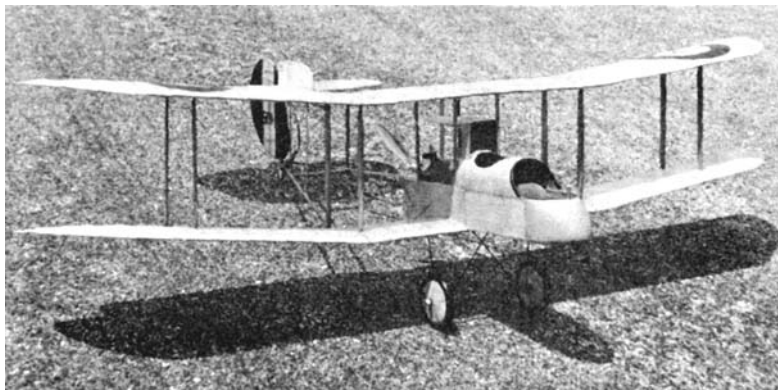
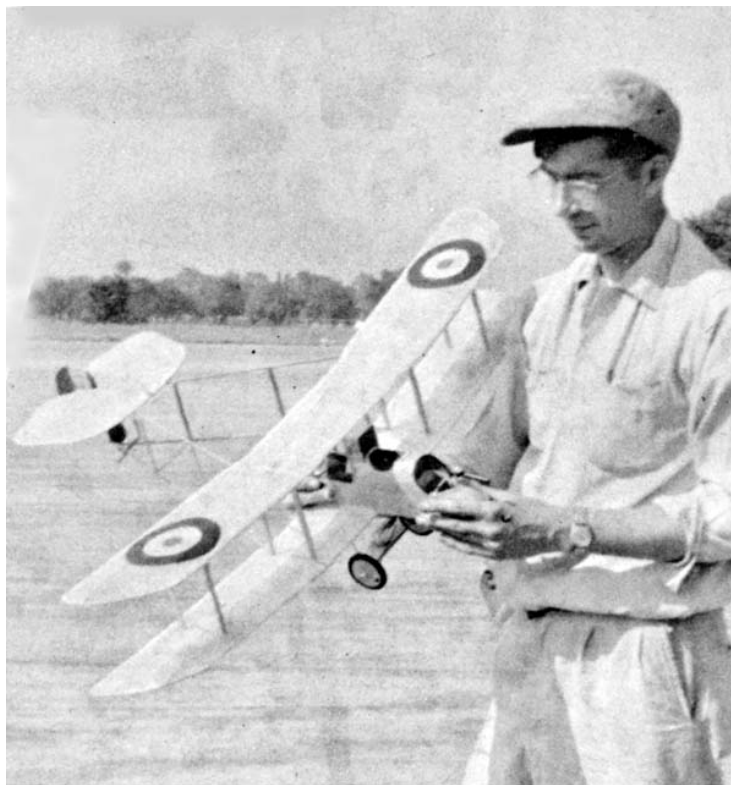


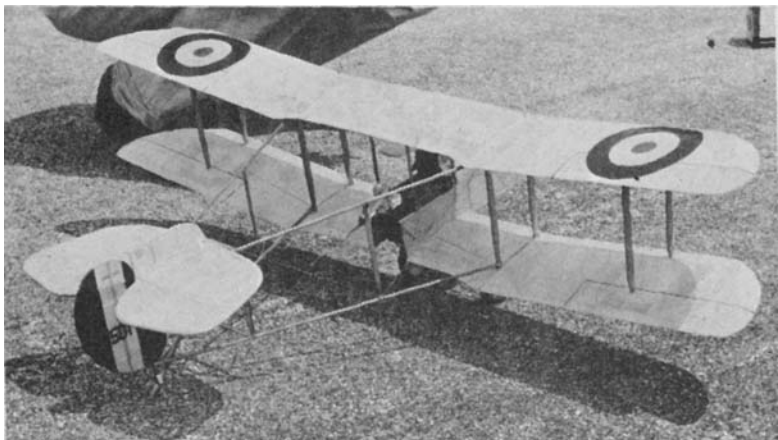
DE HAVILLAND D.H. 1A

Nats modellers swooned over this fine
W.W. 1 pusher biplane

by John Winter



Though the rigging looks complex, it is easy to install. The booms and struts are made from hardwood strip to supply the necessary strength. One word of caution, scale models are not suited to super-hot engines. Pick out an older mill to get the most realistic flights. The prop is no problem. Local hobby shops sell plastic pusher propellers.



