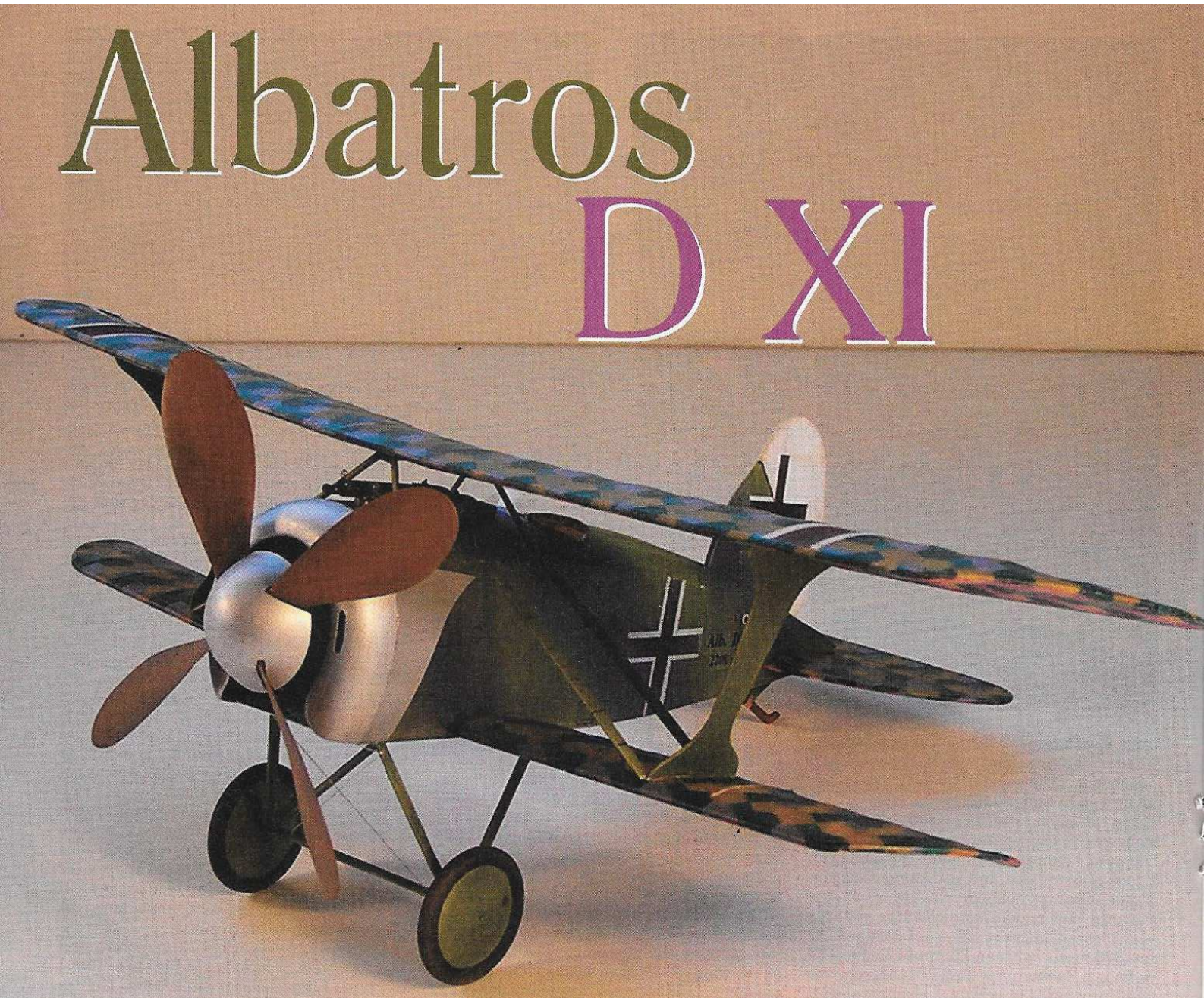
Albatros D XI



A WWI scale peanut job that will impress your flying buddies and the judges!

