Cessna Skycatcher 162

Final Report

My final project is a Cessna Skycatcher 162 (N7030B), the light sport airplane I am using for flight training. It has a special meaning to me and I am excited to take it as my final project.

I took lots of photos of the aircraft and made measurements on the physical aircraft. The fuselage was sketched based on the reference image, and I used boundary surfaces and thicken features in SolidWorks to create it. Then the wing, flap, rudder and elevator were modeled using the features like Loft, Sweep, Extrude and Fillet. At the end, I added realistic painting and fine details to the airplane including the pitot tube, exhaust valve and trim. I not only focused on the appearance but also tried to make it function like a real aircraft by adding fully movable parts and individually creating the control surfaces.







Propeller Simulation

I also did a simulation on the propeller by applying constant pressure and observed that the von Mises stress was within the material's yield limit.

