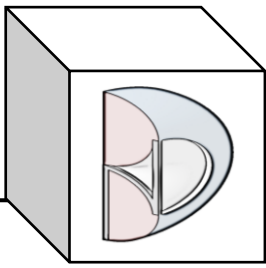


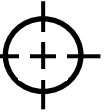
BND TechSource

The background of the slide is a blue-tinted image of a manikin (a 3D model of a human figure) riding a bicycle. The manikin is in a dynamic pose, leaning forward. The background shows a street scene with buildings and trees.

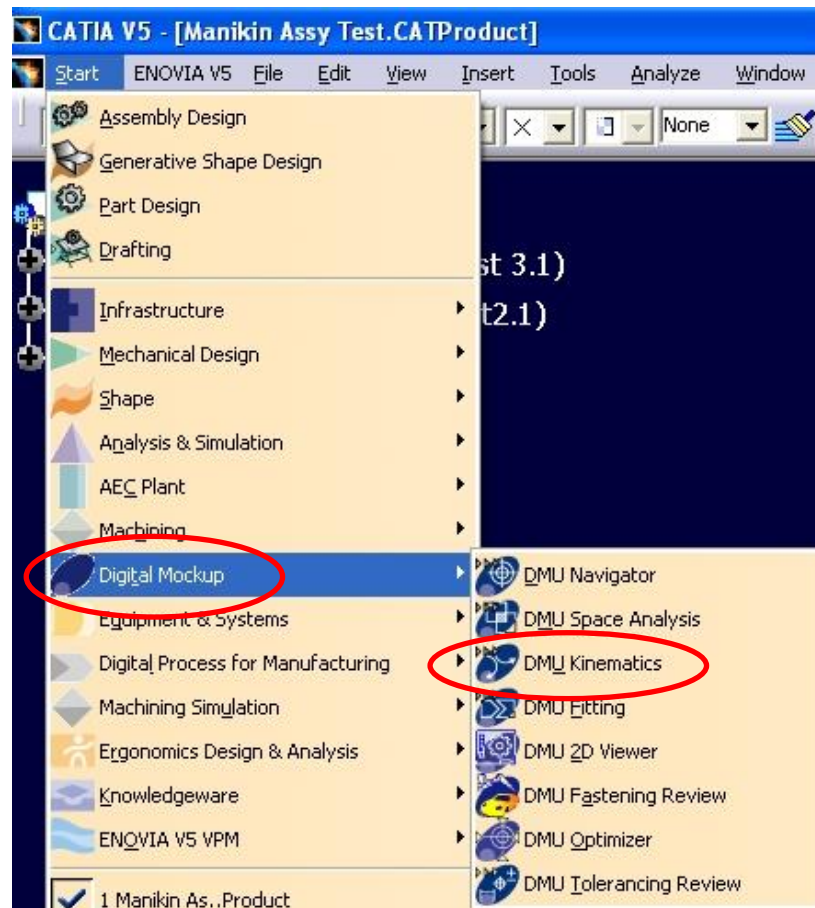
Ergonomic Manikin Manipulation using CATIA V5 DMU Kinematics (Steps 1- 4 the simple solution)



- The following licenses are required to manipulate 3D Ergonomic Manikins with CATIA V5 DMU Kinematics:
 - Digital Mockup
 - Ergonomics Design & Analysis