By David Wagner

PHOTOGRAPHY: DAVID WAGNER

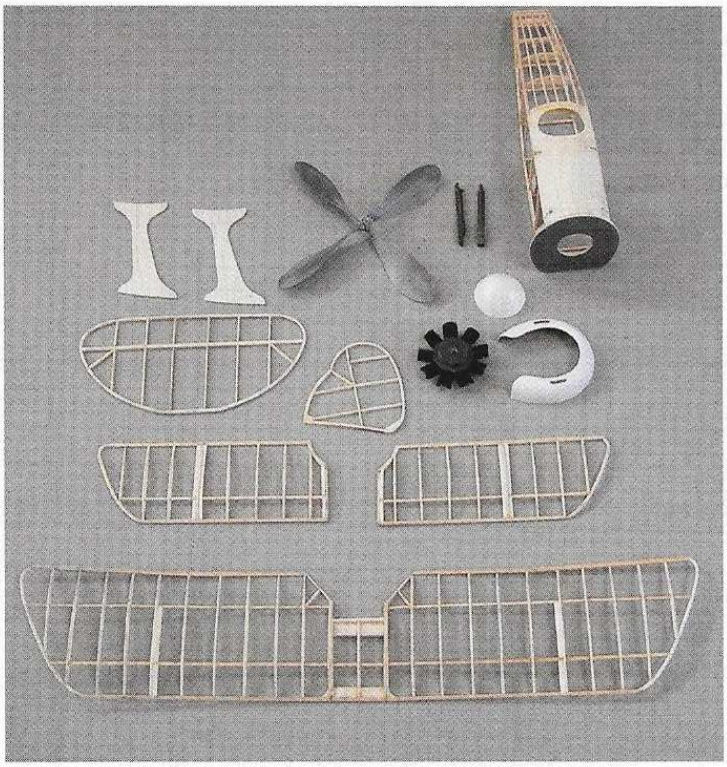
The Albatros D XI was a significant departure in design for a company that had produced some of the most elegant biplanes of the First World War. Their earlier fighters and reconnaissance aircraft all featured wonderfully streamlined fuselages enclosing liquid cooled engines. The D XI was meant to take advantage of a late war German interest in the more powerful rotary engines that had become available, and which powered the Fokker D VIII and the Siemens Schuckert D III. Albatros produced two models of the D XI for the third fighter competition in June 1918, but failed to obtain a production order.

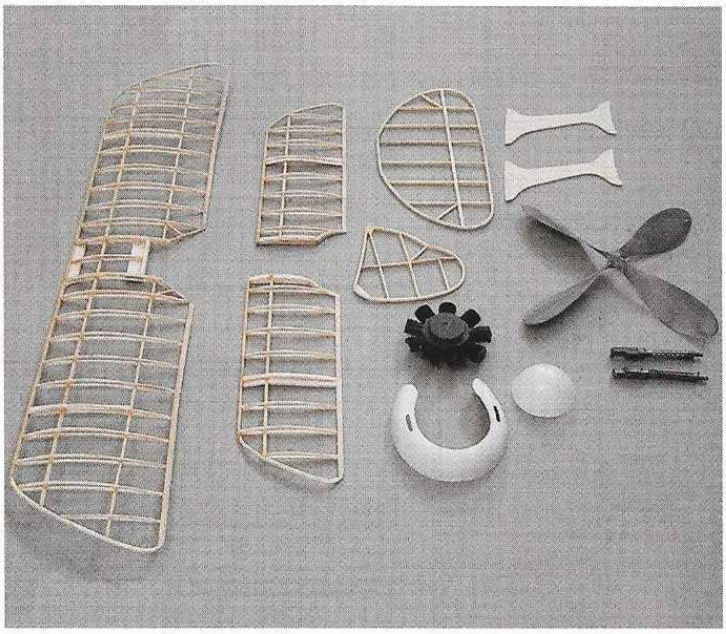
The D XI is a fascinating combination of design moments. A stubby, squared-off fuselage featuring the classic, graceful Albatros wings. I think it makes an interesting scale model. As usual for me, I chose to utilize a scale undercambered airfoil and rib spacing.

