

# Personal CAD Project

## VK16.02 Leopard

This CAD project is a representation of the German VK16.02 Leopard tank, a proposed heavy scout tank whose production was cancelled before the first prototypes were built. Its idea was conceived in 1941 and commissioned in March of 1942, but the project was cancelled in January of 1943. It did, however, exist in blueprints and nearly became the basis of a few other projects. Below is a picture that greatly aided my recreation of the proposed tank.

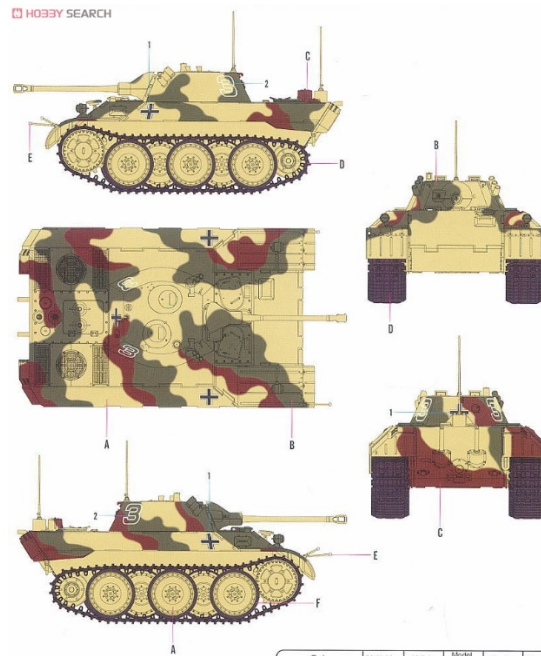


Figure 1: Above is one reference photo used for the personal CAD project

Source: <http://www.the-blueprints.com/blueprints-depot/tanks/tanks-u-z/vk1602-leopard.png>

I picked the Leopard tank to create in CAD for a variety of reasons. First, I am quite interested in World War II and the styles and tactics of combat. Second, as a result of the popular online game “World of Tanks,” I have become increasingly more interested in both modern and historical tanks and tank design. Furthermore, the VK16.02 Leopard is one of my favorite tanks to play in “World of Tanks.” Lastly, I decided that the Leopard would be a challenging yet fun project to complete.

Along the way to creating the Leopard, many challenges came my way. The largest of these challenges was creating the interleaved road wheels. The wheels overlap each other, and every other wheel has to have a small enough inner diameter to allow the single wheels enough room to spin. This complexity is shown in the image below.

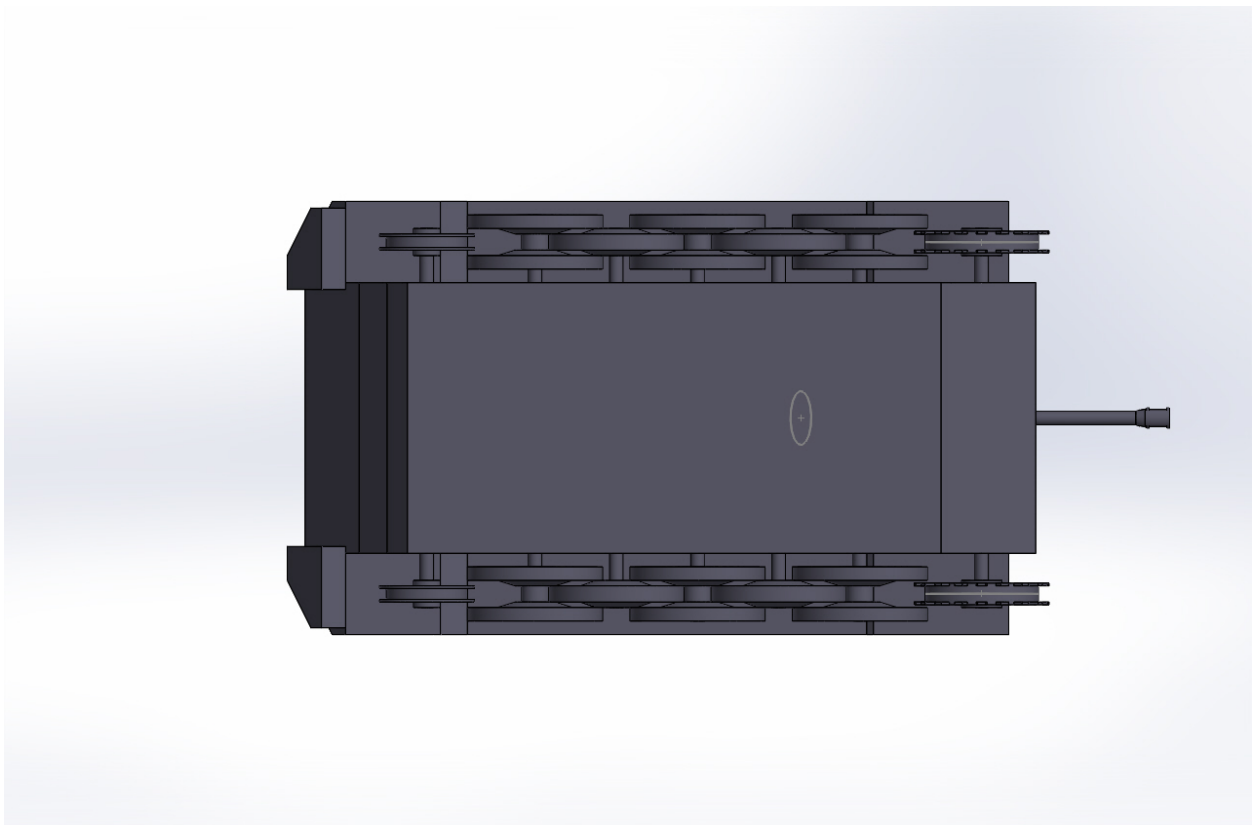


Figure 2: a view of the interleaved road wheels on the VK16.02 Leopard

The Leopard is relevant to my hobbies and interests through my already-mentioned fascination with both modern and historical tanks, spurred on by the “World of Tanks” online game. As a potential mechanical engineer, designing and refining tanks of the modern military is a potential career path. Who knows where my major will take me?

During the course of the personal CAD project, I had a lot of fun. As a proud adult LEGO fan, building and designing complex creations is beyond enjoyable. I recently attempted to design the very same Leopard tank out of LEGOs, but sadly, the plastic blocks do have their limitations. My SolidWorks replica is much more accurate and showed me the extent to which SolidWorks and CAD can be used to accurately model and create objects, simple to complex. My favorite part of the whole process was when I finally took all the parts that were individually created and assembled them into a complete tank. (With 46 mates, no less!)