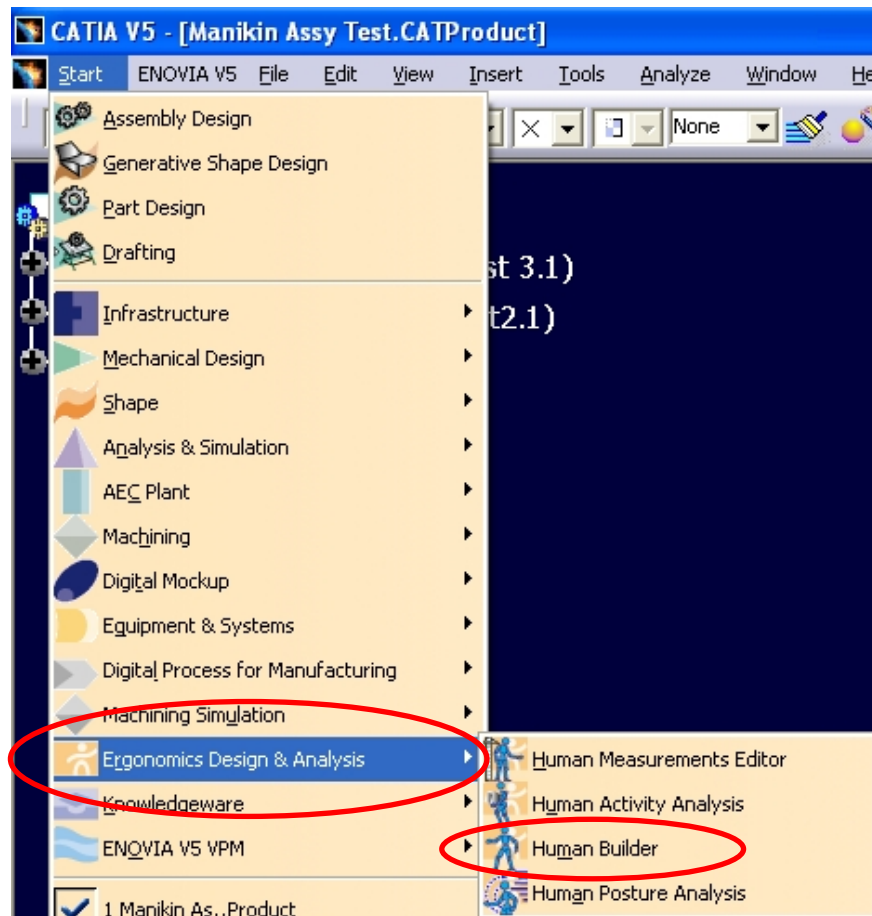


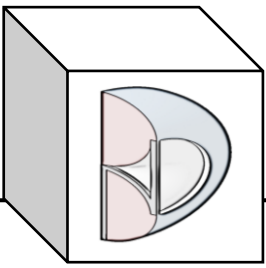
■ Digital Mockup





- Ergonomics Design & Analysis

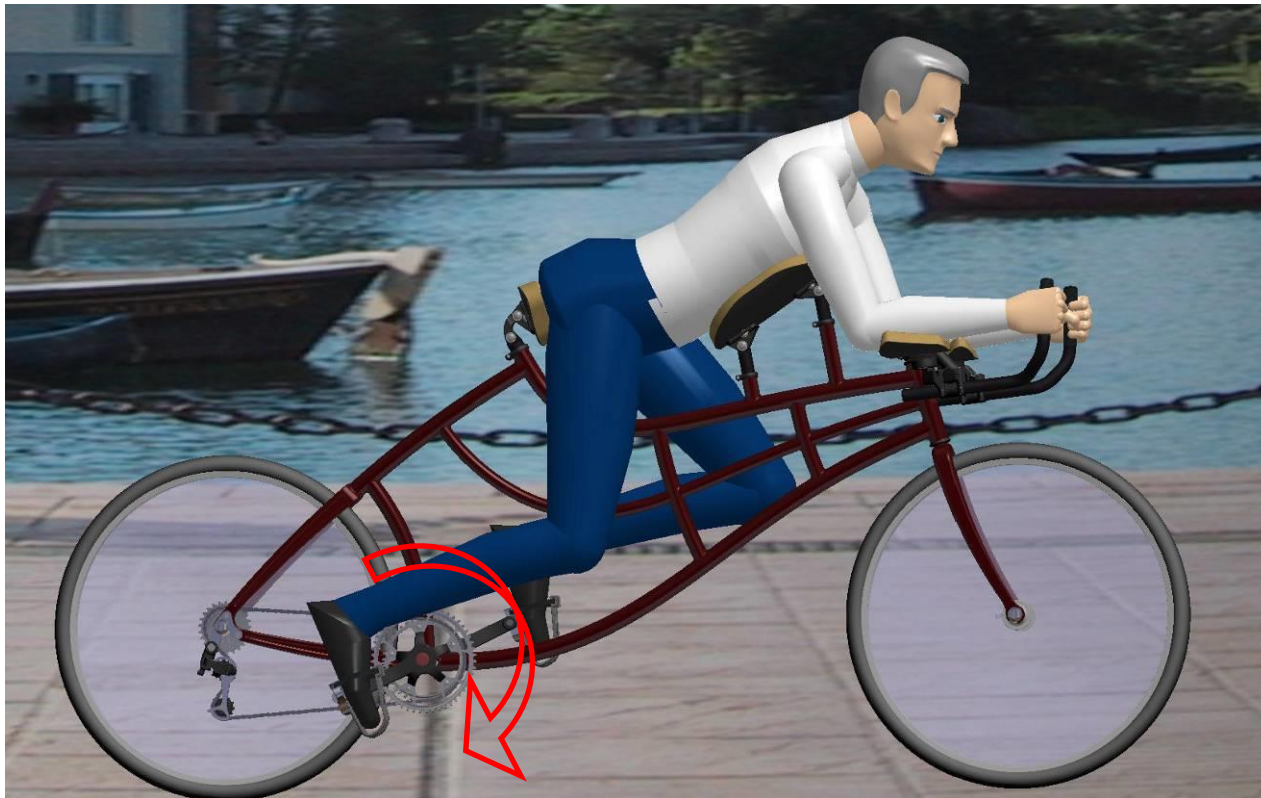


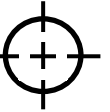