• We had a problem. After seeing our de Havilland D.H.1A at the 1957 Nationals, the Editor of FLYING MODELS asked us to prepare a construction article on the plane for publication. We were pleased and somewhat nattered and (the price of living and model materials what it is) agreed to do so. Here we sat, blank paper in the typewriter and an equally blank look on our face. How to start? What clever wording or catchy clichés or beguiling description to persuade you, the reader, to drop everything and start making a de Havilland for yourself?

Then, the light of truth stole upon us. The written word does not catch the eye of the page-flipping modeller but rather the photographs of the models will stop him cold if he is a prospect for a realistic out-of-the-rut scale plane or is a guy who enjoys seeing a replica of a real flesh-and-blood (or rather, spruce-and-linen) aircraft fly as a plane should.

True, a confirmed RC man will mutter "No room for my receiver or escapmatizer, poor penetrational qualities too," and flip on to greener electronic pastures; and the yoyo stunt fan will pause but briefly in his search for a "Super Looper." But you, the guy we were worried about, needed

DE HAVILLAND

(Continued from Page 19)

no "hard sell" spiel from us. If you have read this far, you're hooked! The pictures stopped you, a glance at the drawings convinced you, and you sold yourself. Congratulations, you couldn't have made a better choice. You'll enjoy the plane from the assembling of the rugged little bathtub body (on which all else hangs) to the moment when, satisfied with the glide, you ease her on to the still evening air and gaze at the first of many realistic powered flights.

A few words about this, the fore-runner of a long line of Geoffrey de Havilland's creations. A production airplane in 1915, the D.H.1A was a very stable, easily managed craft sporting a 120-horse Beardmore water-cooled engine giving it a speed of about 90 mph and a landing speed of about 50 mph. It did a job when needed but was no match for the onslaught of the newly designed, monoplane fighters with synchronized machine guns. As a matter of record, several of the "Bloody Baron" von Richthofen's conquests were this type of de Havilland. Outmoded by heavier armed and more maneuverable aircraft, the D.H.1A was then employed for operations in the Palestine area.

As a model the D.H. 1A has much to recommend itself. Generous tail surfaces, a full three degrees of dihedral angle on both wings, plus a prop-saving pusher configuration are a few of its good traits. Others are an ability to soak up punishment and remain flyable, plus a very distinctive appearance that will catch the eye and give you a new lease on model-building life should your interests be waning due to the "sameness" in the current crop of planes.

To further erase all doubts, bear in mind that once an aluminum or tin template is made it does not take much longer to make 10 dozen ribs than to make 2 dozen; that the inter-plane struts will consume no more time than a well made pylon mounting; that the extra evening or two needed to add the interesting details is time well invested, and that contrary to appearances the prop can be flipped easily between the boom structures.

Only the high points will be touched on relating to construction inasmuch as the drawings are largely self-explanatory. Also, anyone tackling this model should

have made at least a few simple sport models first. This is not a plane for a beginner, although he may wish to keep it in mind for a future project after getting a little building and flying experience. If some phase of the construction baffles you, at first glance, a little thought and ingenuity should provide a solution. Don't hesitate to ask a more experienced modeler for help if you're really stuck. If there just are no more experienced builders in town then drop us a self-addressed stamped envelope cuz we collect stamps.

The logical place to start construction is the stubby little fuselage, since everything else "grows" from it. Hardwood (readily available at most hobby shops) is specified, in that weight is secondary to strength in this application. Good cementing procedure should of course be observed, throughout. Do as much of the interior detail work as possible as you go along and you won't be faced with such tragedies as an un-installable instrument panel after the turtle deck has been applied. Be sure the landing gear, center section wing struts and firewall are secured firmly before planking or sheeting around them as indicated.

Plan your motor mounting system in advance so if blind nuts need be secured to the inside of the firewall this can be done before it becomes inaccessible. Incidentally, when choosing the power plant you are going to use, keep in mind that a left-hand rotating engine is not necessary since some fine left-hand low-pitch plastic props are now on the market. We employed a Tornado 6-3 pusher. A little ingenuity will go a long way toward making those scale details come across as an aid to realism.