The model plan is straightforward and not difficult for any experienced modeler. I would highly recommend Robert Wells printed lozenge tissue. The Peck Polymers plastic engine, a four-bladed propeller and spinner are more trouble to build, but really make the difference in appearance, and you will need your weight there. The plan is strictly scale in all proportions. I have to

AT A GLANCE

Type:	F/F peanut scale
Construction:	balsa
Wing span:	12.75 inches
Wing area:	42.75 sq. in.
Length:	8.5 inches
Weight:	14.8 grams
Wing loading:	.35 g./sq.in.





The *Albatros* main structure before covering. Note the sliced ribs **(at left)** and undercambered airfoil. The cowl and spinner **(above)** are vacu-formed plastic. Wing struts are light 1/32-inch balsa. Once covered with tissue and dope, they will be much stiffer.

say, I was pleasantly surprised to find that my model flew very well.

The structure is not unusual in any way, so I won't go over the building sequence, except for a couple of points. These will largely reflect the way I build and approach the finishing. This is a peanut scale biplane, so you will have to keep it light to fly well. I use laminated balsa strips for all the flying surface outlines. Select the fuselage longerons with care. I prefer them to be quite stiff so there is no bending from the tissue shrinkage. That's right, I cover peanuts with Japanese tissue and shrink it tight with water, the old fashioned way.

A word about the wings. If you've never built one with an undercambered airfoil, don't be afraid to try it. Freeflight models have utilized undercambered airfoils with great success for many years, and there is a reason for that. They fly better at the slow speeds of our models, and this is particularly true for a high drag biplane. I used sliced ribs for this model, as I do for almost all my models without tapered wings. I find sliced ribs to be faster and lighter than cutting and notching solid ribs.

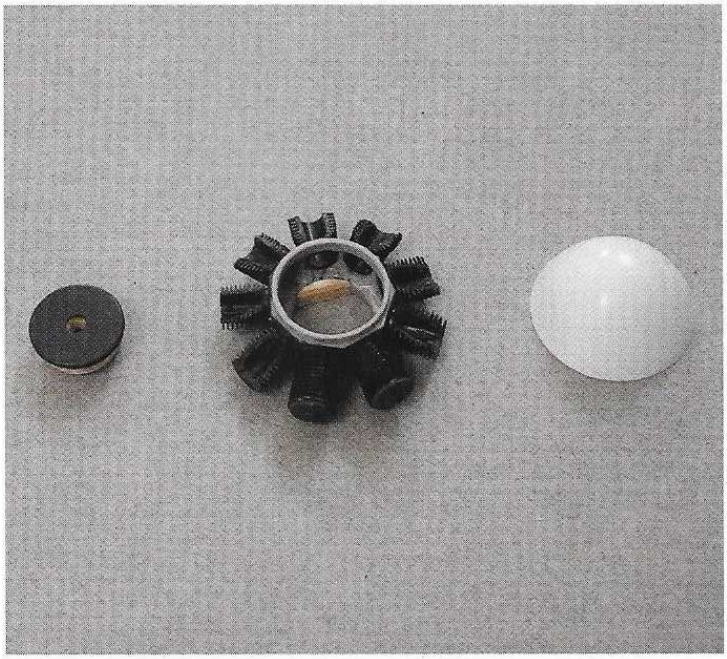
You can use light balsa for the wings. Expect them to be a little flimsy while you're sanding, but have patience. The tissue will greatly stiffen them after shrinking. And more than usual. When you cover undercambered wings, you have to glue the bottom tissue to each rib. I use thinned Sig Bond and a small brush for this.

