PAGEBOY-S

by Tom Binkley

Today, in 2013, anyone with a credit card can buy a ready-to-fly micro sized R/C model airplane that weighs only 3 grams and can be flown by a beginner in a living room! Pretty incredible.

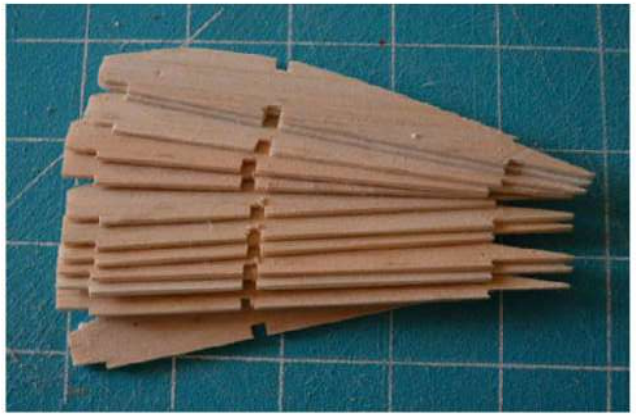
In that context think back to 1963 when the world's smallest R/C model was Ken Willard's Pageboy, an eleven and a half inch wingspan version of the Schoolboy, powered by a Cox .010 engine and guided by an escapement actuated rudder. In those days, if you wanted a model airplane, you had to build it yourself.

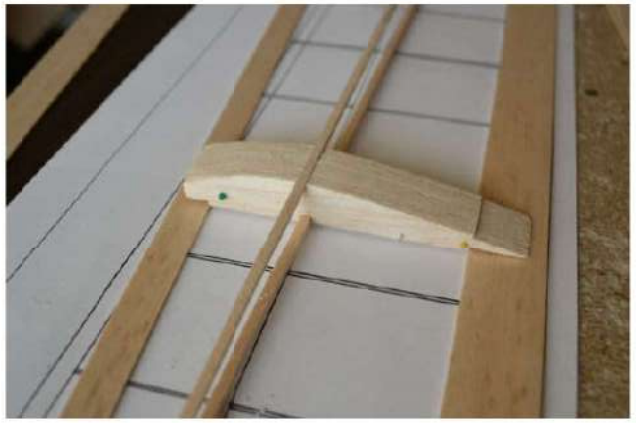
Since it flew either at full throttle or dead stick, and had only rudder control, the Pageboy, which was much too fast to be flown indoors, must have required keen eyesight, exceptional concentration and a good measure of skill to fly. It was a wonderful novelty and attention getter.

While the design in it's original size is intriguing indeed, presented here is a 21 1/2" version, called the Pageboy-S. This size was chosen to provide the best combination of flight performance, economy of construction and ease of storing and transporting.

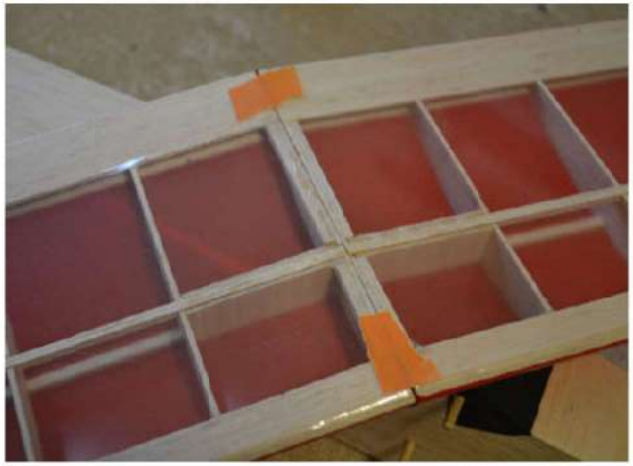
Construction is straight forward and simple. Power is from a 2204-14T outrunner motor, GWS EP7060 prop and a 300 mAh 2S LiPo battery. It also requires a micro ESC, micro receiver and 2 micro servos. Keep it light for best performance.

The wing ribs are cut slightly oversize and stack sanded to final shape, then notched with a razor saw and razor blade. The leading edge consists of a 1/4" sq. balsa stick on a 1/16" X 1/2" balsa strip. Frame one wing panel at a time, cant the center rib at the dihedral angle, add wing tips, then plane and sand the leading edge to a smooth shape. Join right and left wing panels with a 1/8" balsa wing joiner. Finish sand and cover with SoLite.

