

Solidworks tutorial



helix

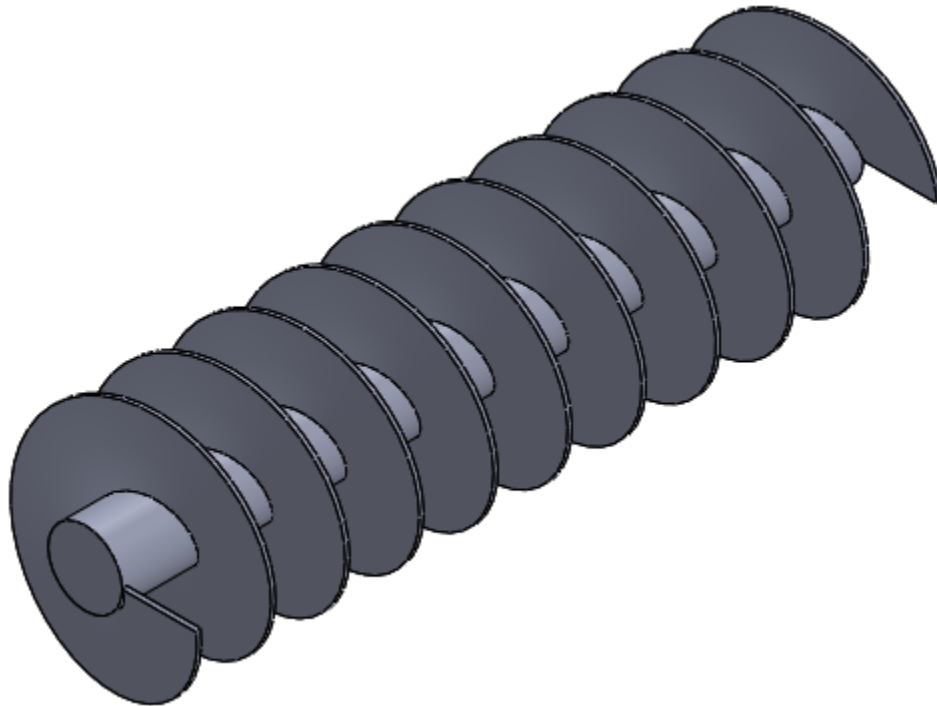
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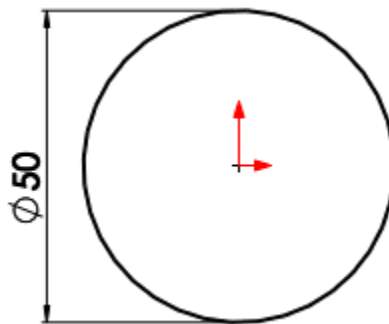




One of the swa visitors had asked me for tutorial about the designing of helix shape and this is for him. I hope you like it too. You can find many Helix shaped tools in industries, for example threads on every bolt and nut are based on a helix or reciprocating screws in plastic injection machines and meat grinders are helix shaped tools. Here we are going to design a simple helix shaped tool. You can use the method to design any other similar tool:

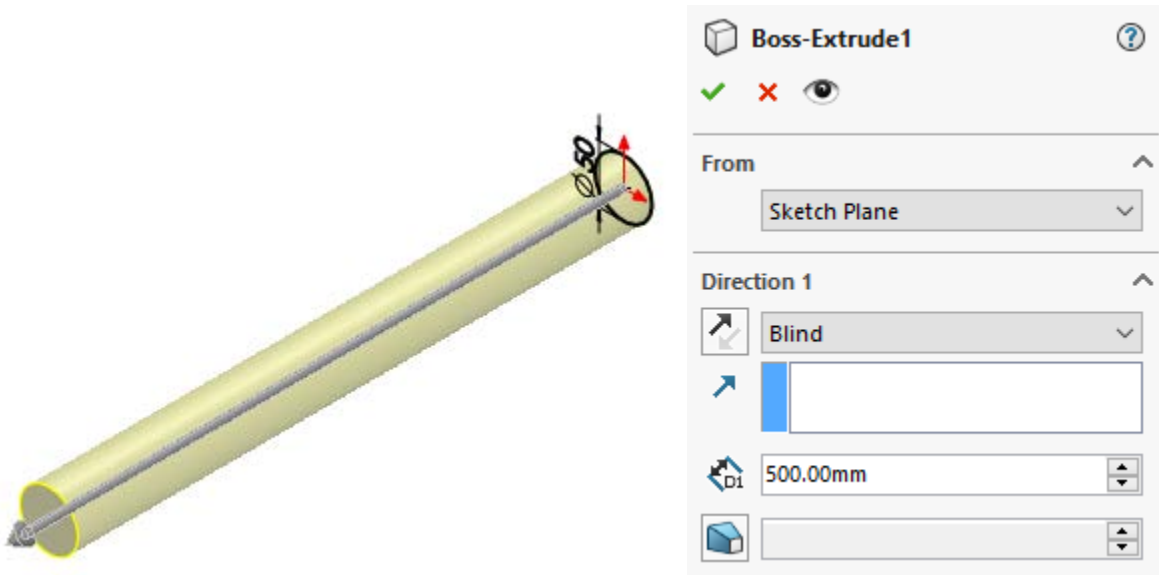


In the first step open a new sketch on the front plane and draw the circle:

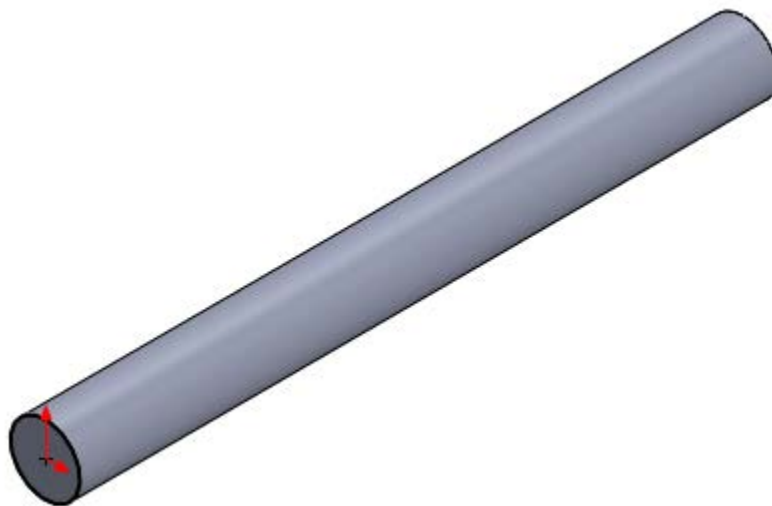




Now extrude the circle:

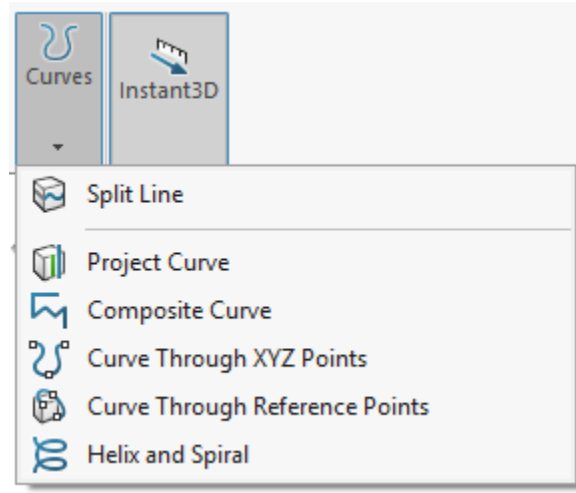


We need a basic sketch to define a helix so open a new sketch on the end circular surface of the part and project the circular edge of the part using “convert entities” tool:

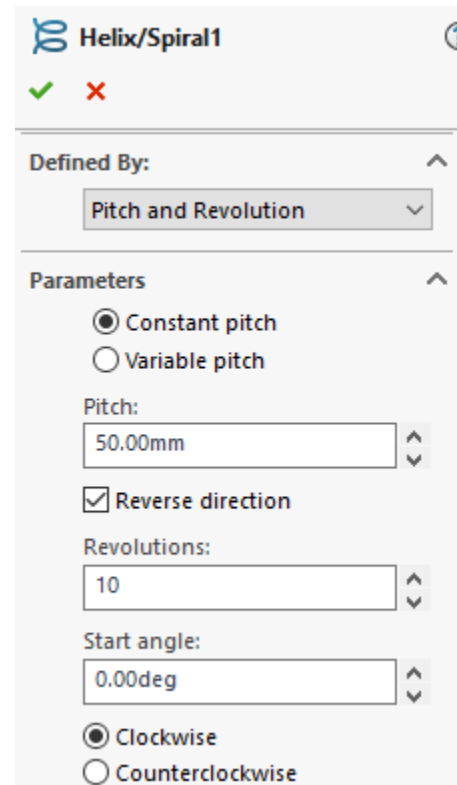
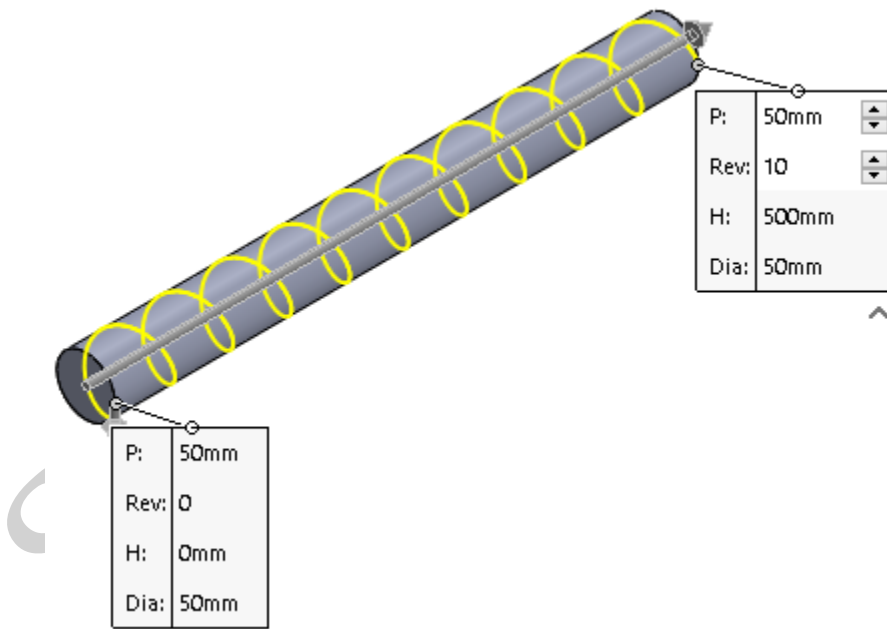




Exit the sketch and navigate to the “features” tab. Click on the “curves” button and select “ helix and spiral”:

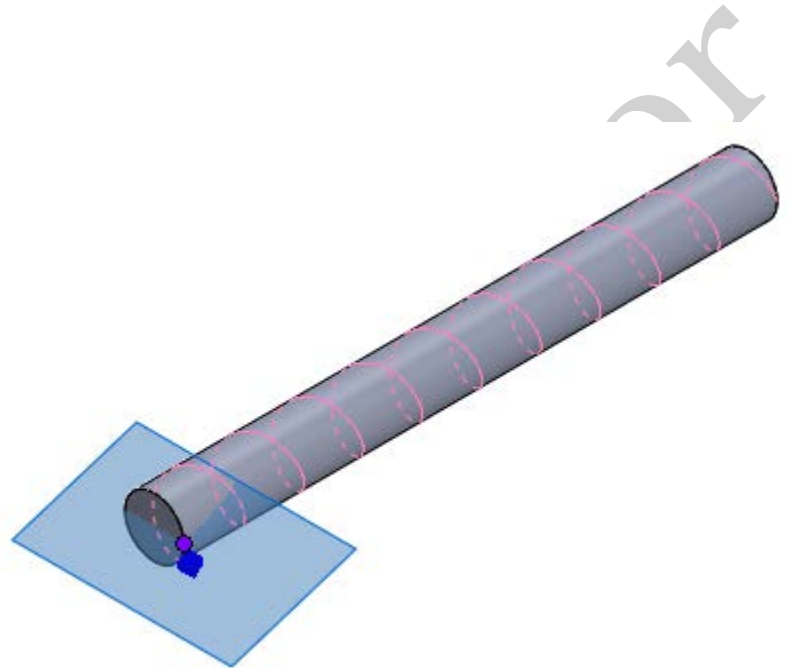
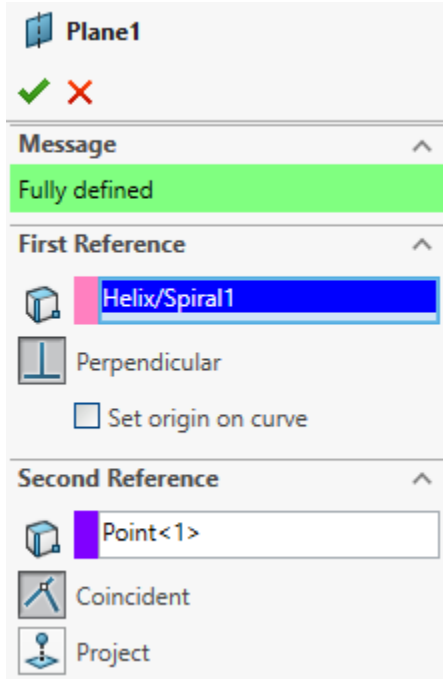


We can define the helix now. First select the previous circle as the basic sketch then type 50 mm in pitch box. You can select the “reverse direction” radio button if its needed. Type 10 in the “revolutions” box and if the preview is ok confirm the helix window:

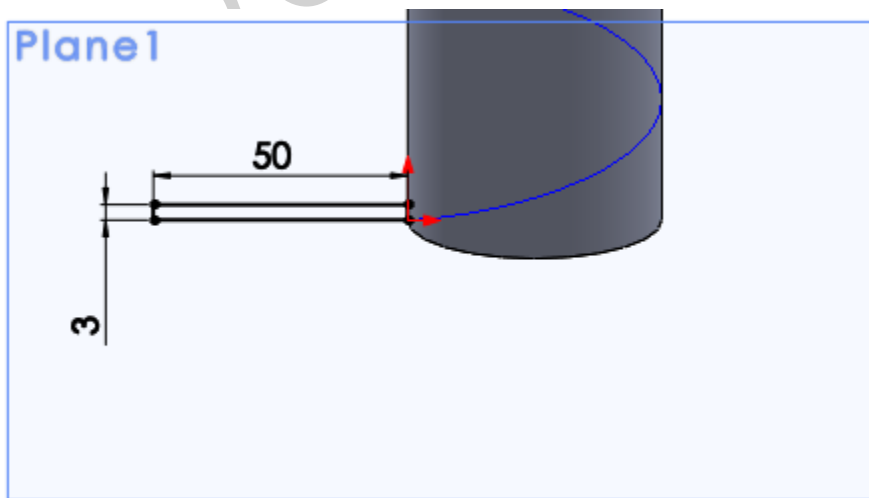




We need a new plane to sketch on the starting point of the helix. Define the below plane using the “plane” tool in the features tab. The first reference is the helix which our new plane should be perpendicular with it and the second reference is the starting point of the helix which is the location of the new plane:

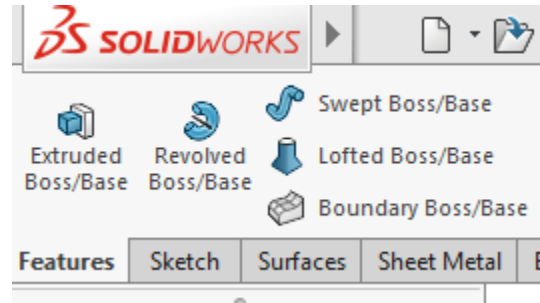


Sketch a rectangle on the new plane like this. The lower right corner of the rectangle is coincident with the starting point of the helix:

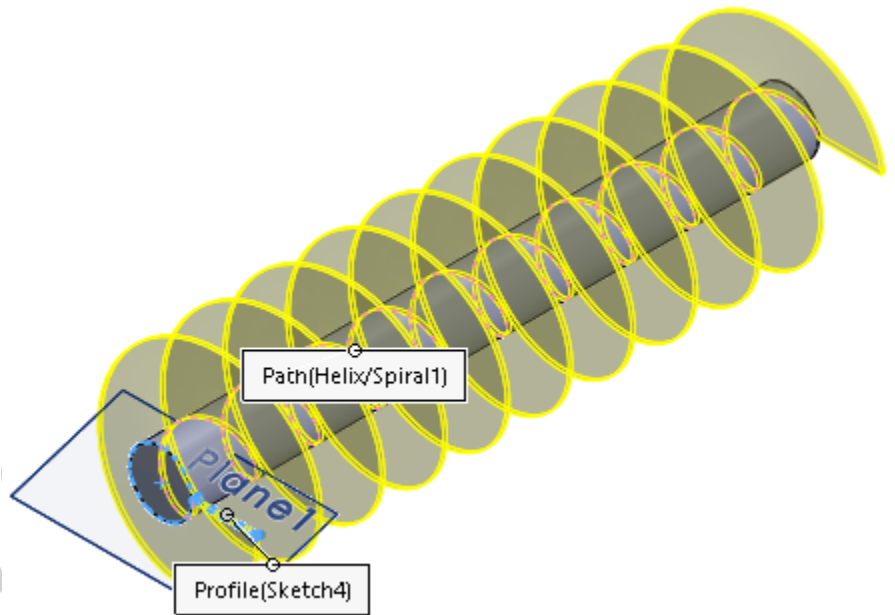
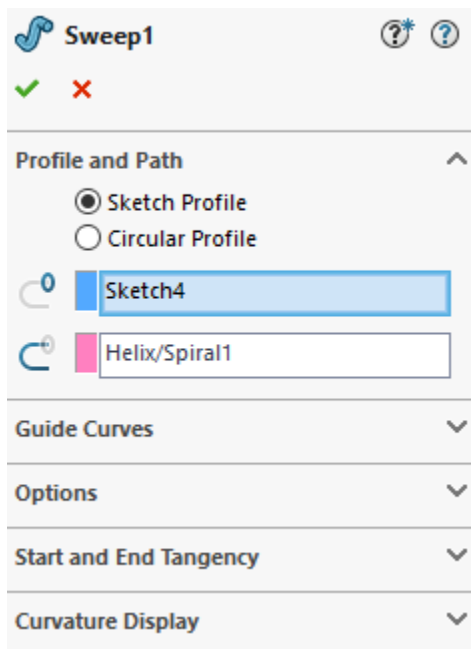




Exit the sketch and run the “swept boss/base” command from the features tab:



Select the helix as the “path” the select the rectangle as the “profile”. See the preview and confirm the window:



Now we have our reciprocating screw. Using this method you can design any other helix shaped model:

