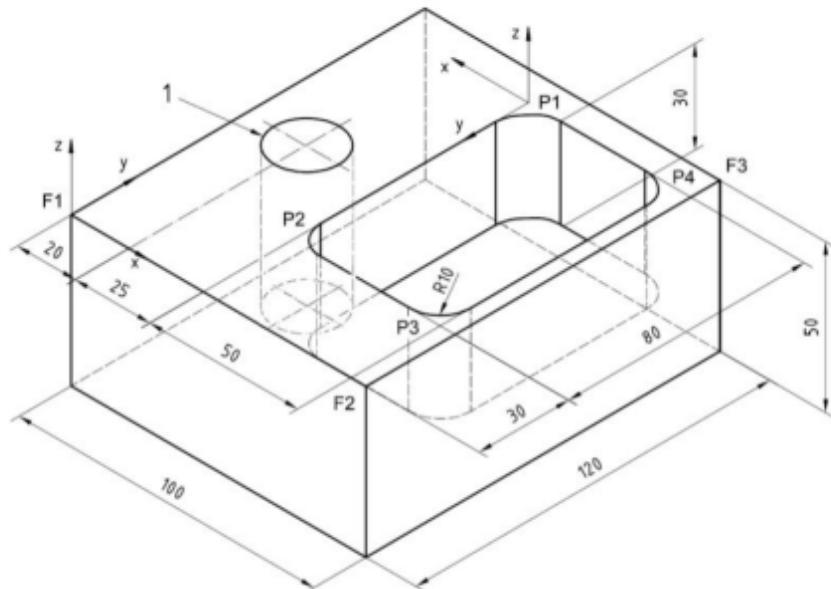


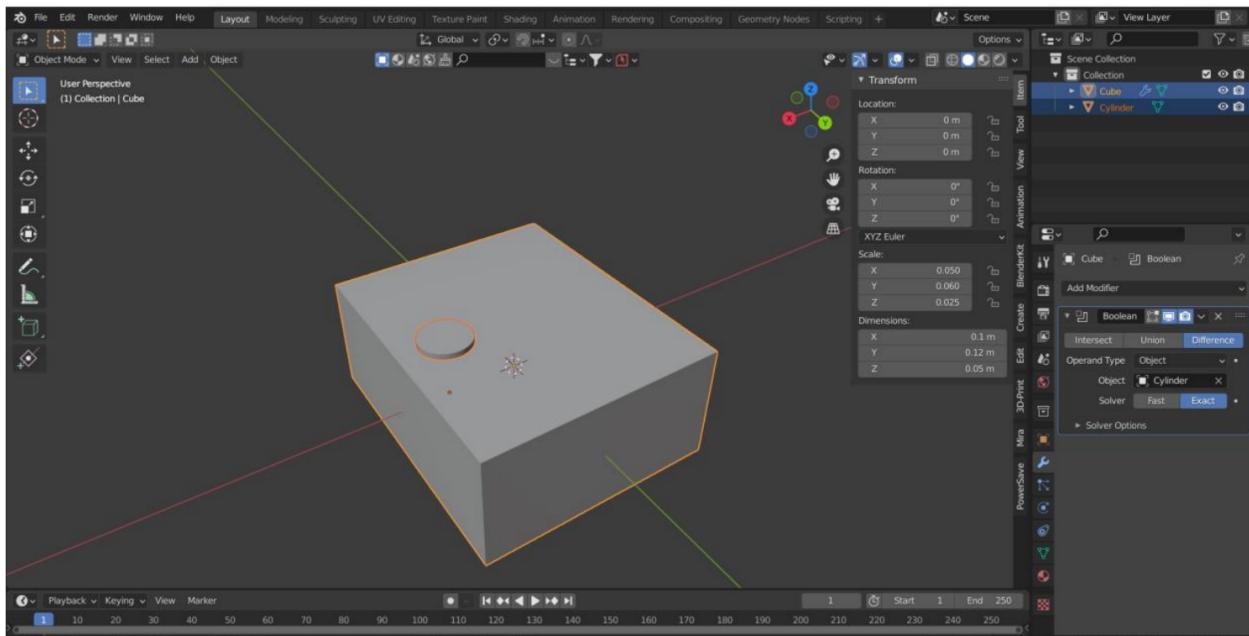
Problem -7 (MastreCAM/ Powermill, Fusion 360, etc.)

Create a 3D model of the given part, simulate the milling tool path, and calculate the machining time for the given component using CAM Software.



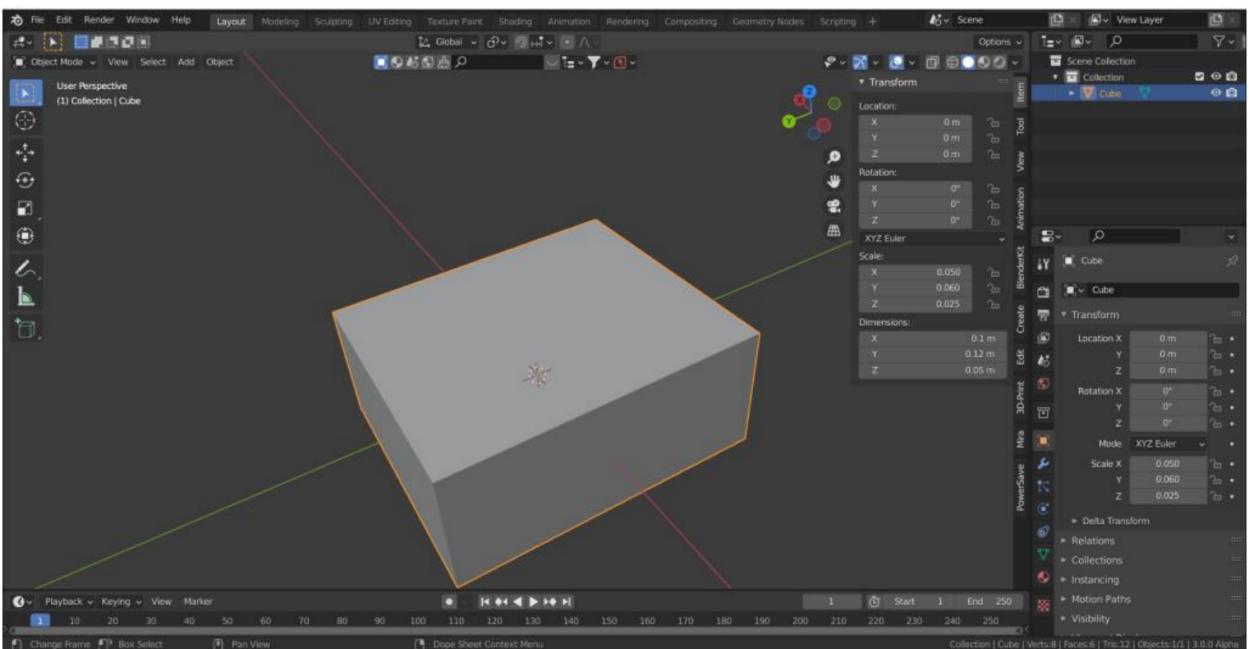
Adjust the dimensions of the default cube. This will be the base so the dimension is 120x100x50.

