E-Flite Carbon Cub

I would assume that you are running a 6-cell LiPo battery in this plane, something around a 4500-5000mah capacity. According to the manual, this plane has a flying weight of around 8.5 to 9.5 pounds. The E-Flight Power 60 motor is the same physical size as our Cobra or Tempest 4130 motors, which are 50mm in diameter and around 62mm in length, and weigh right around 400 grams or 14.1 ounces. The Carbon Z Cub stock prop is a 15x7, which is good for these size motors in the same Kv value.

Our BadAss motors are available in a 35mm and 45mm size. The 3530 motors are a little smaller in diameter at 43mm and have an overall length of 56mm and weigh around 315 grams or 11 ounces. That one is available in a **3530-470Kv**, and running on a 6-cell LiPo with a 15x7 prop, you get the following full throttle performance numbers.

Volts – 22.2
Amps – 45.4
Watts – 1008
RPM – 8736
Thrust – 164 ounces (10 pounds 4 ounces)
Speed – 58 MPH

This would get you a little bit better performance than the stock motor, but only by a few percent.

If you were looking for an increase in performance, then the BadAss 4530 motor would certainly do that for you, and the **BA-4530-440** motor would be a good choice. The 15x7 prop is at the bottom end of suitable props for this motor, since it makes way more power, and you can run 16 and 17 inch props on it and get very high levels of performance. This motor is a little heavier than the stock motor at 530 grams or 18.7 ounces, but it makes way more power than the 3530 or the stock Power 60 motors. This motor is also 55mm in diameter, which makes for a pretty close fit in the nose of the plane. Several modelers have used this motor in the Carbon Z Cub before, and said that they took a Dremel tool with a sanding drum and opened up the front of the plane about 1mm all the way around the motor to make a tad bit more clearance.

With this motor, you get virtually the same performance as you get with the smaller 3530-470 motor when you use the stock 15x7 prop, as seen below.

Volts – 22.2
Amps – 48.7
Watts – 1080
RPM – 8820
Thrust – 171 ounces (10 pounds 11 ounces)
Speed – 59 MPH

However, if you go up to a 16x7-E prop you get these performance numbers.

Volts – 22.2
Amps – 67.8
Watts – 1505
RPM – 8528
Thrust – 219 ounces (13 pounds 11 ounces)
Speed – 57 MPH

This would get you a HUGE increase in climb performance with unlimited vertical.

Another alternative is the slightly smaller **BadAss 4520-470** motor. This motor is 10mm shorter than the 4530, so you would need to make a spacer block to put behind it to get the prop up in the correct location. This could easily be done by sandwiching a couple pieces of ¼" plywood together and putting it in between the motor mount and the back of the motor.

The 4520 motors are lighter, 394 grams (13.88 ounces) so they are about the same weight as the stock E-flite 60 motor, but produce way more power. This motor would also use a 15x7 or 16x7 prop, and make just a little less thrust. Here are the numbers for those 2 combinations.

With the 15x7-E prop

Volts – 22.2
Amps – 44.3
Watts – 984
RPM – 8650
Thrust – 161 ounces (11 pounds 1 ounce)
Speed – 57 MPH

If you go up to a 16x7-E prop you get these performance numbers.

Volts – 22.2
Amps – 61.7
Watts – 1369
RPM – 8271
Thrust – 204 ounces (12 pounds 12 ounces)
Speed – 55 MPH

So that gives you a few different options for BadAss motors depending on whether you are looking for the same level of power, about 20% more power or about 40% more power than you get with the stock motor.