BND TechSource

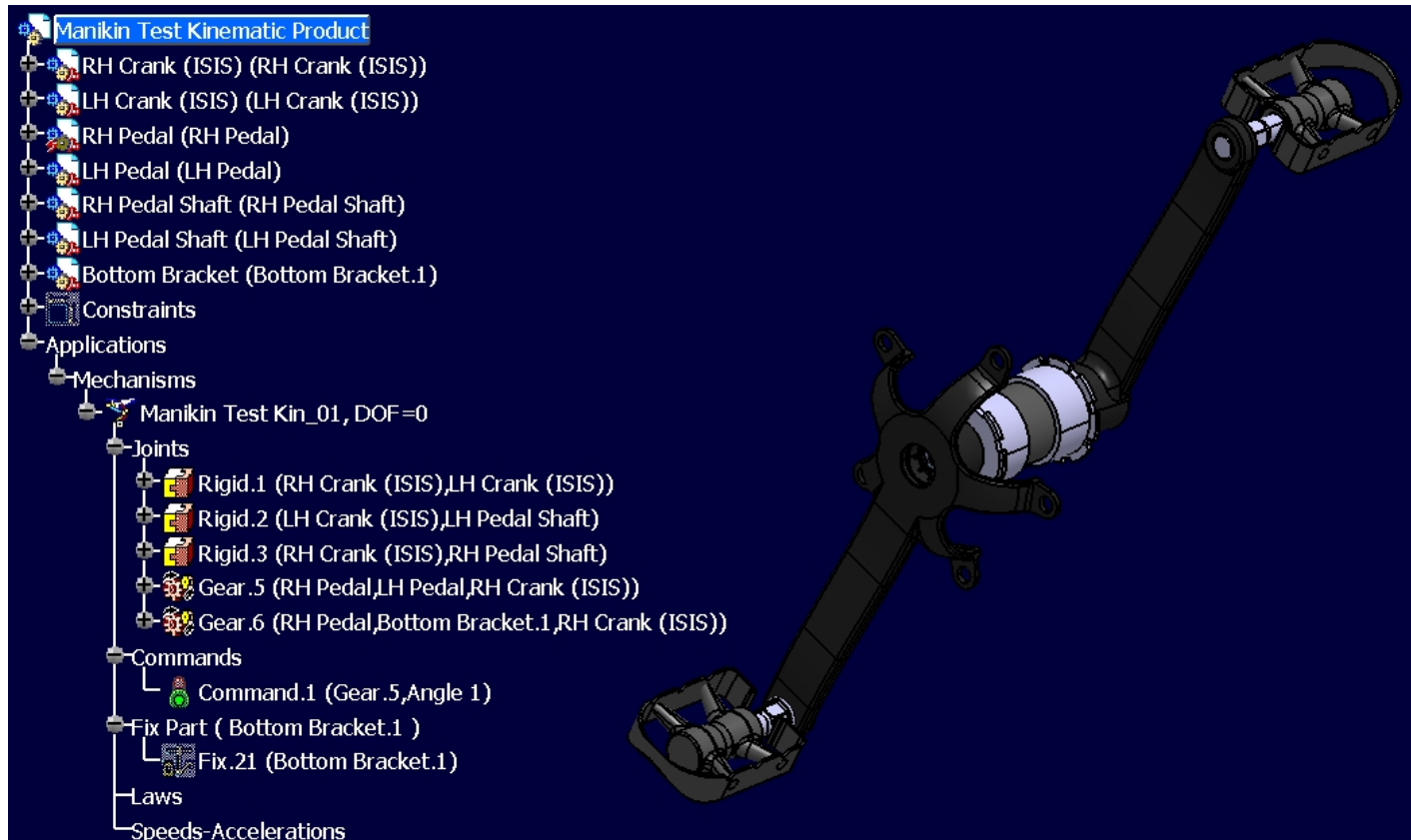


- The end result we are trying to achieve is to show a bicycle rider pedaling a bike.





- Step1: Create a Product for the Kinematic movement of the crank and pedals.