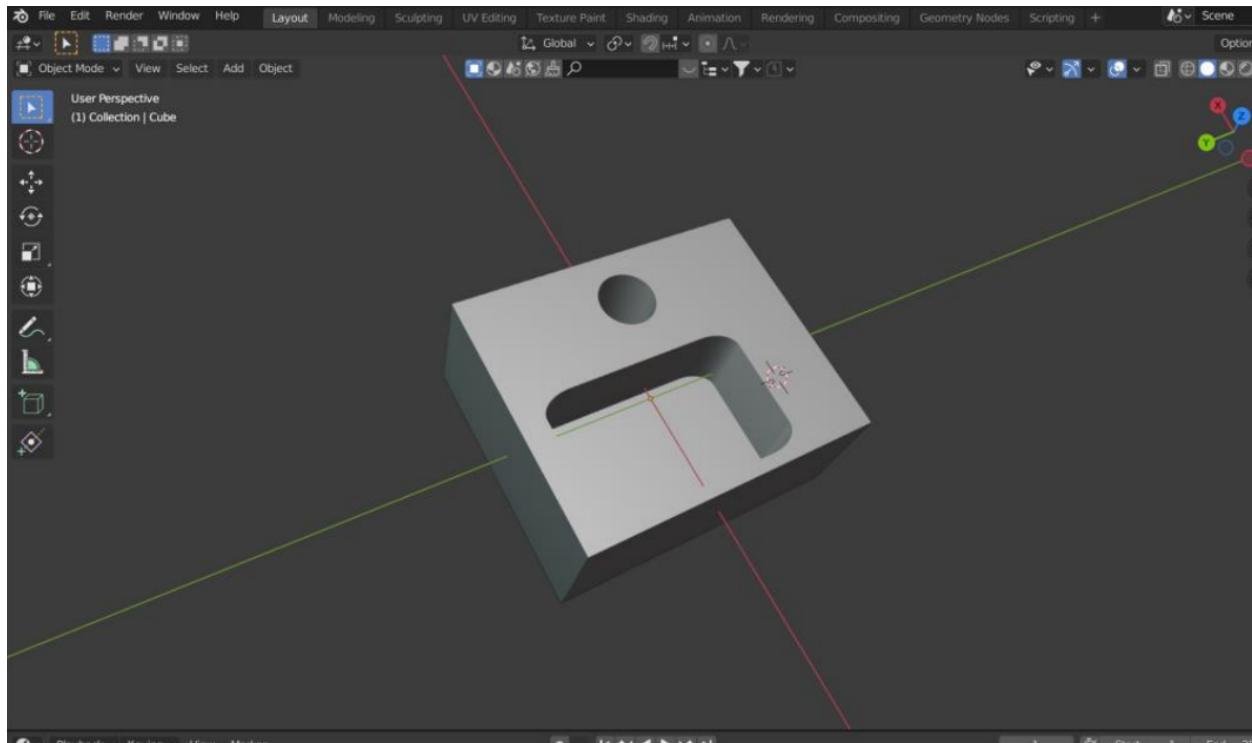
Insert a cylinder with a radius of 11mm and apply the Boolean difference operation by placing



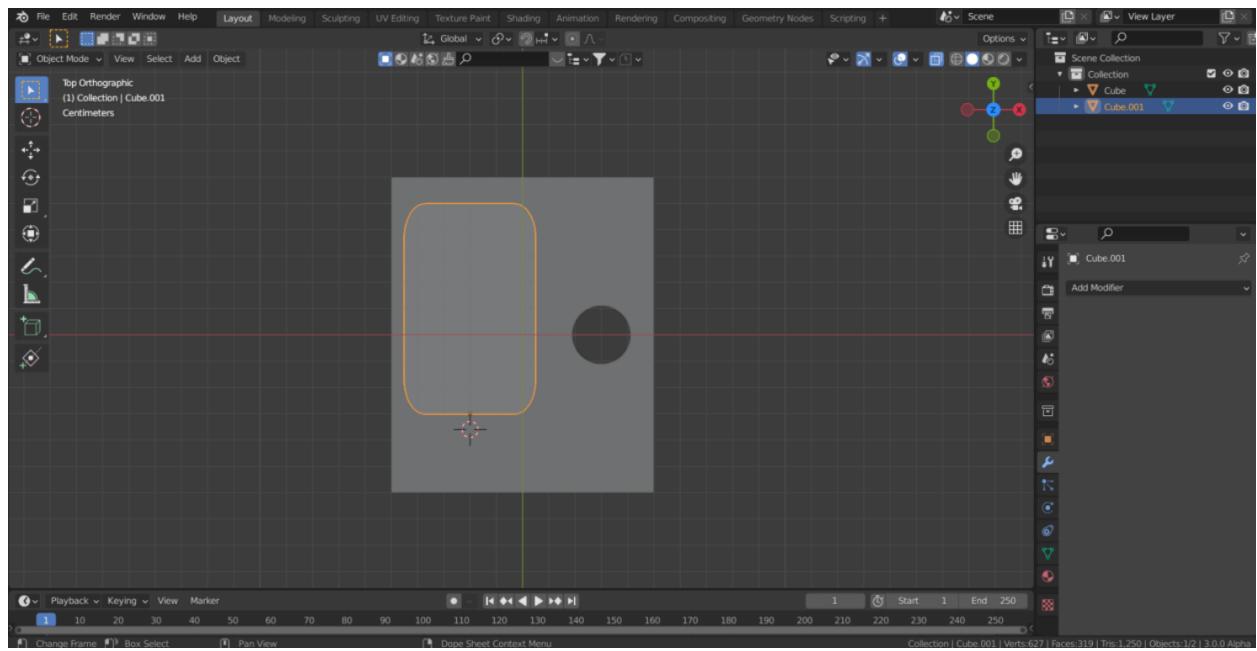
the cylinder according to the given diagram.

