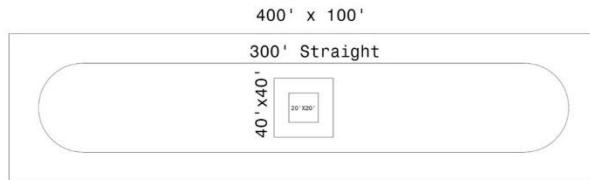
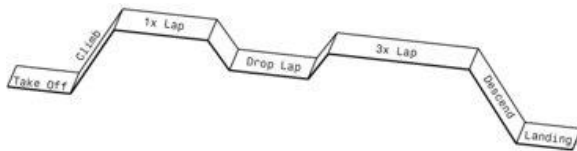


Mission Description:

"A Storable Semi-Autonomous
Emergency Supply Aircraft."



Relative Track Map and Scoring Zone



- Preflight - Extraction and assembly from a 11"x7"x26" storage box.
- Hand-launch take off.
- Fly a total of 5 laps around the designated area.
- Autonomously release payload onto the target zone after 2nd lap.
- Successfully perform a belly land
- Multiple scoring runs is possible to increase total score

Team Strategy:

To maximize score, aircraft must:

- Have shortest mission time.
- Carry minimum required payload.
- Drop all payloads in 20x20 ft target zone after 2nd lap.
- Fly multiple missions.

