

HOBBY LOBBY INTL. MISS STIK

SPECS

- MODEL:** Miss Stik
- MANUFACTURER:** Hobby Lobby Intl.
- TYPE:** sport electric
- SMALLEST FLYING AREA:** baseball field
- IDEAL FOR:** first-time kit builders
- WINGSPAN:** 55 in.
- WING AREA:** 400 sq. in.
- READY-TO-FLY WEIGHT:** 19.7 oz.
- WING LOADING:** 7.1 oz./sq. ft.
- NO. OF CHANNELS:** 3 (rudder, elevator, throttle)
- FLIGHT DURATION:** 15 to 30 min.
- PRICES:** \$36 (kit); \$37 (accessory package); \$409 (kit, complete brushless drive system and Hitec Focus 3 SS radio system)

Building a model out of just a few balsa sticks and following a set of plans may seem daunting, but when you have high-quality, laser-cut parts and a superior design, it's a fun challenge that will build your skills and enhance your hobby experience. The Miss Stik's creator, Tom Hunt, pioneered an easy construction technique that substitutes balsa sticks for wing ribs. This technique has helped many of us complete our first scratch-built model aircraft. Tom's extremely detailed written instructions also help!

SCOREBOARD

- +** Easy to build and has great instructions.
- Accessory packages are available.
- Great flight characteristics.
- None.

YOU NEED

- ✦ Speed 400 or brushless drive system
- ✦ 3-channel radio with 2 microserves
- ✦ Covering and building tools

A PERFECT FIRST
KIT-BUILT AIRCRAFT!



Building a model from a kit is also inexpensive; the Miss Stik kit costs only \$36, and an accessory package with control horns, E-Z connectors, control rods and tubes, wheels, wheel collars, glues and covering costs just \$37.

Although the Miss Stik could easily be powered by an inexpensive, geared Speed 400 motor, a brushless outrunner will offer more performance. Hobby Lobby recommends its Axi 2212/26 with a Jeti Advance 8A brushless ESC. When used with a 2-cell Li-poly pack, this highly efficient setup provides smooth flying and flight times of 25 to 30 minutes on one charge. If you are starting from scratch, Hobby Lobby can sell you everything you need (kit, accessory package, brushless motor, ESC, complete RC system, battery, charger, prop, spinner—you name it!) for \$409.



One of the Miss Stik's wingtips. The curved trailing edge is made of three pieces of 1/8-inch-square balsa.



The upper and lower fuselage sections are held together temporarily with a few clothespins.

TIP



Before you tack the covering material to the airframe, be sure to set your iron to a low temperature. After you've attached the covering, increase the iron's temperature to shrink the covering.

ABOUT THE MISS STIK

I followed the assembly instructions exactly and suggest that you do the same. It took me only three days to frame out this model. In less than a week, I took the plane to the flying field. When you're assembling it, keep in mind that the wing spar is made of spruce (a hardwood) for extra strength, and the tip spars have an additional piece of balsa; that balsa portion must be tapered as it approaches the wingtip to maintain the proper airfoil thickness.

You can mount the Axi motor in two ways: attach it to the inside of the molded cowl using two, 1/4-inch-long, 3mm machine screws, or buy a radial mount from Hobby Lobby and mount it directly on the plywood firewall. I chose the quick and easy cowl method!

RC SYSTEM

The Miss Stik has rudder, elevator and throttle control, and the recommended RC system is an inexpensive Hitec Focus 3 SS FM. This includes a Hitec Electron 6 dual-conversion FM receiver and two HS-55 microserves. I chose to install my radio equipment before I covered the fuselage. I made control rods out of 0.032-inch-diameter wire and used yellow Sullivan Gold-N-Rods for sleeves. I attached the wire rods using Du-Bro E-Z connectors at the control-horn ends and Z-bends at the servo-arm ends. I attached the servos to hardwood bearers with small sheet-metal screws and fastened the receiver with Velcro®.

I also attached the Jeti Advance 8A ESC with Velcro®. When you do this, be sure to place the tape on the side opposite the Jeti label; the latter must be kept clear to help dissipate heat. I used a Deans 4-pin connector to join the ESC and the Axi motor and installed Anderson Power

Pole connectors on the battery end. In the windshield area, I installed a balsa battery tray. Velcro® holds the battery in place.

I covered my Miss Stik with Coverite Microlite iron-on covering material, which is very light. Without covering, my wing weighed 4.1 ounces; with covering, it weighs only 4.7 ounces!