Insert in a cube and place the dimensions as 50x80x30. Add in the bevel with the **ctrl+b** command
and give the radius as 10mm.

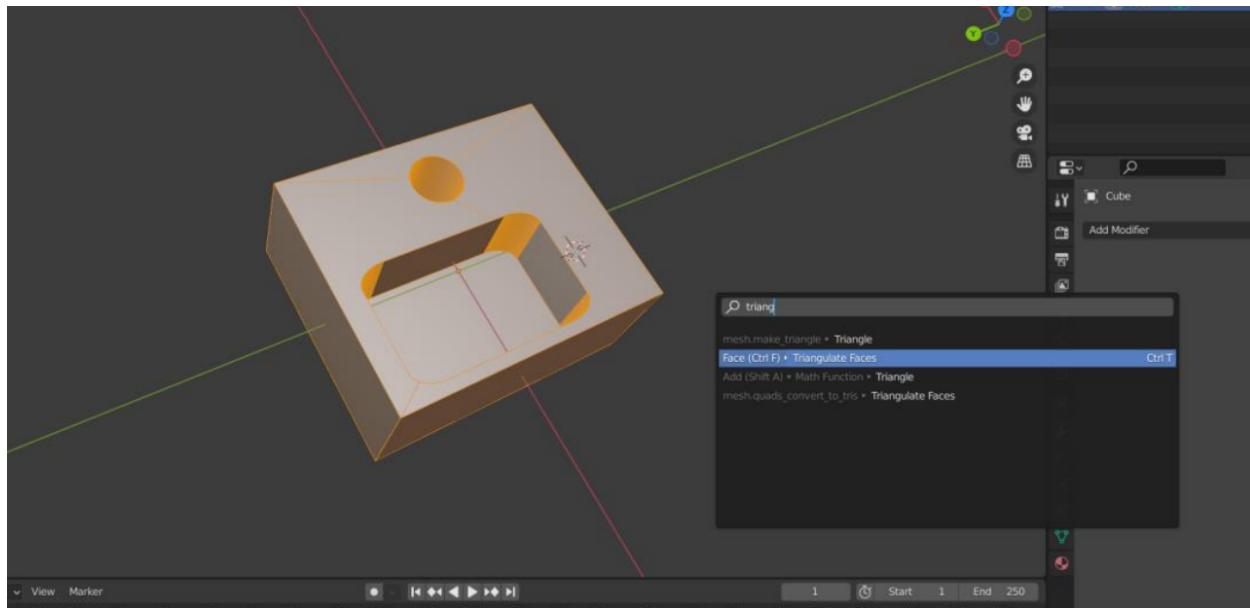




Apply the Boolean difference operation.

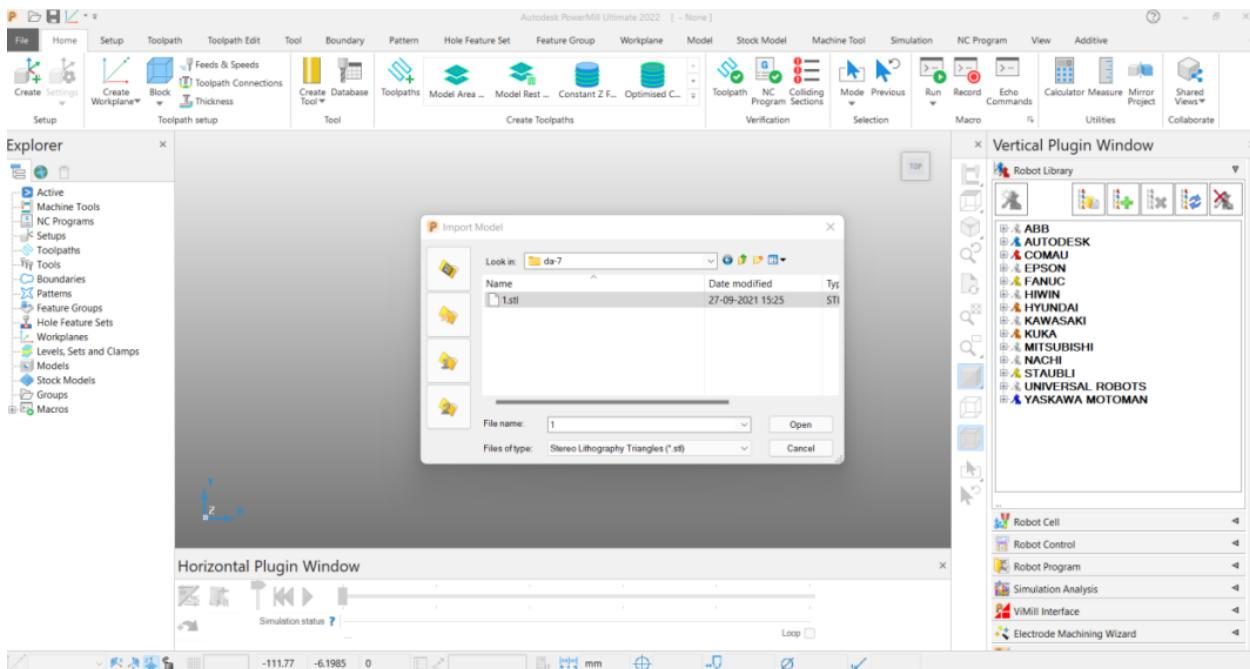


Now convert all the faces to triangles by triangulate command in edit mode.

