

Personal CAD Project: My Ski

The Reason Behind the Project

I have been skiing since I was five years old. I can still remember that year I learned to ski at Seven Springs Ski Resort in Somerset, PA. It made me feel like I could not only conquer mountains, but conquer anything I wanted to in life if I put my mind to it. I have seen myself grow up next to skiing and would want nothing more than to be on the slopes every day. What better way to feel like I'm on the slopes than to actually recreate a ski? It is for that very reason that I decided to choose a ski for my personal CAD project.

Project Research (References)

For the CAD project, I had my Dad take pictures of my skis and dimension them in centimeters (Figure 1). That way the skis would pretty much be exactly like the ones I have at home! After I finished figuring out the details of the skis, it was then time to find a different binding to create, since the ski binding I had was too complex. I ended up choosing a very retro and old ski binding that had wiring rather than clip-on bindings (Figure 2). Both of these references gave me enough knowledge to create the ski with bindings on Solidworks. Pictures for the references can be found on the next page.

Difficulties with the Project

The project had many difficulties that ranged anywhere from computer error to difficulty using the tools in Solidworks. However, I would say that the biggest difficulty with the project was the assemblies. It was very hard to rotate and mate the individual parts into what I wanted them to be. I had to bend the wiring in a way that it would angle down into the binding. This, of course, took a lot more time to figure out than it probably should have. Despite this, everything else went well!

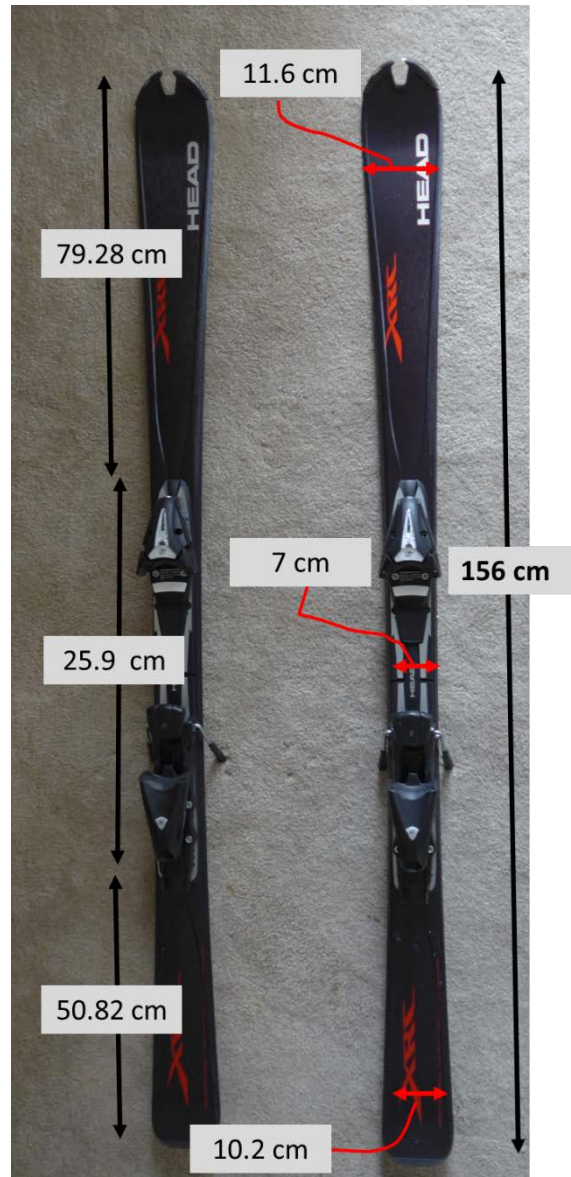


Figure 1: My skis with dimensions in centimeters¹.



Figure 2: Retro ski binding with wiring rather than clip-on².

¹ Photo taken by Alan Bowers (Father).

² <http://www.epicski.com/t/69076/more-retro-memories/240>

The Final Result of the Project

The final result of the project was a lot more surprising than I would have thought it was going to be. Everything came together and the ski with the binding was formed! The Ski could be seen from many different angles (Figure 3 and 4) and could even be seen with a mountainous background (Figure 5)! The final piece to the project was to create a drawing for the ski and dimension it (Figure 6). After that, everything was complete!

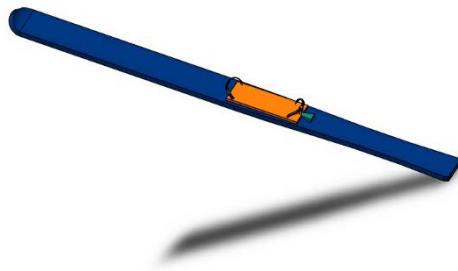
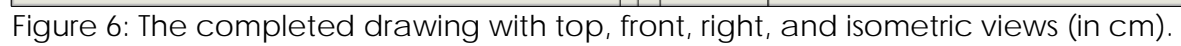
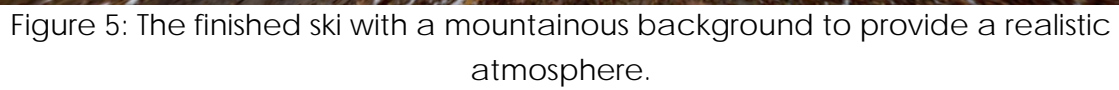


Figure 3: The ski and binding right after completion (original angle).



Figure 4: Two angles of the ski with binding, one from the right side and the other from the back side.



Observations/What I Learned from the Project

I learned a lot about patience during this project. I usually don't have a lot of luck with technology and I somehow managed to work through that during this project. I was able to overcome any errors from saving the project to the complete disappearance of the object! I also learned that I can actually create something in Solidworks that you can't be taught through one tutorial or one video on YouTube. I could do it all by myself and it made me feel awesome! As far as observations of CAD go, I would probably recommend a software that is a lot easier to use. Having only one semester to learn so much about this software is very difficult. However, I do not regret learning on this software because learning how to use something that is different than what I am used to is always a good thing!