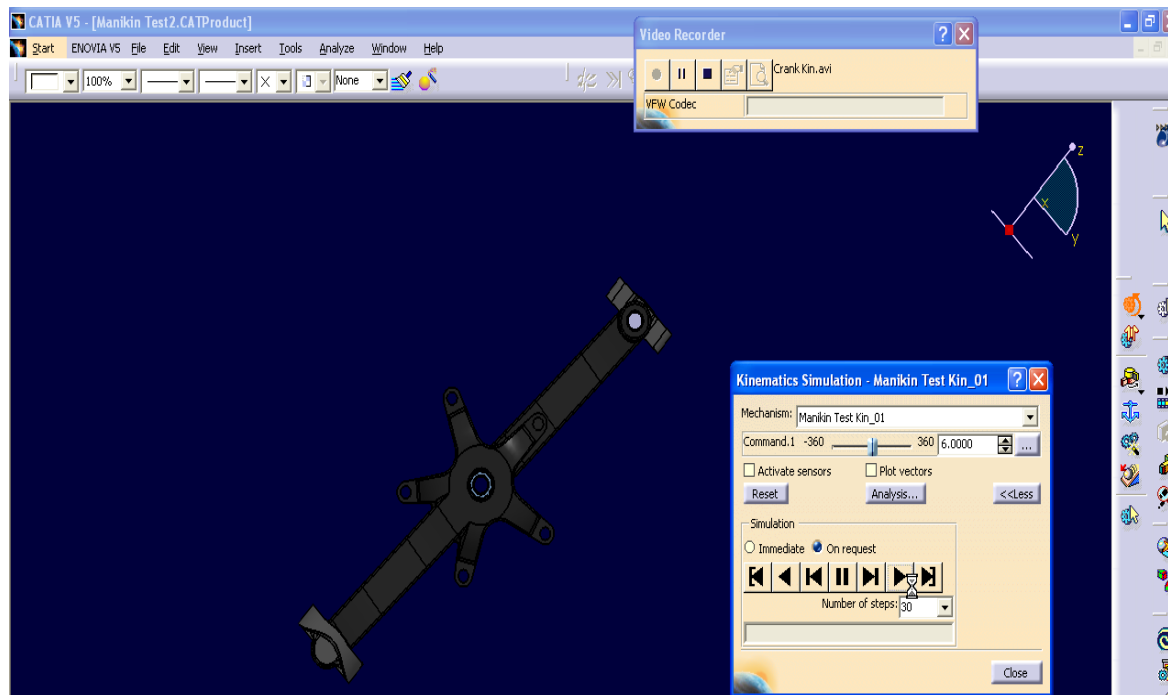




BND TechSource



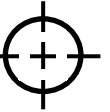
- This Kinematic Product runs the pedals in opposite rotation to the crank.



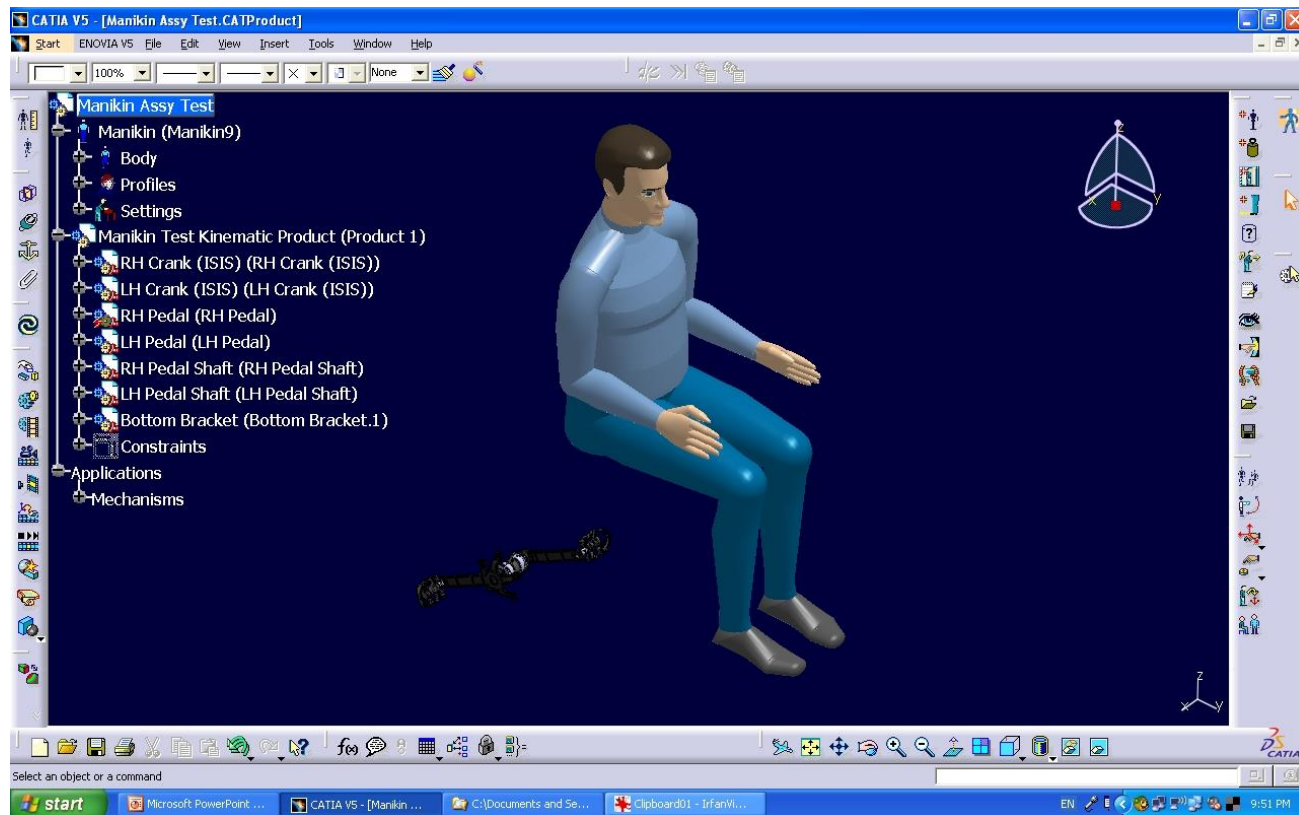
Double click on the picture to "Play Movie"

