SOPWITH TABLOID

Perhaps not the greatest fighting machine of World War One, but a plane worth modeling. Plans are available in either 1/5 or 1/4-scale.

By Tom Polapink **Photos by the author and Pete Polapink**

Late in 1913, a sleek, compact biplane made its first public appearance in Hendon, England. This machine, which was piloted by the soon-to-be Ace, Harry Hawker, had just completed official trials at Farnborough and arrived at the Hendon Field where a flying "meet" was taking place. Hawker, who had built this prototype aircraft, astounded the 50,000 spectators who had gathered there by doing two low-level passes across the field at speeds greater than 90 mph.

This design was the result of the joint efforts of Thomas Sopwith and F. Sigrist, and was called the Sopwith Tabloid. The original machine had a balanced full-flying rudder without a fixed vertical stabilizer. It utilized wing warping for lateral control, and was built as a two-seater arranged side by side in the single open cockpit.

In the early months of 1914, the Sopwith Tabloid was put into production for the Royal Flying Corps. The basic design had to be altered to make it more efficient as a scout-type aircraft. The balanced rudder was changed to a fixed fin and separate rudder, and the wing warping system was replaced by ailerons. The landing gear was modified, and the passenger seat was deleted. Even with these changes, the Tabloid failed to get the recognition as a fighter that it should have. A dependable synchronization mechanism for the machine guns had not yet been developed by the Allies.

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In August of 1981, I had the opportunity to visit Nick Ziroli in his spacious workshop. Nick, who is noted for his one-fifth scale designs such as the F4U "Corsair," AT-6 "Texan," Curtiss P-40, and the F8F "Bearcat," was readying his ¼-scale Sopwith Triplane for the annual Rhinebeck Jamboree.

I had always been interested in aircraft of the World War One era, and noticed an unusually-shaped fuselage atop a room divider. I questioned Nick as to its origin, and he informed me that it was a Sopwith Tabloid that he had started about ten years earlier. He was forced to discontinue work on it temporarily because of business demands. When he finally found the time to work on it, he had developed interest in


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Carol Polapink, the author's sister, adds an attractive dimension to this 1/5-scale model.

other types of aircraft and, as a result, it was never completed.

My next question pertained to the availability of plans for it. Nick graciously gave me a set of roughed out blueprints for it and, two days later, the basic fuselage structure had been completed.

At this time, I felt it necessary to start the search for good documentation. Finding a three-view drawing for the Tabloid was not a difficult task, but finding color documentation was another story. Fortunately the journal, *World War I Aero* had an article on a Sopwith Tabloid which had been constructed by Don Cashmore of Notts, England. I contacted Don by mail and, within a week, received a reply, with color photographs of his authentic Sopwith. It was decided that I would use this aircraft as the basis for my model. But, as I continued construction, I ran into some problems which led to a temporary halt on the porject.

In January of 1982, the WRAM's show was rapidly approaching, and I wanted to have the Sopwith ready to display there. I resumed work on the Tabloid until it was completed about four weeks later. I met my WRAM's show deadline, and the model took First Place in its category.