When you cover the top, you will be tempted to only apply glue to the edges of the wing. This is a comical mistake. The tissue on the wing bottom will only shrink in small sections, between each rib. The tissue on the top will shrink all the way across the wing. You get banana dihedral so pronounced you will take photos to show your friends before recovering. Covering your shame, I should say. No, you must also glue the top tissue to each rib as well. The result will be a very strong wing. Block up the rear of the top wing tips 1/16 inch to produce washout.

The business end

I built the first rendition of this model with a cowl and spinner built up of balsa and hollowed out. They look fine, but dent easily during landings. The second model I vacuformed them from light plastic and I prefer the look and durability.

I built up the rotary engine from a Peck Polymers 1/2-inch scale engine kit. This is detailed on the plans. It may seem extra work, especially since almost all of it is covered by the spinner,



A Peck 1/2-inch scale engine kit. Cut away the front and back of the crankcase **(above left)** and it will work very well. David only put heads on the two lower cylinders that are exposed. Cut away the back of the rest to reduce weight. Thrust button is 1/16-inch ply with balsa plug. Add a Peck thrust bearing. Printed lozenge tissue **(above right)**. This is the way the real covering was made in 1918—pre-printed. The sheets are 11 × 17 inches. It will handle water shrinking and doping with no problem.

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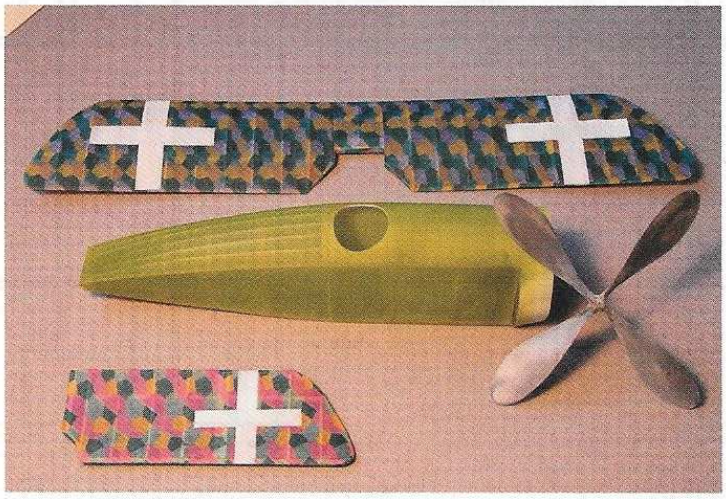
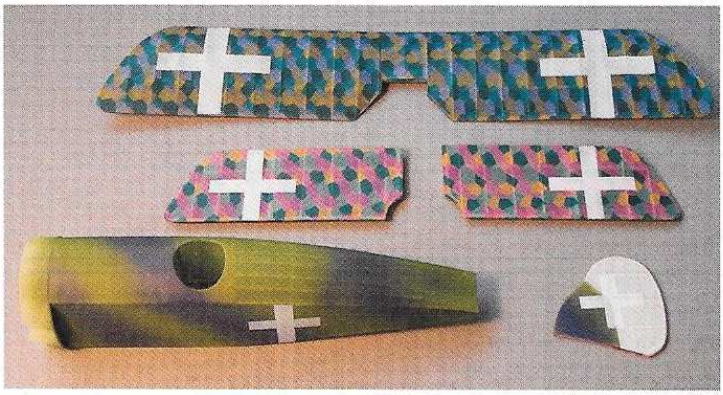
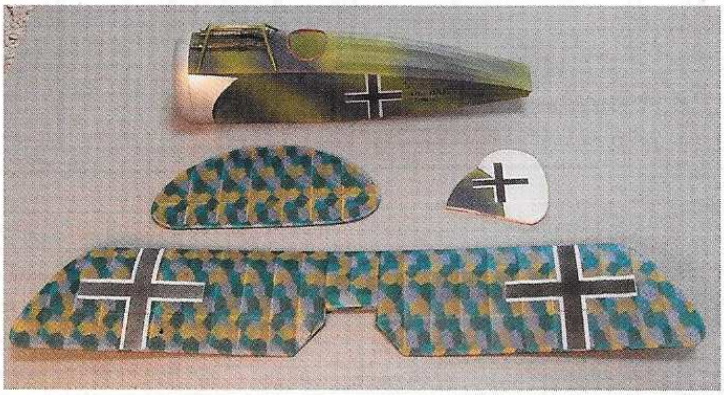


