

Personal CAD Project – Yamaha Bass Guitar

I had been planning to learn the bass guitar after finals. So I naturally thought about drawing a CAD for it. I initially wanted to model the CAD after the legendary Fender Jazz Bass, but I could not find any high resolution pictures of the bass with the colors that I wanted. So I downgraded to a Yamaha BB414, still an excellent (and pricey) bass by the way.

I had to sketch the parts according to rigorous dimensions. For example, the neck of the bass guitar is not a rectangle piece. The start of the neck (at first fret) is 1 ½ inches and at the base (the 20th fret) it is 2 ½ inches. So the strings of the bass must be dimensioned to be parallel with the side of the neck. Furthermore, the frets are not placed uniformly, the distance between frets decreases as they descend down the neck.

The bass guitar also had many irregular curves, basic circle, arc or line tools were not useful in constructing the body. I used spine for the majority of the sketches, then edited the curves to match the picture.

Finally the assembly process required some clever mating to get everything aligned at different angles. Below is a comparison picture of the real thing and my CAD drawing. (Picture retrieved from Birminghampost.net)



<http://www.birminghampost.net/life-leisure-birmingham-guide/birmingham-culture/music-in-birmingham/2009/06/26/win-a-450-yamaha-bass-signed-by-deep-purple-s-glenn-hughes-65233-23988832/>.