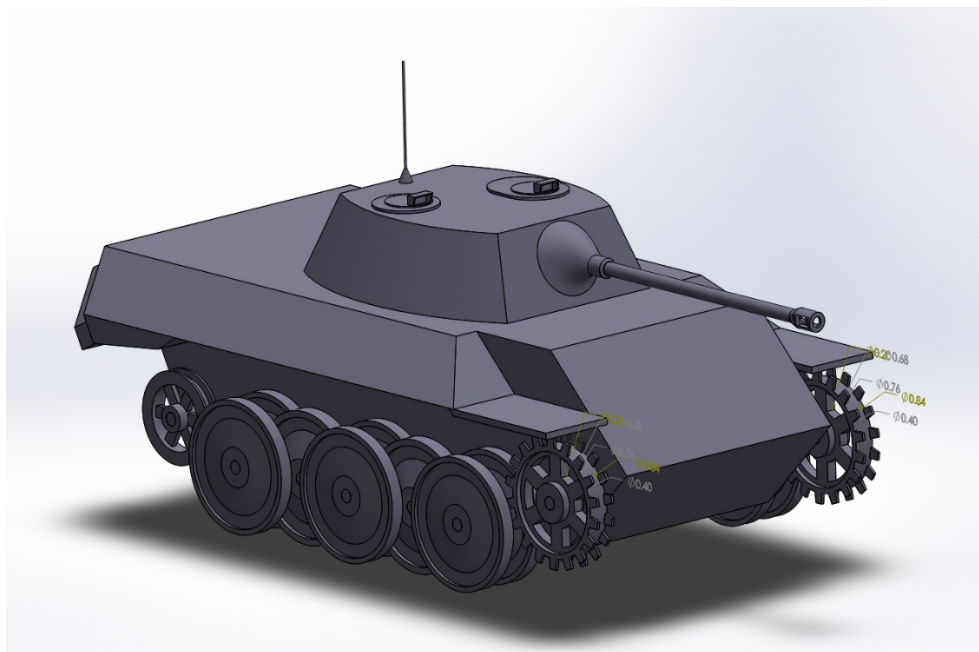


Figure 3: The VK16.02 Leopard in its entirety



Figure 4: The simpler of the types of Leopard road wheels

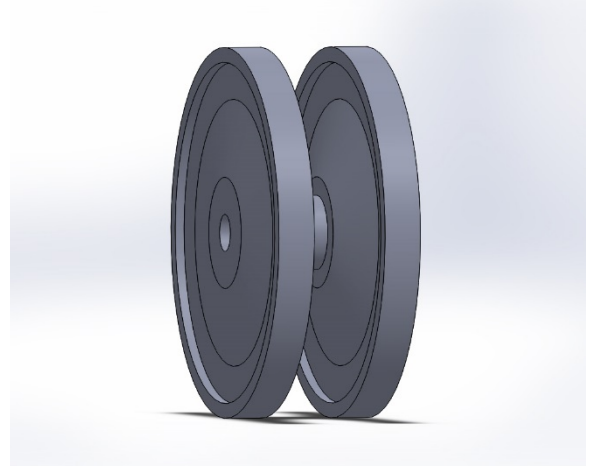


Figure 5: The more complex of the Leopard's road wheels

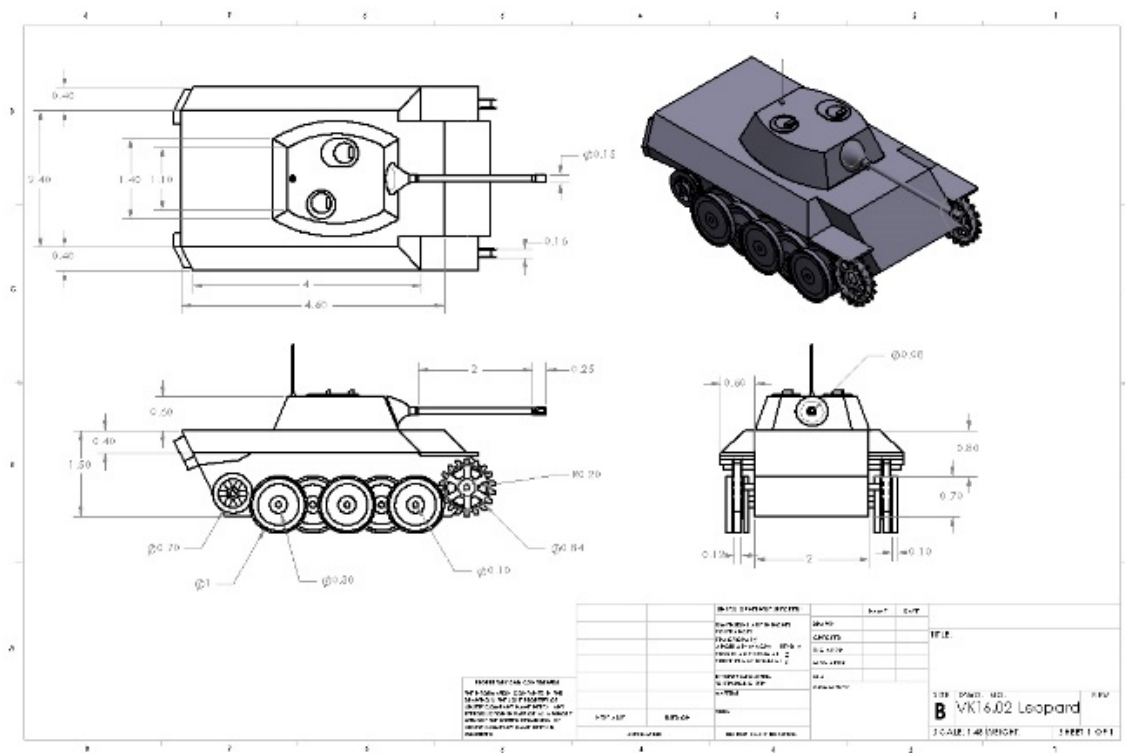


Figure 6: the CAD drawing of the Leopard