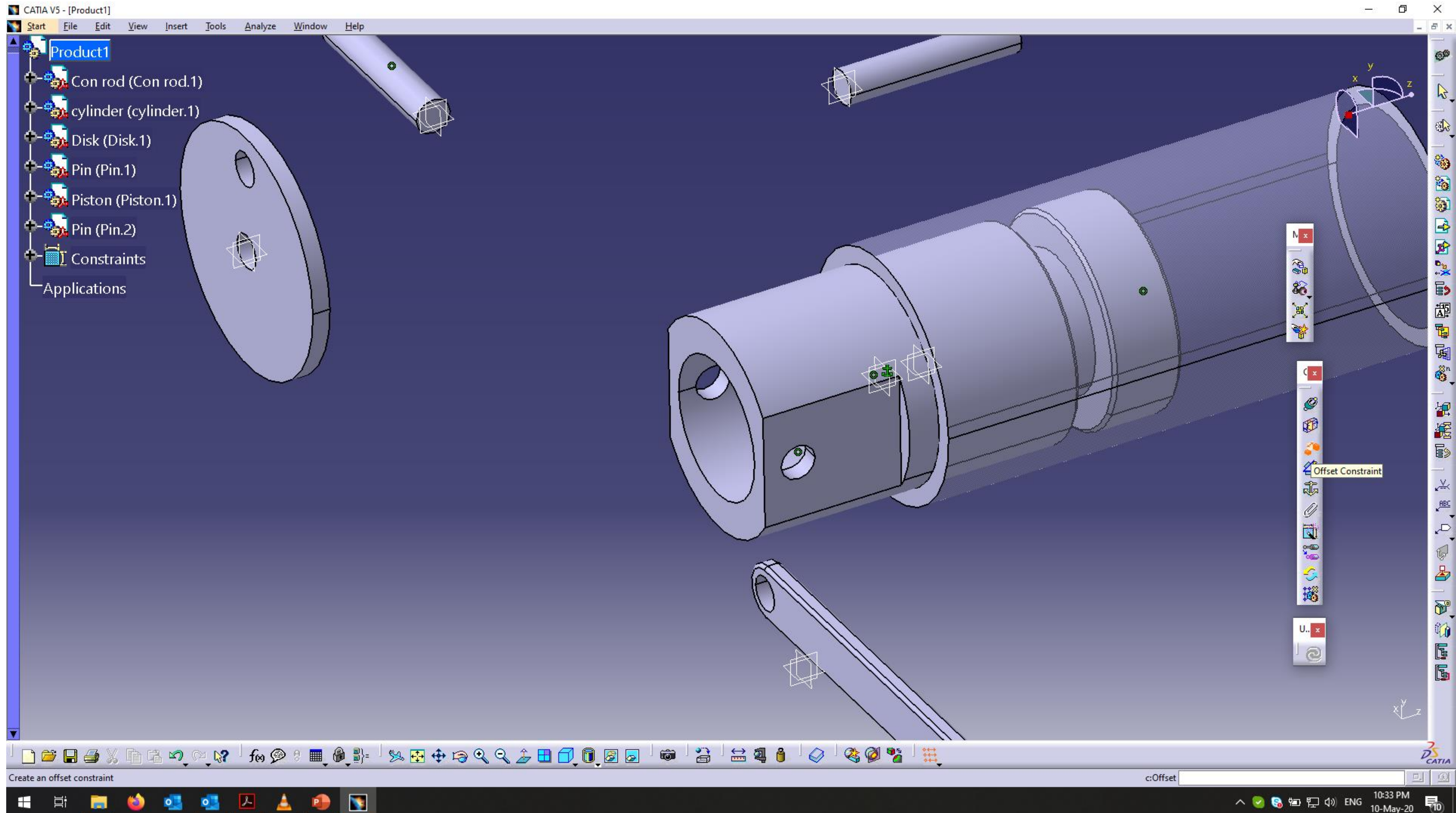
Βήμα 20



Βήμα 21



Βήμα 22



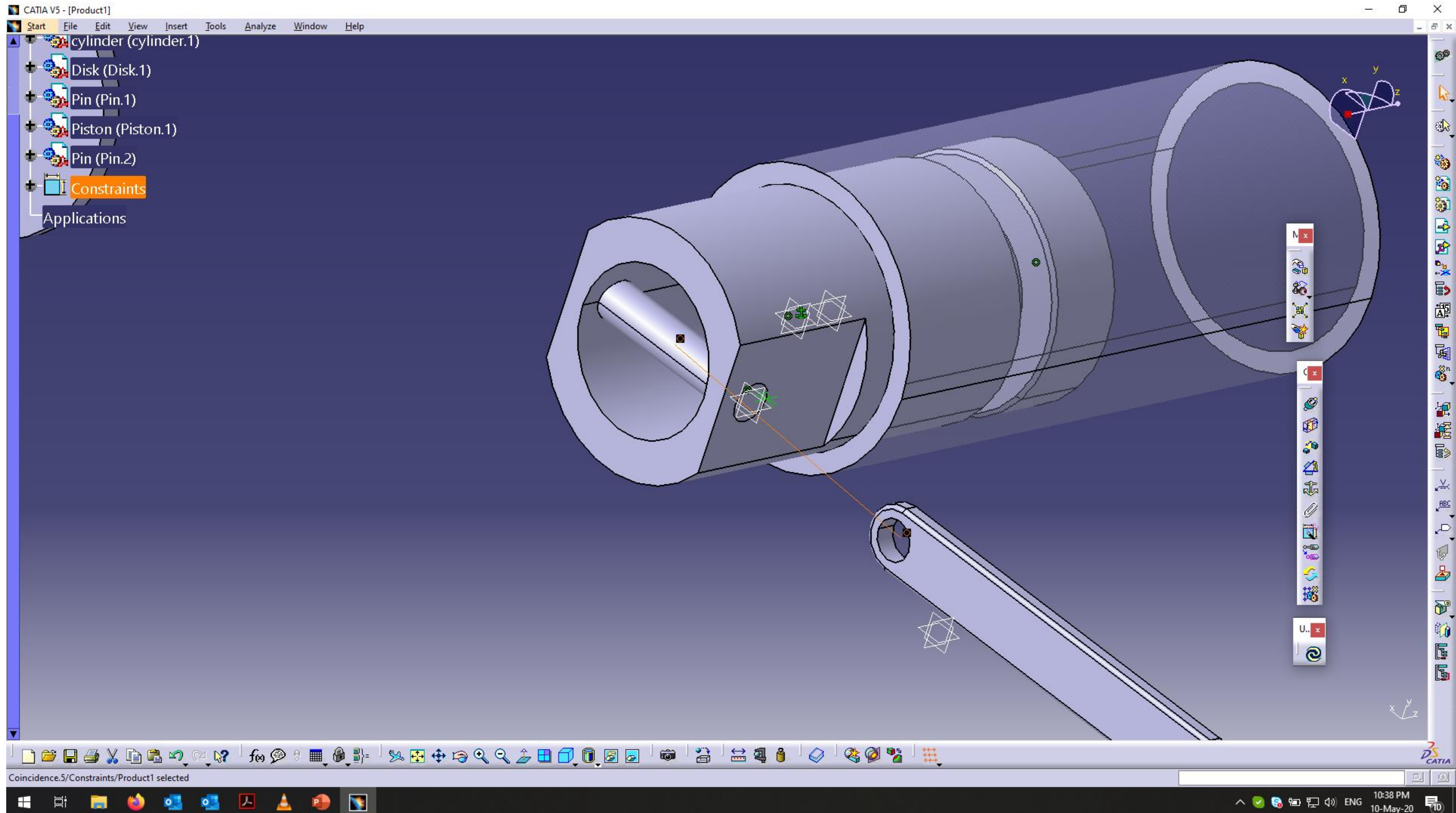
Βήμα 23

The screenshot displays the CATIA V5 interface for a 3D assembly. The left-hand side shows the 'Product1' tree with components: Con rod (Con rod.1), cylinder (cylinder.1), Disk (Disk.1), Pin (Pin.1), Piston (Piston.1), Pin (Pin.2), Constraints, and Applications. The main workspace shows a 3D model of a piston and cylinder assembly. A red line indicates an offset constraint between the piston and a pin, with a value of -192.413. The 'Constraint Properties' dialog is open, showing the following details:

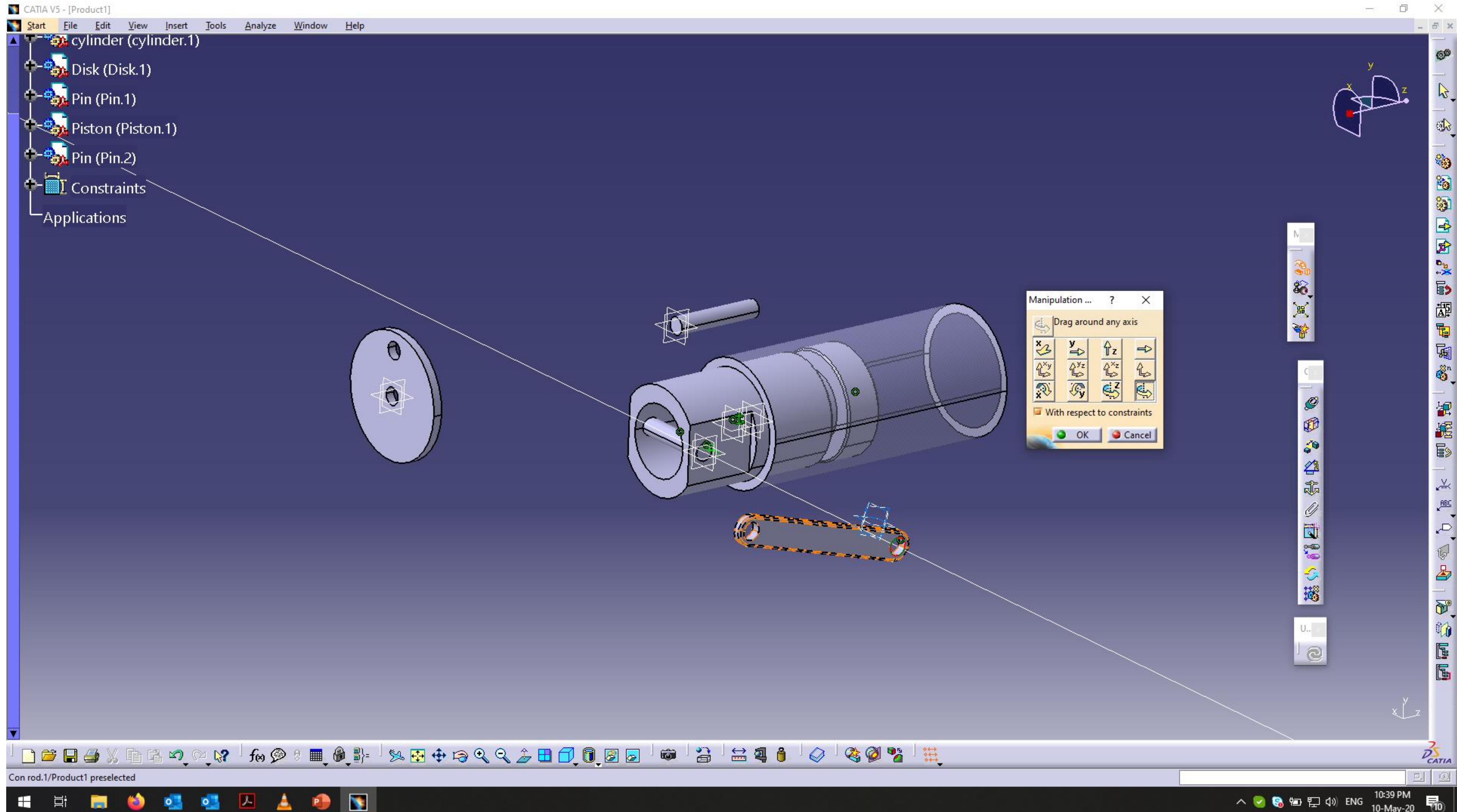
Constraint Properties		
Name: Offset.4		
Supporting Elements		
Type	Component	Status
Plane	Piston (Piston.1)	Connected
Plane	Pin (Pin.2)	Connected
Orientation: Same		
Offset: -192.413mm		

The status bar at the bottom indicates 'Offset, Name: -192.413mm, Offset.4'. The Windows taskbar at the bottom shows the system time as 10:33 PM on 10-May-20.

