Mission Description:
“A Storable Semi-Autonomous Emergency Supply Aircraft.”

Team Strategy:
To maximize score, aircraft must:
• Have shortest mission time.
• Carry minimum required payload.
• Drop all payloads in 20x20 ft target zone after 2\textsuperscript{nd} lap.
• Fly multiple missions.

Team Members

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“The BRONZE PROPELLER COMPETITION 2019-2020”
SPECIFICATIONS

- **APCe Propeller**
  - Diameter: 10in
  - Pitch: 7

- **3S 11.1V 1300 mAh 30C Lightweight Battery**

- **NACA 4415**
  - High $C_L$
  - Low $C_D$

- **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.

**Wing Spars and Stringers Placement**

**Tail**
- Conventional Configuration
- Flat Plate