The business end. The vacu-formed cowl **(above left)** is tight around the Peck built-up engine and looks good. Cutting off the front of the plastic crankcase will form a good, strong, stable base for the thrust button and any adjustments. Covered **(above right)** and first layer of paint sprayed on. Next time Dave plans to make it easy on himself and have Rob Wells print the whole thing. Purple camouflage **(below left)** sprayed on the fuselage and rudder. Only the black crosses and lettering decal to go. Note the two tones of 5-color lozenge patterns for bottom and top of aircraft. Ready for assembly **(below right)**. Tell us those guns don't look real—don't get in front of them. The cowl sides are .005 plastic sheet, painted flat aluminum and attached after the fuselage is painted.

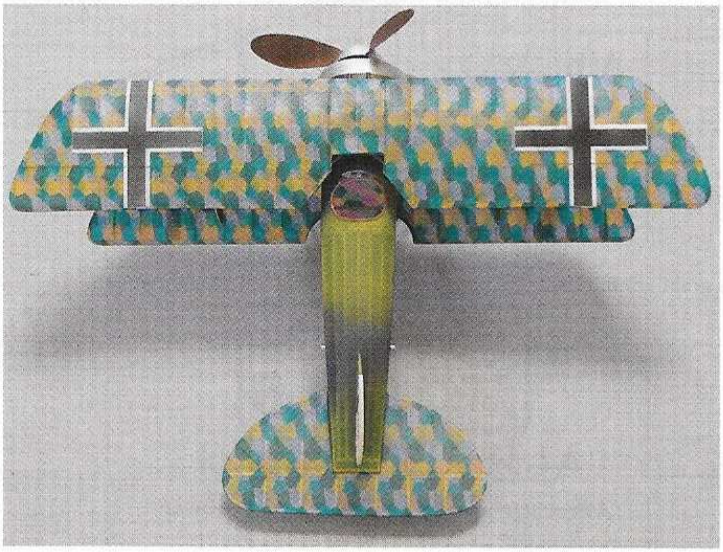




but my 6-year-old son is very impressed by it when I am winding. He makes engine sounds. You will need the weight there anyway.

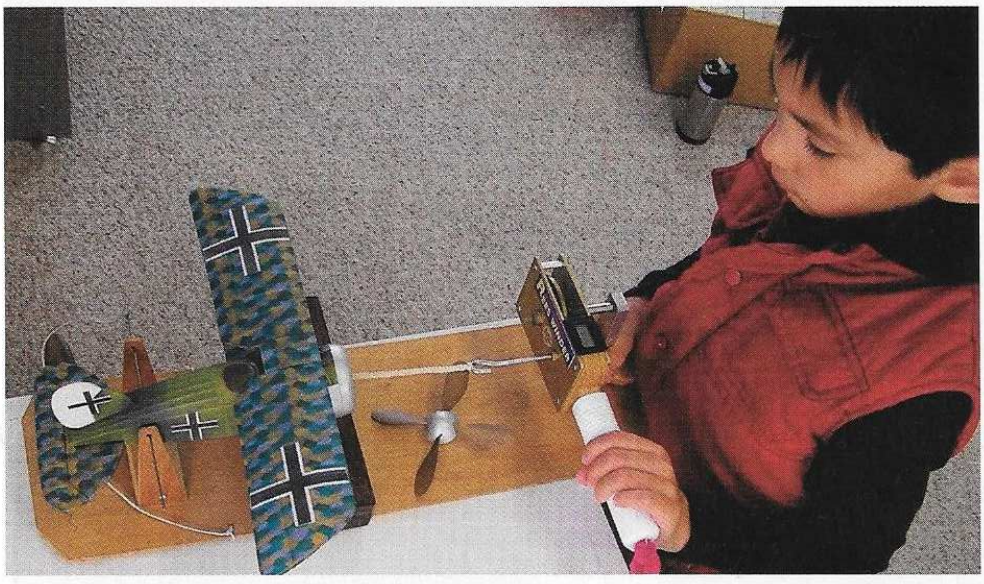
You can use a 2-bladed prop, and it will probably work fine, but other builders and women will flock to you when they see the 4-blader. It really fits the lines of the model perfectly, and is scale. This prop was built up using two Peck 4¾-inch props with scraped down blades. The center hole is drilled out to accept a 1/16-inch aluminum tube for smoother running. I would go into further detail, but the prop was actually built for me by my friend, Dave Chappell, and I think he used epoxy and a prop jig. It is beautifully made and balanced and moves the airplane along smooth and stable.

