

## YARDBIRD RC

**YB-22**Here's  
your "Top  
Gun" ticket**PARK JET** by Johnathan Pope

**Y**ardbirds RC's YB-22 Park Jet is modeled after the F-22 Raptor that has wowed spectators at air shows across the country with its unbelievable speed and agility. True to its heritage, the YB-22 is athletic and nimble and can stably fly as slowly as a walk or whip around in a blur. The kit comprises 6mm Depron foam with a top-quality hardware package, including carbon-fiber spars and control rods, a wooden motor mount and control horns, and custom-made decals. An 11-page instruction manual with very straightforward text accompanying detailed pictures for every step and a simple two-servo setup ensure a trouble-free build. If you choose to go with Yardbird RC's recommended Dualsky combo package, you'll be treated to a tailored power system that literally delivers "out of sight" performance. All the electronics are protected inside the body by

**AIRBORNE**

For its first flight, I decided on a launching technique given in the instruction manual: holding the model with my thumb in the gap between the elevons and with my fingers spread out under the aft wing deck, I pointed the nose up at about a 30-degree angle and gave it  $\frac{3}{4}$  power. The YB-22 accelerated confidently and continued to accelerate into an unlimited vertical climb—up, up and away. After just a few moments, I had to throttle back to maintain a clear orientation and see whether it needed any trim adjustments. The recommended CG was spot-on. My first order of business was to check out what would happen in a stall.

With the recommended control-surface travel of 30 to 35 degrees, full up-elevator and power off would produce only a stabilized descent. The nose didn't dip, and the wing never dropped. I was able to maneuver the glide with aileron input, and the plane wouldn't be destabilized. Amazed, I figured that the light wing loading was behind this tame behavior. Later on, after I had landed and swapped out battery packs, I increased the travel to 45 to 50 degrees for a faster roll rate and to see whether it could invoke a stall. Nope! Not only could I not get this park jet to stall fully, but a spin was also out of the question.

With my confidence growing, I began to play around. The benefits of CNC-cut Depron foam components that key together for a strong, true build are brought to light in this fantastic design. This park jet has some terrific flying characteristics: With my thumbs off the sticks, this foamie tracks straight at any throttle setting. The tracking remains true throughout consecutive rolls in either direction. The neutral thrust line and lateral balance really show off in my non-precision "bank and yank" maneuvers.

Quick servos and out-of-the-box slop-free control linkages instantly transmitted my stick slamming for a really connected feeling of positive control. Eventually, I had gained enough confidence in this plane's capability to give it full up-elevator at full throttle. Result? A tight looping turn around a point! Holding these inputs gave multiple loops going around and around and never falling out to one side or losing altitude. How about full=power outside loops? Check. High-speed full-deflection maneuvering? Check. The YB-22 handled everything I could try while maintaining excellent tracking. I simply could not exceed the structural or maneuvering tolerances of this airframe. For air-to-air combat, the YB-22 is an ideal platform that rewards good tactics and quick reflexes. All I need now is a friend or three to get one so we can dogfight!



With the keenly refined manners of this park jet, I had to challenge myself to find out how to make it bite me. It certainly wasn't going to be in a high-G pull or in a stall, and I found it very difficult (though I tried and tried) to enter a spin. Only by moving the CG from 3.5 inches forward of the motor mount back by  $\frac{1}{2}$  inch was I able to coax the YB-22 into a spin. And then it could only be a power-off spin. Once a blip of power was added to try to flatten it out, it began flying. Only after half a dozen battery packs of trying, did I at last find out how to get this plane off its rails: enter low-speed knife-edge flight and wait. With no real vertical surface to provide lift, the nose eventually drops and a spin develops. But in a rotation or two, it usually recovered without my asking.

Slowing things down, high-alpha maneuvering is as solid as all the other flight profiles both upright and inverted. I didn't find any wing rocking or struggling to prevent harriers from falling out to either side. To drive the park jet low and slow around the park, dip the nose a bit when you need to make fine adjustments to directional control. Its gentle slow-flight characteristics make for very easy landings! With all these accolades, I offer a few words of caution. The YB-22, paired with the Yardbird Dualsky power system, has a lot of power and speed. In no time at all; it can get far away, and maintaining orientation can be a struggle. With the exception of this, the YB-22 park jet has proven itself to be an exceptional mix of ultra maneuverability, high stability and extreme fun.