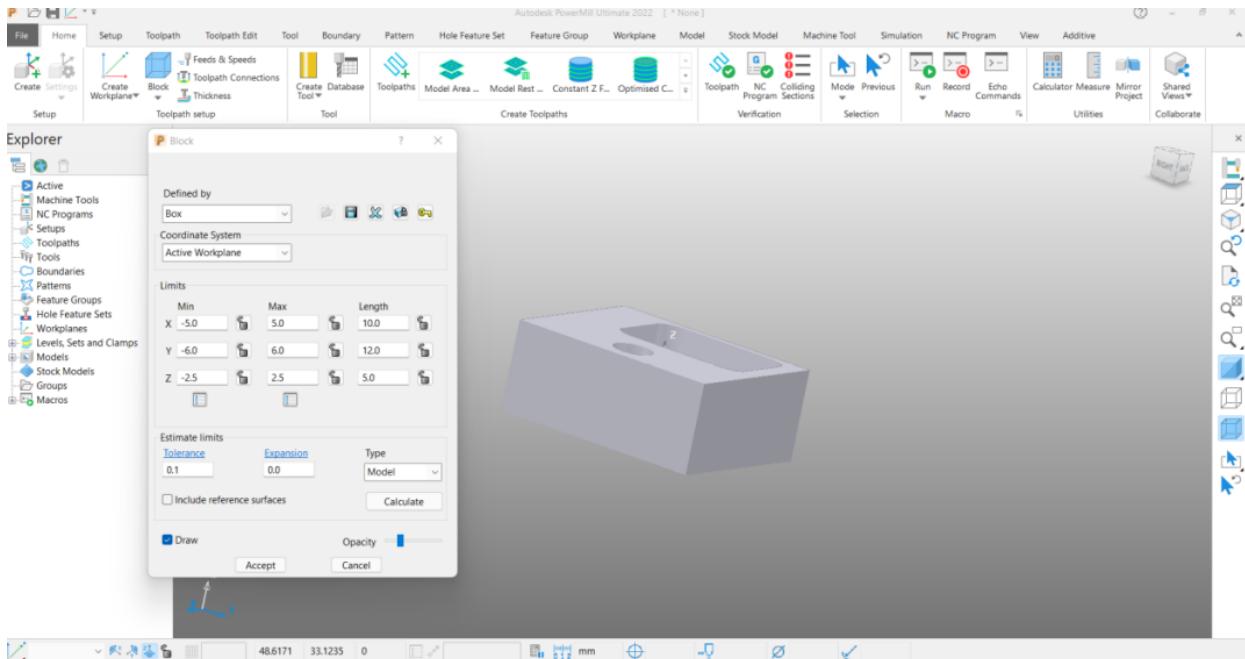


Export the model as a .stl file.

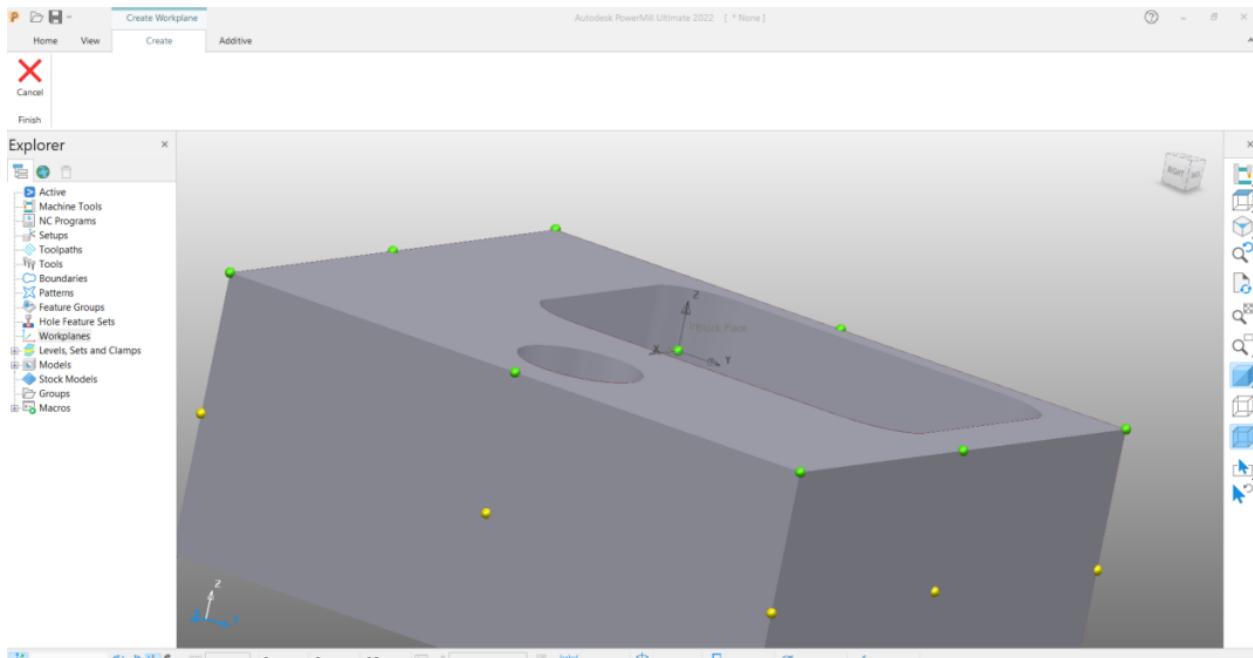
Open power mill and import the STL model under file->import



