



The SRE had the most pleasing lines of all Waco cabins. Model flies well.

# Peanut WACO SRE

By WALT MOONEY. Our author seasoned this month's article with a discourse on how to choose an airplane to build a model... of.

The final Waco biplane design and probably the ultimate in cabin biplane configurations was the graceful Model SRE. After a long series of Waco cabin biplanes that used a compression strut to take flight loads, Waco used flying wires on this model. Most of the older models had a multitude of formers and stringers that bulged out the fuselage, but this model was almost square in cross section aft of the wing.

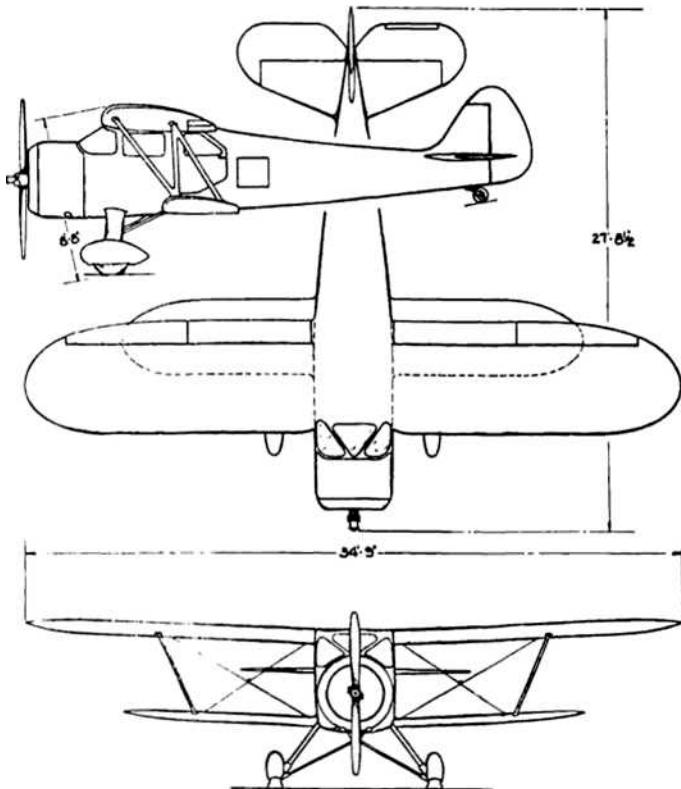
This Waco was also longer than the earlier cabin models and therefore lends itself better to modeling.

The classic color scheme is also modeled in this peanut scale. The base color is red, the trim and number color is black and there is white pin striping between the black and the red. Other color schemes were used but the one shown was the factory pattern.

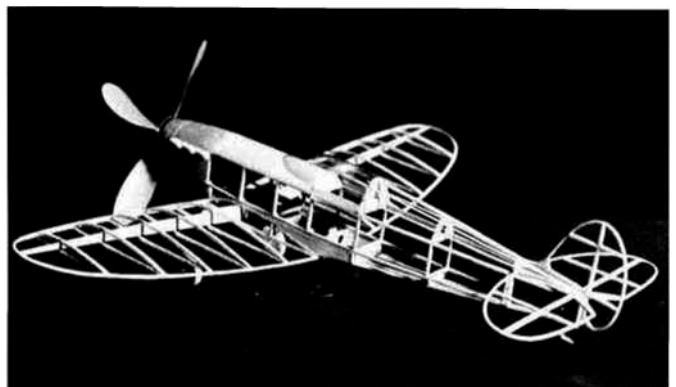
## ACHTUNG ! ACHTUNG! ACHTUNG !

If you build last month's Piper Vagabond from the magazine plans and try to enter a contest, you'll be in deep yogurt! Through a bunch of strange circumstances (goofs), the wingspan came out to be 13-3/8"! We've had the printer make up a batch to the correct size. Drop us a SASE if you want a free copy.

Intentional deviations from exact scale include a larger propeller, more wing dihedral, and the omission of fuselage stringers aft of the cabin. The stringers were not very apparent on the real airplane so they are no loss on the model. The tail surfaces are scale. During the design stage it was hoped that the fuselage would allow the use of scale tail surfaces, and with the CG as shown on the plans, the model flying



Hard to believe this is only a 13" span model. Seems much bigger. Ship is red, with black trim and white pin striping.



And here's our teaser for next month, the "bones for Henry Jones" of the Super marine Speed Spitfire.

very well.

Some nose ballast was required to get the CG this far forward ... Test flights with it farther aft were erratic in pitch, so make sure your model balances as shown.

This model is built in the conventional manner, so no detailed, how-to- build-it article is presented here. However, a few points should be mentioned.

Note that the landing gear wire is designed to be on the outside of the leg rather than faired inside the leg. The landing gear leg and its side and rear struts are cemented rigidly to the fuselage. The wheel pants are cemented to the landing gear wire but not to the struts. This way the wheels are free to flex on a hard landing without putting a load onto the fairings. The penalty in looks of the model is very slight and the improvement in model durability is great.

The nose of the model is made to simulate the metal radial cowl. The forward part of the cowl is laminated from three pieces of 3/32 sheet balsa. All of these, the cylindrical part of the cowl is made by wrapping 1/16 sheet around Formers 1 and 2. Note that Former 2 has a break in it to match the bottom of the windshield. The sheet that is wrapped around will have to be "A" cut and relatively soft. Two layers of 1/32 can be used if you find it easier to bend.

The lower wings are attached to the bottom longerons with the bottom of the wing about a 1/16 inch below the longeron. On the real plane, the root rib is thinned so the bottom of the wing faired into the bottom of the fuselage in a sort of reverse gulled effect. This thinning of the root rib was ignored on the model in the photos.

Since the model construction is so conventional our illustrations editor has given me permission to digress a little. One of the questions that both he and I have been asked from time to time is, "How do you go about selecting an airplane to design into a model?"

Well . . . first of all you have to like it for some reason. This is easy for our editor, he likes biplanes . . . any old biplane will do, I suspect. However, there are a lot more rational reasons for liking an airplane, as listed below:

1. It has a claim to fame.
2. It has nice lines and a graceful shape.
3. It is ugly enough to be interesting.
4. It is the most modern thing out.
5. It is an historical antique.
6. It is simple enough to be easy to make.
7. It is so complicated it will be a real challenge.
8. It looks like it will really fly.
9. No one has been able to make one fly before.
10. I, my father, brother, sister, uncle, aunt, or sister's boyfriend owned one.

Actually I have an easier time than ye old editor, I like all of them!

Second, you almost have to have a three-view drawing available. It is also nice to have several photos handy so that contours and details not shown on the three-view can

be determined.

Third, unless it is to be strictly a display model, it should be something that has a good chance of flying. If in your information about the airplane you find statements that it spun in on the first flight, or killed its test pilot, be wary, if the real ship wouldn't fly, a model of it may be a waste of time.

Fourth, you should have decided how it is going to be powered. Rubber power usually requires a rather large propeller for reasonable durations, so unless you are willing to compromise on scale, avoid modern tricycle landing geared light planes and pick an older tail dragger. Just the opposite can be your criteria if the power is to be a small glow plug engine.

Fifth, if it is to be a peanut, where the span is limited to 13 inches, pick an airplane with low aspect ratio wings so as to have as much wing area as possible. The opposite approach can be used if your model is to be a Jumbo scale, where the span has to be at least 48 inches (monoplane) or 36 inches (biplane).

Sixth, since most models tend to be tail heavy and require nose ballast to fly, the selection of a design that has a long nose tends to help.

Seventh, high wing monoplanes generally are easier to make fly, but this need not discourage you from other configurations.

Being aware of the above requirements we can come up with the hypothetical ideal modeling subject.

It has a long nose and a long tail. It has generous tail surfaces and at least a little dihedral, quite a lot, in fact, if it's a low wing. If it is to be rubber powered it has a longish landing gear and is a tail dragger, and unless you delight in challenging construction, it has simple contours.

Within the bounds of the above there is an almost limitless selection.

If you like an airplane for whatever reason you will, and it falls within the general area I've been discussing, there is a good probability that it can be turned into a delightful model.

One nice thing about building models is the fact that other builders seldom notice the flaws that offend you because you know they are there. What they generally observe is the overall effect, and if you just get the shapes about right you've got the job mostly done.

This is not to say that the super scale model isn't a great thing to strive for. Everyone should be aiming for a Star or planning for some future masterpiece sometime. But about 95% of any artistic job can be accomplished in 5% of the time it takes to create the masterpiece by just about 95% of the people. It takes a genius to finish the last 5%. (How's that again? wen)