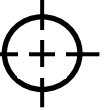


BND TechSource

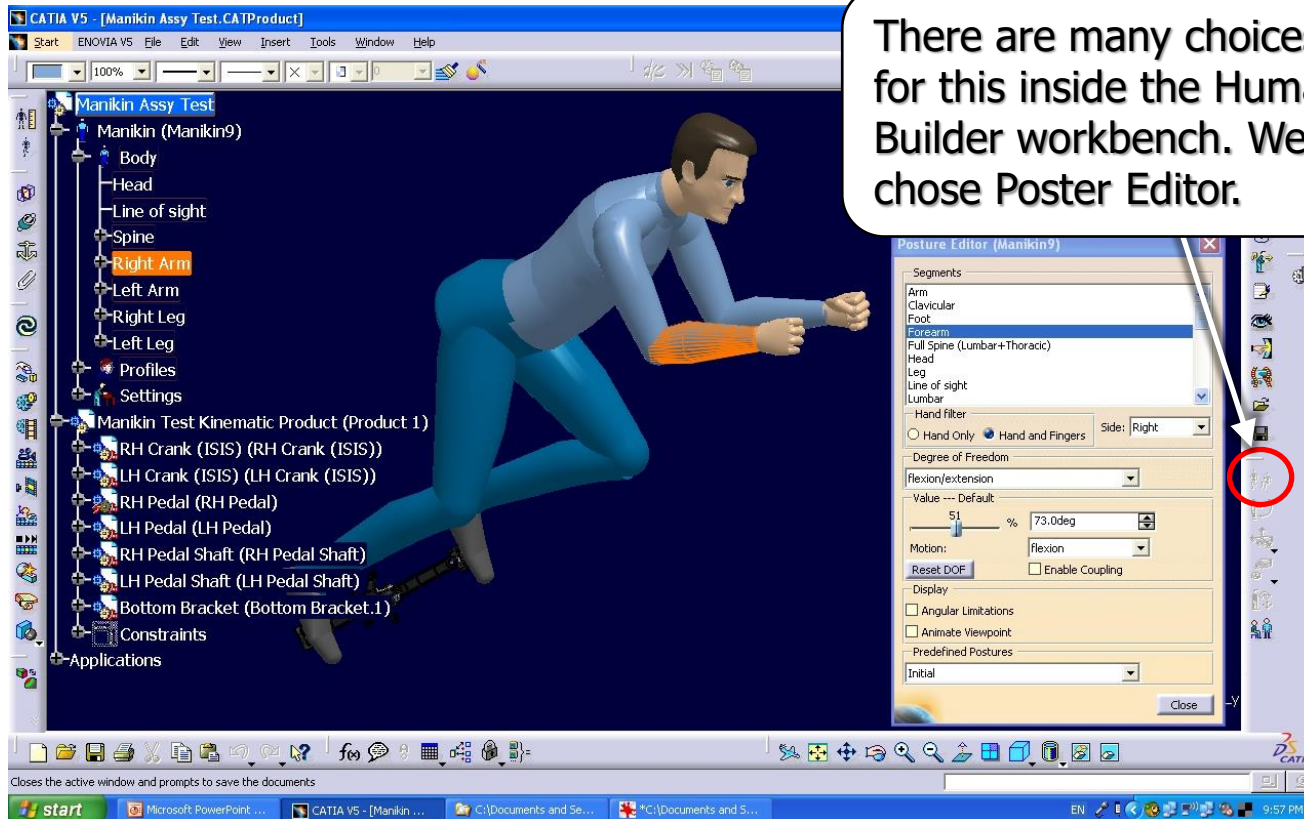


- Step 2: Create a Product with a Manikin Part and include the Kinematic Product.



