Propulsion Requirements

Document prepared on 2014-10-07

# System Requirements

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| **Objective** | Produce as must thrust as possible. (Supports overall Mission Objective: Carry as heavy a payload as possible) |
| **System Requirements** | 1. Run with 1000W limiter 2. 22.2V Battery. Min: 25C, 3000mAh |
| **Derived Requirements** | 1. Margin to 1000W to avoid limiter cutting |
| 1. Flight time capable of 3 minutes |
| 1. Large propeller, 2 inches clearance on propeller to ground |
| 1. Low overall weight |
| **Rationale** | 1. Power limiter aggressively cuts power, could cause failure of flight |
| 1. Expected competition flight of ~1 minute, would like margin for any unexpected happenings |
| 1. Will be running with a large propeller to make the most of thrust, don’t want contact with ground |
| 1. Supports overall mission to carry payload |

# Testing Plan & Major Milestones

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| **Item** | **Date Planned** | **Date Completed** | **Comments** |
| Propulsion system 1st lock-down | 11/10/2014 |  | Will be heavily driven by shipping times. |
| All Propellers tested & data matched | 10/20/2014 |  |  |
| 1st 2 Motors Tested & Matched – thrust numbers provided to team | 10/14/2014 |  |  |
| Power Limiters Obtained and tested | TBD – limiters on backorder |  |  |
| Wiring & shielding tested | 11/25/2014 |  |  |
| ESC’s Tested | 10/27/2014 |  | Requires Santiago |
| ESC Selection | 11/3/2014 |  |  |
| Batteries Tested | 10/11/2014 |  |  |
| Propulsion System Final Lock | TBD |  |  |