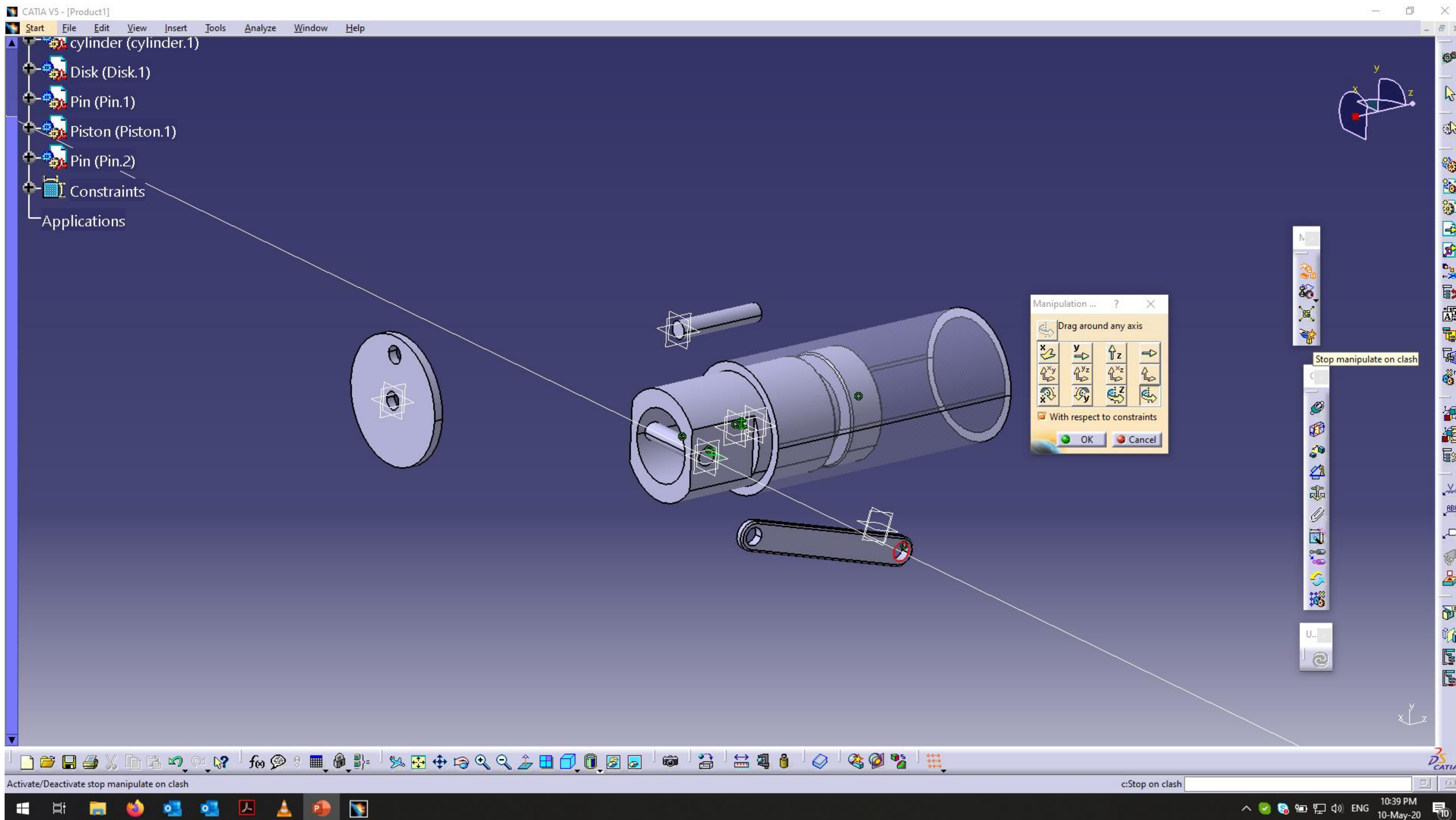
Βήμα 24



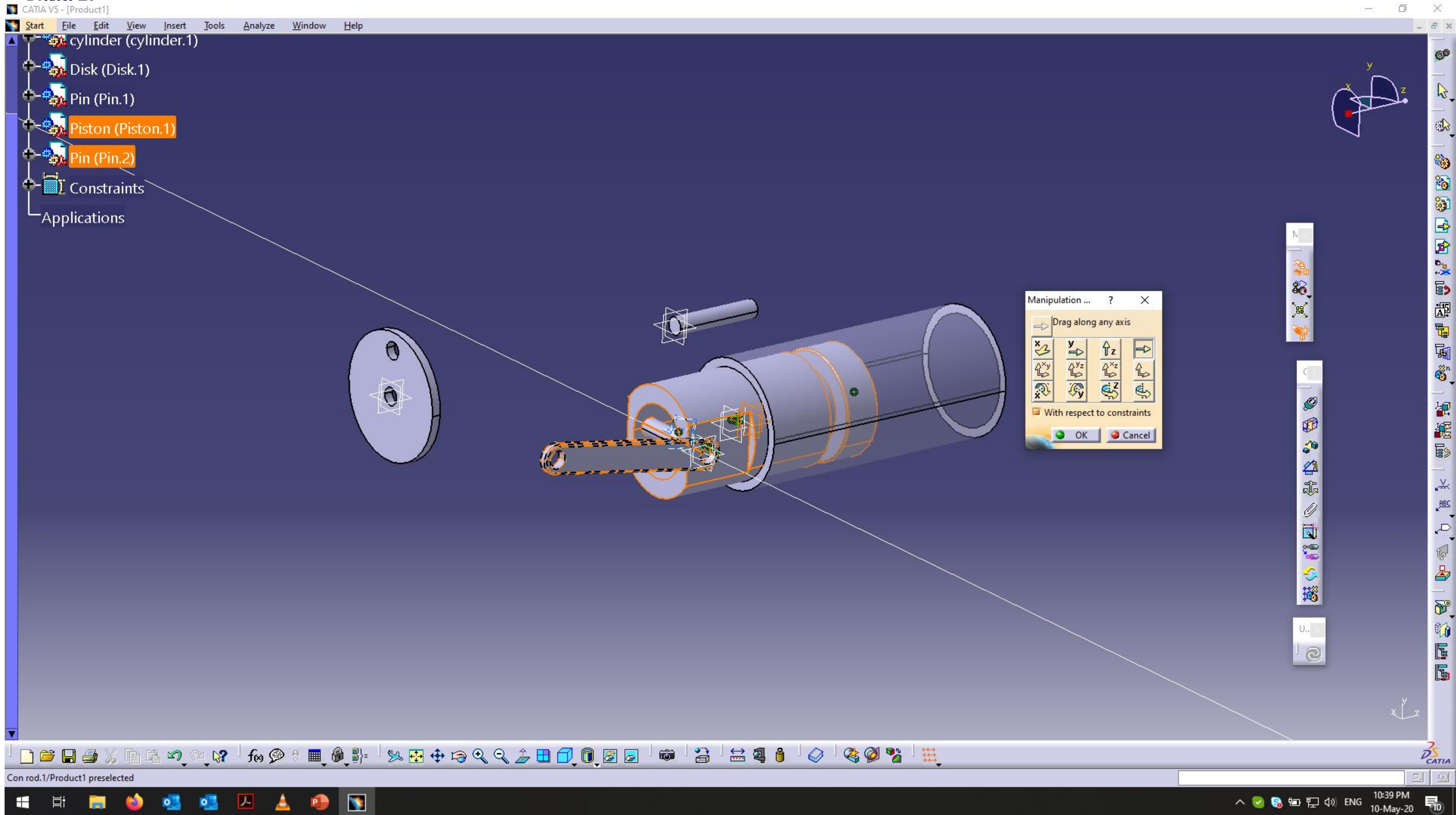
Βήμα 25



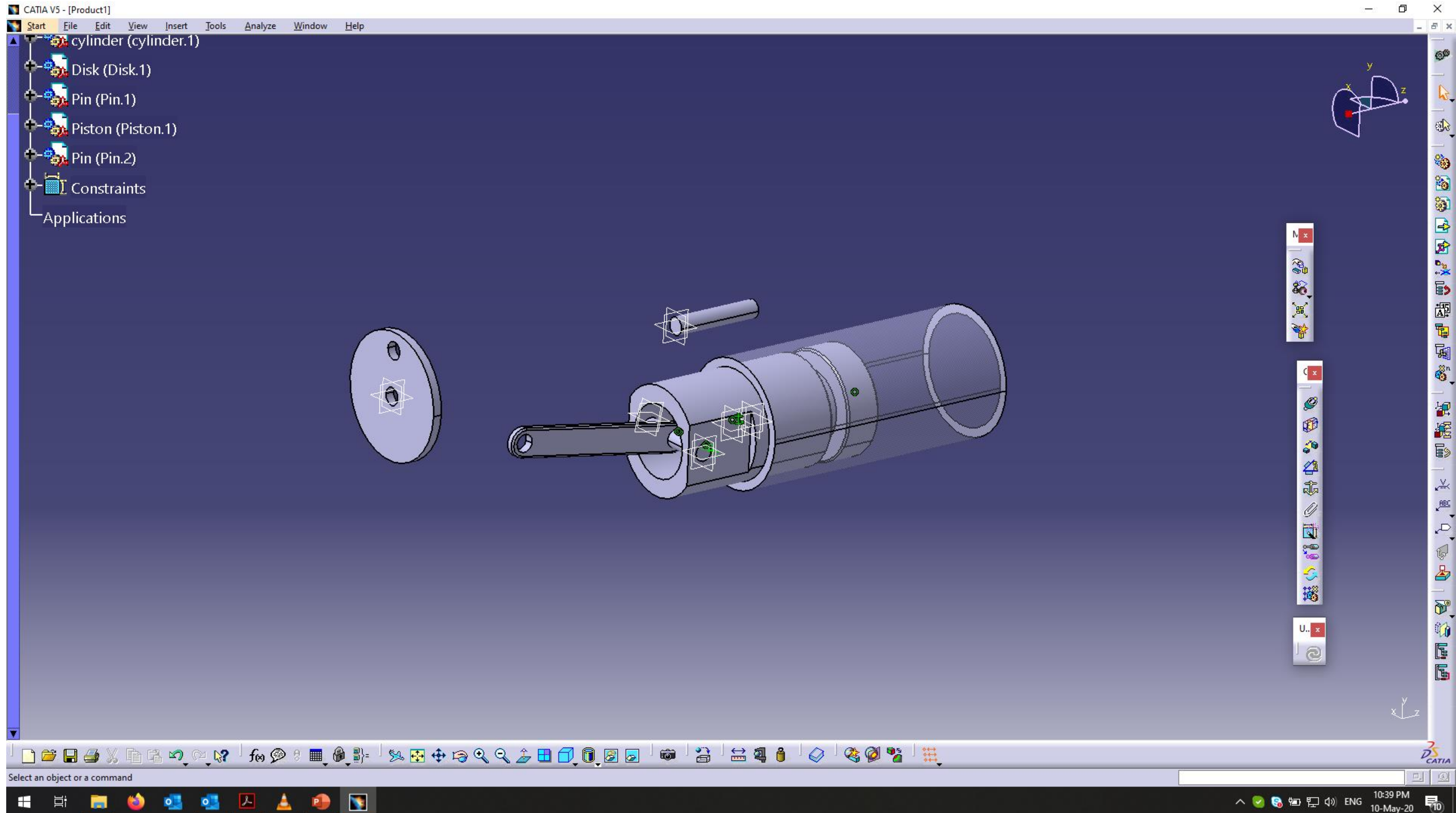
Βήμα 26



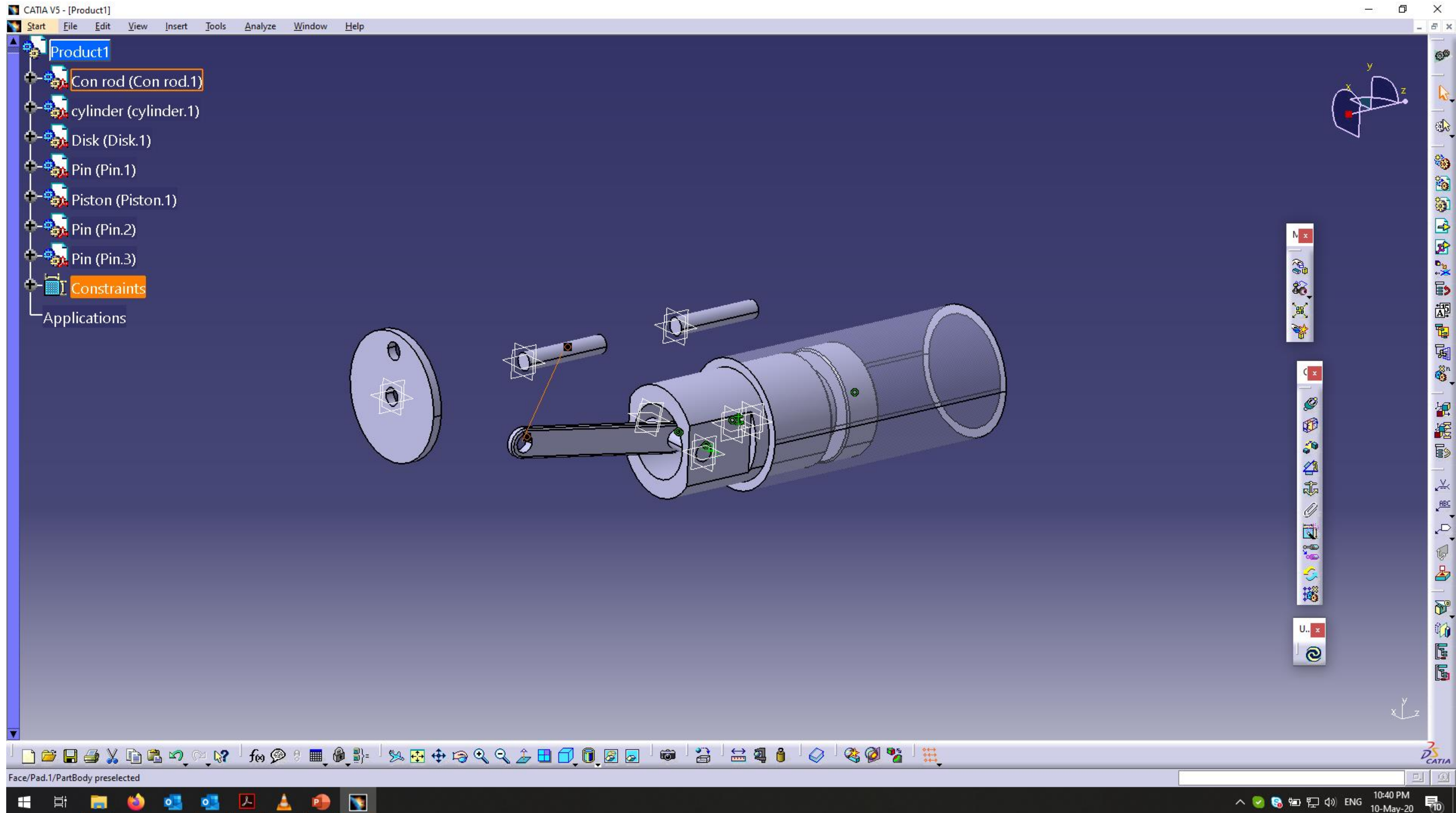
Βήμα 27



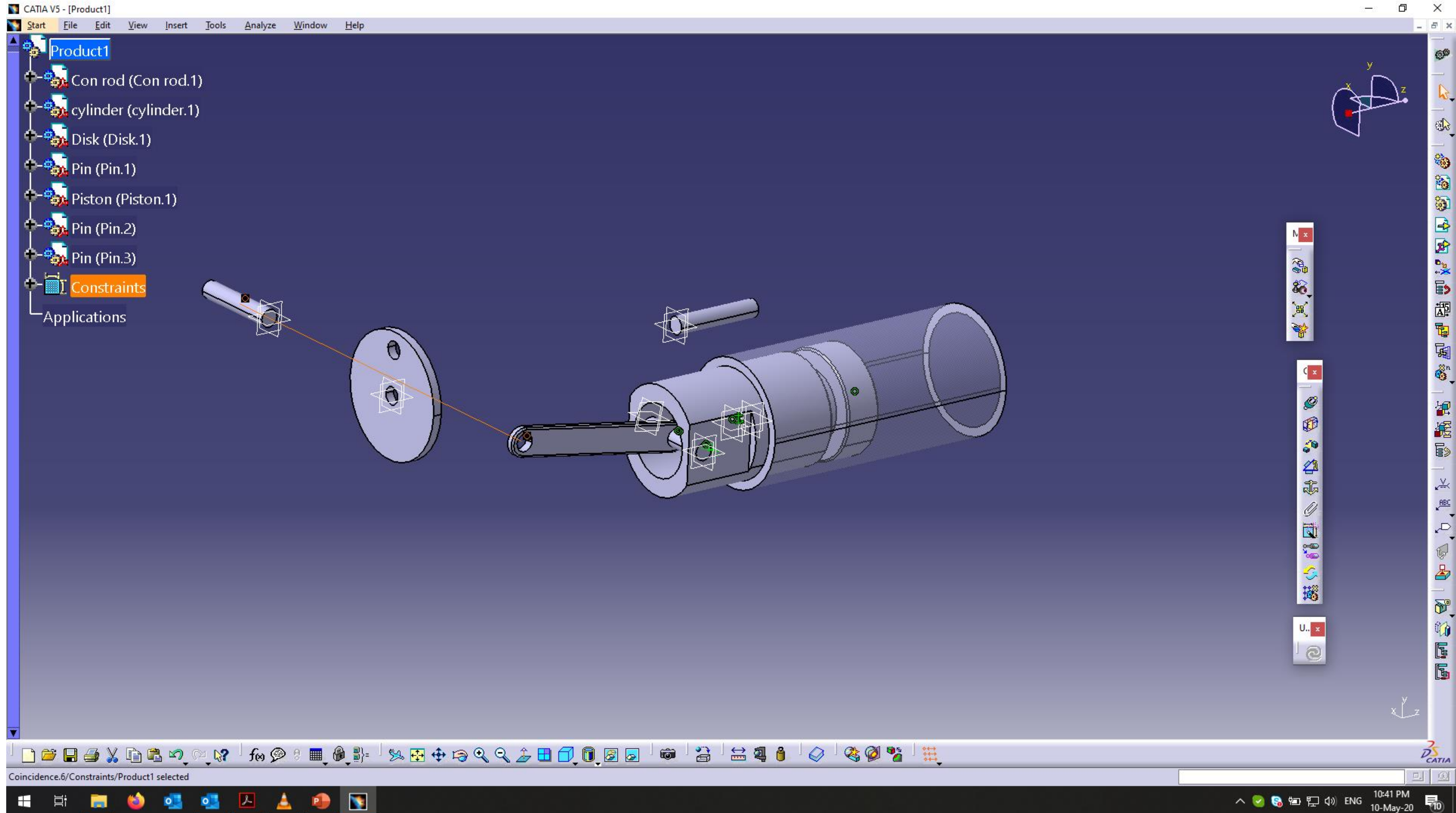
Βήμα 28



Βήμα 29



Βήμα 30



Βήμα 31

CATIA V5 - [Product1]

Start File Edit View Insert Tools Analyze Window Help

Product1

- Con rod (Con rod.1)
- cylinder (cylinder.1)
