



Power System Selection: *The Great Planes ¼ Scale “Patty Wagstaff” Extra 300S.*

The First ESC I tried burned up inside the airplane, making a huge mess. When I tried to start the motor, it would hesitate, and then start. This is because the processor in the ESC was not fast enough to keep up with the frequency required to run the large motor. Not only did this make it hard to start the motor, but it also would lose sync at high throttle. This problem caused excess heat build-up, and eventually burnt the ESC. Here are the components I ended up using:

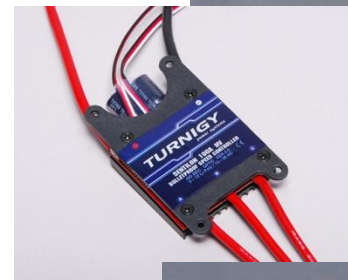
Motor: *Exceed RC Monster Power 160*

- K/V: 250
- Max continuous power: 2700 watts, 60A continuous, 78A bursts
- Available from hobbypartz.com for \$50 plus S&H



ESC: *Turnigy Sentillon 100A HV*

- Max current: 100A
- Number of Lithium Polymer cells in series: 5-12
- Processor speed: 12Mhz
- Available from hobbycity.com for \$100



Battery: *Flightmax 10S 5000mah 20C*

- Max current: 100A (20C X 5Amp-Hours)
- Available from hobbycity.com for \$78 plus S&H

Prop: *Bambula 22X8 wood*



Total cost: \$228 not including the prop

So, for \$228, I have selected a power system that will perform as well as (if not better than) a 50cc gasoline engine. For an aircraft with a larger cowling (such as a yak-54), the KV of the motor can be lowered to around 200 and the prop diameter increased to 24 or 26-inch to overcome the extra drag.