Power System Selection: *The Cox Dust Devil*

1: Calculate the power required: Because I want this sailplane to do short (10-second) climbs and long glides, I want a very high power loading and very light weight. So, I choose 150 watts/lb. Because the airplane should weigh 38oz (2.38lbs), I choose 357 watts (150 X 2.38)

2: Select number of lipo cells: Here are the currents (Amps) required for each number of lipos cells: **2**-cell=48 Amps
3-cell=32 Amps
4-cell=24 Amps.

Because the current is lower on 3-cell, and I can still use the built-in BEC in the ESC, I choose a 3-cell lipo.

3: Calculate K/V: Because I want a slow-spinning prop (I will be using a folder), I limit the RPM to 8000. To achieve that rpm, I choose a 727 K/V motor (8000RPM/11V)

4: Select ESC: This is probably the easiest step. All I need is a brushless esc that can handle 33 (or more) amps with a 3-cell lipo pack. Almost all of these will have a built-in BEC as well.

5: Select Battery: Because I will be using power for climb only, I want a battery that will be small in capacity but high in discharge current. So, because a 25C battery is pretty cheap nowadays, I choose a 1.28AH battery (1300MAH). 32Amps/25C=1280MAH

Final Setup:

- **Motor:** 350-Watt, 727 K/V
- **ESC:** 35-Amp Brushless, that will take a 3-cell lipo
- **Battery:** 1300MAH 25C 3-cell Lipo