- Disk (Disk.1)
- Pin (Pin.1)
- Piston (Piston.1)
- Pin (Pin.2)
- Pin (Pin.3)
- Constraints
- Applications

Constraint Properties

Name: Offset.7

Supporting Elements

Type	Component	Status
Plane	Pin (Pin.3)	Connected
Plane	Con rod (Con rod.1)	Connected

Orientation: Same

Offset: 214.103mm

214.102760714mm

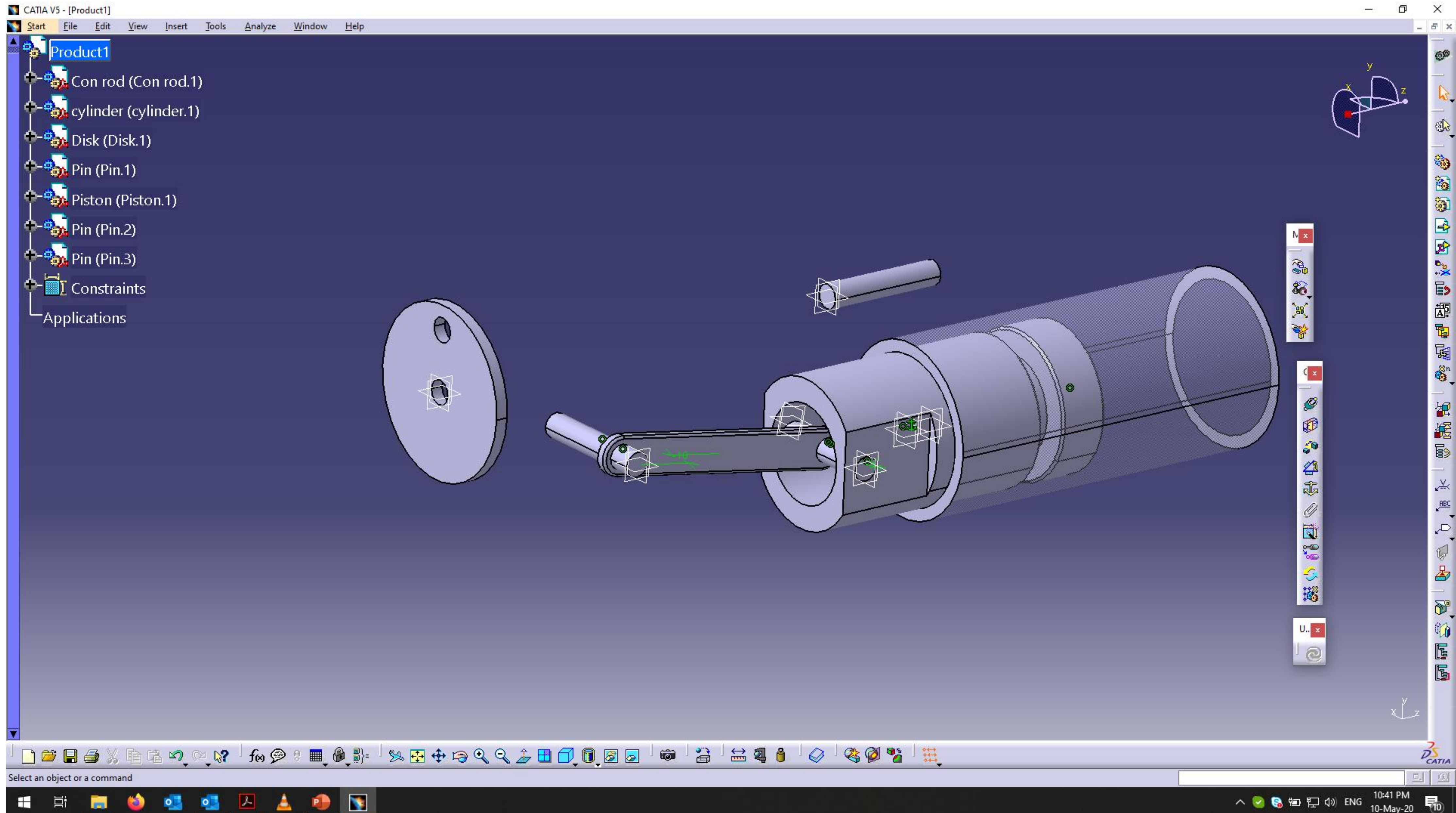
OK Cancel

Change value of parameter: Length required.

