



RC REPORT

Dennis McFarlane



HobbyZone Carbon Cub S+ 1.3m

Who hasn't heard of a Piper Cub.

The iconic design of the 1930s is at least as popular today as it was when first released. Offered in a number of variants over the years, the Super Cub is one of the more

sought after. That said the airplane is long past its prime. The basic layout still works, but technology has taken over the world. Modern materials along with new airfoil designs can make for a far superior aircraft than was available 80+ years ago.

Enter the CubCrafters CC11-160 Carbon Cub SS. Although it has a similar outline to the original Super Cub it shares absolutely zero components. It's a completely new aircraft from front to back, incorporating the latest in computer aided design and modern avionics. As only one of many examples, the original Piper Cub was powered by a four-cylinder, 40 horse power Continental engine, the Carbon Cub still utilizes a four-cylinder motor in the familiar flat layout, but this time it's rated at 180 horses.

Even though the Carbon Cub is a completely different aircraft, to the uninitiated, a quick glance reveals the only major difference in out-

line, and that's the cowl. The cowl of the Carbon Cub is not only more aerodynamic in appearance, but it offers far superior cooling to the motor hid beneath.

Of course, unless he's entering scale competition this matters little to the model aviator. What does impress the consumer though is a model aircraft that has the appearance of something a little more modern. To this end we now have the HobbyZone Carbon Cub S+. As has become the norm with many Horizon Hobby fixed wing products the box depicts the wingspan, in this case it's 1.3 meters, or 51 inches. The length is 34 inches and the airplane ready to fly is slightly less than 2.5 lbs, depending upon the use of flaps and the battery selected, but more on that later.

In opening the box one is met with an aircraft of modest size. Like many aircraft in this class, the Carbon Cub is manufactured from molded foam, but in this case instead of being basic white with a couple of decals it is painted in an extremely attractive silver and yellow scheme. Installed from the factory are four servos, two for the ailerons and one each for the rudder and elevator. Also installed are a 480 class brushless motor and an 18amp ESC. The flight electronics

Everyone loves a Cub.



As in all models of this class, the Carbon Cub 1.3 is shipped as a basic kit that needs to be assembled by the end user. At first glance it may seem complicated especially to the new enthusiast, but when broken down into individual assemblies, it's the landing gear, wing and tail. All told, about two hours worth of relaxed building is required.



When assembling any electric powered aircraft the final step involves the mounting of the propeller. Stress to the purchaser the need to comply with this step. Too many aircraft have been damaged and too many modelers have suffered minor injuries that could easily have been prevented had the propeller been left off until it was needed.

are impressive. The receiver is classified as a 3.4V Serial Receiver. Reminiscent of a satellite receiver, it is mounted to the side of the fuselage. The all-important flight controller is buried and can barely be seen. Also installed beyond the receiver and flight controller is a GPS module. Pretty much every bit of spare room is occupied with something necessary for flight operations.

Not in the mood to drag out the charger, and since there was plenty of time, the basic charger that's included with the Cub was used to shove some electrons into the flight battery. While this was being done the manual was read. I cannot say what was going on with my brain as this isn't the first aircraft by far I've flown with Virtual Fence, but for some reason, even though the switch was being flipped, the light wasn't coming on. I read and reread the manual until the technology came back to the forefront. It's not difficult at all, but for some reason at first it just wasn't clicking on that day and at that time and although not that easy to admit, it proves what Dennis Andreas and I are always stressing. No matter how experienced a person feels they are, it's mandatory to read the manual until the instructions are completely understood.

For those who feel they are completely familiar with SAFE+ and are not learning impaired, there's a quick-start guide that will get them flying. Also included is one of the handiest items I've seen in years. Nothing more than a laminated card, it has all of the switch positions listed along with the transmitter's stick positions needed for accessing the various flight modes, virtual fence modes and for turning the GPS on and off, thus eliminating any guesswork when the manual is not handy. It's a very welcome inclusion, especially for someone like this author who is always flying different styles and types of aircraft.

While the battery was still on charge it was time to begin assem-

bled. The first step is to mount the grossly oversized (even for tundra) tires to the landing gear, the landing gear to the fuselage, along with the tail feathers and tail wheel. The next step is to turn on the transmitter, but turn everything possible, GPS, Virtual Fence, off. Place the flight mode switch in the experienced position, then power up the aircraft. The idea is to center the rudder and elevator servos in such a manner that no outside influence is present regardless of how the fuse is moved around. Then manually adjust the clevises so the control surfaces are centered.

Next up is the wing. There is little assembly required, but the vortex generators need to be fastened in place. They may look symmetrical, but there is a front and back. Study the manual to get the installation correct. There's no doubt somebody will mess this up, so even if the purchaser puts the first strip in backwards, make sure he places all of the generators in backwards. Even though the Reynolds numbers are minute, the last thing wanted is even a slight variation in lift between the left and right wing panels. With the aileron servos plugged in and the wing mounted to the fuselage assembly is complete. There was no rush at all and roughly two hours was spent from start to finish.

Remarkably the hardest trouble of the evaluation was finding a place to fly the Carbon Cub. Although we have a couple of acres across the street, that's still pretty tight for an airplane of this size. Flying of radio control aircraft is forbidden in any of the local parks and the two clubs I belong to do not allow what is often times referred to as "helper tech" even though in this situation it was just for the evaluation and to experiment with virtual fence. One analogy heard was comparing it to giving a first grader a calculator and then trying to teach him how to do arithmetic three years later. It's just not allowed



Individual aileron servos result in short and direct links to the ailerons. In the case of the review aircraft no mechanical adjustment to the aileron linkage was necessary, but if it is needed simply remove the clevis from the horn and adjust the clevis in or out as necessary on the threaded rod.