PHOTOS BY WALTER SIDAS

**SPECS****PLANE:** YB-22 Park Jet**MANUFACTURER & DISTRIBUTOR:** Yardbird RC**TYPE:** Park flyer**FOR:** Intermediate pilots**WINGSPAN:** 24 in.**WING AREA:** 306 sq. in.**FLYING WEIGHT:** 12.1 oz.**WING LOADING:** 5.7 oz./sq. ft.**LENGTH:** 34.5 in.**RADIO:** 3-channel w/elevon mixing required;

flown w/Spektrum DX-7 transmitter, Spektrum AR6100 receiver, 2 YB 1122 servos

**POWER SYSTEM:** Dualsky XM2826CA-12 brushless outrunner motor, 7x5E APC prop, Dualsky XC1812BA18A speed control, Dualsky XP13003GT 3-cell 1300mAh LiPo battery**FULL-THROTTLE****POWER:** 16.5 amps, 185.6 watts, 15.34 W/oz., 245.5 W/lb.**TOP RPM:** 12,600**DURATION:** 10-12 min. of combat and cruising**MINIMAL FLYING AREA:** Park or schoolyard**PRICE:** \$49.99**COMPONENTS NEEDED TO COMPLETE:** Radio and power systems, Ultimate RC Foam Glue**SUMMARY**

The YB-22 has full ability to be an aggressive "bank and yank" speed demon that's capable of performing the highest-G air-combat maneuvers at the local park. The credit goes to Yardbird's design and manufacturing, which produces a consistent build. The result is a light yet strong fighter. Perfectly matched with Dualsky's power combination, it will soon be streaking across the sky doing victory rolls!

a large access door that keeps this fighter aerodynamically clean. Once this model arrives at your park, you'll undoubtedly have the advantage over any other ship in the sky.

**TIPS FOR SUCCESS**

Reading through the directions, I realized how critical a flat building surface would

be. I set up shop on a glass table with wax paper handy to prevent the glue from sticking the wrong things together. Though I am a careful (read "slow") builder, this turned out to be the fastest building plane I've ever had on my bench (or glass table). It took about 10 hours from box to the paint being dry. Very clear instructions paired with very precisely machined parts made this a thor-

oughly enjoyable and trouble-free project.

Available from the Yardbirds RC website, Ultimate RC Foam Glue is well worth checking out. Very little is needed to create a durable bond, so you save weight without sacrificing strength. Ample time is available to position even the largest pieces, and it quickly sets up, so you can move forward without much worry about handling the

parts. A bonus is that the glue is clean to work with and dries clear, keeping you and your project looking neat.

Before you glue any parts together, clean the mating surfaces with isopropyl alcohol to remove any loose material left after the milling process. Every part has been CNC machined, and the parts key together. This ensures an accurate build. The most time-consuming step (but it was by no means difficult) was installing the 12 fiber hinges on the elevons. I aligned each hinge gap by sandwiching a Popsicle stick on edge between the fixed surface and the elevons to keep the slot widths consistent and to help ensure full deflection.

I needed one small servo extension to finish because the YB-1122 lead was too short. A quick shot of Testors glossy gray spray enamel paint on the nose replicated one the F-22 Raptor's looks. After I had applied the vinyl stickers, this one was ready for the park.



**Yardbird RC recommends and sells the Dualsky ESC and motor for the YB-22, and I can't imagine wanting any other setup. The propeller's close proximity to leading edge of its cutout provides that familiar jet whine at full throttle.**

#### CONCLUSION

Yardbird RC has reason to be proud of its YB-22 Park Jet. It is a dogfighter's dream come true. Given the YB-22's extremely capable handling, you can rip into high-G air-combat maneuvers with confidence. Then turn and burn with a generous reserve of speed with the Dualsky power package. If you don't have Kenny Loggins' "Danger Zone" in your head by the end of a day of hucking this over-athletic fighter jet around the park, you'll need to check your pulse! 🎧



**The battery seems lost within the generous equipment bay. With the forward end open, there is tremendous cooling airflow.**

#### Links

**APC Propellers**, distributed by Landing Products, [www.apcprop.com](http://www.apcprop.com), (530) 661-0399

**Spektrum**, distributed by Horizon Hobby, [www.spektrumrc.com](http://www.spektrumrc.com), (800) 338-4639

**Yardbird RC**, [www.yardbirdrc.com](http://www.yardbirdrc.com), (281) 394-4331

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