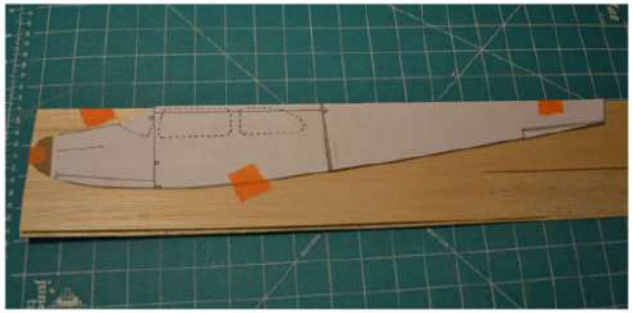


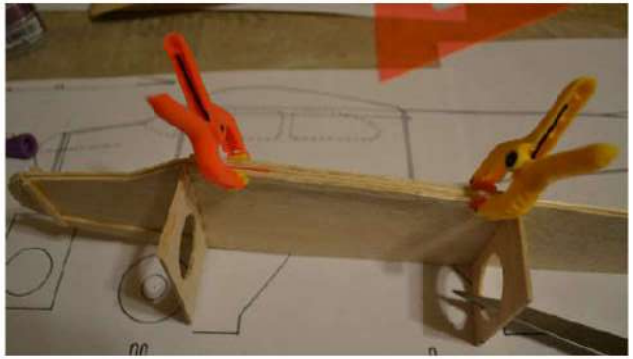


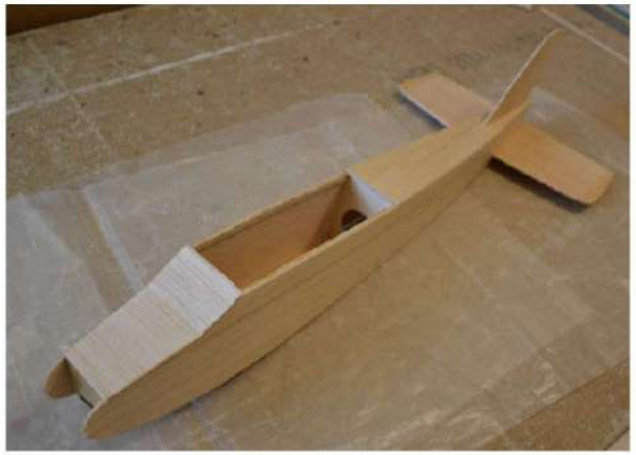
I made a two-piece wing with a removable wing joiner so Pageboy-S can be carried in a travel box. I covered the bottom of the wing with clear Doculam to show off the structure. The top of the wing is covered with Red Solite.



Glue balsa doublers to right and left fuselage sides. Glue bulkheads first to one side then join to the other side. Glue the 1/32" ply firewall in place. Add the 1/32" ply landing gear mounts, leaving a gap for the music wire to seat in. Glue the fuselage sides together at the rear and plank the fuselage top with 1/16" balsa. Plank the bottom, from the firewall to the rear bulkhead and then the rear three inches, leaving an opening on the fuselage bottom for push rod access.

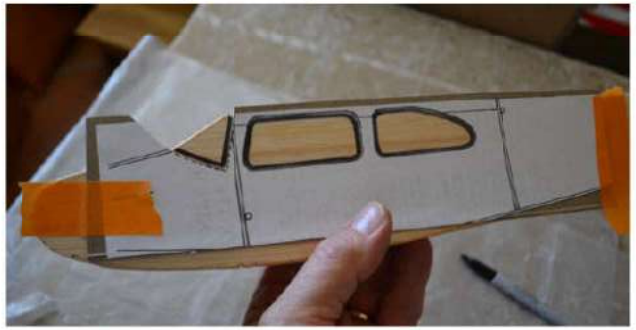






Glue the fin and stab in place, aligning carefully. Add the 1/32" ply tail skid. Finish sand and apply a few light coats of clear spray lacquer.