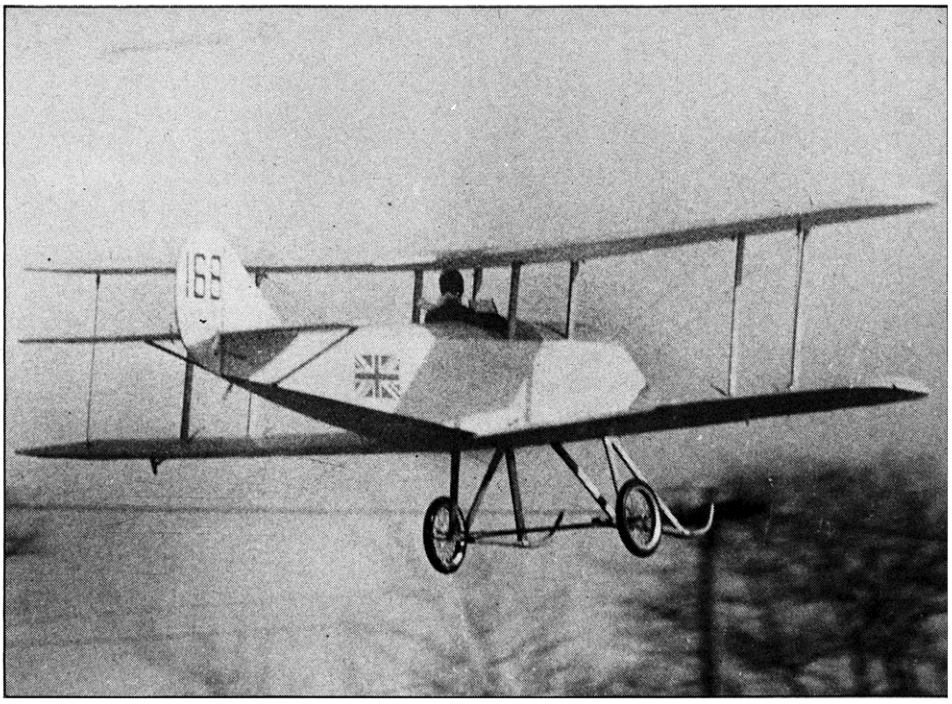
Since then, the Sopwith has flown in its share of contests, and it has proven to be a successful design. I am very pleased with its performance, and I honestly feel that it is one of the most docile planes I have ever flown. Even as this article was being prepared by the magazine for publication, I was honored to take top prize in the Senior division of Scale at the '83 NATS.

The design of this model was kept fairly simple so that it would enable a large variety of modelers to construct a reasonably accurate scale model of an unusual airplane of World War One vintage.

The fuse sides are built directly over the plans, in a fashion typical of most box-fuselage models. The fuselage sides, from the cockpit forward, are made mainly out of ¼-inch plywood. This provides the cabane struts with a strong foundation. The cabane struts provided me with many hours of head scratching and fingernail biting, but the configuration which resulted has proven itself through one year of rigorous, competitive flying.

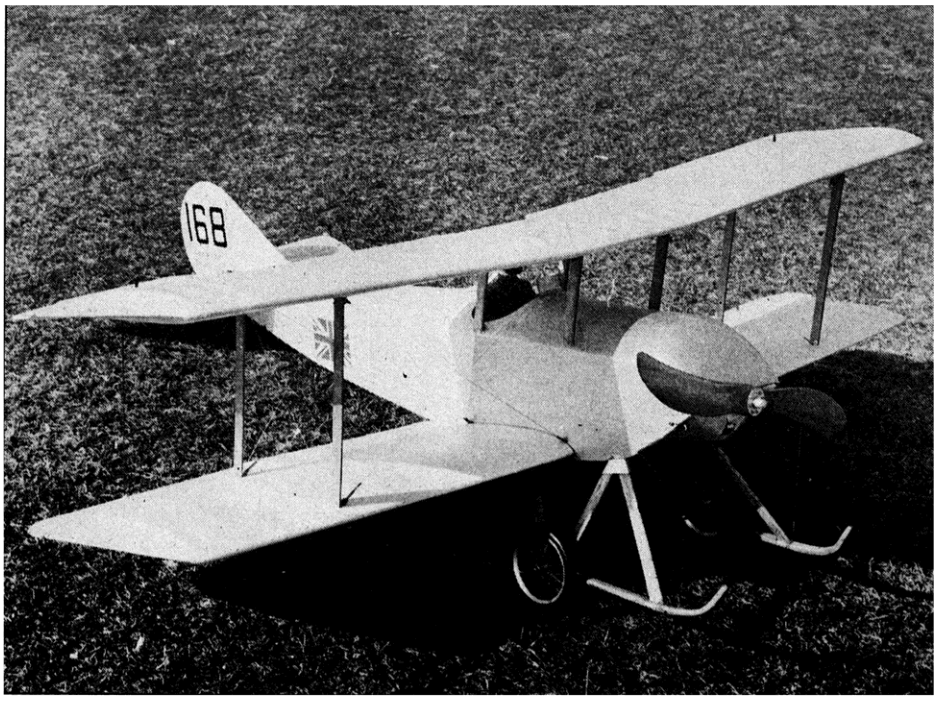
Start by cutting 1/8-inch diameter wire to the lengths shown on the plans. Crimp and silver solder electrical wire terminals to the ends of each of the four wires making sure that all of the joints are sound. The 1/8x3/4-inch plywood strips (two per strut) for the cabanes should then be cut and routed out to accept the 1/8-inch wire. Sandwich the wire between the plywood strips and epoxy it all in place. This procedure must be done three more times, for each of the remaining cabane struts.

After each of the strut assemblies has been made, lay them over their respective locations on the fuselage side-view plan and, with a pencil, mark off where they exit the top of the fuselage. Using rough sandpaper radius the corners of the struts from where they exit the fuselage, to where the terminals are. Doing this step now saves a lot of time later, and is much easier to accomplish while the parts are still separate from the fuselage. Carefully

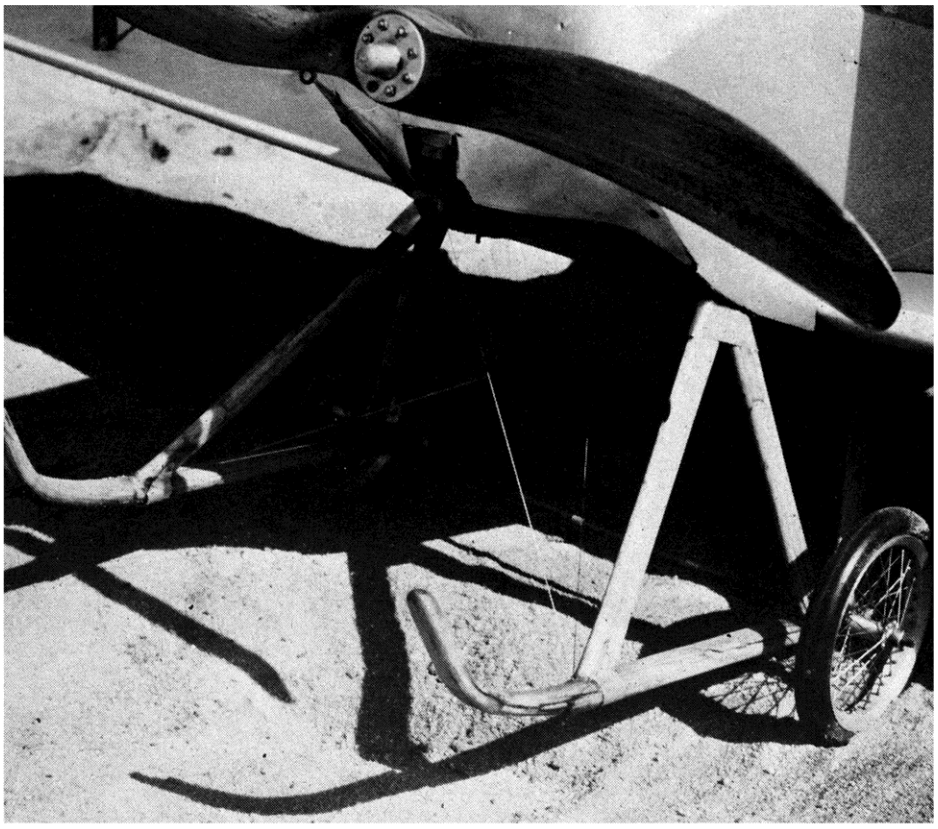


Cruising past, the Sopwith Tabloid proves itself to be the kind of model that you can fly every weekend. If strenuous aerobatics are anticipated, the full rigging wire system should be employed, just in case.

The nifty nose skid adds a nice touch to the author's model, but don't expect it to prevent too many noseovers.



The Tabloid is covered with Super Coverite and painted cream, except for the aluminum areas around the nose.



Detail of the gear area reveals functional rigging wires holding the skids in place. Spoked wheels and scimitar-shaped prop are a must.

epoxy the struts to the fuselage sides, making sure that you have made both a right and left side (all of the terminals should be facing outward).

After the two sides have thoroughly dried, remove them from the plan, and pin them so that they rest vertically in place over the top-view drawing. The nose should be propped up to allow the bottoms of the fuselage sides (from the back edge of the wing cutout, rearward) to rest flat on the plan. Epoxy the ¼-inch plywood firewall in place, and epoxy the back ends of the fuselage sides together. Cut the remaining ¼-inch square balsa crossbraces, and glue them in place.

Add the 1/8-inch balsa formers to the top of the fuselage. This will allow you to lay the 1/8x1/2-inch balsa turtledeck stringers in place. After making sure that these stringers taper evenly toward the back of the fuselage, they may be glued in place. The nose (from the cockpit forward) should now be sheeted with 3/32-inch balsa as shown on plans.

The cowling on this particular aircraft is unlike that of most of its contemporaries. To duplicate it is not as difficult as one might think. I started by sheeting the top of the forward fuselage with 3/32-inch balsa. A balsa block was then temporarily glued in place on the firewall. The block was then shaped and sanded. Following this, the block was removed and hollowed out, using a Dremel tool and various types of X-Acto blades.

Drill the holes for the engine mount (I used a Kraft mount) and epoxy 6-32 blind nuts in place. I would suggest that the engine mount be screwed in place at this time, because the upper nose block will prevent you from being able to get the two upper screws for the mount in place. Make sure that you have drilled and tapped out the four holes in the mount for the engine before screwing it in place.

Now that the engine mount is in place, the upper nose block may be glued on. One piece of litho sheet metal was used to duplicate the lower portion of the cowling. A pattern for this is given on the plans, but I would recommend that you first make a paper template to ensure a proper fit.

The slight hump on the top of the fuselage, directly in front of the cockpit was built simply by gluing a former, namely F-2A, on top of the sheeting at the location shown on the plans. A piece of 1/16-inch balsa sheeting was then cut in the shape of a parabola and glued in place. Hobby Poxy "Stuff" was then ap-

The Sopwith gets going on another mission. Nick Ziroli is selling plans for this 1/5-scale size, as well as a full 1/4-scale version for chain saws.

plied to form a smooth fillet in this area, and was also used to fill in all of the small dings and dents that had developed during construction. All of the parts of the fuselage that were going to come into contact with the covering were given a coat of Coverite's Balsarite and, after a light sanding with No. 400 sandpaper, the entire fuselage was covered with Super Coverite.

When the fuselage has been completed, construction of the tail surfaces should be started. I opted to laminate both the rudder and leading edge of the stabilizer, mainly because this technique gives the surfaces rigidity and keeps the structure light. Remember, you are building a model of an early World War One biplane with a forward center of gravity. Keep the taillight, and this will automatically reduce the amount of weight you will have to put in the nose. Laminations are easy to make, and if you have never tried it, I would encourage you to use this method on your next model, if applicable. The tail surfaces, like the

The engine head just protrudes enough from the cowl to allow proper cooling. Four ailerons give very solid lateral control and maneuverability.

fuselage, were coated with Balsarite and covered with Super Coverite.

The wings should not present the average modeler with any problems. Each wing is built as three separate components. The center section and the two outer panels are all held together by the 1/8-inch plywood dihedral braces.

The aileron should be built into the wings, and later cut out. This makes them less susceptible to warpage during the construction stage, and it allows you to form fit each aileron to its wing panel (*Note:* The early Tabloids did not have ailerons).

The wings, after construction and installation of pushrods for the ailerons, were coated with Balsarite and covered with Super Coverite. The

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The Schneider Cup racer version of the Tabloid is illustrated on the 1/4-scale plans from Nick Ziroli, while the 1/5-scale plans show the stock military configuration built by the author.

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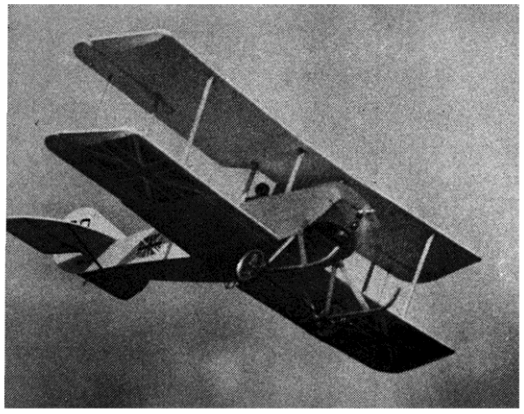
entire model was then given three sprayed coats of Sig Clear Dope, thinned 50-50. Two coats of full-strength dope were then applied to all of the areas where there had been overlaps and seams in the covering. After the dope had thoroughly dried, the entire model was lightly sanded with 400 grit *wet* sandpaper, and



then given a final coat of clear dope (which was again thinned 50 percent). All of the remaining minor unconformities were sanded out and filled in, and two light coats of Sig Tan Cream paint were applied to the model. Everything is this color, with the exceptions of the nose (which was painted with Sig Aluminum), and the cabane struts (which were stained and clear doped).

Scotch Tape No. 810 was used to mask off all of the markings, and the colors were then sprayed on. To reproduce the lettering on the rudder, I used dry transfer lettering. Although the price of dry transfers is high, they do come in a variety of lettering styles, and your local drafting supply store should have the type you want. They do make the model look more "professional" and, for this reason, they are well worth their cost.

My Sopwith is equipped with full rigging. I used Sullivan pre-stretched U-Control wire to brace the wings, and Proctor turnbuckles to anchor each wire in place. For those of you who aren't interested in investing in turnbuckles, and would rather not get "tangled up" in what seems to be endless yards of wire, the Tabloid with extra internal bracing (spruce spars, webbing, etc.) should be able to take the strain of everyday flying without the wires. Even though the original Tabloid was the Pitts Special of its day, it wasn't known to perform Lomcevaks and Top Hats. If you plan to ring out your Sopwith on Sundays at the local club field, I would recommend the use of flying and landing gear wires.

My Sopwith is powered by an old Webra .60, and weighs nearly 11 pounds. Although the wing loading comes out to be a mere 13 oz./sq. ft., all of the drag produced by the multitude of wires and struts tends to limit its aerobatic capabilities. The Tabloid will perform all of the basic rolling and looping maneuvers but, in most cases, each maneuver should be preceded by a shallow dive to gain airspeed.

The most impressive maneuver, and the most consistent point-getter at contests for me, has been the three-turn spin. The Sopwith does not have any violent stalling characteristics, but if you try hard enough, you can get it to stall. With full up elevator, and full aileron and rudder control, it will enter its spin. Immediately upon release of the sticks, the Tabloid straightens itself out.

The plans for this model are available from Nick Ziroli, 29 Edgar Drive, Smithtown, NY 11787. Price is $16.00 (postpaid in U.S.A.). Nick will also be offering a plan set for the Sopwith Tabloid in ¼-scale. The ¼-scale Tabloid is constructed basically the same way as the 1/5-scale version presented here, but it is powered by a gasoline engine. That plan-set shows details for the Schneider-Cup racing version of the Sopwith.

I would like to thank Nick Ziroli, Don Cashmore, Joe Wcela and Mark Glassman for all of their help, and my father for all of the encouragement and support he gave me, to make this article possible. □