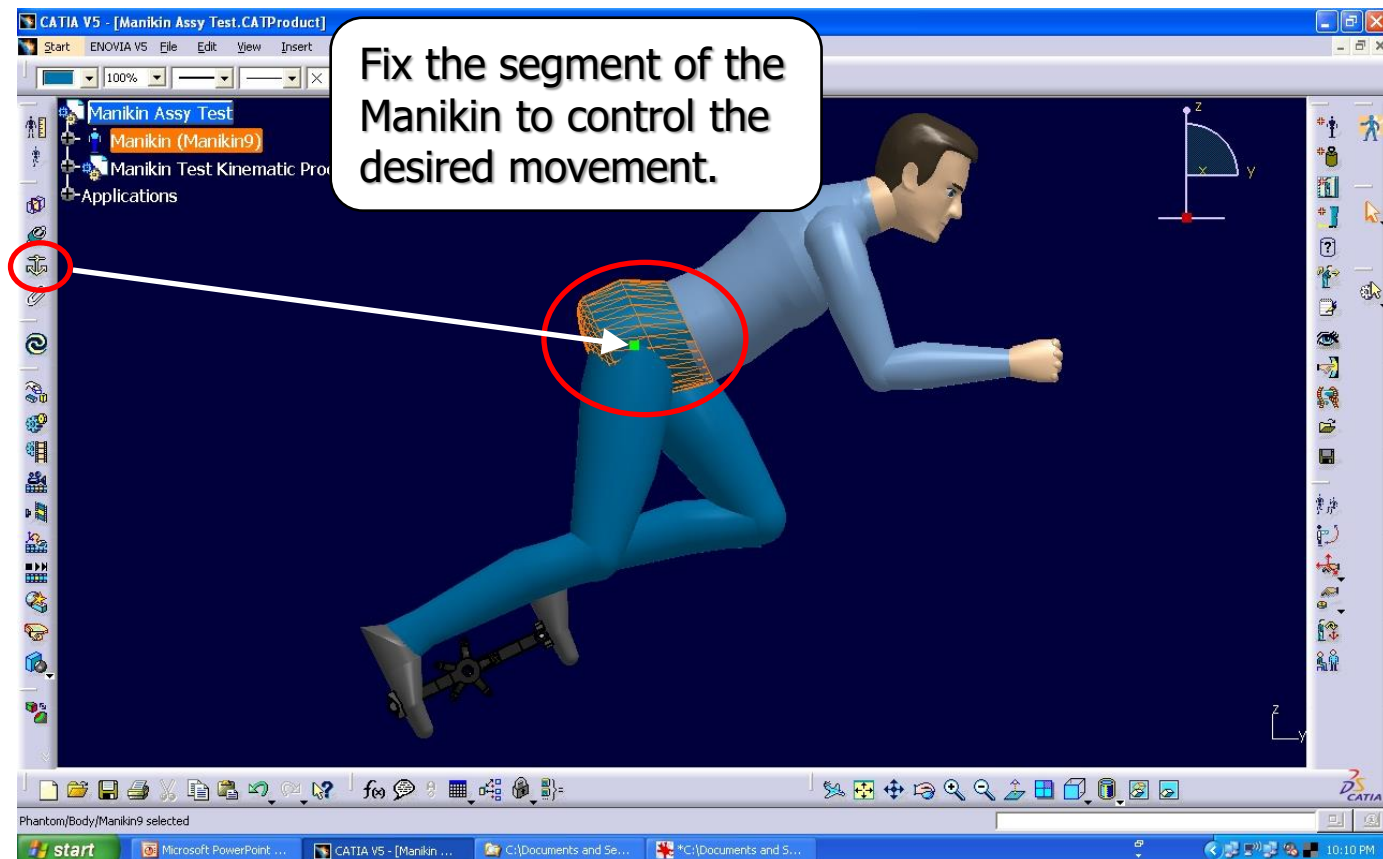


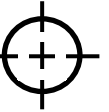
- You may have to manually manipulate the Manikin to get it to a “start” position.





