



Tear up your field with this compact pocket rocket

**HOBBY LOBBY**

by Tom Hunt

# Lynx XF

It had been a while since I had flown an electric ducted fan (EDF). In the late 1980s and early '90s, I helped the late Bob Kress (Kress Jets) with a lot of developmental EDF work, but I haven't done much since then. Now, with the ready availability of inexpensive brushless motors and lightweight LiPo batteries, it was time to become reacquainted with a fast, jet-type model, and the Hobby Lobby Lynx-XF offered an intriguing way to do this.

The Lynx airframe is molded out of a fairly high-density polystyrene foam with some carbon-rod reinforcements. The kit's only wood is for the fan mounting stick. The foam moldings are high quality and fit together very nicely. Lightly sanding the leading edges of all the flying surfaces ensures predictable flight characteristics. You don't have to sand the little molded "nubs," but it does make the decals stick much better. The model comes with mostly bright orange, peel-and-stick decals that will help you to see the model's flight attitude—a must with a model of this size that reaches high speeds. Also included are pushrod wire



The parts as they come out of the box. Foam airframe, carbon rod, wooden fan stick, miscellaneous plastic parts, pushrod wire and a decal set.

and injection-molded nylon parts such as control horns and wing skids.

You have to buy the matching 56mm-diameter ducted fan and a LittleScreamers micro outrunner "Jet Screamer" motor that, on 3 cells, amazingly turns the 3-blade fan at around 40,000rpm. The dynamic thrust must be close to 13 or 14 ounces because the model climbs almost straight up at full throttle.

The model is controlled by only the aileron and the elevator. If you're ambitious, you could add a single or dual rudder, but that would increase cost and weight, and I don't think it would add much to the model's performance, as this model already goes fast and banks hard.

The model goes together quite quickly. I stopped occasionally to take pictures, and still I completed it easily on a Saturday

#### TIPS FOR SUCCESS

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If you're a skilled modeler, glue the booms to the wings using 5-minute epoxy; if you think you need more time, use the 30-minute stuff! Cover the top and bottom of the wings with masking tape to prevent the epoxy from sticking to the foam where you don't want it. Pull the tape off just after the glue stops being runny but before it hardens.

FLIGHT SHOTS BY JOE CABANA, BUILDING PHOTOS BY TOM HUNT

#### AIRBORNE

On the lower wing near the CG, the Lynx has a bulge for hand-launching. You should be able to grip it well enough with your thumb and two fingers, but if you find it too slick, glue 220-grit sandpaper to the sides. Only launch the Lynx with full throttle, and toss it firmly and slightly nose-high. At more than 180 watts per pound, it accelerates very quickly. Even with its long nose, it tracks very well through loops and rolls (the twin tails see to that). Though the Lynx can fly rather tight loops, its more than adequate power will allow you to pull the nose up gently for big scale-like loops. It rolls very quickly and very axially; be prepared to set up dual rates for this. Flying inverted requires only a little forward stick to maintain altitude at high speeds.

The Lynx's low wing loading also contributes to its low landing speeds. Throttle way back on final, and keep the nose down to maintain speed. Then raise the nose at the last second and give it a little power to "drag" it into the landing spot of your choosing. High- and low-speed stalls are very easy to recover from. It takes very little altitude to regain control once you apply full throttle. The power-off glide is acceptable, but try not to get caught too low on battery power to make your landing. Flights with the recommended 1320mAh Thunder Power pack last only about 5 minutes when you fly the model aggressively.



The bottom of the wing with the booms and servo wires installed. I covered this section with orange packing tape (not supplied) to secure the wires in the channels and to help with visibility.

morning. Epoxy is used to assemble the major parts. The kit comes with a contact cement, but it took too long to dry to move the assembly along at a fast pace. I didn't deviate from the well-thought-out instructions, but I did "enhance" the model in certain areas:

Instead of just soldering an extension onto the existing servo wire, I made a pocket in the lower wing to accommodate a servo connector for the elevator servo. This pocket is just aft of the carbon-fiber spar reinforcement on the left side of the wing between the boom and the fuselage pod. My second modification was to make a cooling air channel for the ESC mounted

#### SPECS

**PLANE:** Lynx XF

**MANUFACTURER:** Haoye Model

**DISTRIBUTOR:** Hobby Lobby

**TYPE:** Small, hand-launched ducted-fan

**FOR:** Intermediate pilots

**FLYING WEIGHT:** 14 oz.

**LENGTH:** 30<sup>1</sup>/<sub>4</sub> in.

**WINGSPAN:** 25<sup>1</sup>/<sub>2</sub> in.

**WING AREA:** 165 sq. in.

**WING LOADING:** 12 to 13 oz./sq. ft.

**RADIO:** 3-channel required; flown with Polk Tracker III transmitter, Hitec Electron 6

receiver, 3 Hitec HS-55 servos

**POWER SYSTEM:** Little Screamers JetScreamer brushless outrunner motor and XF-Fan 56mm ducted fan, Jeti 18-3p Advance speed controller, Thunder Power 3S 1320mAh LiPo battery

