SolidWorks Personal Project

Helicopter

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Section 025

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I chose to work on a Helicopter because I was always fascinated by Helicopters, my uncle flies helicopters every now and then, and knows a lot about them, so he was able to help me during Thanksgiving break. He told me about how different ones worked, and guided me through some functions of the helicopter to incorporate into my solid works project such as the gears, and battery.

Before the project started, I was able to play around with Solid works during my free time, so I was able to familiarize myself with some features that we didn’t get to in the tutorials. To complete the project, I needed to use the lofted surface for the black part, which is the “face” of the helicopter. I mainly used extrude boss/base for all parts of the helicopter. I also used extruded cut for most of the holes I made in many of the parts. I also used the tool hole wizard, which I looked up on a few websites:


I used the revolve tool for the rods and the gears. I also used the Mirror tool to make the building process quicker; I mainly mirrored the holes I made with the hole wizard. For the mirror tool, I’d firstly make the sketch, I’d use the hole wizard, or the extrude cut to make the holes. Next, I’d go to the mirror tool under the Linear Pattern to choose which axis to use as the mirror face/plane, and choose the holes to mirror them across the right plane. I also used the fillet tool a lot for the edges to make the parts smoother.

The hardest part to complete was the body of the helicopters outer shell, because it took the longest, and the dimensions were tough to line up correctly. It took me quite a while to figure out the dimensions of each part separately. Most of the time, I had to edit the part while it was in assembly to make the parts line up correctly to mate.

I learned various new features, such as the surface tool, the surface fill tool, the dome tool, hole wizard, and the knit tool under the surface tools.

From the solid works portion of the class, I learned the most common tools that were used in my helicopter. I also learned that everything needs to be defined if I want to make an object without any issues. I also learned that there is such a thing as over-defining, which is just repeated unnecessary dimensions.

![Helicopter Gears](image1)

![Front of Helicopter](image2)