Veyron Bugatti 2015

1. Frontal Isometric View

2. Back Isometric View
3. Side View

4. Inspiration for Car
5. Complete Bugatti Drawing

In these pictures you can see the complete rendering of the 2015 Bugatti Veyron that I built in SolidWorks. I chose this because my brother loves cars and his favorite one is this model and I thought he would enjoy seeing the final product. I also chose it because I enjoy challenges and the curved faces of the car along with the miniscule details made it seem challenging to do well.

In this project I used a large variety of different features. The main body started as a single Boss extrude and all additional features are either cut off this or extruded from this. It was only half of the car as I knew I would be able to use the mirror tool at the end to exactly copy it. The main tool I used for shaping were extruded cuts. These were for the larger sculpting such as the curvature of the hood and also the detailing on the back of the car.
6. Rear of Car

My main focus was to get all the larger features sorted out before I did any of the fine detail. This did not include the sides of the car because I knew they would be particularly difficult. Once all the large scale sculpting was done I focused on what I thought would be the easiest which was the spoiler in the back. To do this I did a simple extrude for the column holding up the spoiler. For the main body of the spoiler I did a sketch of the outline on one side of the car and then competed the design exactly on a second plane and did a loft to connect them. After the spoiler was done my attention was drawn to the side of the car.

For the side of the car I noticed in pictures that the door extended at a slight angle into the car itself, because of this I learned how to angle planes. After several attempts I was able to get the angle perfect for the cut and the design. After that I focused on the the ridges on the top. They were fairly simple as it was just a loft through several sketches. The next part however was the hardest for me.

Trying to match the curve of the hood while also applying intricate detail was the most difficult part of the car.
7. Front Close up

In the picture above you can see there is a small indent on the hood. Even though this is seemingly insignificant it took a lot of work. The first thing I did for this was make an angled plane to make the angled cut on the hood. This required me to learn how to use the spline tool as the hood wasn’t a single curve. After I made the first sketch I made an identical sketch on a plane that was parallel to the side of the car. With this I was able to do a lofted cut and make the small indent you can see. Onto the next extremely difficult aspect of the hood which was the central design. As you can see an indent was made by making an extruded cut into car. I then extruded each bar in that cut out individually to make the design which was a very time consuming process. I then moved on to the two parallel cuts on the lower left of the picture. It was started by using an extruded cut into it and then I extruded a single bar out. I then learned something that would have made the last issue go away. I learned how to make a linear pattern which meant I only had to extrude one feature and then it could be copied into the fender design you can see. However when I was making it an issue arose where some of the bars extended over nothing. To fix this I made a lofted cut to get rid of all the problem bars.

After all these difficult cuts were made I began to smooth out my design. This meant I used a variety of fillets all over the car to get rid of all the sharp edges left behind by the my cuts and extrudes. Along with simple fillets I also learned to use variable fillet which made smoothing out the side of the car much easier.

The final part of the car I made were the tires.

8. Rendered Tire
Overall the tire was easy to make. It was a basic circle that was truded back and then cut into to make the spokes. What was difficult about the tire though was the treads. I learned how to use revolve cut to make the initial straight treads. What was very difficult to make was the small notches in each tread. To do this I first made an extruded cut on the tire and then I learned how to use the circular pattern in around the entire tire to make the smaller treads.

This project was very fun and I learned a lot in solidworks in order to make this design possible. Even though the car looks very good I wish I had more time to learn about solid works and make it look even better.