

## Convertible aerobatic fun with wheels or floats

by Scott Stoops

# HOBBY LOBBY Super Zoom

As a dedicated “balsa” guy, it is pretty rare that a foam model strikes my fancy. It’s not that I don’t like foam, but rather, I simply like the way balsa flies better. I find flat foam models usually feel a little sloppy, with many exhibiting dramatic twist in the fuselage and flex in the wing. For precision flying, I also prefer the way an airfoiled wing flies.

With that in mind, I was intrigued by the promise of rigid durability in the new Super Zoom 4D. What really sold me on the model, however, was the Zoom’s optional floats. The ability to, in a matter of seconds, switch between traditional landing gear and floats, or remove the gear for belly landings, seemed like a lot of fun – and it is! There is a lake a mere 3-minute walk from my front door, and plenty of room to fly in the backyard, so the Super Zoom is my new everyday 3D machine.

### ASSEMBLY

The Super Zoom 4D is constructed primarily of EPP foam, with Depron used for the horizontal stabilizer and elevator. The primary construction adhesive is thin CA, which is different from many

foam models. EPP can be glued with traditional CA glue—while traditional Depron foam requires the use of foam-safe glue or epoxy. Be very careful to avoid using regular CA on the horizontal stab or elevator, as the CA will melt the foam.

The wings use aluminum rods as spars. With the wings joined and laying on a flat surface, cut slots along the top and bottom of the wing from tip to tip, insert the aluminum rod, and glue it in



### SPECS

**PLANE:** Super Zoom 4D

**MANUFACTURER:** Hacker Models

**DISTRIBUTOR:** Hobby Lobby International

**TYPE:** EPP foam 3D park flyer

**FOR:** Intermediate and advanced pilots

**WINGSPAN:** 39 in.

**WING AREA:** 360 sq. in.

**FLYING WEIGHT:** 16.2 oz. (17.3 with floats)

**WING LOADING:** 6.5 oz./sq. ft.

**LENGTH:** 40 in.

**RADIO:** 4 channels required; flown with Futaba 9C transmitter, Hitec Electron 6 receiver, (4) Hitec HS-55 servos

**POWER SYSTEM:** AXI 2212-26 brushless outrunner motor, Jeti Advance 18 Brushless ESC, PolyQuest20 3S 800mAh Li-Poly battery, APC 10x7SF prop

**FULL THROTTLE POWER:** 17.2 amps, 180 watts; 11.1 W/oz., 177 W/lb.

**TOP RPM:** 6,420

**DURATION:** 10+ minutes aerobatics

**MINIMAL FLYING AREA:** Park or ball field

**PRICE:** \$79.90

**COMPONENTS NEEDED TO COMPLETE:** 150+ watt power system, radio system including four 6- to 9-gram servos

### SUMMARY

The Hobby Lobby Super Zoom 4D is an EPP park flyer that makes a great sport model, yet really excels at 3D flight. The Zoom uses many unique construction techniques that help make it extremely durable, easily handling the inevitable bumps and bruises the new 3D pilot will dish out. It also sports an airfoiled wing, which greatly improves tracking during traditional aerobatics without hindering its great 3D characteristics. With the optional floats, the Zoom is also at home on the water, which only adds to this already fun flying 3D ship.

PHOTOS BY DAVID MIELKE

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### AIRBORNE

The Super Zoom 4D is a fantastic flying airplane. I figured it would be a good 3D model, but was also surprised by its precision ability, due to the extra stiff construction techniques used. The Zoom is also remarkably durable. Small crashes that would splinter most balsa models are no trouble.

I generally hand launch the Zoom, and with nearly 180 watts per pound, they're a piece of cake. The easiest way to land the Zoom in longer grass is from a harrier. Normal takeoffs and landings are relatively easy, but its narrow landing gear stance makes it seem slightly unsta-



ble. Its enormous rudder provides plenty of authority despite the lack of a tailwheel.

3D flight is obviously the model's forte. The Zoom has a very light wing loading, so it feels very "floaty" –ideal for a 3D park flyer. The Zoom is very stable in both upright and inverted harriers. The Zoom is also stable in hovers and torque rolls, which is helpful for the new 3D pilot just learning to master these challenging maneuvers. It also has plenty of elevator authority to fly every 3D maneuver I've tried including flat spins, waterfalls, rolling harriers, and tic-tocs. This is one of the best 3D trainers I've seen.

I can't state that there is no coupling in knife-edge flight, because at high alpha there is a tick of pitch and roll. However, I haven't seen the need to use any electronic mixes to correct for it. The Zoom has excellent KE performance, allowing for clean point rolls, point rolling circles, KE loops, etc.

The Zoom also tracks very cleanly during traditional aerobatics. It isn't going to win any pattern contests, but it tracks well enough that precision aerobatics look smooth. Due in part to the fuse's rigidity and its airfoiled wing, the Zoom flies a very presentable snap roll. For the cleanest snaps possible, use only the minimum elevator input required to stall the wing – it will be a lot less than you expect! If stalled deeply, the snap roll wallows and looks more like a shoulder roll.