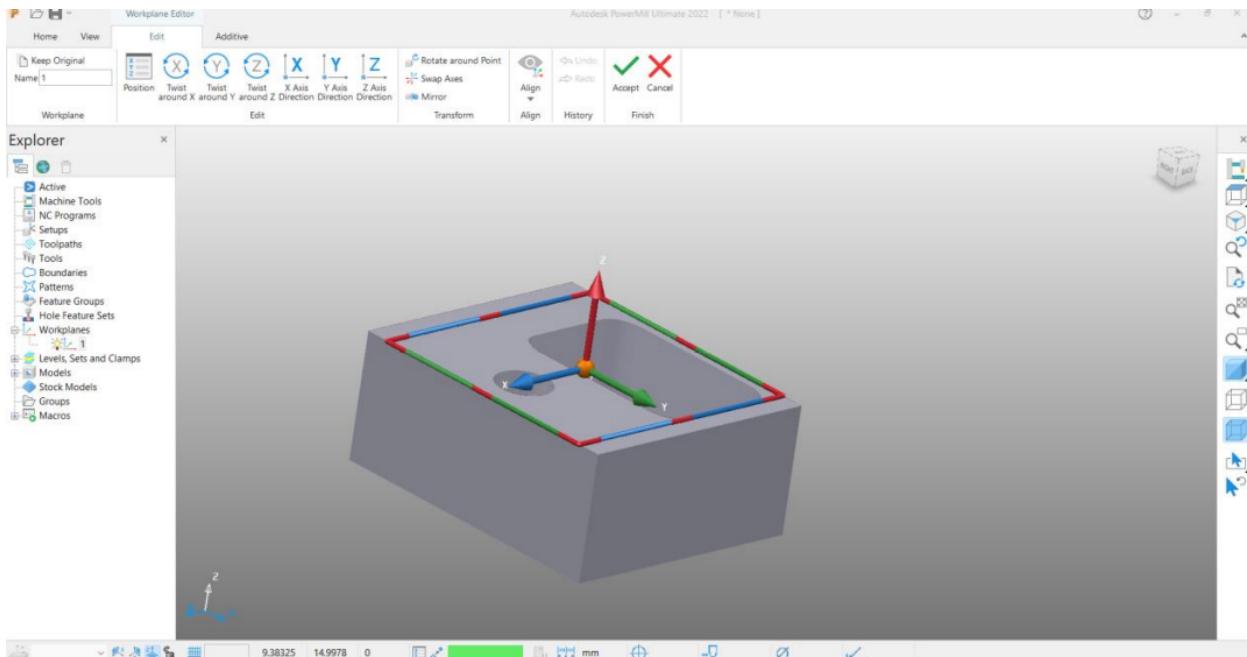
Define the block by clicking on the block and press the calculate command.



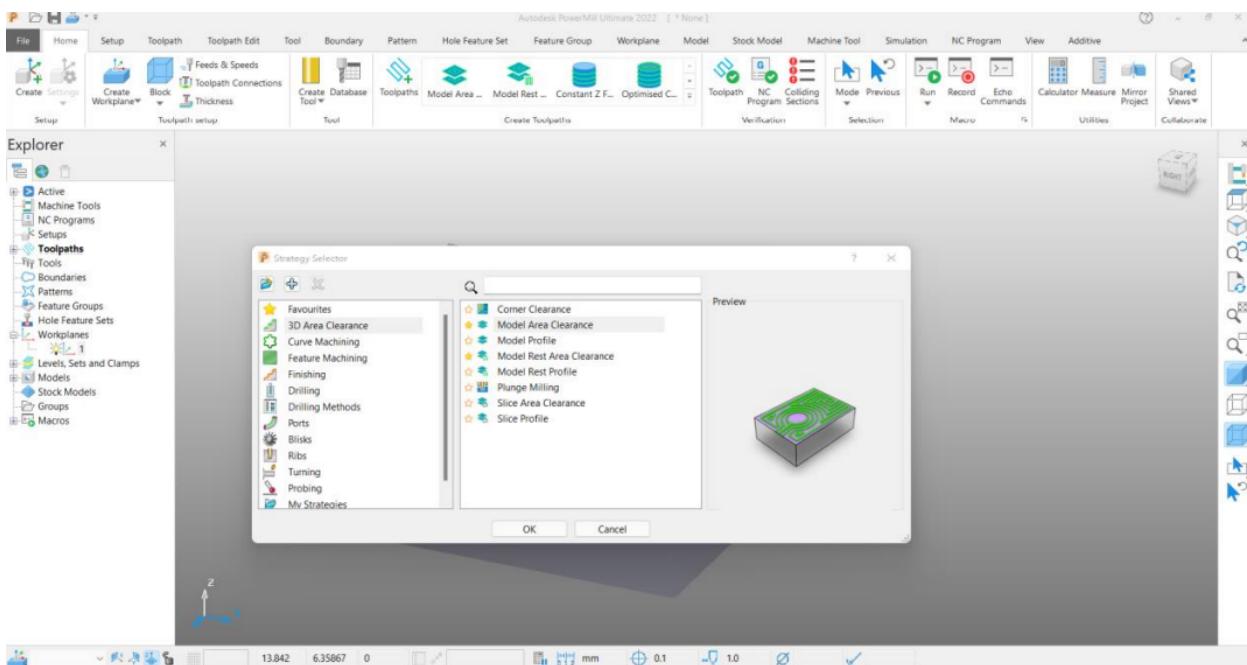
Now define the workplace under workplace->create orient workplane->workplane positioned using block . Now select the top face point.