**FULL-THROTTLE POWER:** 16.5 amps, 165 watts total; 11.8 watts/oz., 189 watts/lb.

**TOP RPM:** 40,000

**DURATION:** 5 to 6 min.

**MINIMUM FLYING AREA:** Large ballfield

**PRICE:** (airframe only): \$54.60

**COMPONENTS NEEDED TO COMPLETE:** Brushless motor, fan unit, ESC, battery & radio

#### SUMMARY

The little Lynx gets up and goes right out of your hand. It's smooth, fast and stable and handles the wind like a much larger model.

completely inside the foam fuselage pod just forward of the fan unit. I created a sort of NASA flush inlet in the left side wall just opposite the ESC in the fuselage. The air exits just above the fan-mounting stick in the aft of the fuselage pod. My third modification was to sink the receiver into the top of the wing instead of letting it sit on top of the wing. I did this to make room for the battery cables, just in case I had to adjust the CG by positioning the battery farther aft than suggested in the instructions. This proved to be unnecessary. The Lynx balanced easily with the battery almost all the way forward in the nose-pod recess. Two very strong magnets (sold separately)



Viewed from the rear, the fan unit shows the Little Screamer Jet-Screamer outrunner brushless motor mounted in the fan. The direct cooling of the motor by the fan blast should ensure that it lasts a long time. Even on some of the warmer flying days, I never found that the motor overheated.

embedded in the canopy and fuselage foam hold the canopy/battery access hatch. It really takes some effort to remove the canopy when you want to. It isn't likely to come off in flight, even at the high speeds this reaches. Don't mess with success. Use the magnets!

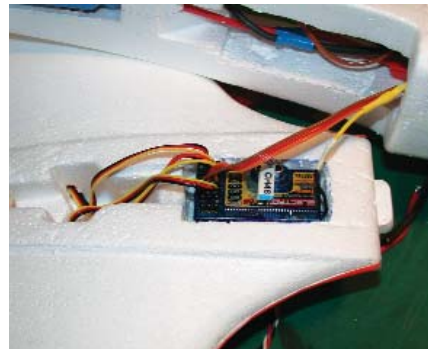
Assemble the fan separately from the model. This is something you can do while the 5-minute epoxy is setting. A vacuum-formed fairing and tailpipe are also available separately for around \$5 to smooth the fan's aerodynamics. They also improve the model's looks. Having assembled the fan, screw the fan to the mounting stick.

Set the control surfaces as recommended in the instructions. The fan blast can make

the elevator rather sensitive at high power and low speeds such as on launch, so I recommend that you at least use exponential on the elevator if your radio has it.

#### FINAL CALL

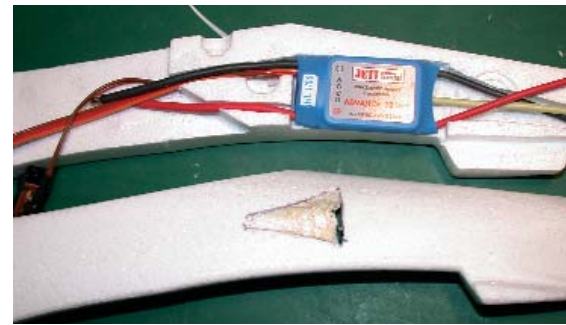
The Lynx is one hot little jet that every throttle jockey would want in their stables. Its smallness and low cost make it a "take-anywhere" model. Its flying qualities are



The receiver was buried in the wing to allow more room under the canopy for wires and the motor battery.



The elevator servo wires do not reach the receiver without an extension. Instead of soldering an extension on, I chose to use a stock extension and to bury the connector in the lower wing surface just behind the carbon-fiber-tube spar.



The flush inlet carved in the left side of the pod just forward of the ESC lets cooling air in. The air exits the channel cut inside the left fuselage side. I never had an ESC thermal shutdown with this arrangement.



The ESC is in the aft fuselage pod, and you install it before you glue the two halves of the pod together. Make 1/4-inch-deep channels in the foam for the wires that go forward to the battery and aft to the motor. The blue area on the inside of the left pod half must be removed to allow cooling air to pass over the ESC.



The finished, flush ESC cooling inlet.



Assemble the 56mm ducted-fan unit and vacuum-formed ducts and shrouds (available separately), and then mount the unit on the hardwood beam that's glued into the wing/aft fuselage. Only two wood screws (one front and one aft) are required to secure the fan—very simple and effective.

exceptional, and anyone who can fly a fast aileron ship can take this model up without fear. I have flown it in pretty strong breezes and it handles the wind like much larger models do. Take it to the field on breezy days, and you'll be flying when others are grounded! Enjoy the world of small EDFs! 🌪️

#### Links

Hitec RCD USA, Inc.,  
www.hitecrccd.com (858) 748-6948

Hobby Lobby Intl.,  
www.hobby-lobby.com  
(615) 373-1444

Polk's Hobby,  
www.polkshobby.com  
(973) 351-9800

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