

HM Review

Jeff Troy

AirBorne Models' CAP 232 EP ARF

This quick-building, small electric aerobat has great looks and brisk performance.



Specifications

- Wingspan: 39.5 inches
- Area: 264 square inches
- Weight: 24 ounces
- Motor: 28-30-10 brushless
- RC: 4 ch/4 servos & ESC

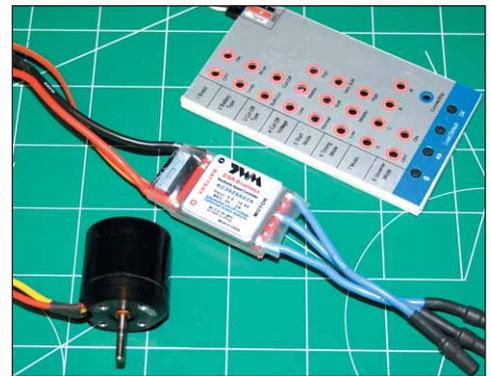
ARF Kit Features

- Factory-assembled airframe
- Factory covered in LighTex
- All wood and ply construction
- Brushless outrunner motor
- Rods, horns and linkage
- UltraLite pilot bust
- 12-page instruction manual

Being an old school modeler, I will probably never come to understand how AirBorne Models manages to consistently pack so much airplane into so much box for so little cost to dealers. The new CAP 232 EP ARF is an ideal example. It's a factory-covered, all balsa and lite-ply constructed model with a factory-painted fiberglass cowl and wheel pants. All the necessary hardware and fasteners are included, as are the pushrods, control horns and linkages. An included brushless outrunner motor completes the package, and the icing on the cake is that the whole deal sells for less than \$100.

While price is certainly an important factor among RC fliers, quality, engineering and performance are also at the forefront when a modeler is making his mind up about which new kit to buy. The CAP 232 ranks high in every area. As I walk you through the model's one-evening assembly and its flight characteristics, I'll fill you in on the high points of each one.

The first thing that hits you when you take the covered and assembled components out of their polybags is the graphics job in the covering. Note my use of the word *in* rather than *on*. There are no "stickies" used to trim the CAP 232; all the graphics are imprinted into directly the covering, and although AirBorne Models sells ToughLon and



Powerful KM 028/30/10 Brushless Outrunner Motor is included in the AirBorne Models CAP 232 kit. Other AirBorne equipment selected for the review project are this 20A Electronic Speed Control and ESC Programmer, and a 2100mAh 3S LiPo Battery.



Jeff Troy's model flies with the Micro 055 Receiver and four HS-55 servos from Hitec RCD.

LighTex coverings in each of the CAP's individual colors, they also offer the complete set for the CAP 232 with all the embedded graphics on each panel. The covering is not just professionally applied, it's also drum tight and stuck fast.

Assembly begins with the CAP 232's 39.5-inch wing. It's a one-piece part, so no dihedral braces, epoxy or time-consuming joining are required. The modeler has only to attach the ailerons with the CA hinges supplied and a few drops of thin cyanoacrylate adhesive (CA), then install the two aileron servos, one in each side of the wing. The servo mounting rails are already in the bays, and their



Horizontal stabilizer slides through slot in fuselage. After centering the stabilizer, Jeff Troy uses a length of radio dial cord from the center of the firewall to assure the equal distance of both leading edges.

close proximity to the wing's center section assures that no aileron extensions will be necessary. I used a pair of HS-55 sub-micro servos from Hitec RCD for my ailerons, as well as the elevator and rudder, which install later on.

Temporarily mounting the completed wing to the fuselage, I slipped the horizontal stabilizer through its slit at the rear of the fuselage. After measuring from side to side, I checked the angle by running a length of radio dial cord from the top center of the firewall to both leading edges of the stabilizer at the tips. When the distances were equal, I marked and removed the stabilizer, cut away the covering, top and bottom, in the area to be glued,



Use epoxy to secure the vertical fin and horizontal stabilizer in the slots at the rear of the fuselage, then attach the elevator panel and rudder hinges with thin CA.

coated those areas with 6-minute epoxy and repositioned the stabilizer on its marks. Works like a charm every time.

The elevator panels and rudder hinges are secured with thin CA, just like the ailerons, then it's time to install the pushrods and linkages. The CAP 232's hardware and fastener packages are complete, and the holes in the control surfaces for the included nylon control horns are already drilled at the factory. Each horn is held with two

Phillips-head screws. The pushrods are music wire and threaded at one end for an AirBorne quality nylon snap clevis with a polished steel pin. I find Du-Bro's E/Z Threader extremely useful when installing any new nylon clevis, and a lot less time consuming than using a tap. The pushrods slide through guide tubes, and are held at the servo arm by a 90-degree bend in the wire and a nylon keeper, which the Chinese refer to as a "straper."

