With classic British lines this 36-in.-span Control Line model for two .049s is sure to be a great intriguer when you pull it out at the flying field. ■ Allen Wulf

D.H. 89 RAPIDE

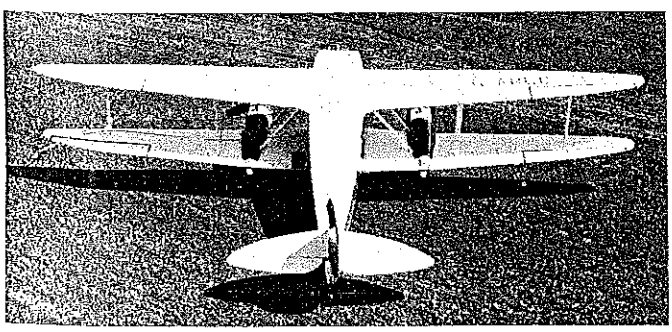
AS ONE OF THE MOST distinctly elegant designs ever to roll off the De Havilland drawing boards, the Rapide has long held a special place in my memory. The appealing blend of design elements in the D.H.89 configuration—dragonfly wings, curious nose, windscreen coupled to a long fuselage and ending with the famous De Havilland empennage—definitely makes the airplane a classic. It's curious that with all its cachet, apart from the realm of plastic kits little effort has been made to develop a model of this twin-engined biplane.

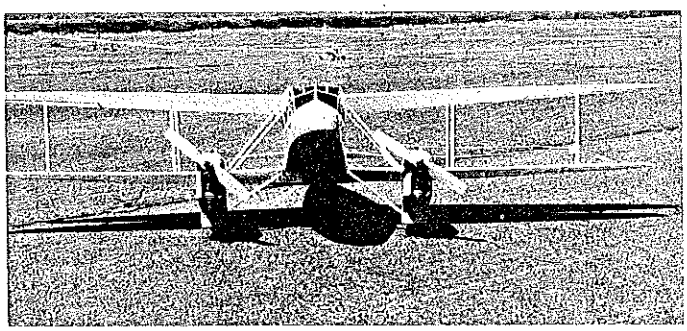
That situation changed quickly enough when my company bought a copy machine with an enlargement mode. I had some MAP scale drawings of the Rapide prototype that I'd salted away for the inevitable winter lull when I do most of my building, and couldn't resist making some bigger copies of them. Each enlargement looked better and better. The scale I ultimately settled upon spans just under 36 in. and makes for a nicely sized model. Being very lazy by nature, I elected to build the entire model out of sheet balsa. As you can imagine, the shavings flew!

With the current surge in Control Line interest, I'm sure other modelers will want to try the Rapide. It's fun to fly and looks right at home in the air. The airplane makes an excellent choice for a first-time twin-engined Scale model.

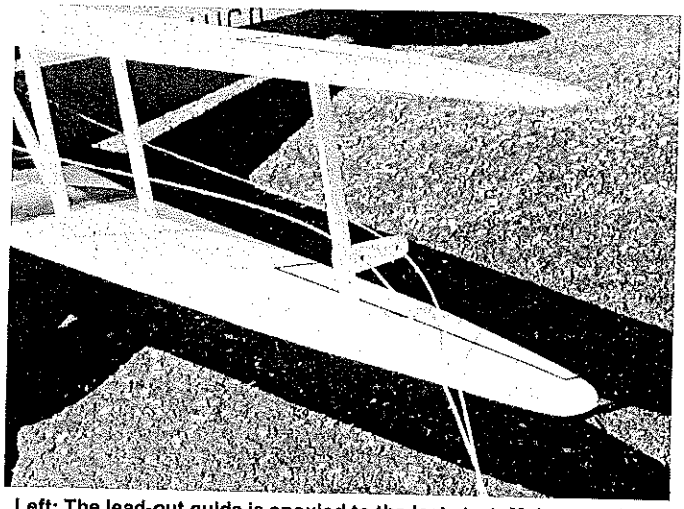
Construction is relatively simple. If you have a few Hand-Launched Gliders to your credit, you can easily tackle the Rapide. It's basically just an overgrown pair of Sweepettes.