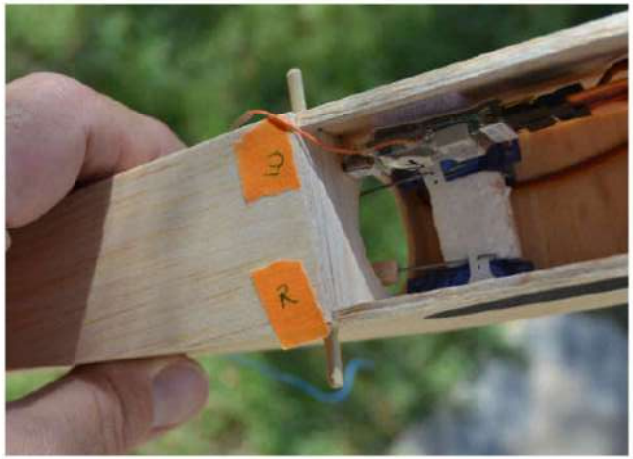
Using a cardboard template and a blunt marker, draw in the window outline, and fill in with black acrylic craft paint. Install 1/8" dowels.

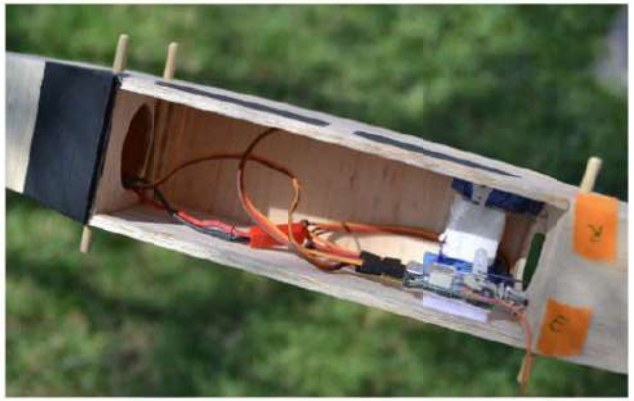


Attach elevator and rudder with clear tape hinges. Bend landing gear from .047 music wire, install wheels, and attach to fuselage with 2 #16 rubber bands.

Shorten leads to a minimum length and solder the motor to ESC wires. Install motor, prop and ESC. Install servos in rear of cabin, install push rods and control horns.

Add missing fuselage bottom, finish sand and lacquer. Attach receiver to cabin side with Velcro. Velcro the battery where needed to balance Pageboy-S under the wing spar. Attach the wing with 2 # 16 rubber bands. Rudder travel is 1/2" each direction and elevator travel is 1/4" each direction.





Pageboy-S will take off at part throttle in just a few feet. Climb to a safe altitude to adjust trims, if needed. Pageboy-S is generally stable and it has good wind penetration and good response to control input without being sensitive. It will climb straight up out of sight and loop easily from level flight. Like the Schoolboy, it does corkscrew rolls. Back off the throttle as it approaches the top of a loop and it will perform a nice Immelman turn. It tracks well, is steady and predictable and does nice touch and goes. Ten minute flights are the norm.

Although Pageboy-S is easy to fly and self-righting like a trainer, at full power things can happen a bit too quickly for a beginner. So for low time pilots or supervised beginners, install a GWS 7035 prop. That limits power to 21W. That's enough for very good performance, but it lacks the unlimited vertical and rolls are pretty lame at that power. It still climbs very well, handles a breeze well and is very fun to fly, a little more relaxed. And flight times are about 13 minutes.

Pageboy-S turned out to be a pretty versatile little airplane. It is compact enough to transport easily and it seems to fly bigger than it's small size. Be sure to send pictures of your Pageboy-S to our editor. Enjoy!

PAGEBOY-S
Small RET Electric Parkflyer

Wingspan	21 1/2”
Wing Area	109 sq in
Length	20 1/4”
Weight	123g, 4 1/3 oz
Wing Loading	5.6 oz / sq ft
Motor	2204-14T 19g Outrunner
ESC	Castle Creations Phoenix 10
Prop	GWS 7060
Battery	300 2S Nano-tech Lipoly
Power	5A 7V 35W
Flight Time	More Than 10 minutes
Radio	Hitec Eclipse 7, Berg Microstamp
Servos	HXT 500, 6g