Just about every bit of space in the equipment compartment is fitted with a piece of electronics needed to assure the end user's success. This includes the elevator and rudder servo, the receiver, which is mounted to the fuse side, a GPS module used for securing the location of the aircraft, and beneath the GPS is a stability module used to keep the aircraft level during flight.

at the local club level, so no use fighting it.

Regardless, once a suitable location was found the battery was connected, the aircraft was given a few moments to initialize and the compass was calibrated. First up was the small virtual circle. What was done was to stand in the middle of the field and fly around in a circle allowing the aircraft to wander in an ever widening diameter circle until it began running into the virtual fence. Admittedly it's kind of fun as the aircraft will automatically bank towards center and hold its position within the fence.

Next up was the large fence. This allows a radius of approximately 800 feet from the takeoff position. This wasn't as fun only because the airplane begins to get a little small at the outer edges of the circle, but it works, and that's the point.

Airfield fence is most likely what the average modeler will be exposed to. Every club I've ever flown at requires the pilot to stand on the flightline and fly a rectangular pattern in front of him. The only issue, and this can cause some interesting reactions from spectators, is if the pilot is planning to fly north to south, he must initialize his aircraft facing north. If he initializes the aircraft facing south, then takes

off facing north, the virtual airfield will be situated over the pits and spectators. Virtual fence, regardless if it is applied in a circle or airfield pattern, does work and it works extremely well, but only if it is properly applied.

There are other flight aids available. Holding pattern seems to work if the pilot gets confused, allowing the pilot time for a deep breath to regroup. AutoLand was tried, but in the situation I was in could never be used in its entirety as there were a couple of trees in the way. There are several paragraphs in the manual describing how a pilot can assist in AutoLand should an obstacle appear, but the best solution is to find a flying site that has no obstacles, regardless if using AutoLand or more traditional flying methods.

Available in either a Bind and Fly or Ready to Fly package, the Carbon Cub S+ is a really nice aircraft. It looks good and better yet performs exactly as the by-line on the box describes, "The all purpose airplane anyone can fly."

HobbyZone is a proprietary brand of Horizon Hobby and the Carbon Cub S+ 1.3m along with all HobbyZone products are available through Horizon. **HM**

Adding Even More Fun to the Carbon Cub

It's happened to every dealer at one time or another. A neophyte customer walks in and says something along the lines of, "I've done a couple laps with the Cub, isn't there anything more?"

We've been spoon feeding consumers with ready to fly products for so long many have no idea of the options available once an airplane has been successfully flown.

Your job is to turn these people from consumers into modelers and the easiest way to do it is to get these people experimenting. It's nothing to sell a factory replacement propeller, in fact it's the easy way out, but most dealers have an entire wall of gray composite propellers just waiting for a motor's shaft. There's nothing wrong with the propeller that comes with the Cub. It's perfect in application, but it's pretty flexible, something needed for the raw pilot, but the aircraft's performance can be improved through nothing more than an efficient propeller.

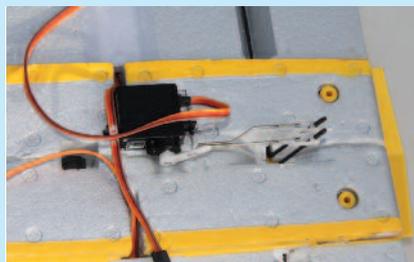
For those who enjoy water sports, point them in the direction of the next float-fly and sell them a set of floats for the Cub. The set (HBZ27390) is the same set that's used on the Valiant 1.3m so multiple product specific inventory isn't necessary. The Cub includes the aircraft specific struts, so the installation is quick and painless. And the results are a total blast. Even the most experienced pilot loves a day at the beach flying with friends, enjoying the sun and doing nothing more than a few splash and go landings.

One of the easiest modifications that can be made will require a transmitter upgrade. If the customer purchased the Ready to Fly package the included DXe won't work with flaps as unfortunately there aren't enough channels available to make it happen. The installation of flaps is explained in the manual and is super easy. Required are the servo and extension (PKZ1090) plus a modeler's knife and (new) #11 blades.

About the hardest part of the flap installation is getting a clean cut through the foam blocks that lock the pre-hinged flaps stationary to the wing. Then it's just a matter of waiting for the adhesive, Shoe Goo (DYN8001), used to secure the servo to the wing to set. From there connect the included linkage, plug the servo into the receiver and program a seven or more channel Spektrum DX protocol transmitter to fly the aircraft with the added flaps.

Flaps and an efficient propeller will turn the model into a replica of the full-scale Carbon Cub. If a person has never seen a Carbon Cub do a short-field takeoff it's something that'll make your jaw drop. As soon as power is applied the tail comes up and after a very short roll the airplane is headed skyward at a 60 degree angle.

Modifications are easy. They don't affect the aircraft, in most cases they will enhance the performance, and they are a way of turning a consumer into a hobbyist. **HM**



Although flaps are an option that will require the consumer to purchase an additional servo everything else is included with the kit. The modeler only needs to cut the ailerons free of the wing then mount the servo and hook up the linkage. He's then ready for another fun aspect of flight.



With the flaps deployed the model really emulates the full scale machine. I'll admit I don't care for the grossly oversized tundra tires, but in speaking with a few dealers around the country they are proving to be quite popular for rough field use.