Lesson: Preserve Geometry

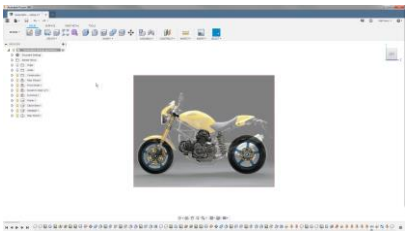
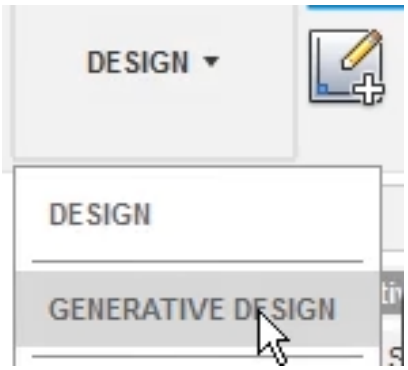
In this lesson, you will create preserve geometry for a generative design that will drive mounting points and locations critical to the components function.

Learning Objectives

- Enter the generative design workspace.
- Select preserve regions.



The completed exercise

1. Continue with the file from the previous example or upload the supplied file, “Generative design geometry setup”.	
2. To begin the setup for the generative design process, preserve geometry needs to be created. Navigate to the Generative Design workspace. The canvas image is automatically hidden and a yellow arrow pointing down appears; this arrow represents gravity.	

3. In the Browser, expand the Model Components folder and select the Frame component. Notice the many attachment points inside the Frame component. The attachment points are simplified for the purposes of the generative design; after the generative design is complete, the attachment points will need additional details before they are ready for manufacture. This simplification is purposeful because the generative design process would have to work harder if the attachment points were fully detailed. Since the engine is structural, notice the frame will bolt to it in several places. The two attachment points under the seat will not be used in this lesson; however, they are included in case you want additional practice for creating generative designs.



4. Click Design Space> Preserve Geometry.



5. Select the head tube, the four upper attachment points on the engine, and the two upper attachment points on the shock. The lower attachment points will not be used at this time because they are reserved for the swingarm. Click OK. Notice that the head tube and the two upper attachment points on the other side of the engine are not visible in the image on the right. Save the file and continue to the next module.