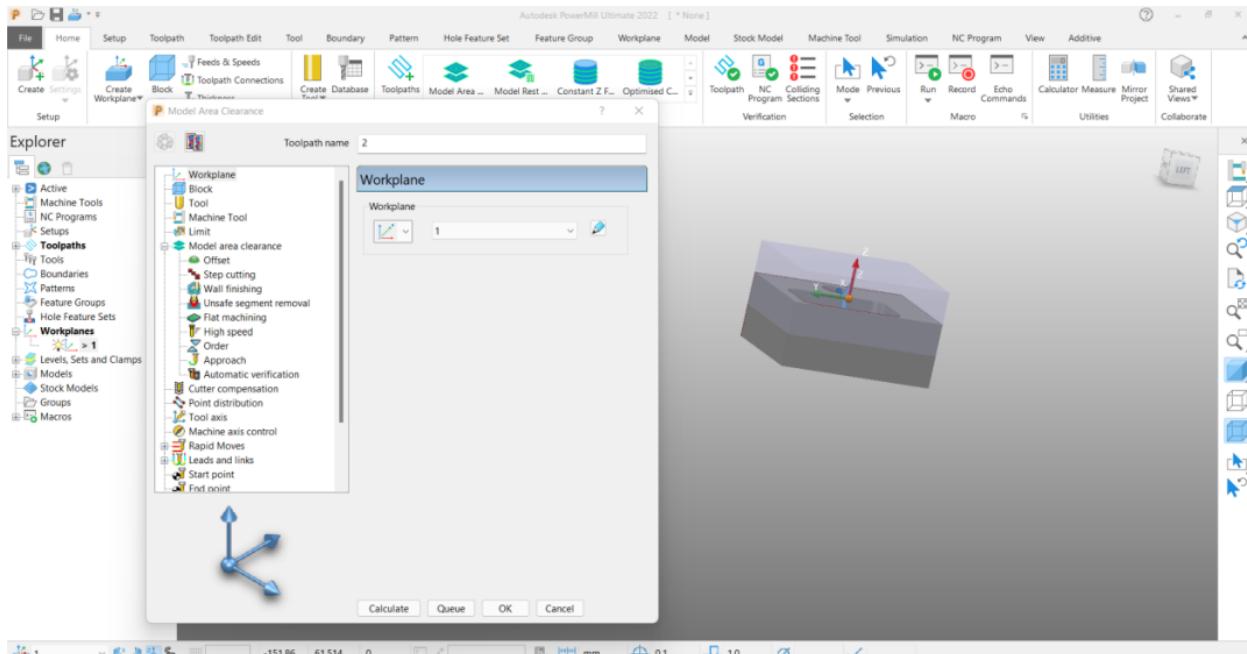
We can change the orientation of the workplane by editing the workplane . For my model, the work plane is oriented in the desired direction do I am not changing the orientation.



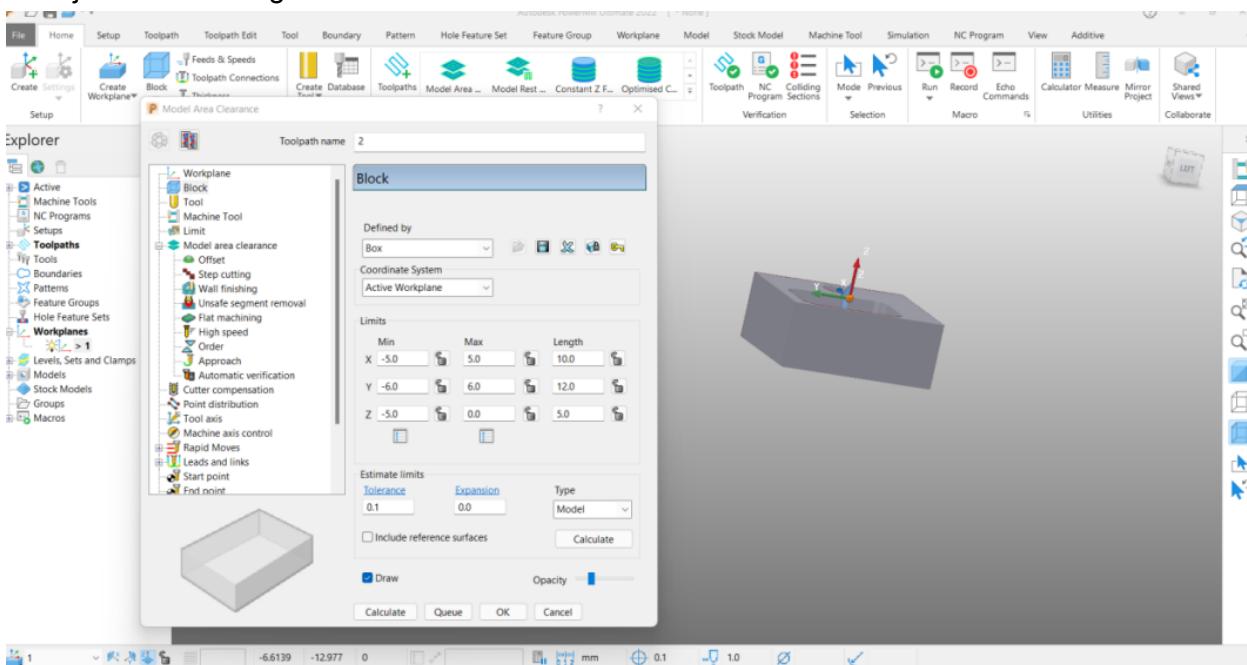
Now select the tool path. To create a tool path. In the dialogue box select model area clearance and select ok



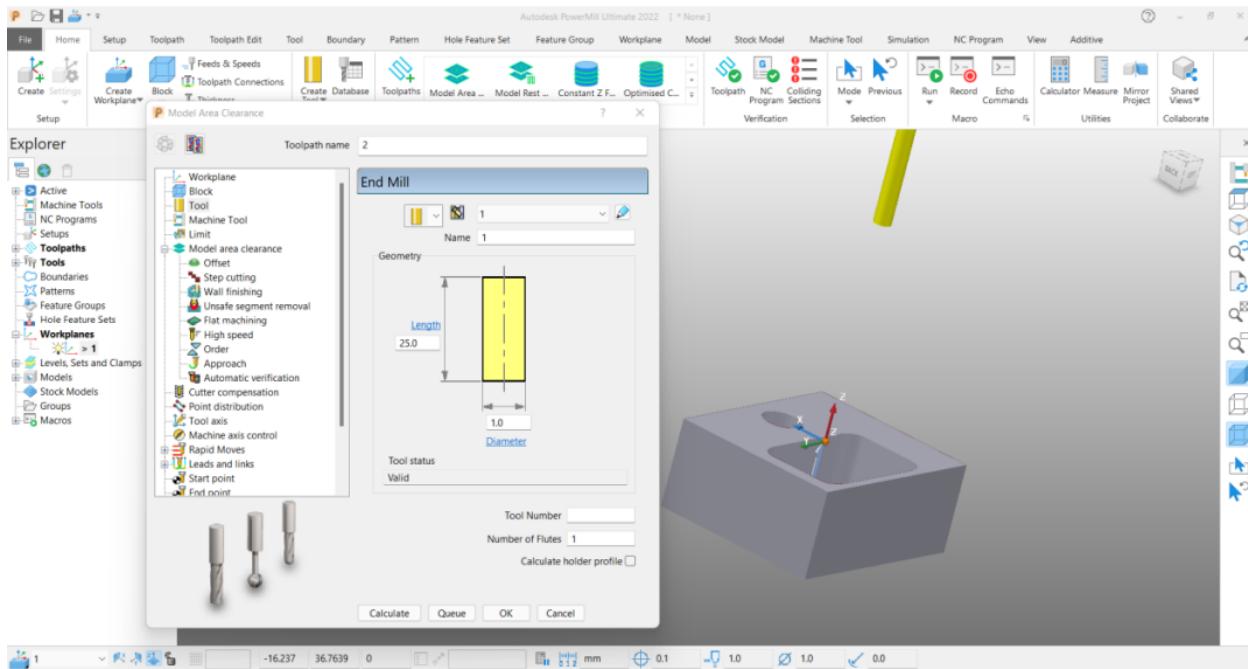
Now select the work plane that we have defined earlier.



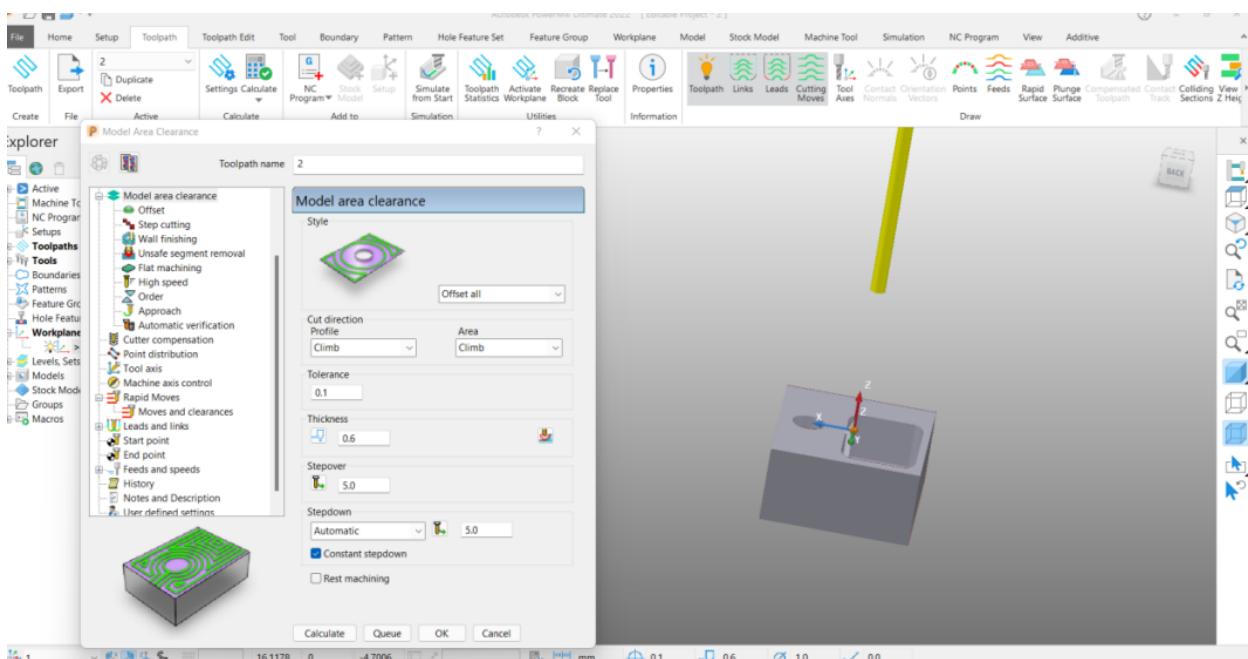
To adjust the block again calculate the block.



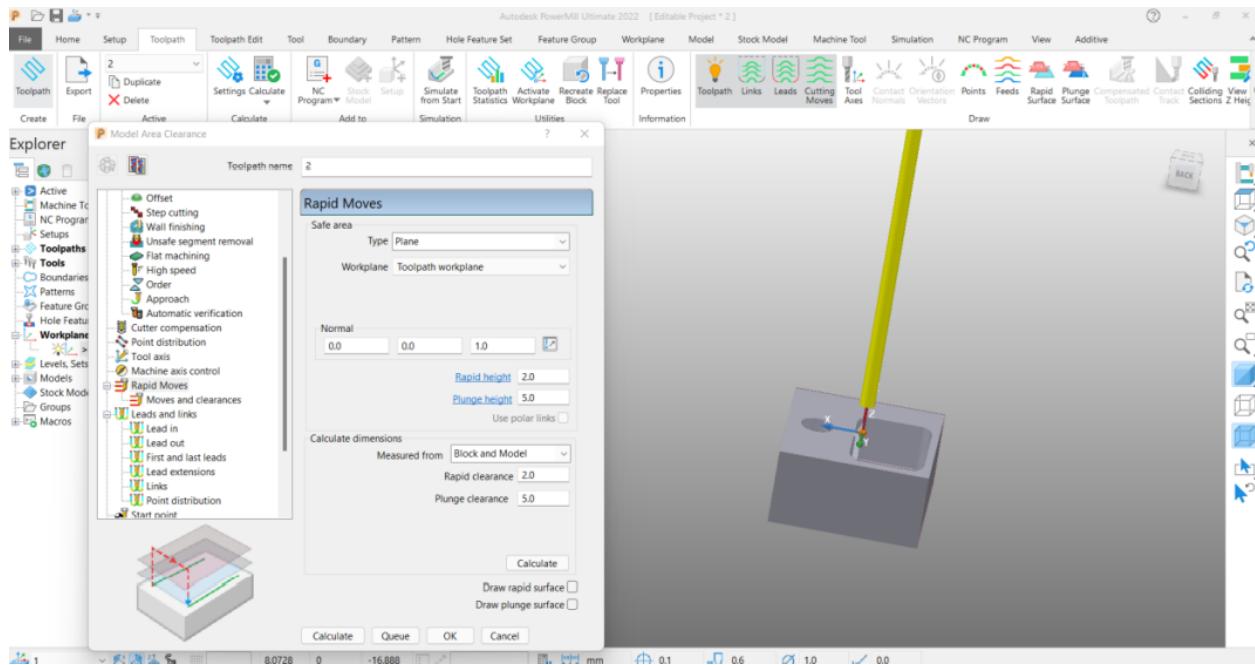
Now under the Tool. Fill in the details of the tool that we are using for machining purposes.