Two other items really set off the model and, in this case, actually save time. One is the great printed lozenge tissue produced by Robert Wells. He can print on Esaki or Gampi tissue in any scale and in any of the lozenge patterns used during the war. The Esaki prints do not run under application of water or dope. I have used his tissue on several models and highly recommend it. I chose to use the lozenge print and do the markings with airbrush and decal, but he can print the whole thing for you. You can reach him at plasticjungle@verizon.net.



So ugly that it's cute. The stab and rudder **(above left)** are scale. Looking through the cockpit, you can see the fuselage bottom, covered with the light lozenge tissue. Wait a minute, the guns and the engine detail **(above right)** are all covered up. Don't worry, your friends will look close. Maybe the judges will too.

The wing struts are elegantly shaped and arranged, to match the graceful flying surfaces. Appreciation of the fuselage **(above left)** would require a mother's love. The combination is irresistible. The model on the winding stooge **(above right)**. Start with one loop of ⅛-inch rubber. Removing the front of the Peck Polymers engine crankcase gives plenty of room for the rubber. A shot of the underside **(below, at left)** of the model, showing the light lozenge pattern, landing gear, and turned nose button. The only rigging on the model is in the gear struts.



David's son, Tiger, packing in the winds. It's winter in Santa Fe, so winding is done indoors.

The Spandau machine gun jackets are made from the photo etched brass kits produced by Small Flying Aeroplanes in the Czech Republic. My Spandau gun jackets never look right when made with printed paper, but these are the real thing. Inexpensive, very light, and you will never tire of looking over the cockpit and through the crosshair sights on the front ends. I usually aim at my S.E.5 model. I would tell you my son taught me that, but anyone reading this article knows better. You can find a whole range of WWI guns at www.sfa-models.com.

I painted the fuselage and rudder, and the national markings, with airbrushed Tamiya acrylics, which I use on all my models. This is great stuff I highly recommend. A lot of guys just thin and apply with a hand brush, and their models look great too. I made the decals for the aircraft name and work number with my inkjet printer and Testor's decal sheet. Spray a couple coats of clear Krylon to seal before applying. I overspray the whole model with clear Krylon before assembling.

Install the wings with about 3 degrees incidence. Mine flies great on one loop of ⅛-inch rubber with 2 degrees of downthrust and 1 degree right. This may change if you use a larger 2-bladed prop because you're too lazy to build a 4-blader, or call Dave. Prepare to raise the rear of the stab a bit during test flights.

My model weighs just a little under 15 grams. I consider this to be pretty good for a well detailed peanut biplane. I'm not known as a light builder, so you should have no trouble doing this as well. I have flown this model inside and out and it will do 40 seconds consistently indoors.

I never get tired of looking at this airplane. The long goony landing gear, the short nose with spinner and 4-blade prop, and the raked, elegant wing struts combine for an adorable effect. It looks like the design was thrown together with available parts and half formed ideas, and it probably was. But it is fun to build and flies very well. I will build a larger version from these plans some day, and you might try that too. Send me a photo if you do, and also contact me if you need scale documentation. My email is glassblade@q.com.