

## Challenge exercise: Create vent geometry

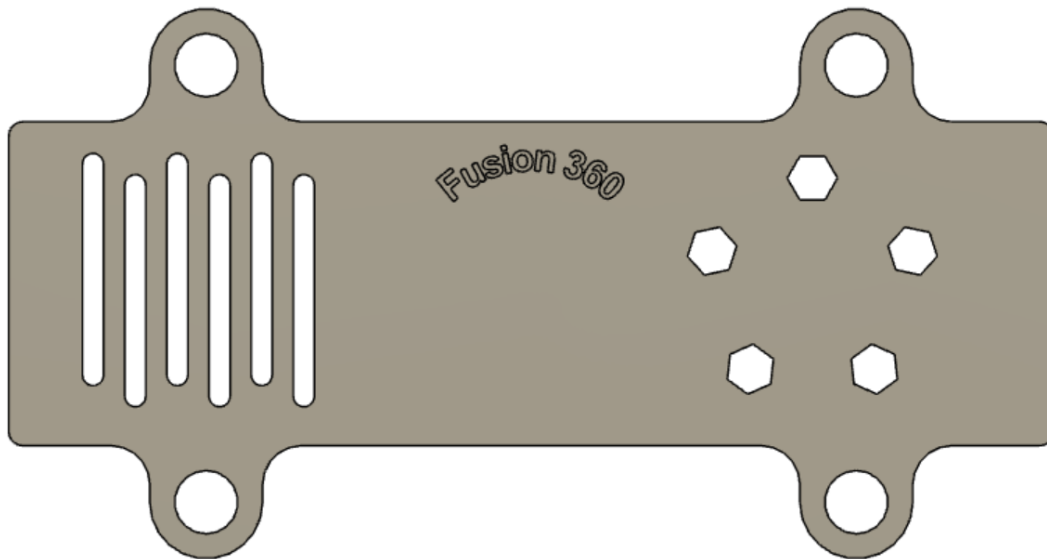
The challenge: Create a vent pattern on the provided cover for a gear housing. Use parametric sketching such that changes in the cover dimensions will allow the vent geometry to scale accordingly.

Open the supplied dataset ***Gear Housing Cover.f3d***. Using the image provided below, create the depicted venting geometry. You are encouraged to create additional venting geometry using other tools explored in this course.

Create a fully dimensioned sketch of the geometry shown in the image below. Any dimensions can be used to create sketch entities that loosely follows that of the image. You are required to use slots and patterns to create the geometry on the referenced plane of the housing cover. Use 3D features to create cuts in the existing solid body. Additionally, add a custom engraving to the cover using sketch text.

### Complete the required activities:

- Create a fully dimensioned sketch on the referenced top face of the housing cover
- Use the Center to Center Slot tool to create the slots
- Use a rectangular sketch pattern for the slots
- Use a circular sketch pattern for the hexagons
- Use sketch text to create a custom engraving



*Figure 1. Sample vent geometry design.*