The Zoom has a respectable glide rate, so there's no need to carry power when landing. I usually fly without the gear when flying from grass, as the small wheels and pants are best suited for dirt and pavement.

place. Be sure to use accelerator to speed up the cure on the thin CA or it will simply soak into the large beaded EPP foam. The aluminum rod spars stiffened the wing dramatically. I was surprised at just how well this worked.

The fuselage is built from several pieces of EPP foam, forming a cross when viewed from the front, and it uses a spar system with the rods running from the nose to the tail. There is no twist in this fuselage! The elevator is hinged to the horizontal stab with hinge tape, and glued in place with epoxy. Again, be careful to only use foam-safe CA on the Depron stab and elevator!

The rudder is hinged to the airframe using several small brackets and an aluminum rod as the hinge pin. It works amazingly well and is easy to install. The landing gear installation, as I mentioned before, is quite innovative. The gear wire slides into a small slotted wood bracket that is glued into the fuselage just ahead of the wing. To remove the landing gear, simply squeeze the gear legs together and pull it from the fuselage.

**RADIO AND POWER SYSTEM**  
The Zoom uses one servo for both ailerons and one each for the elevator and rudder. Initially, I was skeptical that one servo would be adequate for the enormous ailerons, but it works



Left: The stock motor mount uses a plywood motor backplate that screws into a ply adapter plate on the firewall. Be careful to follow the directions, as it can be assembled backwards, resulting in left versus the intended right thrust. Right: I prefer to Velcro the battery to the side of the fuselage for maximum cooling and quick battery changes. It would be possible to cut a battery slot into the EPP fuselage if you prefer.



great. Mounting the servos is as easy as cutting holes in the EPP and pushing in the servos. I used a dab of epoxy to hold each servo in place. You can hide the servo wires in the fuselage by cutting small

slots and pushing in the wires. I cut a hole for my receiver aft of the wing and needed two 6-inch extensions for the aileron servo and the ESC.



Left: The Super Zoom uses one servo for both ailerons, mounted in the wing center section and connected to the ailerons with short pushrods. You could also use dual aileron servos to add flaperon mixing. Right: Swapping landing gear couldn't be easier—simply slot the prebent gear into the plywood brace and go fly. For those who fly from longer grass, consider removing the gear. Best of all is the floats take only seconds to install when you get to the lake. That kind of versatility is hard to beat.



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Both rudder and elevator servos are mounted externally with short pushrods for precise direct control. Servo leads can be routed both externally or internally. I chose to hide the leads by cutting small slots in the EPP fuse as guides.

The motor mount is a really cool little unit. First, a 3-piece plywood mount is assembled and glued to the fuselage. Follow the instructions closely, as the mount can be built incorrectly with left thrust rather than the intended right thrust. The AXI motor is screwed onto a mounting plate, which is screwed onto the front of the plywood mount with four screws, making it removable and easy to access. I mounted the ESC into a slot in the fuselage ahead of the wing. I chose to velcro the battery to the side of the fuselage ahead of the wing.

### TIPS FOR SUCCESS

The aileron hinges on the Zoom are the most unique I've seen. A beveled slot is factory cut from the bottom surface of the wing. The remaining foam acts as a hinge. This worked great for the first 30+ flights, until I caught the ground on a less than ideal landing and tore the foam hinge near one wingtip. I cut a slot in the tip just big enough for a small CA hinge to bridge between the aileron and the wing. This has worked perfectly, and I've since added it to the other wingtip. If I were to build the Zoom again, I'd definitely install one CA hinge per wingtip and at the root of each aileron to prevent the possibility of the hinge tearing in the future.

### 3D ON THE WATER!

As a relatively inexperienced float pilot, I



The aileron hinge is made from EPP foam and can tear from typical park flyer 3D abuse. I added small CA hinges to prevent any tearing at both ends of the ailerons. Simply cut a short slot and slide in the hinge. Secure it with thin CA.

was intrigued by the unique experience of flying aerobatics from water! The optional solid foam floats are very easy to assemble, and attach to the fuselage using the same technique as the stock landing gear with one additional slotted bracket for the aft float support. Switching between floats and landing gear takes about five seconds!

Sitting in the water, the Zoom sits slightly tail low. The rudder is slightly submerged for good steering during taxi, take-off, and landing. Try to avoid large elevator inputs while operating on the water. If the elevator counterbalances touch the water, they can get damaged.

The Zoom feels somewhat different during aerobatics with floats. You may note that the airplane doesn't track as well, and using the same battery location feels slightly tail-heavy. With some practice, I am able to fly many traditional 3D maneuvers including harriers and hovers. Although I prefer the Zoom with wheels for 3D practice, I've found flying the Zoom off water to be a welcome change and an enjoyable experience!

### CONCLUSION

The Super Zoom 4D is a fun model that is durable enough to withstand the learning curve of a new 3D pilot, while offering great performance for the experienced pilot. Combine the innovative quick-change landing gear design and optional floats with a rigid yet durable EPP airframe that flies traditional aerobatics as well as 3D, and you've got a versatile model that should easily fit into virtually any modeler's hangar. It has certainly earned a spot in mine. ☺

### Links

**Futaba**, distributed exclusively by Great Planes Model Distributors, www.futaba-rc.com, (800) 682-8948

**Hobby Lobby International, Inc.**, www.hobby-lobby.com, (615) 373-1444

For more information, please see our source guide on pg. 185.