

Challenge exercise: Create a bolt

The challenge: Modify a bolt design to be compatible with a specified hardware constraint and create a corresponding detailed drawing.

Open the supplied dataset **Simple Bolt.f3d**. If it doesn't already exist, create a new project for this course and save this design into it. The current design has a threaded rod with a square end on it but needs to have a 6-point head suitable for a 25mm wrench.

Create a fully dimensioned sketch and use 3D features to create a solid body for the screw head that is compatible with a 25mm wrench. After the model has been updated with the correct head geometry, create a technical drawing with 3 orthographic views and 1 isometric view. No dimensions are required on the drawing at this time.

Complete the required activities:

- Save the supplied dataset either into a new project or an existing one
- Create a sketch to model a hex head for the 25mm wrench
- Use 3D features to create a solid body of the 6-point head
- Create a technical drawing with the views mentioned above
- Export the technical drawing as a PDF



Figure 1. Provided simple bolt dataset.