Team Members

Dahrah Jones

Team Lead, Stability & Control
wdahrahjones@gmail.com

Md Nur A Alam

Structures, Stability & Control
mxalam1@shockers.wichita.edu

Vivian Lim

Propulsion
vivianlim96@gmail.com

Crystal Pywell

Structures
cmpywell@shockers.wichita.edu

Xinkai Yip

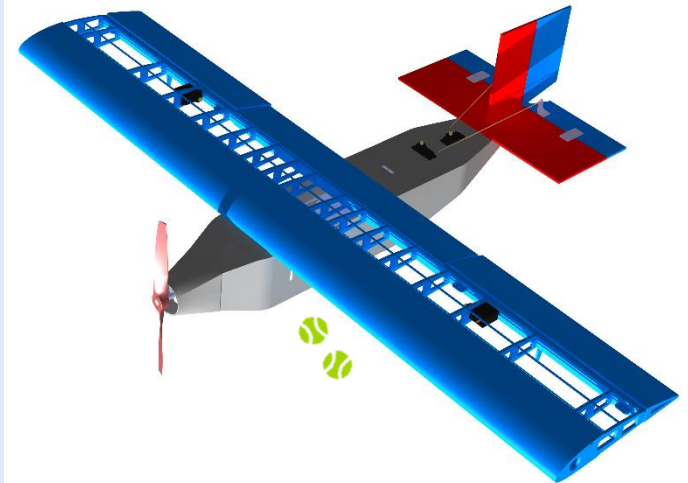
Aerodynamics
xinex95@gmail.com

Dr. L. Scott Miller

Advisor
scott.miller@wichita.edu

THE BRONZE PROPELLER
COMPETITION
2019-2020

**BOMBER
BARONS**

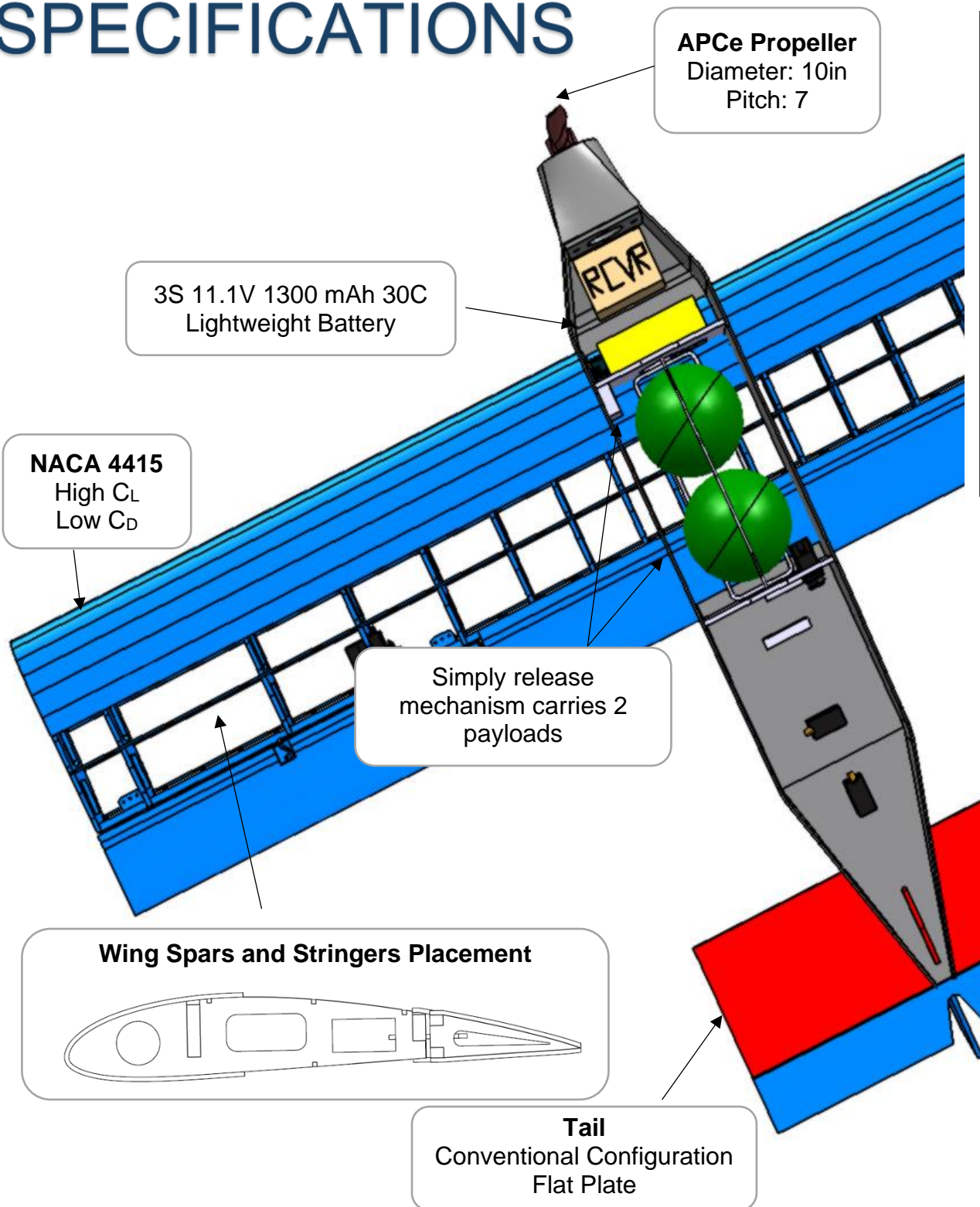


"Design is not how it looks like and feels like.

Design is how it works" – Steve Jobs



SPECIFICATIONS



Wingspan	36 in.
Wing Area	259.2 sq. in
Airfoil	NACA 4415
C_L MAX	1.02
C_D MIN	0.026
Static Margin	17%
Wing Loading (W/S)	0.8
Thrust-to-Weight Ratio (T/W)	0.9
Motor	RimFire 400
Propeller	APCE 10x7
Battery	LiPo 1300mAh
Estimated Weight	1.8 lb.
Cruise Speed	55 ft/s
Max. Speed	77 ft/s

Payload Release Mechanism

- PRM consists of a length of string, rubber band, a pin and a servo.
- One end of the string is fixed on a bulkhead and another end with a pin is looped through the bulkhead.
- Rubber bands are mounted on top of bulkheads to help secure the payloads.
- Payload is released when pin is pulled by servo.