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## Venom Air Corps' New Brushless Line

Venom has launched a new brushless line. Billed as Venom Air Corps, the debut lineup includes motors and speed controls for small electric aircraft. Three V20L brushless motors are 20mm size and equivalent to typical 400 size motors. Their 380 brushless motor is 24mm and equivalent to 540 motors. It's ideal for small, built-up models. Venom also offers brushless speed controls rated at 25 and 45 amps.

For my test model, I chose Venom's 400 size brushless motor, rated at 4980 kv up to 18 amp applications. I paired this motor with a 6:1 gearbox and the recommended 11-7 propeller. This particular motor is also recommended for use with electric ducted fans (EDF) up to 60 mm, and for micro RC cars. Of the other V20L motors, one is rated at 3350 kv and recommended for light models up to 12 amps or models with direct drive systems, and the other is 3980kv, recommended as a replacement motor for 400-size micro helicopters and systems up to 15 amps.

The 3350 is recommended for use with a 4:1 gearbox, 10-6 propeller and 3S Li-Po pack. The 3980 is recommended for use with a 5.33:1 gearbox, 10-8 propeller and 3S Li-Po pack. The 380 brushless motor is rated at 3125kv, and measures 28mm by 48mm. This motor is recommended for use in aircraft with a 4:1 gearbox and a 9-6 prop, or power systems of approximately 17 amps. Recommended max for the 380 is 32 amps, and it is designed for 3S Li-Po packs and the Venom Air Corps 45-amp speed control. The V20L motors are designed to be used with their 25-amp Brushless Speed Control.

Venom's 25-amp Speed Control features automatic cutoff and cell detection, Li-Po-safe technology with built-in 70 percent battery voltage auto cutoff, two selectable throttle profiles (hard start/cutoff and soft start/soft cutoff), overheat protection (power to the motor will be intermittently shut down if the ESC temperature exceeds 221 degrees Fahrenheit or 105 degrees centigrade), low speed control, and automatic failsafe (if the system detects signal loss for more than two sec-



onds, power to the motor is cut. When the signal is regained, it automatically returns to full operation).

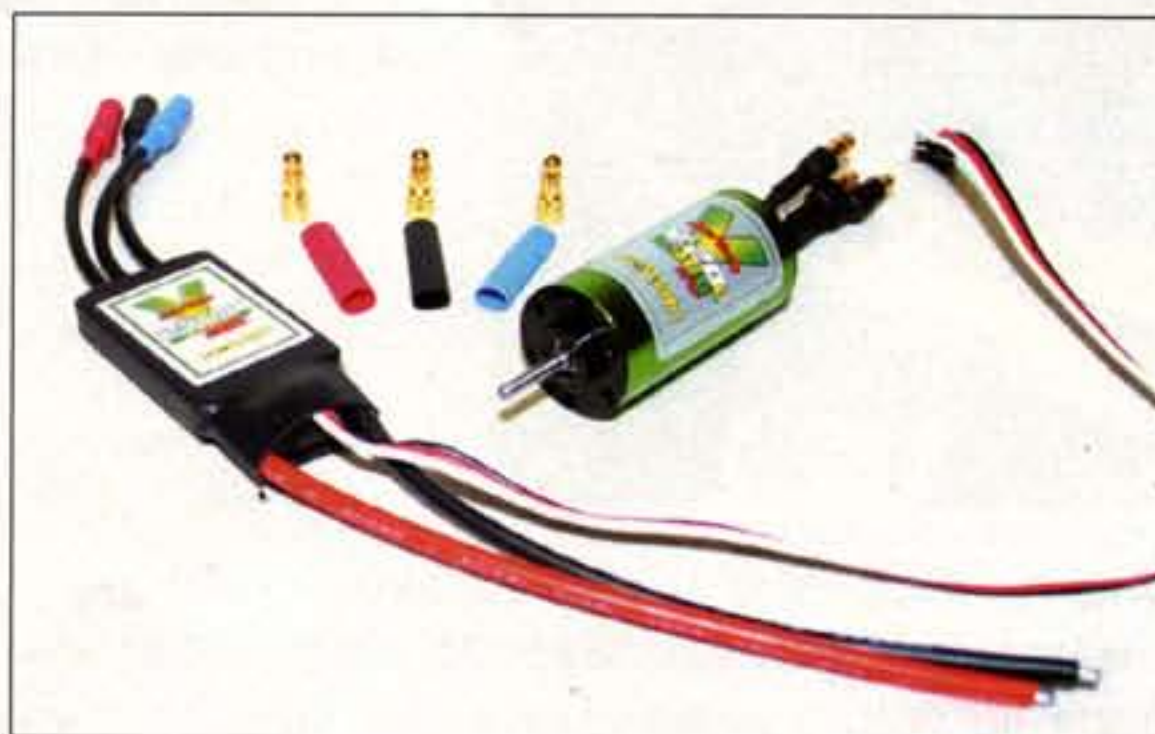
All these features and a reasonable cost make for a user-friendly speed control. The unit comes in thick, strong shrink wrap, and measures 38mm by 24mm by 6mm. It is rated at 25 amps with a peak rating of 35 amps for 10 seconds. The BEC is 5 volts and 2 amp load, max. This speed control weighs approximately 3/4 ounce, and can handle a max of 18 volts. Venom provides a chart for servo selection by voltage at 9.6 volts with four standard micro servos or three high-torque micro servos, and at 12.6 volts for three standard micro or two high-torque micro servos.

Bullet connectors are included with the speed control, in case your motor doesn't come with them. Color-coded shrink wrap for the motor connections is also provided, along with detailed instructions. All that's needed is to install your choice of battery connector.

Once I had my Venom 400 Brushless Motor and 25-Amp Speed Control installed in my no-name 3D foamy (2100mah 3S-1P Li-Po pack and three micro servos), I powered up and got all the beeps described in the instruction sheet, which confirmed the calibration and throttle profile I had

selected. The power was smooth and there was plenty of it. Performance is outstanding. Hovering my airplane is no problem, and this is a larger than normal, 22-ounce model with a 38.5-inch wingspan. The model can hover at just above half throttle, allowing plenty of reserve power for pullouts or high power maneuvers.

The throttle curve is responsive and very smooth, giving me great control for precision flying. Run times are also good, delivering 13 or more minutes for hard 3D, and even more for just flying around, pattern style. I tried a couple of different propeller sizes for the sake of comparison, and found that the recommended setup delivers an excellent balance of efficiency, power and run time. Venom's Brushless Motors and Brushless Speed Controls are made from high quality components, and it shows in their flight performance. **BW**



Four brushless motors and two brushless ESC's debut the Venom Air Corps lineup.