The CAP 232 EP ARF comes with the powerful KM 030/28/10 Brushless Outrunner Motor from The World Models. The mounting holes are already drilled into the plywood motor box, and four screws and washers are provided for installation. A beautifully painted fiberglass cowl fits over the motor and mount, and the included

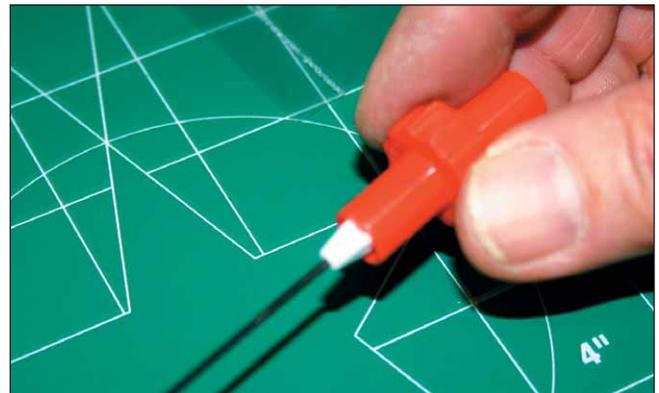


Aileron servo rails come factory installed in the CAP 232, and their nearness to the wing centerline means that servo extensions are not required. Just use a Y-harness from the receiver.

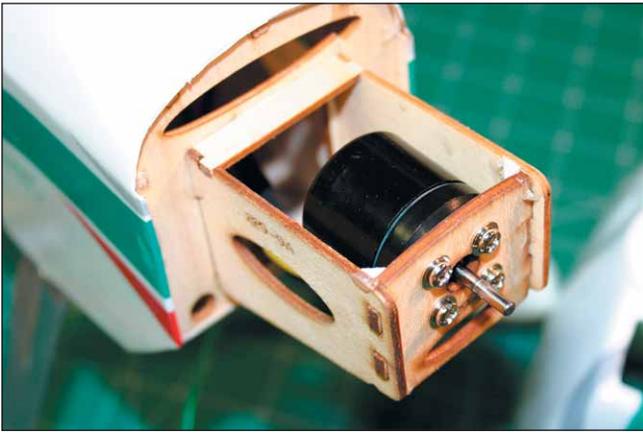
propeller adapter, folding propeller and nylon spinner complete the model's power end.

Final touches include a factory-painted pilot bust that installs with supplied double-sided tape, a clear canopy with a factory-cut air exit and four mounting screw holes, and a light, one-piece, formed aluminum landing gear with nylon wheel hubs and soft foam tires, and a pair of molded and painted fiberglass wheel pants.

My flight equipment installation was completed with the Eclipse 7 Transmitter and Micro 055 Receiver from Hitec RCD, and a 20A electronic speed control and 3S



E/Z Threader 3-in-1 Installation Tool from Du-Bro Products makes threading nylon clevises effortless.



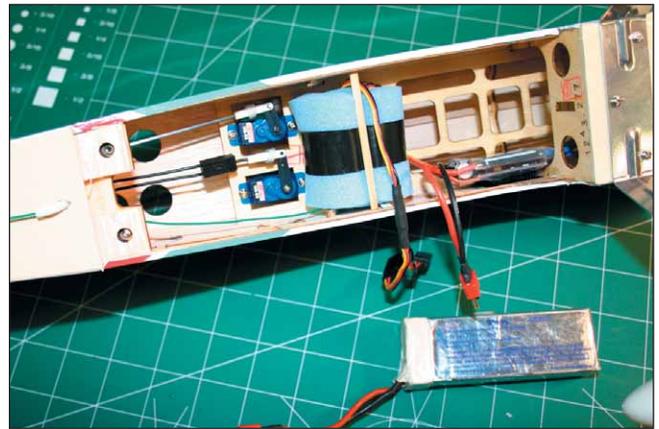
AirBorne's Brushless Outrunner s manufactured by The World Models in China. AirBorne Models, LLC, is the exclusive United States distributor for TWMM.

2100mAh lithium-polymer motor battery, both from The World Models, distributed by AirBorne Models, LLC.

I set the center of gravity and the control surfaces to the position and deflections given in the CAP's instruction manual, then charged the LiPo pack and put the Eclipse 7 transmitter on the overnighter. My CAP 232 EP ARF was now ready to fly, and all in just a single evening's work.

Once at the flying site, I turned on the transmitter, connected the flight battery and performed my range check, then I placed the model on the runway, heading into the wind. Power up, build speed, lift the tail and the model gently breaks ground. Sweet! The CAP flies with authority, yet it's extremely stable and manageable.

Loops, rolls, vertical climb, inverted flight and even steady knife-edge performance are all easily within this



Completed equipment bay shows tidy installation of Hitec HS-55 Servos and Micro Q55 Receiver, and 11.1V LiPo 3S Battery and 20A ESC from TWMM.

model's envelope. There is no snap tendency here, whatsoever, and the CAP 232 maintains its stability throughout its speed range — high, low and anywhere in between. While the CAP isn't intended to be a competition 3D model, I can think of no small electric airframe that's any better suited to practicing precision aerobatics.

For additional information about the CAP 232 EP ARF and the many other cost-effective, quality-assured electric, glow and gasoline-powered aircraft, car and boat models and accessories from The World Models and AirBorne, see the ads on page 13 and the previous page, visit www.airborne-models.com or telephone AirBorne Models, LLC, in California, at 925-371-0922. **HM**



Included TWMM outrunner is very powerful and CAP 232 is extremely light. Hot aerobatic capability is assured.