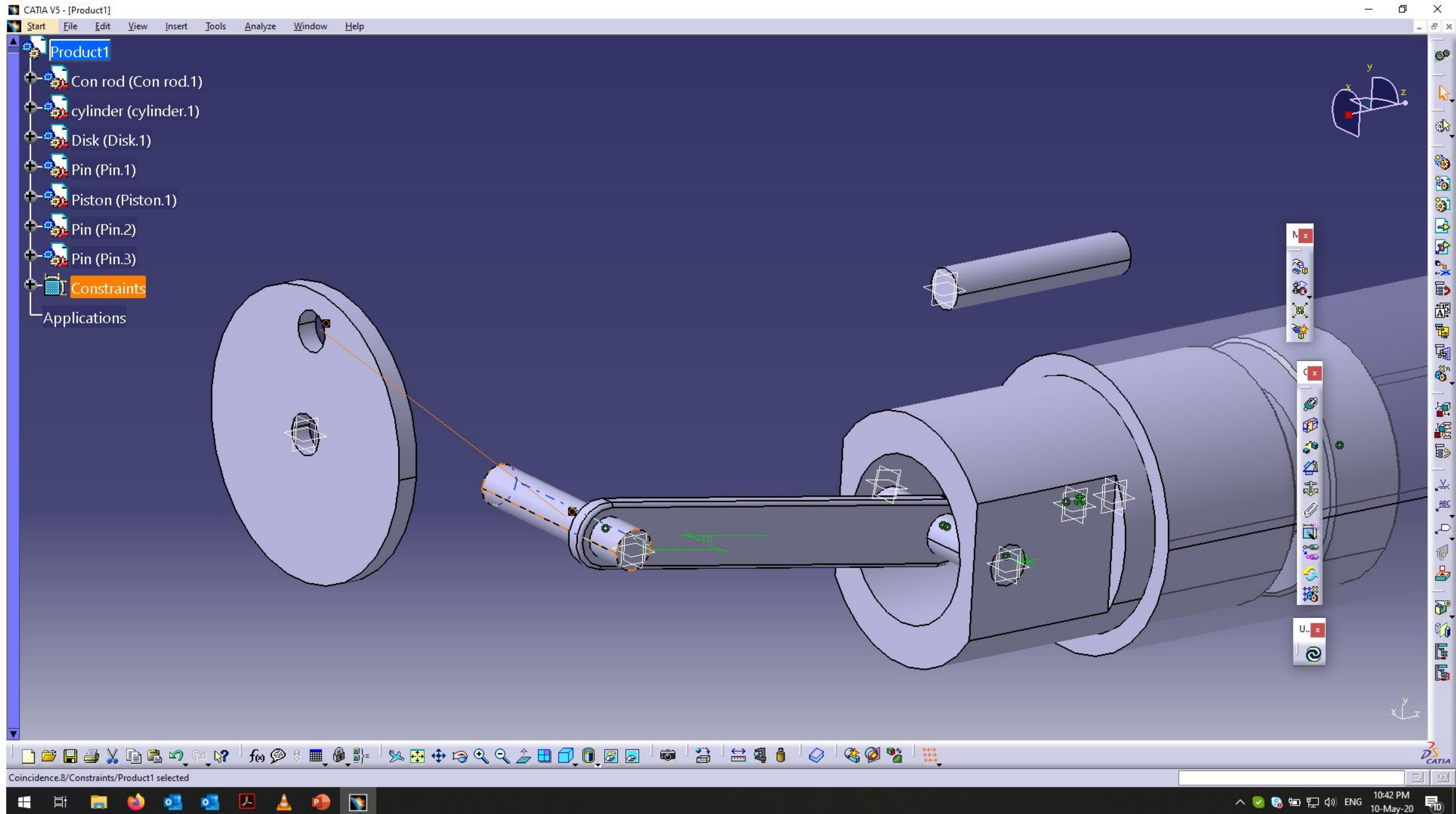
Offset,Name: 214.103mm,Offset.7

10:41 PM
10-May-20

Βήμα 32



Βήμα 33



Βήμα 34

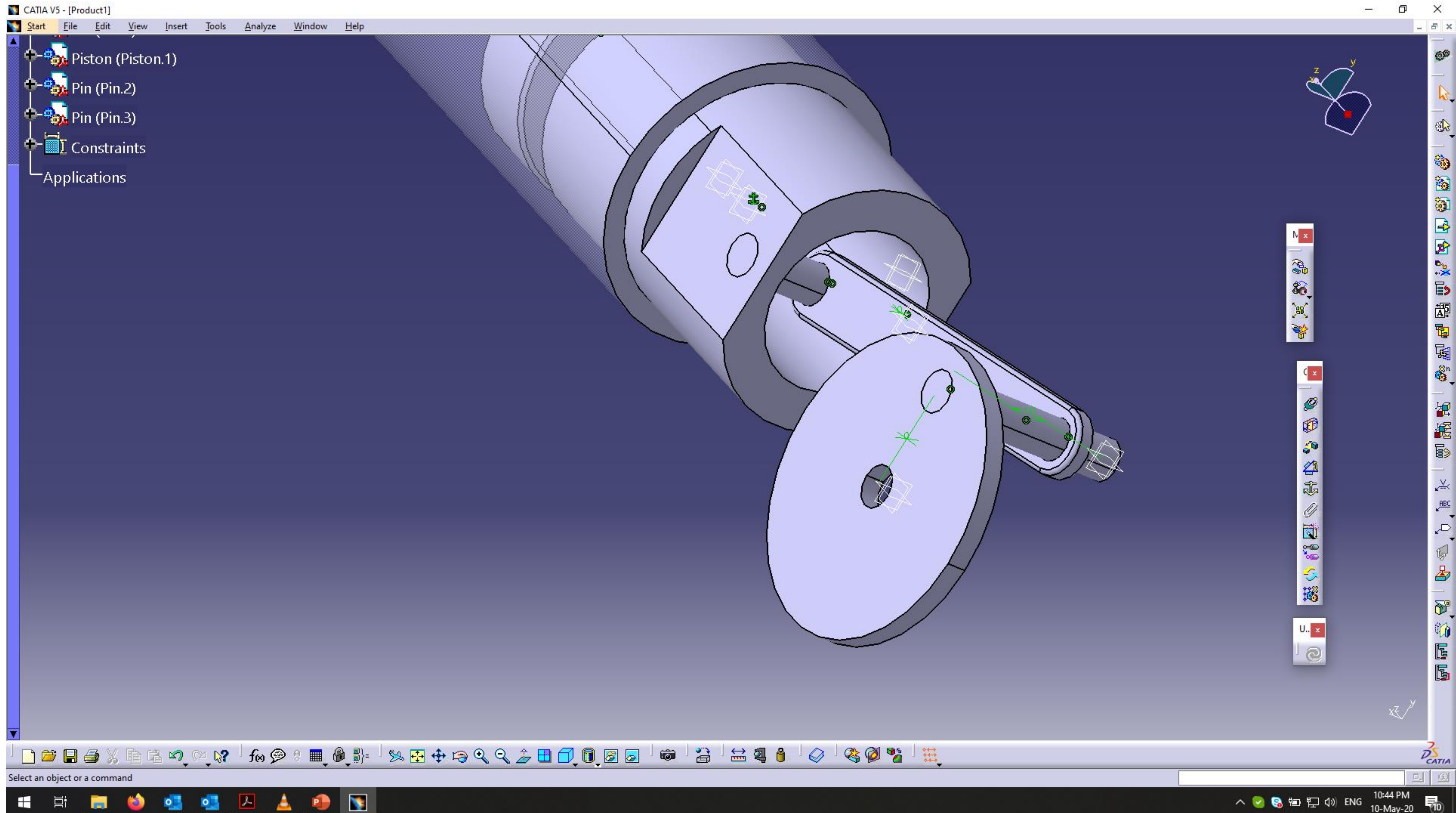
The screenshot displays the CATIA V5 interface with a 3D model of a piston and pin assembly. A dialog box titled "Constraint Properties" is open, showing the configuration for an offset constraint named "Offset.9". The dialog box includes a "Supporting Elements" table and an "Offset" field set to 160.039mm.

