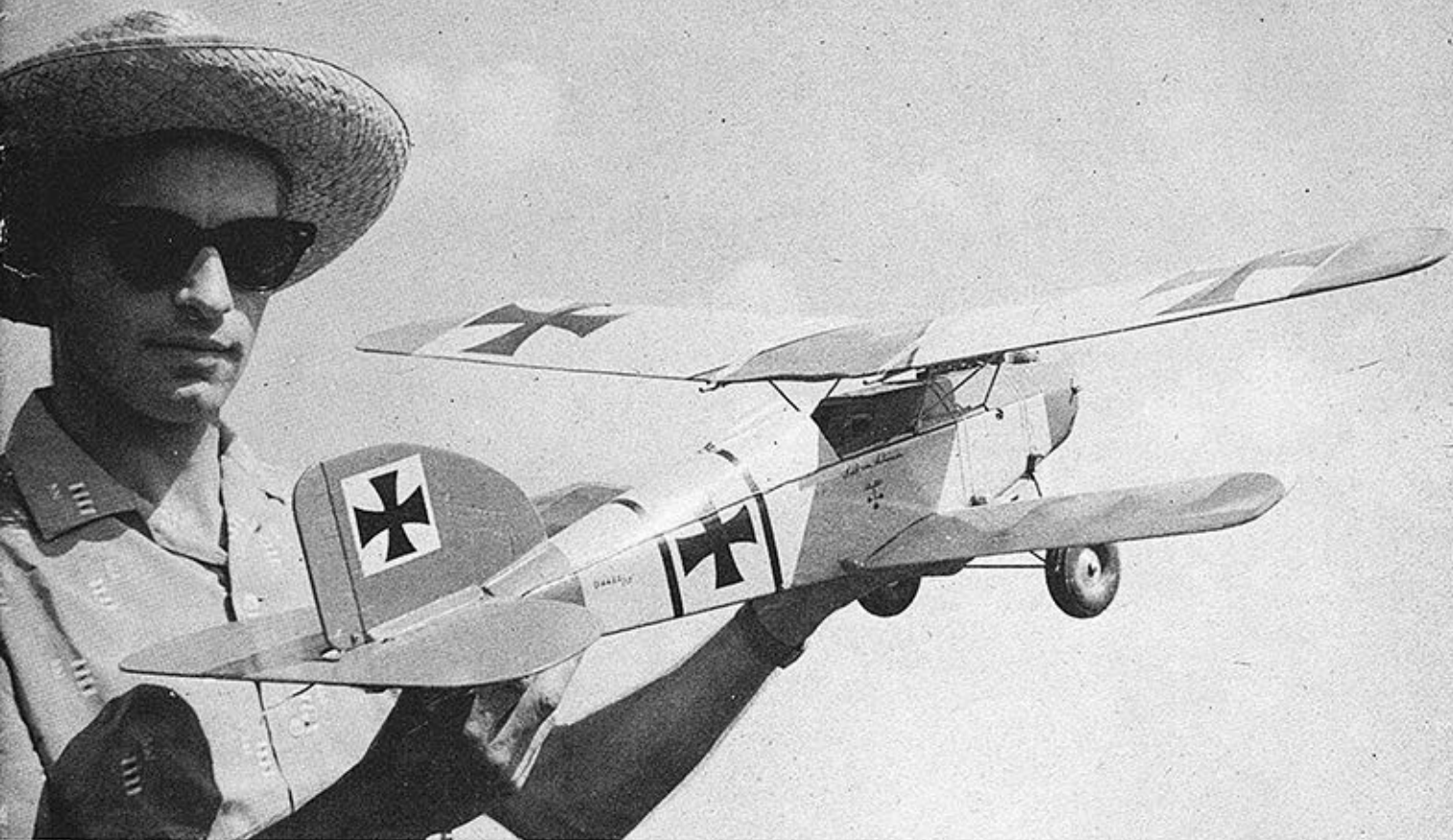
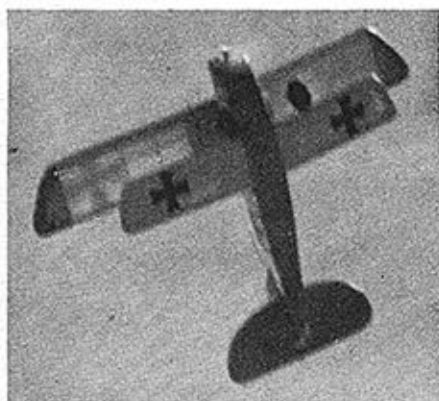


