

# WHITE MONOPLANE

By DON ASSEL . . . Here is a really lightweight Peanut that's really different-looking. It's a canard, it has an open framework fuselage, and it flies really well! Give it a try, you won't be disappointed.

• Scale model canards are gaining popularity these days, due in no small part to Flying Ace club rules and the efforts of Burt Rutan. But canards have been with us for a great many years. The White Monoplane canard was discovered in a 1917 issue of *Aerial Age Weekly*. A small ad invited readers to try it, and I decided to do just that . . . but as a Peanut scale model.

A plan of the original plane was acquired from Gordon Coddling, of Kingman, Arizona, and as it was studied, some interesting things appeared. Over the years, a number of canards had taken shape on my building boards, but the White was slightly different from the others. It became obvious that the zero degrees incidence in the canard wing and the nine or ten degree incidence in the main wing separated the plane from others encountered. Previous models had been marked by high canard incidence. Further, these models featured a good deal of area in the fin, which was located as far back on the fuselage as possible. The White's fin, by comparison, is small, and is located up front, just behind the canard wing. There were enough contradictions here to create

the challenge, and the first White peanut was constructed. It provided a learning experience.

Mini-flights on the first model showed promise . . . until full turns were applied. A nano-second prior to launch there was a sudden and dramatic fore-shortening of the fuselage. It had failed because it has no covering and few uprights to provide strength. The second model was built with spruce longerons, and it is strongly suggested that you use spruce or basswood to provide the strength required.

Construction is simple, generally, but a few points deserve mention.

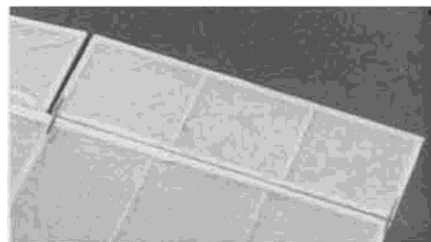
The wing spar and leading edge are

raised to fit the airfoil during construction through the use of thin wedges. When the glue has dried, the leading edge is placed off the edge of the building board, and the aft part of the wing is constructed. Note that both the canard and main wing have movable surfaces. These have been trouble-free, and it is suggested that they be incorporated in your model for the ease in trimming they provide.

Wing dihedral is accomplished by simply cracking and gluing, but note that the spar has 1/4-inch more dihedral than does the leading edge. This provides built-in wash out on both wings (both sides of the main wing, that is).

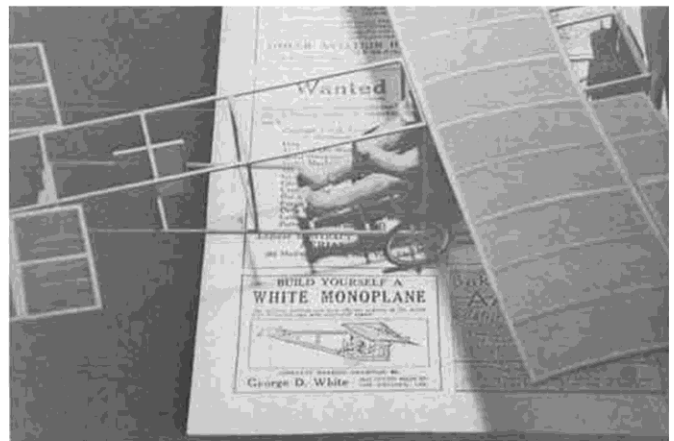
The original plane had spoked wheels, and Hungerford wheels were used on the model. They blend perfectly with the overall appearance of the model, as do the two Williams Bros. engine cylinders.

The main wheels are on an axle under the pilot's seat. The axle is held in place with wrapped rubber, as on the original plane. The aft wheel arrangement is somewhat more difficult, but can be



Aileron detail. Author's White Monoplane flew best with a touch of "left" aileron.

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These photos reveal simple framework design and carved pilot used in static display only. Small fin in front of plane is a friction fit in frame to allow it to slide to the right when rubber motor is in place. Note rear wheel framework in left photo, dummy motor in right photo.

accomplished with patience, fortitude, and temporary uprights, which hold the axle in place while the angled pieces are fitted and glued. The axle is then trimmed, and the temporary uprights are removed.

Both sides of the wings are covered in white or "antique" tissue, and are not shrunk. A spray coat of Deft clear wood finish will set the tissue. Don't worry about less than taut covering. It is SCALE!

Adjustments were a trial, to say the least, but the movable surface helped greatly. As the original incidence angles proved extremely critical, and impossible to work with, use the angles shown on the plan. A bit of left aileron made Model No. 2 a very stable flying machine.

Weight is 14 grams, and with a 26-inch loop of 1/8-inch rubber and a six-inch plastic prop, the White canard has done 38 seconds in dead evening air. The potential is there for better times yet.

Oh, about that tiny fin located just behind the canard wing, it was not glued in place. Instead it was held in place by a force-fit between the crosspieces. Prior to flight, it was slid to the right to clear the rubber motor. What effect does this have on flight? None. In fact, there were no detectable changes in flight when the fin was removed!

If the White appeals to you, build the fuselage as strong as possible. Pre-glue, glue, and reglue, and use hardwood longerons. The wing has sufficient area to support strong construction.

You will enjoy this canard, an old concept which keeps backing its way into the present . . . and the future.

#### **SOURCES MENTIONED IN TEXT**

F. Hungerford Wheels  
1770 Lilac Circle  
Titusville, FL 32780

William Bros.  
Dept, MB  
181 Pawnee St.  
San Marcos, CA 92069