Type	Component	Status
Plane	Pin (Pin.3)	Connected
Plane	Disk (Disk.1)	Connected

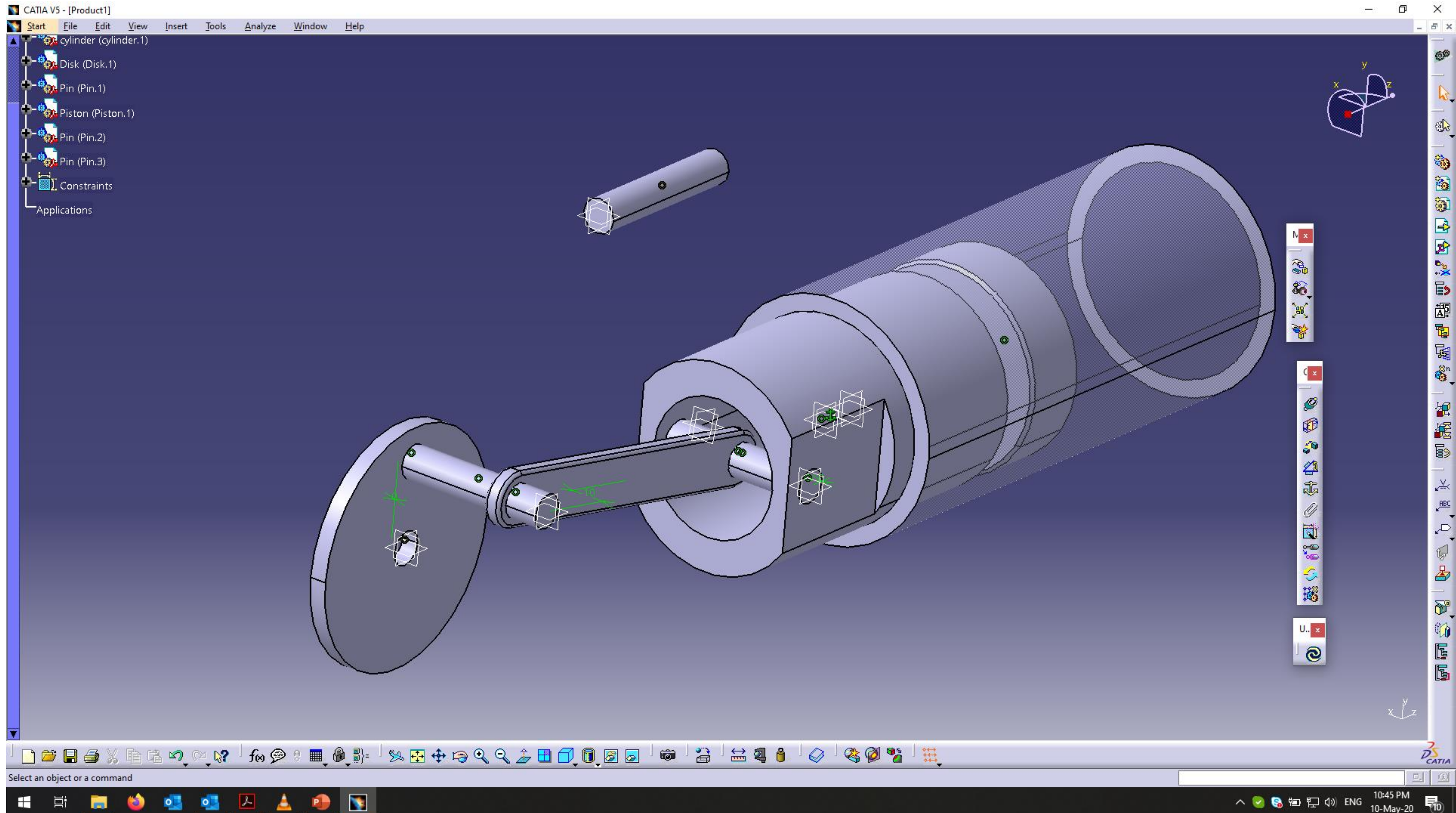
Offset: 160.039mm

The main window shows the assembly with a green arrow indicating the offset direction. The left-hand tree view lists the components: Piston (Piston.1), Pin (Pin.2), Pin (Pin.3), Constraints, and Applications. The status bar at the bottom indicates the current constraint being edited: "Offset, Name: 160.039mm, Offset.9".

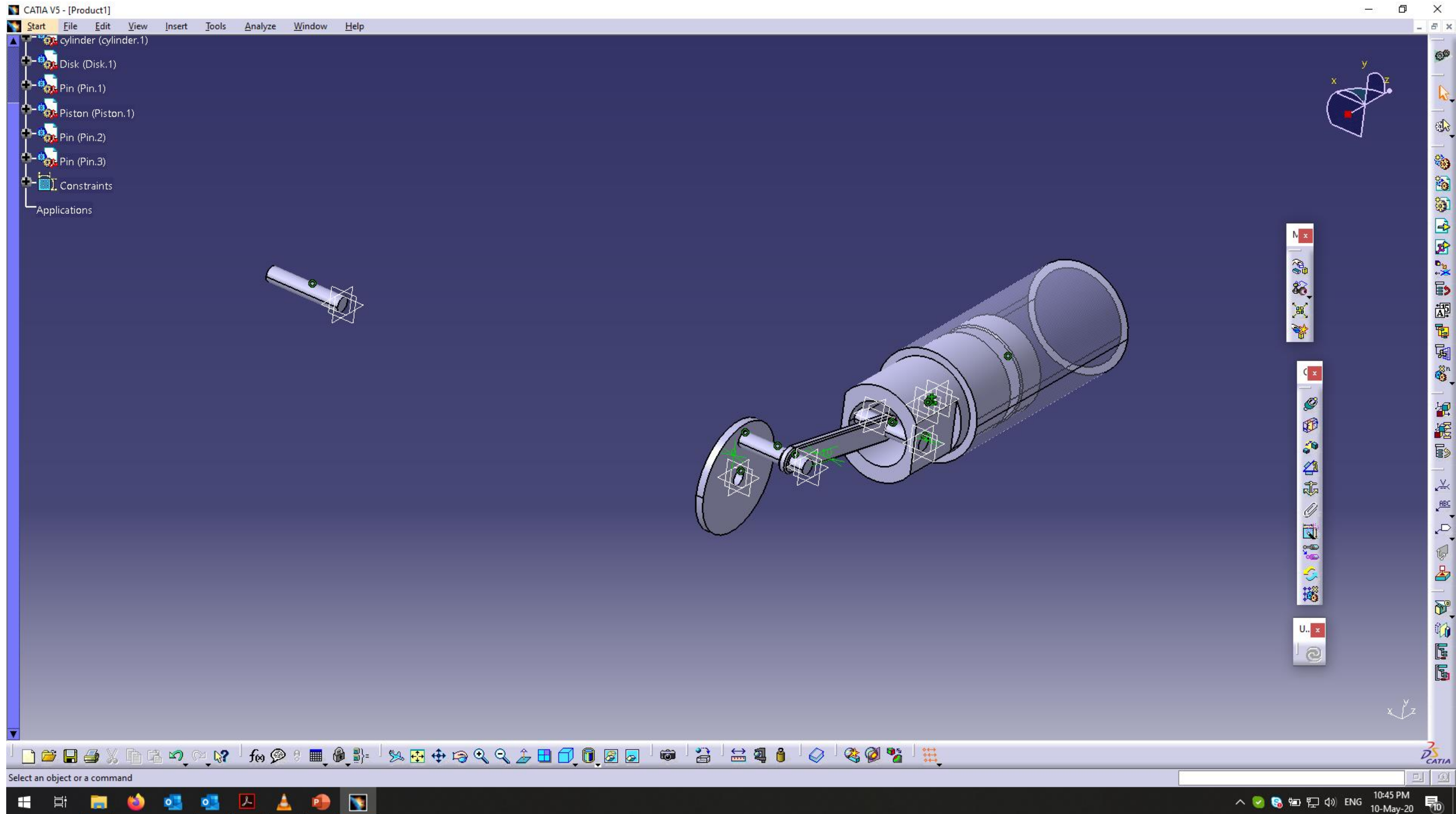
Βήμα 35



Βήμα 36



Βήμα 37



Βήμα 38

CATIA V5 - [Product1]

Start File Edit View Insert Tools Analyze Window Help

cylinder (cylinder.1)
 Disk (Disk.1)
 Pin (Pin.1)
 Piston (Piston.1)
 Pin (Pin.2)
 Pin (Pin.3)
 Constraints
 Applications