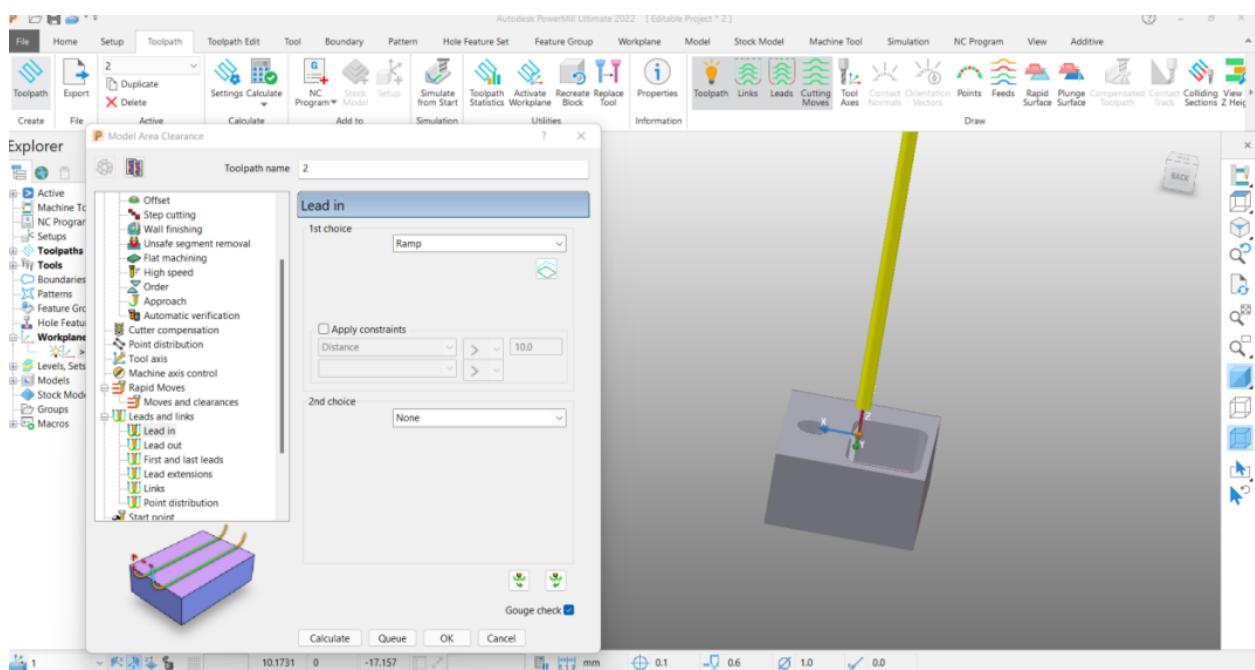
Under the model, area clearance specify the thickness and step overvalue.I gave the thickness as 60 percentage of the tool diameter. And the step over depends on the material of the block. My material is not very hard so I can give it 5



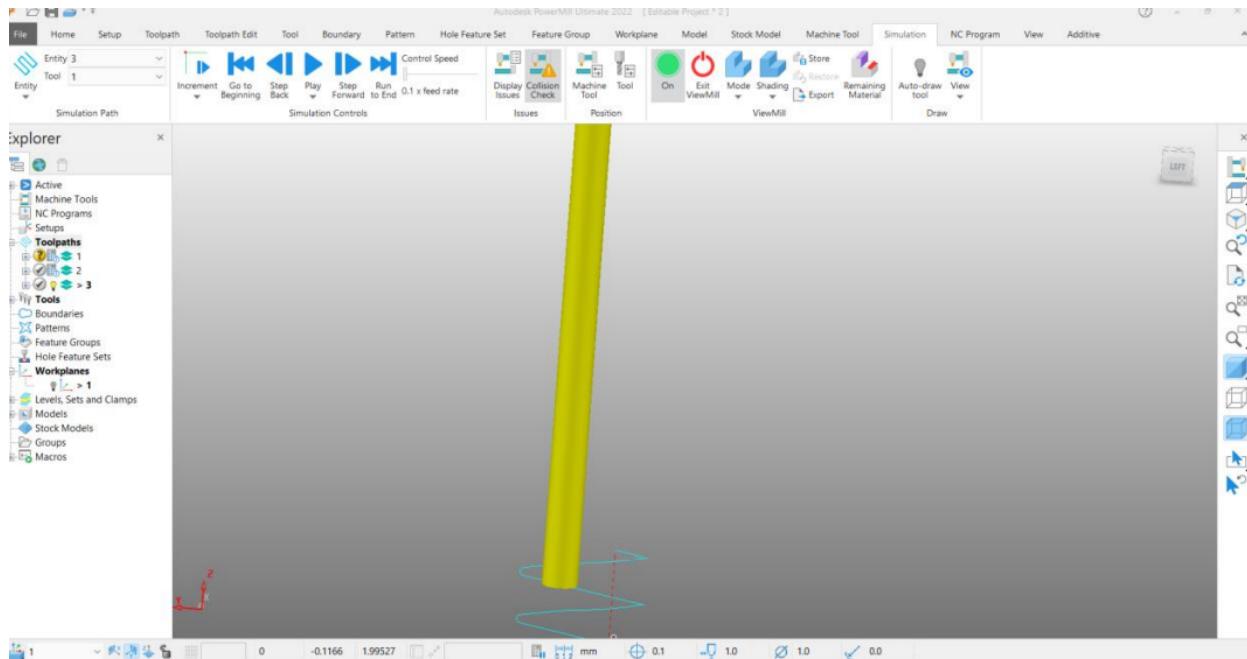
Under the rapid moves specify the rapid clearance. I gave it as 2mm.



Under lead and links select the lead-in . Select the lead-in type as a ramp.



Now click on the calculate button.



Now under the simulation press the play button to see the simulation of the tool path.