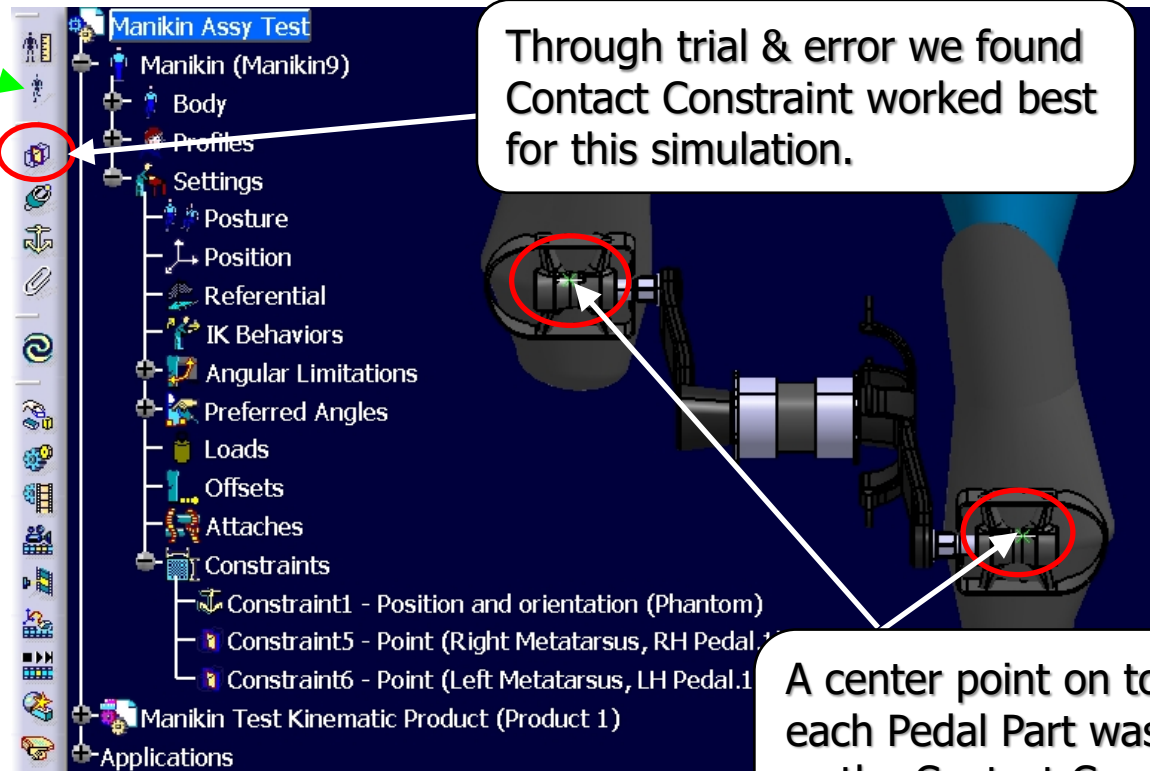
- Step 3: Constrain the Manikin for the simulation.





- Constrain the Manikin to the Parts within the Kinematic Product.