Constraint Properties

Name: Offset.11

Supporting Elements

Type	Component	Status
Plane	Pin (Pin.1)	Connected
Plane	Disk (Disk.1)	Connected

Orientation: Same

Offset: -10mm

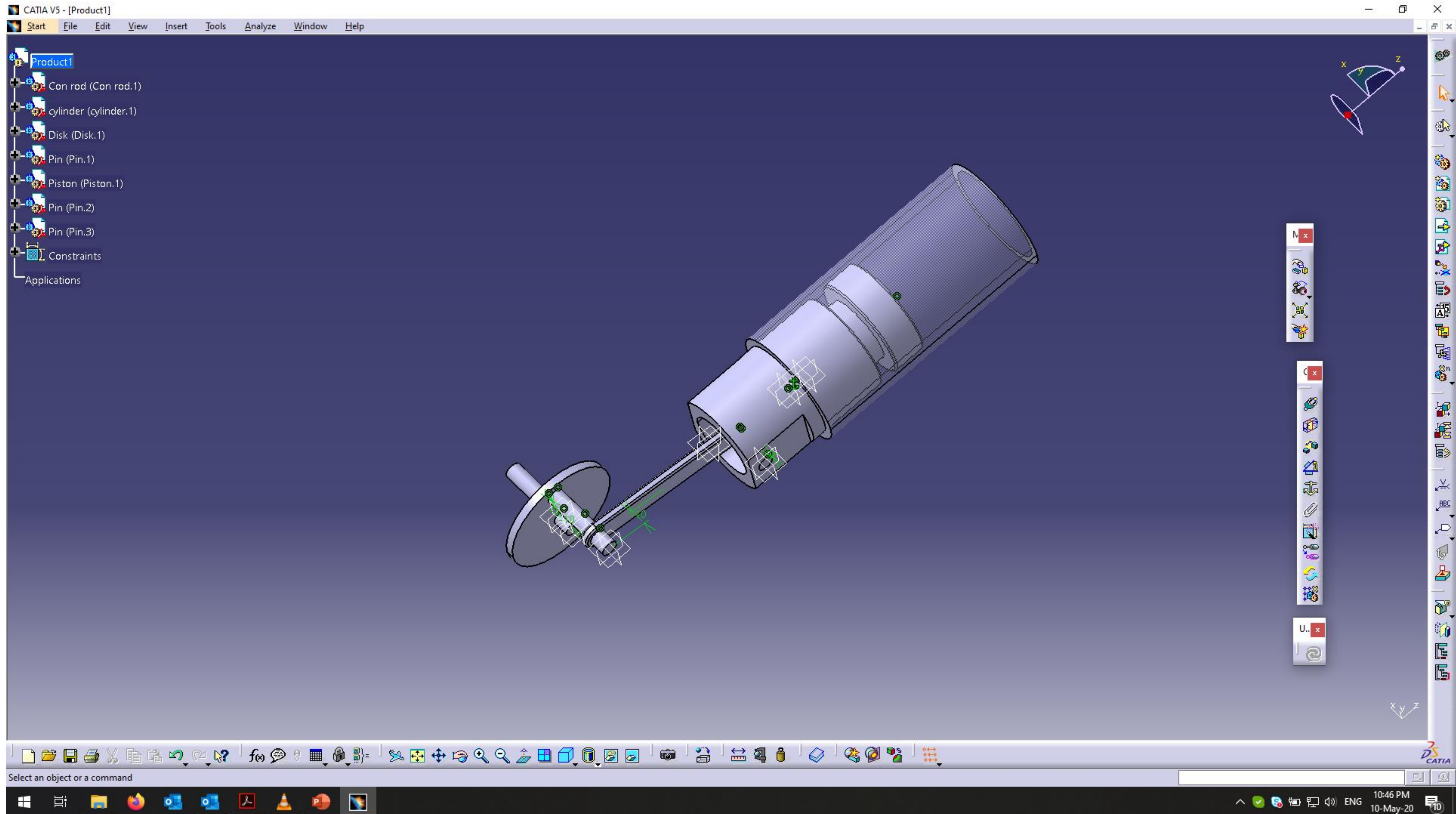
OK Cancel

Edit the offset constraint properties

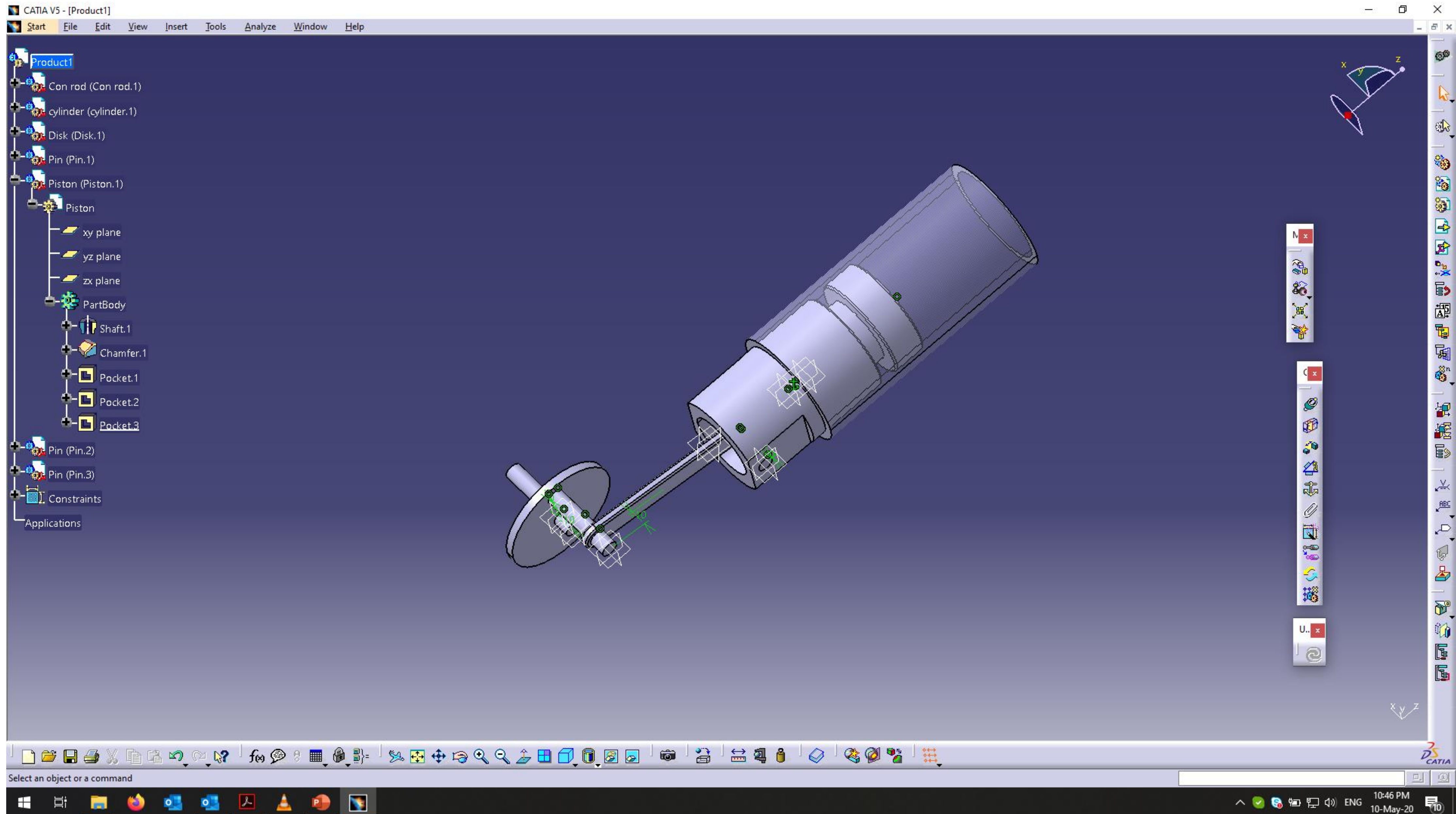
Offset, Name: -10mm, Offset.11

10:46 PM
 10-May-20

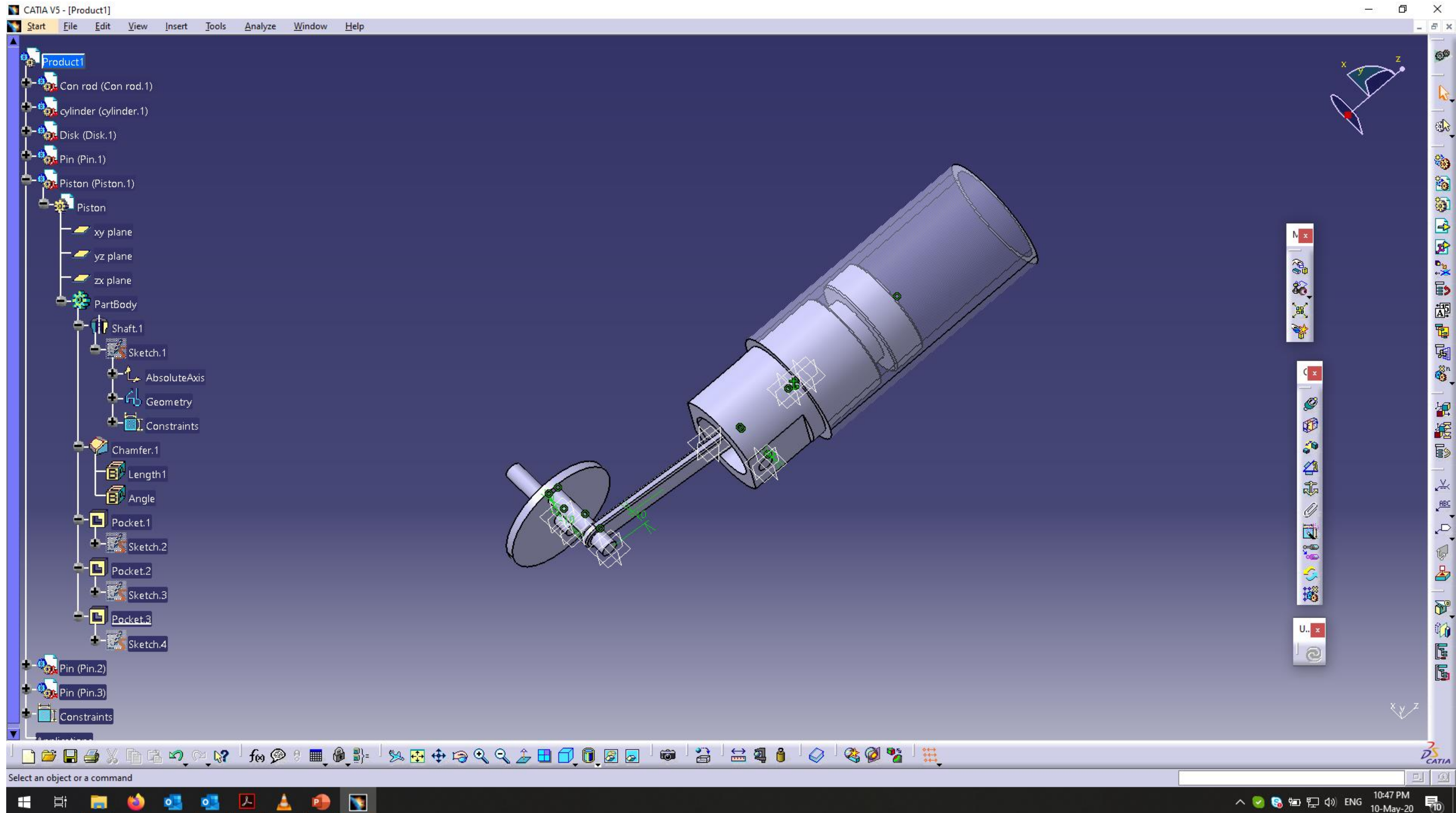
Βήμα 39



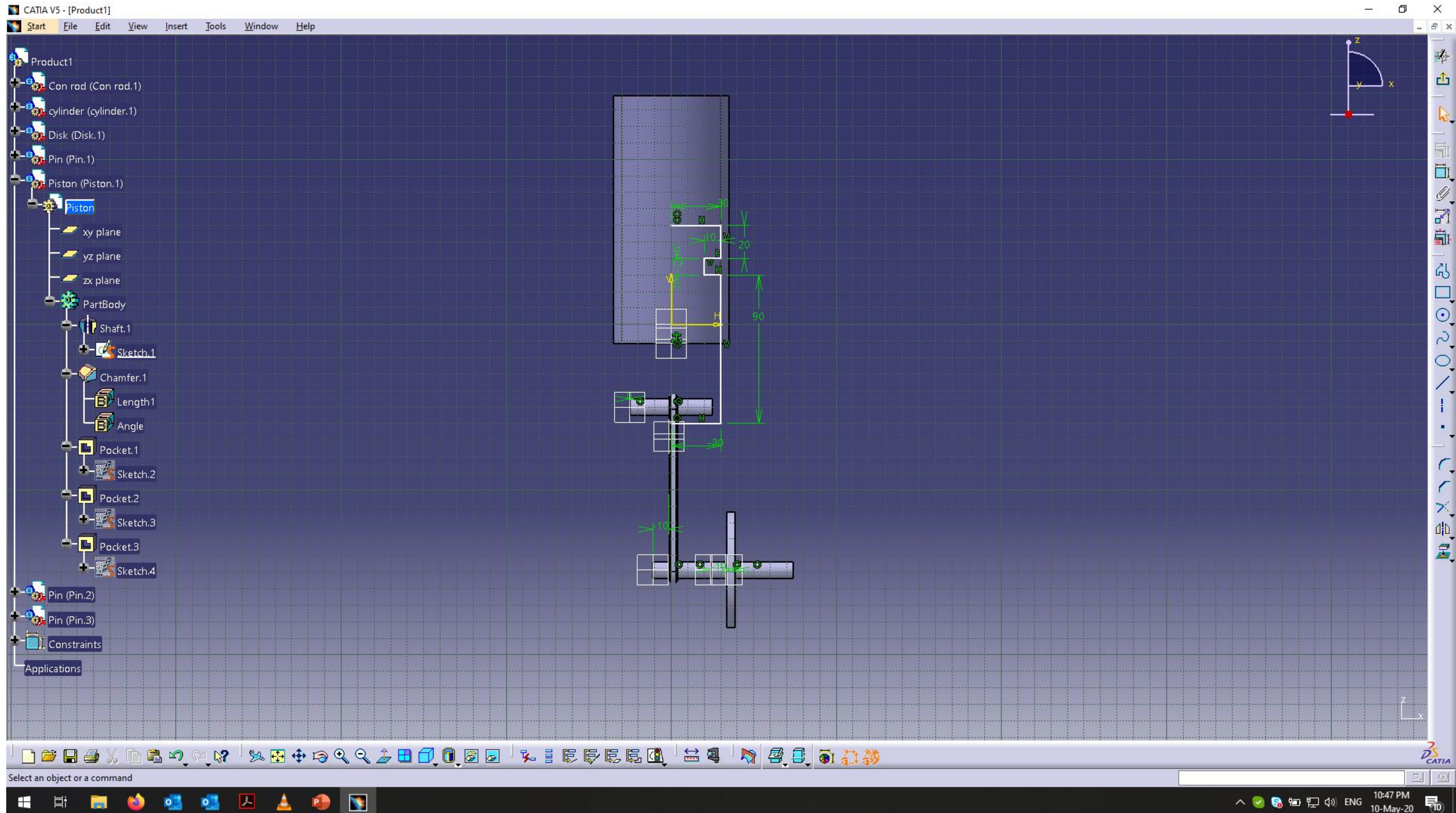
Βήμα 40



Βήμα 41



Βήμα 42



Βήμα 43

The screenshot displays the CATIA V5 interface for a mechanical design project. The left-hand side features a hierarchical assembly tree for 'Product1', listing components such as 'Con rod (Con rod.1)', 'cylinder (cylinder.1)', 'Disk (Disk.1)', 'Pin (Pin.1)', and 'Piston (Piston.1)'. The 'Piston' component is expanded to show its internal features, including 'xy plane', 'yz plane', 'zx plane', 'PartBody', 'Shaft.1', 'Sketch.1', 'Chamfer.1', 'Length1', 'Angle', 'Pocket.1', 'Sketch.2', 'Pocket.2', 'Sketch.3', 'Pocket.3', and 'Sketch.4'. The main workspace shows a 3D model of a piston and connecting rod assembly with various dimensions and constraints. A 'Constraint Definition' dialog box is open, showing a value of 20mm. The bottom of the screen shows the Windows taskbar with the time 10:47 PM on 10-May-20.

Βήμα 44

The screenshot displays the CATIA V5 software interface for a 3D assembly model. The left-hand tree view shows the following structure:

- Product1
 - Con rod (Con rod.1)
 - cylinder (cylinder.1)
 - Disk (Disk.1)
 - Pin (Pin.1)
 - Piston (Piston.1)
 - xy plane
 - yz plane
 - zx plane
 - PartBody
 - Shaft.1
 - Sketch.1
 - Chamfer.1
 - Length1
 - Angle
 - Pocket.1
 - Sketch.2
 - Pocket.2
 - Sketch.3
 - Pocket.3
 - Sketch.4
 - Pin (Pin.2)
 - Pin (Pin.3)