CHAMELEON

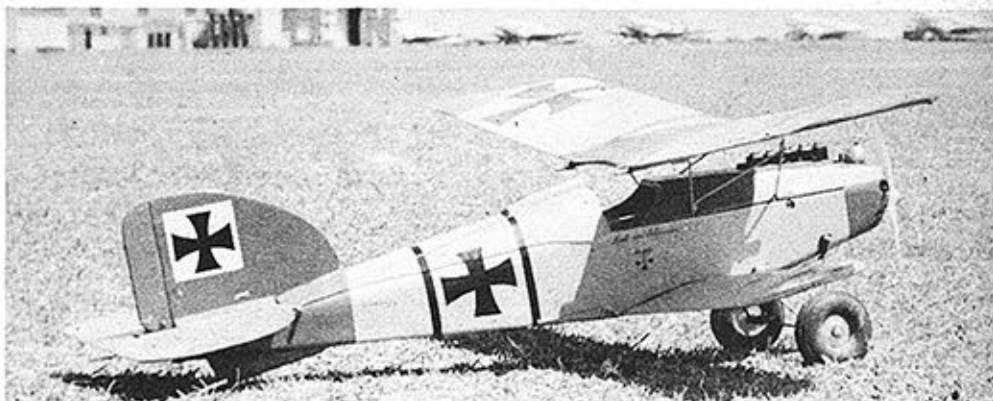
NEW TWIST FOR
RUDDER ONLY
RADIO CONTROL



Author's friend Dick Everett holds Hun Scout. Antenna runs along fuselage but can go to wing tip. Noel von Schennan lettered under cockpit.



Hun climbing into the sun—yellow and red color trim against a blue sky very realistic.



Albatross on grass Royal Australian Air Force base Richmond, near Sydney—wonderful spot for ROG. Hatch line well shown in this picture. Suggest use of a pilot for improved realism.

BY NOEL SHENNAN . . . A THREE-FOR-ONE PROJECT FROM DOWN UNDER—OUR AUSTRALIAN AUTHOR'S USE OF SEMI-SCALE PERMITS THREE WW-I PLANES FROM ONE DESIGN.

► In the world of ships the white sails gave way to steam; in the air the flying vacuum cleaners took over from the piston jobs. As the steamships can't match the beauty of sail, somehow a gleaming jet doesn't have the same atmosphere of period that the old piston aircraft had.

Being a devotee of World War I it

was natural that after my first radio job proved reasonably successful I should think anew about putting radio in Camels, Pups and perhaps an Albatros. Radio veterans promptly poured cold water on the idea, so I decided on a semi-scale that would have the appearance of the ship I wanted and flying qualities more usually associated with

sports jobs.

Checking scale plans brought out many points of similarity in some '14-'18 Scouts, small, lower wings, with spans and chords alike and the wing, cockpit, and undercart positions also conformed. So why make only one kite when the chance was there for half a dozen from the *Continued on page 43*

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same plan.

These planes usually had distinctive color schemes which provide the final touch to identify the type. Color schemes are detailed on the plan, others can be found in various books concerning the period.

These models don't pretend to be scale, but the Albatros circling up in the sun, or doing a strafing run over the transmitter certainly looks real enough.

Three WW I Scouts are shown on the plan, but others fit the pattern. . . Pfalz D-3; S.E. 5A, (build two top wings for this) and others you'll find by going over your files.

Colors used on my Albatros are only for effect, yellow with red trim and black crosses. Not authentic to any one aircraft, but of the time. Plan colors are fair dinkum, but if you like brilliantly colored aircraft there's no need to stick to this, so long as you don't use Dayglo.

Interplane struts have been omitted, mainly because they have a distressing tendency to poke holes in the wing covering. If you must have them, a harmless representation can be had by stringing chunks of Wakefield motor in light tension between hooks top and bottom. Looks O.K. when the ship is airborne.

After I had finished the Alb. there was little opportunity for test flying, all I managed was three flights, the first with a bang-bang escapement (sequence) that I promptly changed to a compound. There is enough trouble flying a new aircraft without worrying about what rudder control you gave last. Anyway, the first flights showed a pronounced stall that declined to be cured, resulting in arrivals from low altitude that at least proved the kite was tough enough. After this it hung on the wall until my mate Dick Everett took it off my hands.

He installed his own radio (homemade) and an OS. compound actuator. The engine is a Hungarian diesel of 1 c.c. that is not quite powerful enough, but sufficient for calm weather flying. Dick soon ironed out the trim with more downthrust, and some positive incidence on the stab. He really gets a kick out of flying the Albatross low over the transmitter, which naturally delights the other flyers as well. The sight of it cruising against the cloud background is proof enough that the idea has distinct possibilities for a spot of R/C combat.

The plan as given here incorporates modifications since used on a Nieuport version. The batteries, initially high in the nose, have been lowered, and the actuator has been mounted on a sliding ply panel for easy access and hitching up of the rubber drive. The fuel tank has also been enlarged for longer flights.

With the light equipment available performance should be exceptionally aerobic, with the aircraft correspondingly light and even more crash-proof.

FUSELAGE: Glue engine bearers into bulkheads A and B, after first binding the front cabane struts to B. This is assembled into the 1/8 sheet sides, becoming the basis of the fuselage construction. Bind the rear struts to C and glue in with the bulkhead aft of the cockpit, D. About this time lay out your radio gear and figure where you will put the socket to take the receiver plug, the battery wires, and the on/off switch. If you want motor control, now is the time to set up the motor and cut the linkage passages. The rest of the fuselage follows normal practice.