Human
Posture
Analysis

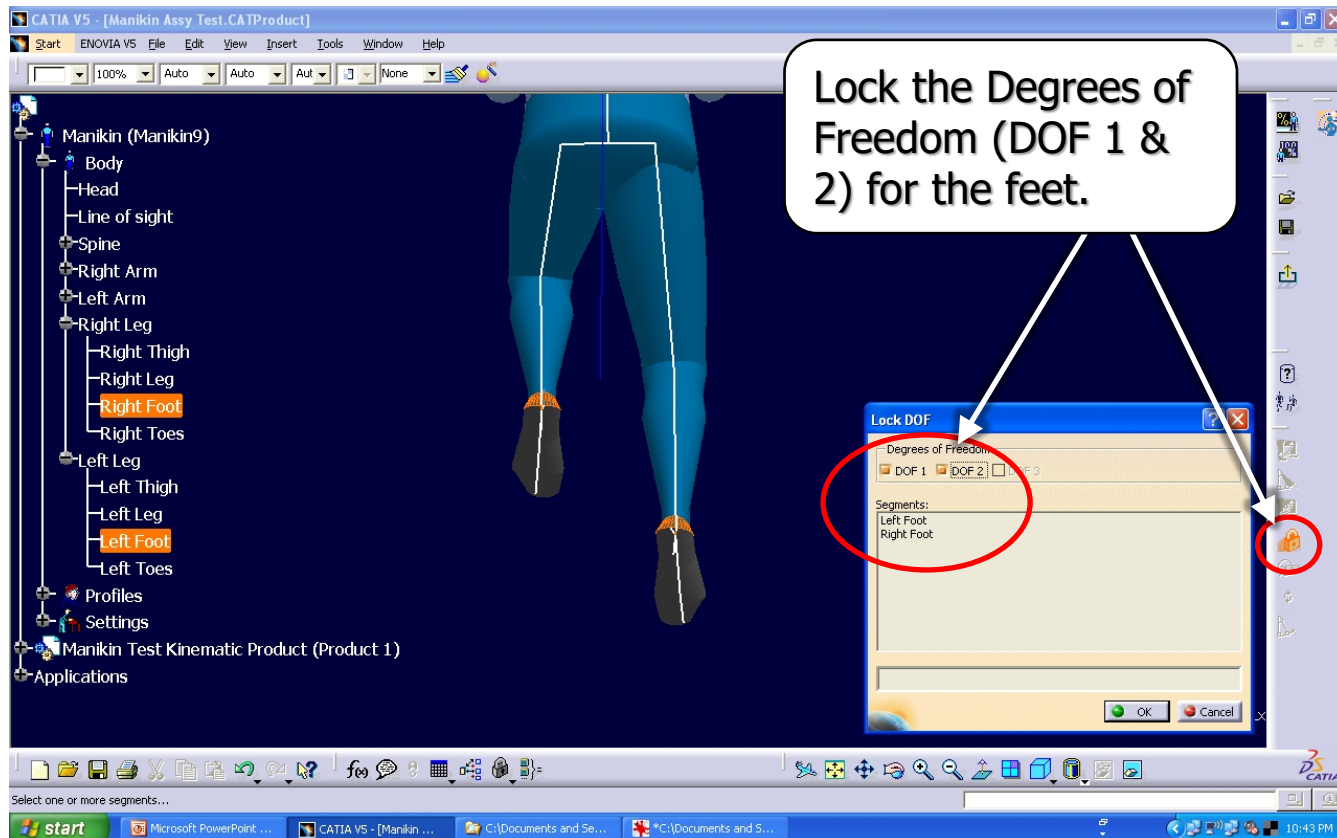


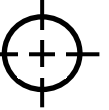
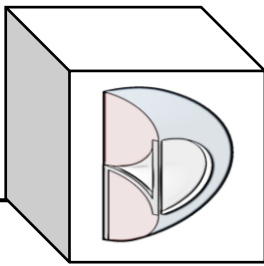
Through trial & error we found
Contact Constraint worked best
for this simulation.

A center point on top of
each Pedal Part was used
as the Contact Constraint
to the foot.

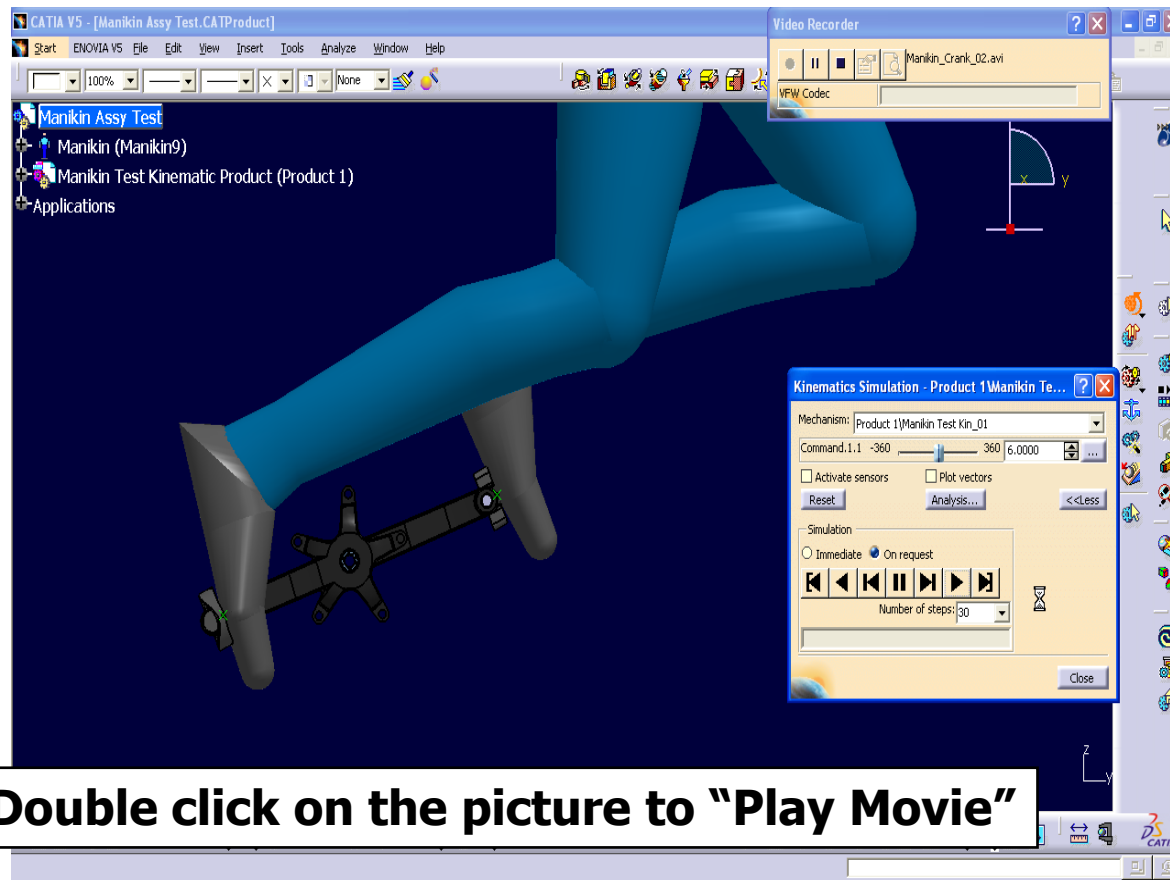


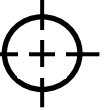
- Open the Human Posture Analysis Workbench.





- Step 4: Run the Kinematic Simulation.





- Conclusion:

This example is simply to show how to connect an Ergonomic Manikin to a Kinematic Simulation using CATIA V5.

We will optimize the contact angle of the feet to the pedals in the next presentation.

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