## Specifications Tested

<table>
<thead>
<tr>
<th>Tested Specification</th>
<th>Description</th>
<th>Critical Value</th>
<th>Nominal Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>The wing shall support the plane’s gross weight under +4/-2 G loading. The wings shall not become detached from the plane while in flight at this loading. The wings shall not deflect to a degree that interferes with the operation of the flight control surfaces (will not jam the servos) at this loading</td>
<td>+4/-2 G</td>
<td>+4/-2 G</td>
</tr>
<tr>
<td>1.3</td>
<td>The aircraft shall be structurally sound; no parts shall leave the aircraft while in flight</td>
<td>P/F</td>
<td></td>
</tr>
<tr>
<td>3.1</td>
<td>The aircraft shall be able to take off under its own power from a 1000 ft grass runway</td>
<td>1000 ft</td>
<td>250 ft</td>
</tr>
<tr>
<td>4.1</td>
<td>The aircraft shall have a flight ceiling of 1000 ft</td>
<td>1000 ft</td>
<td>1000 ft</td>
</tr>
<tr>
<td>4.2</td>
<td>The aircraft shall be able to sustain a flight of at least 40mph in calm conditions</td>
<td>40 mph</td>
<td>45mph</td>
</tr>
<tr>
<td>4.3</td>
<td>The aircraft shall be capable of stable flight with a 15 lb payload</td>
<td>15 lb</td>
<td>15 lb</td>
</tr>
<tr>
<td>4.4</td>
<td>The aircraft shall sustain steady flight in a controllable manner for at least 20 minutes</td>
<td>20 min</td>
<td>30 mph</td>
</tr>
<tr>
<td>4.5</td>
<td>The aircraft should have similar flight characteristics to a trainer RC plane</td>
<td>P/F</td>
<td></td>
</tr>
<tr>
<td>5.2</td>
<td>The servos shall be of sufficient power to control the plane’s control surfaces at speeds up to 50 mph</td>
<td>50 mph</td>
<td>50 mph</td>
</tr>
<tr>
<td>6.1</td>
<td>The aircraft shall be able to re-launch as soon as it has been re-fueled or re-charged</td>
<td>P/F</td>
<td></td>
</tr>
<tr>
<td>6.2</td>
<td>The aircraft shall be able to operate for at least 12 regular flights without needing routine maintenance</td>
<td>12</td>
<td>12</td>
</tr>
</tbody>
</table>

## Revision History

<table>
<thead>
<tr>
<th>Revision</th>
<th>Description</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Document Created</td>
<td>3/18/2010</td>
</tr>
</tbody>
</table>
Flight Testing

Date completed:__________________________

Performed by:_____________________________

Equipment

_____ Fully assembled plane (with electronics)
_____ Radio transmitter
_____ 15 lbs of 5 lb weights (sized to fit payload bay)
_____ Measuring wheel
_____ Stop watch
_____ Speed gun or on-board telemetry

Sections (To be preformed in order, but may be combined as deemed fit)

- Part I Skip test
- Part II No load- Circle Pattern
- Part III No load- Figure of Eight
- Part IV Weighted flights
- Part V Flight duration
Flight Testing

Date completed:__________________________

Performed by:_____________________________

Part I Skip test

_____ 1. Fully assemble the plane and all required components on a grass runway

_____ 2. Verify proper control response by actuating each servo channel and visually inspecting the corresponding servo movement

_____ 3. Taxi plane down the runway

_____ 4. Increase speed until wheels lift off of ground

_____ 5. Decrease speed to return the plane to the ground

_____ 6. Record time to take off, runway distance used and take off speed

_____ 7. Repeat test for 5, 10 and 15 lbs of payload

<table>
<thead>
<tr>
<th>Load (pounds)</th>
<th>Time to take off (seconds)</th>
<th>Take off distance (feet)</th>
<th>Take off speed (miles/hour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Sign off on section completion before continuing:___________________________________
Flight Testing

Date completed:______________________________

Performed by:______________________________

Part II No load: Circle pattern

Sign off on section completion:__________________________
Flight Testing

Date completed:__________________________

Performed by:_____________________________

Part III No load: Figure of Eight

Sign off on section completion:______________________________
Flight Testing

Date completed:__________________________

Performed by:_____________________________

Part IV Weighted tests

Sign off on section completion:__________________________
Flight Testing

Date completed: __________________________

Performed by: __________________________

Part V Flight duration
Flight Testing

Date completed:__________________________

Performed by:_____________________________

Additional comments

____________________________________________________________________________________
____________________________________________________________________________________
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