Make a habit of sanding each part before assembly, in fact if you have time it pays to clear dope the components as well as sanding them. This will make for a very

clean interior and provide a little extra strength as well.

The fuselage aft of the cockpit can get too heavy without any trouble at all, so sand the sides down well and don't use heavy wood for the tail unit. The latter does not take much of a beating so there is no need for extra strength here. Anti-warp section let into the stab may be a questionable item, but the tail assembly on the prototype Albatros has shown no sign of warps even with prolonged exposure to the hot Australian summer sun.

On the subject of weight, if you are using a relayless receiver, with attendant low battery weight, get all the gear as far forward as possible and use heavy wheels. Ballast may even be necessary in the nose. In the original aircraft the Kraft receiver's Eveready #412 22 1/2 B battery brought the CG into just the right place. With relayless it might pay to use 3/32 sheet for the fuselage sides and the tail unit as well.

When working on the fuselage front, note that the former C is only glued to the fuselage sides, not to the hatch itself. The Nieuport has the on/off switch mounted on this former, giving easy access through the cockpit without the danger of getting the switch soaked in fuel thrown out by the engine, as it would be if mounted in the fuselage side. Generally, diesels are much dirtier than glo motors.

Cement blind 4-40 nuts to the bottom of the bearers (or the back of the bulkhead if you are using a radial mounted motor). Use 4-40 machine screws to hold the motor. They will shear in a bad prang and may save your motor from some damage.

The tank compartment is big enough to allow minor adjustments to the fuel level, although most small engines are not critical in this regard.

The fin is slotted into the stab to the depth of that member and further strengthened by the piece of 1/4" rounded balsa at the fin base. The front of the fin is a tight fit in the end of the fuselage top. After trimming flights have been successfully carried out the tail unit may be glued in position. Don't shudder, any further adjustments will be minor and can be accomplished by bending the stab trailing edge up or down. As the tail usually doesn't get any really hard knocks it might just as well be stuck down. If you don't believe in the invulnerability of the tail, ask any long-time radio modeler to show you his collection of tail units—one from each of his major prangs!

With the fuselage construction complete, cover the woodwork with light-weight tissue, using starch paste. In case you've used a commercial paste all your life, starch paste is made by moistening a teaspoon of starch in a small tin and pouring on boiling water until the mixture turns clear and takes on the consistency of tomato sauce. The special advantage of this paste is that it softens the fibers of the tissue, allowing you to smooth the paper into the wood. The dried starch also forms a film that with the paper, gives a good paint seal to the balsa surface.

If you intend to make more than one of these birds, it will save time to make a durable rib template. A piece of tinplate will do; cut to shape, then with a nail lightly punch two holes, fore and aft, each side, so that the nail point just penetrates the tin. These dags will bite into the balsa sheet and stop the template moving while you are cutting. The purpose of punches on both sides is to let you turn the template over to facilitate positioning, returning more ribs per sheet.

Crack the L.E. and glue the ply brace to it. Same for both wings. Then join the ribs

to the L.E., making sure they are at right angles. While the wing is flat on the board glue on the top part of the lower wing trailing edge, the bottom part may be added later. This built-up T.E. is actually stronger than a solid one, and lighter. It is worth the spot of extra trouble entailed.

Before you plank the bottom of the center section of either wing, go over all glue joints liberally, then close it up with the bottom planking. Fit the tips of your choice, re-glue ALL visible joints, and when the works are dry, get weaving with the sandpaper.

Covering the wings presents no problems, although you will have to decide whether tissue or silk is best. If your bird is to be light use tissue by all means, though be warned that the underside of the top wing is liable to damage from the front end of the runners. The use of silk is a safeguard against this type of casualty and it will also stand up better to grass punctures.

There is little point in test gliding, you stand almost no chance of hitting the glide speed. In other words you run the risk of doing damage to the aircraft without any gain.

A bit of caution will not go amiss here. Using the sidethrust as shown on the plan, put in more downthrust—two washers at the rear of the mounting lugs will do. If it proves to be too much, you have a powered landing; if not, she's sweet.

You probably have trimming methods of long standing, so it is up to you, but make sure there is enough rubber movement—there have been just as many kites planted through lack of corrective movement as from too much. Dick Everett found that the ideal movement was about 1/4" each side. Another thing, please don't get button

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'happy close to the ground, at least until you become familiar with the ship. It hasn't been spun off a turn yet, but holding rudder produces quite a tight turn with attendant loss of altitude, so be careful near the deck.

If you want aerobatics and use a hot engine, you may be in for a stall not normal to low-power flight. Shim out incidence from the bottom wing and this should fix the trouble.

Now, for the wind up: A thought for the future. Not everybody will have the time, money, or even the inclination to build exact scale radio ships, especially if the flight stability is to suffer. Why should you go to the trouble of an exact scale when semi-scale looks the same in the air, and is less likely to stack? If you have multi, forget I said anything. You designers, don't be obsessed with pure scale, if you want to change a feature, do it. The devil with convention and the purists!