



Tutorial once you have a 3D part finished and want to begin a simulation:

Hit the Simulation Tab

*At this point, if you do not have a simulations tab, choose Tools → add-in → check the box for Solidworks Simulation or Simulation Express

Select from the Simulation Tab, New Study → Static → Name study and hit OK

At this point, there should be a tree of options that is titled study on the left of your screen, first we need to set the Material.

To Set a Material: Select from tab on left: Material → Steel → ASTM A36 Steel → Verify/change units → Apply → Close

To set a boundary constraint: Right-click fixtures on left tab → select Fixed Geometry and apply by clicking on end of I-beam

To set an external Load: Right-click External loads on left tab → Choose force → Click on a surface on I-beam to apply force → Set direction force and units

*Note that there are orientation buttons on the middle top part of the screen which may help you find views that make it easier to apply constraints and loads on surfaces

To run a simulation: Choose Mesh from left tab → Select to run → Use results tab to cycle through results → Double click on stress sin results tab to see options

*If your run failed at this point, try going to the model and editing the material and applying it again...save the part

If you modify the part, you will have to rerun the simulation manually to update the results. This is indicated by yellow exclamation marks on the mesh and results selections.

Tutorial to add a Sequence of Holes to an already built 3D part:

Select a place → Select Sketch → Orient View

Use circle tool to draw a circle, smart dimension it's diameter and then dimension it relative to the beam by selecting the edge of the beam and the center of the circle. Add a horizontal relationship.

Then choose sketch → entities → click on arch → Click on linear sketch pattern → Choose spacing and # of circles → Pick direction → Pres okay → All circle dimensions are identical to the original and may be varied by varying the diameter of the initial circle

To make them holes, choose extrude cut from the features tab → Through All → Press okay

Note, this has changed your part if you are running a simulation (as indicated by the yellow exclamation marks on the mesh selections and results) so to get up to date results, a new mesh/run needs to be performed.