We found, for instance, that excellent seat cushions could be effected by roughing the pad shape out of soft balsa, covering it with bits of material such as an old O.D. handkerchief provides, pushing in a few pin heads to simulate upholstery buttons and securing the whole works into the aluminum bucket seats. For goodness sakes don't forget the seat belts, no 'chutes in them days y'know!

A feature which may need a little clarification for those who have not employed it are the laminated strip tail surface outlines (and wing tips if you prefer not to bend bamboo by the Bunsen burner's bright blaze). The 1/32" x 1/8"

basswood strips needed for a particular part are cut oversize, dunked in hot water for a few minutes until pliable and bent around a row of pins delineating the inner edge of the part. When the required number of strips are in place they are secured with an outer row of pins and allowed to "set" in shape as they dry out. Note that no cement has been used yet. When thoroughly dry, the outer pins are removed, cement is introduced (we'd like you to meet C. Ment) into the seams between the strips and the whole club sandwich is snugged up again with the outer row of pins. When the cement hardens, the part is removed, and you have in your hot little hand a strong, accurate structural outline which, when covered, gives a much more true-to-prototype look than the oft-used segments if sheet wood outlines ever could, ward. Begin with the pinned-down ward. Begin with the pinned down leading and trailing edges, bottom spars and tips, add the stack-sanded ribs (noting that where the plug-in bottom wing detaches very hard ribs are required). Even 1/16" plywood could be utilized here because the tightened covering will bow these root ribs in if their resistance is low). Add the top spar and riblets in that order.

Add all the incidentals like plug-in tubes and dowels and strut-attaching points and make with the sandpaper. Cover all surfaces with white silk before assembling, using the wet technique. No warps should appear after drying, due to the rugged structure. The finish we used to simulate the varnished natural linen typical of early W.W. I allied craft goes as follows: two or more coats of butyrate dope to seal in the silk followed by two coats of clear dope made murky by the addition of a small amount of cream colored dope.

Use only a few drops per ounce and brush the mixture on evenly in a fore and aft direction. Do not be alarmed when you note the semi-opaque streaky effect you get. This is exactly what we are after. You wouldn't expect a sun baked, weather-beaten old war horse like the D.H.I A to have a factory-fresh, mirror finish like a brand new Navion, would you? Note that wood and metal portions of the "pod" are painted light gray on the prototype. Avoid the "regular dope followed by fuel proofer" treatment because too great a gloss will result. Markings are applied in

colored dope using a compass and ruling pen. Thin the dope to flow smoothly.

Next, start assembly by attaching the lower center section to fuselage. Rig all wing panels, establishing incidence of upper wing by inter-plane strut lengths. Prop up the whole works so that thrust line is horizontal and build the boom structure (two at a time, please, so no misalignment creeps in unnoticed) from the indicated struts. The rudder ties the booms together and diagonal rigging strengthens them amazingly. The stab with attached fin is added last with its angle of attack measured from the thrust line.

Add whatever details are lacking, such as wood tail skid and Lewis machine gun (we cast ours out of lead to

get a little useful ballast in the nose) and check the C.G. position. Add lead, clay or old Dewey buttons where needed to bring a straying C.G. back home. In all probability this ballast can be hidden in the nose section as the old bus will tend to be a little tail heavy. Do not start test gliding with a tail-heavy plane as a stall and heavy tail slide could splinter those booms. Better to work from a steepish glide to a flatter one by removing weight from the nose. At best do not expect more than a fast sinking stable glide 'cause this craft is not the most streamlined in the world and there's nothing like a little drag to "dethermalize" a scale free-flight.

Conduct powered flights as usual, starting with low power and short runs over a soft hunk of landscape, ironing

out any bad tendencies with thrust offsets. Larger than normal offsets will be needed since power is applied so close to the C.G. and its effect is acting over a relatively short moment arm. Beware of windy days, as with any free-flight, because gusts can put an underpowered plane in some embarrassing attitudes from which it may not have sufficient altitude to recover. Beware also of downwind trees, the unyielding branches of which can have your jolly old D.H. looking like a Cherman Jagdstaffel had geschmeared it mit Spandau slugs. Much more noble an end to have it trampled by the hoards of admiring spectators that are sure to throng around your D H 1A. Now, aren't you glad you stopped when you saw those pictures?