 - Constraints

The main workspace shows a 3D assembly of a piston and connecting rod. The piston is at the top, and the connecting rod is attached to it. Dimensions are indicated with green arrows: a vertical distance of 40 units between two points on the piston, and a vertical distance of 90 units from the top of the piston to the center of the connecting rod. The bottom status bar indicates "Length.11/Sketch.1/PartBody selected". The Windows taskbar at the bottom shows the time as 10:48 PM on 10-May-20.

Βήμα 45

The screenshot displays the CATIA V5 software interface during a CAD assembly process. The main workspace shows a 3D model of a piston and connecting rod assembly. The piston is at the top, and the connecting rod is attached to its bottom. Dimensions are indicated with green arrows: a vertical distance of 40 units between two points on the piston, a total vertical distance of 90 units from the top of the piston to the center of the connecting rod, and a horizontal distance of 10 units from the vertical centerline to a specific point on the connecting rod. The left-hand side features a tree view with the following structure:

- Product1
 - Con rod (Con rod.1)
 - cylinder (cylinder.1)
 - Disk (Disk.1)
 - Pin (Pin.1)
 - Piston (Piston.1)
 - xy plane
 - yz plane
 - zx plane
 - PartBody
 - Shaft.1
 - Sketch.1
 - Chamfer.1
 - Length1
 - Angle
 - Pocket.1
 - Sketch.2
 - Pocket.2
 - Sketch.3
 - Pocket.3
 - Sketch.4
 - Pin (Pin.2)
 - Pin (Pin.3)
 - Constraints

The bottom of the interface shows a toolbar with various CAD tools and a status bar with the text "Exit this workbench back to the command" and "c:Exit workbench". The Windows taskbar at the very bottom shows the system tray with the date "10-May-20" and time "10:48 PM".

Βήμα 46

