Registration Form

TEAM INFORMATION

Team Name/Project Title: Rocketlynx – Airframe
Department: Mechanical Engineering
Faculty Advisor: Douglas Gallagher
Team Members: Chamali Ranasinghe, Abel Mejia, Austin Humann, Oudad Dahnou, Jared Thill

PROJECT INFORMATION

Description:
Rocketlynx - Airframe is in the process of designing and manufacturing rocket fuselage that will reach a target altitude of 10,000 feet and a maximum velocity of Mach 1.

Abstract:
Rocketlynx - Airframe team is in the process of developing a solid motor rocket to participate in the Northern Colorado Rocketry Senior design Launch with CU Boulder and CSU. The goal of the project is to reach an altitude of 10,000 feet and recover the rocket in good condition at the end of a successful flight. The team is in the process of manufacturing the upper and lower fuselage, nose cone, recovery system, avionics bay, motor mount system and fins, that will make up the external cavity of the body. Advance carbon fiber composites and fiberglass composites will be used to manufacture the rocket fuselage and the nose cone. The rocket will use a commercial solid motor that was chosen with a specific Impulse and Thrust to help reach the target altitude. A level 2 solid motor will be used for the launch of the rocket, which has a total impulse of 5104 N.s and an average thrust of 2200 N. The targeted total mass of the rocket including the engine will be 40-pounds. The dynamic analysis conducted and RockSim simulations indicate the rocket will reach the target altitude of 10,000 feet. After the final assembly, the rocket will be 10 feet high with a 6.2-inch outer diameter.