Balsa USA Phaeton II Bipe 52”

Looking at the specs on the Balsa USA Website, the Phaeton II Bipe weighs between 6 and 6-3/4 pounds, depending on the engine used, and would take a .45 to .60 size 2-stroke glow engine. Depending on the desired performance, 700 to 900 watts of power would be adequate for this aircraft. If you want to stick with 4-cell batteries, this would require a current draw of between 47 and 61 amps.

Looking at our available motors, the Cobra 3520/10 980Kv model would work very well on this plane using a 4-cell battery and a 12x6 prop. Here are the full throttle performance numbers for that setup.

Volts – 14.8
Amps – 56.9
Watts – 843
RPM – 10,033
Thrust – 111 ounces (6 pounds 15 ounces)
Speed – 57 MPH

This combination gives you good thrust, with a bit over a 1 to 1 thrust to weight ratio and decent top end speed. For an ESC, I always like to make sure that the ESC is not pulling more than 80% of its rated maximum current to insure long life and trouble-free operation. A 60-amp ESC would be cutting things a bit too close, so I would go with an 80 amp ESC with this motor to have that desired safety margin.

For batteries, you would want to use a minimum of a 4-cell 4000mah pack, and a 4-cell 5000mah pack would get you a couple extra minutes of flight time per charge. The 4000mah pack would get you 7-8 minutes per charge, and the 5000mah pack would get you 9-10 minutes per charge.

Here are links to the items described above.

Cobra 3520/10 Motor: https://innov8tivedesigns.com/cobra-c-3520-10-brushless-motor-kv-980.html

Cobra 80-Amp ESC: https://innov8tivedesigns.com/cobra-80a-esc-with-6a-switching-bec.html

APC 12x6-E Prop: https://innov8tivedesigns.com/cobra-80a-esc-with-6a-switching-bec.html

BadAss 12x6 Wood Prop: https://innov8tivedesigns.com/badass-wood-electric-propeller-12x6.html

BadAss 4-cell LiPo Batteries: https://innov8tivedesigns.com/products/batteriescharging/badass-lipos/4s-lipo-14-8v.html

Our BadAss 3515-940 motor would also be a great choice. This motor is an ounce lighter than the Cobra 3520/10, but it actually makes more power! With the same APC 12x6-E prop on 4 cells you would get these performance numbers at full throttle from this motor.

Volts – 14.8
Amps – 63.4
Watts – 938
RPM – 10,682
Thrust – 123 ounces (7 pounds 11 ounces)
Speed – 61 MPH

This motor would also be best teamed up with an 80-amp ESC, and out new BadAss Rebel V2 80-amp ESC would be the perfect fit. Here are links to that motor and ESC.

BadAss BA-3515-940 Motor: https://innov8tivedesigns.com/badass-3515-940kv-brushless-motor.html

BadAss Rebel V2 80-amp ESC: https://innov8tivedesigns.com/badass-rebel-v2-series-brushless-esc-80a.html