POWER SYSTEM

I found that an APC 9x6 Slow Flyer prop and a Kokam 2-cell (2S1P) 1500mAh Li-poly battery were the best combination

FEATURED PRODUCT

>> HOBBY LOBBY AXI 2212/26 BRUSHLESS OUTRUNNER

The term "outrunner" refers to the fact that the outer body of the motor rotates and is attached to the prop shaft, while its armature is fixed. It's light (only 2 ounces!) and provides more than enough power for a model such as the Miss



Stik. With the Axi 2212/26, Jeti Advance 8A ESC, an APC 9x6 Slow Flyer prop and a Kokam 2-cell (2S1P) 1500mAh Li-poly pack, motor current was 7.8 amps at 7.1 volts. The motor produced 56 watts with a 5,200 prop rpm. This little powerhouse costs \$80.

GEAR

DRIVE SYSTEM USED

Axi 2212/26 brushless outrunner with Jeti Advance 8A ESC and APC 9x6 Slow Flyer prop



RADIO SYSTEM USED

Hitec Focus 3 SS with Electron 6 receiver and 2 HS-55 microserves

Kokam battery here

BATTERY USED

FMA/Kokam 2-cell, 1500mAh Li-poly



for the Miss Stik. Interestingly, this battery weighs 2.8 ounces and, with it, the Miss Stik balances exactly as the plan specifies. If you choose a battery of a different type and weight, make sure that you still have the recommended CG.

The flight-ready model weighs 19.7 ounces. Because of this, the Miss Stik can easily be flown at 1/2 throttle. At full throttle, you should be able to achieve flights of up to 15 minutes, and 1/2-throttle flights tend to last 25 to 30 minutes. I ran the pack down to its voltage cutoff on a nearly

FEATURES

The Miss Stik kit comes with laser-cut wooden parts and a detailed plan and instructions. The accessory package includes control horns, E-Z connectors, control rods and tubes, wheels, wheel collars, glues and covering.



The Graupner spinner assembly and prop are in place.

36-minute flight, but I think a few thermals helped out! Li-poly packs are not expensive, so it's practical to take more than one fully charged pack to the field so that you can fly all day long!

The Jeti Advance 8A ESC has adjustable timing and supports the use of Li-poly power. It automatically selects the correct voltage cutoff for your battery. It also has two motor-timing settings—"Soft" and "Hard." It is shipped with the "Soft" position selected, but to use it with the Axi motor, you have to set the timing to "Hard." This makes the motor run more efficiently and allows it to run cooler at partial throttle.

FLIGHT TIME

The Miss Stik is a total joy and a pleasure to fly. It's also a perfect trainer because when you let go of the transmitter control stick, it quickly establishes itself in level flight. You can hand-launch the Miss Stik



With the wing removed, the servos are visible in the radio compartment near the wing's trailing edge; the receiver is in the center, and the Jeti ESC is near the leading edge. The receiver and ESC are attached with Velcro®.

or have it take off from the ground. With that powerful Axi motor, it is airborne in less than 10 feet. What else can I say? This is an easy-to-build, joy-to-fly RC model aircraft that anyone can have fun with! ☺

See the Source Guide on page 96 for manufacturers' contact information.



>> THE MISS STIK IS A TOTAL JOY AND A PLEASURE TO FLY.

IN THE AIR

The Miss Stik can easily and comfortably fly in winds of up to 10 to 12mph. If it's windier than that, you'll need to concentrate more on flying because of its increased speed. A good-size schoolyard or any baseball or soccer field is more than enough for the Miss Stik.

CLIMB PERFORMANCE. Because of its light wing loading and ample power from the Axi brushless motor, the Miss Stik easily and quickly takes off from the ground. Even takeoffs from a grass field are easy to accomplish. Of course, hand-launching is always an option, and the Miss Stik quite literally jumps out of your hand. Climbout on full power may prove a bit much for novice pilots; I recommend that you reduce power to a point at which flying is comfortable. There's no reason to fly around all the time at full throttle; besides, the more you reduce the throttle, the longer your motor will run.

FLIGHT STABILITY. The Miss Stik is extremely stable in flight. With

the ample polyhedral, it easily rights itself after making a turn. With the recommended CG position, it has no tendency to stall, even when it slows down considerably. This provides nice, slow landing approaches and allows new pilots to comfortably practice many landings during a single flight.

PILOT RECOMMENDATIONS. The Axi brushless motor provides excellent reliability and long service life. Although this plane could also be flown with a ferrite motor, the highly efficient brushless is the best choice for both beginners and sport fliers. For optimum performance, I also highly recommend that you use a 2-cell, 1500mAh Li-poly battery.

PERFORMANCE HIGHLIGHT. I'm always happy to let newcomers fly my Miss Stik, even if they've never before touched a transmitter! It's a perfect backyard trainer/sport model.