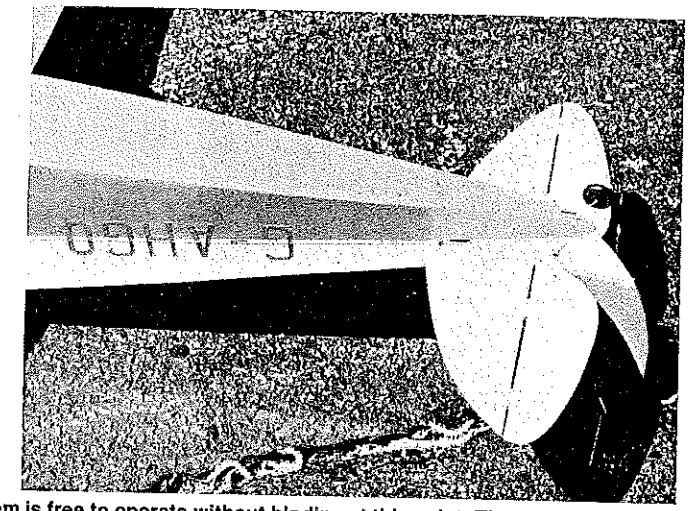
Wing. Begin with two flat and true Sig preformed wing sheets. Using a straightedge, trim off the leading edge (i.e., the edge with the curve). Splice some flat ¼-in. sheeting onto the preformed wing sheet so that the latter is the width indicated on the plans.



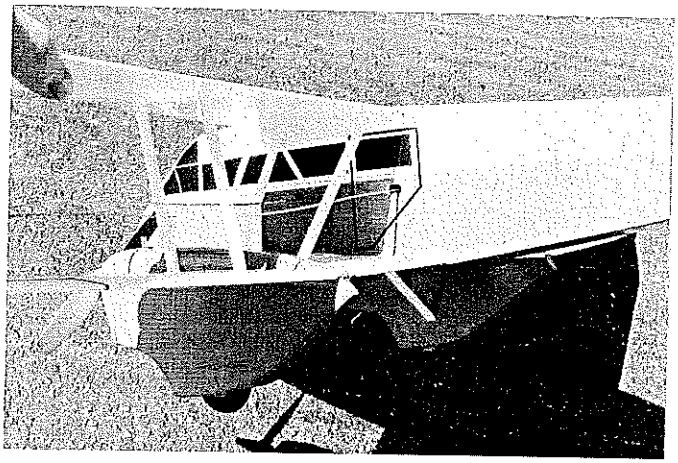


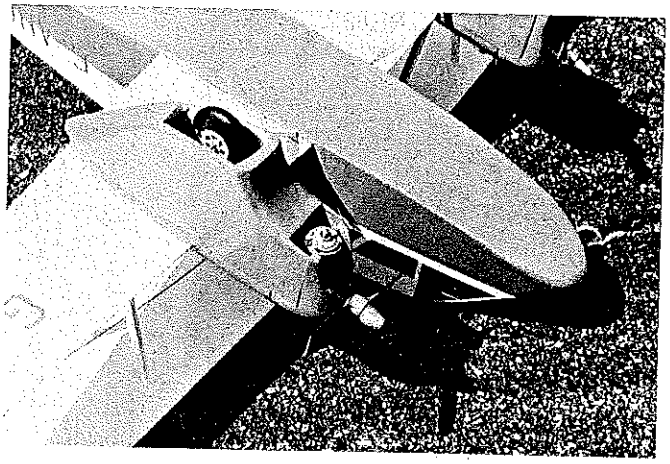
Top: Who can resist the nostalgic allure of the Rapide? A breath of fresh air from the past, the Rapide is a joy to behold and to fly. Rendered in all sheet balsa, it's also quick to build. Above Left: This much rudder offset is require to keep the lines tight, as the model is a floater with so much wing area. Above Right: Looking like a lonely child waiting to fly, the Rapide has a very distinctive front view. The lower wing has both anhedral and dihedral! Counter-rotating props are not required or scale for this twin. Note the air cooling intakes carved into the cowlings.



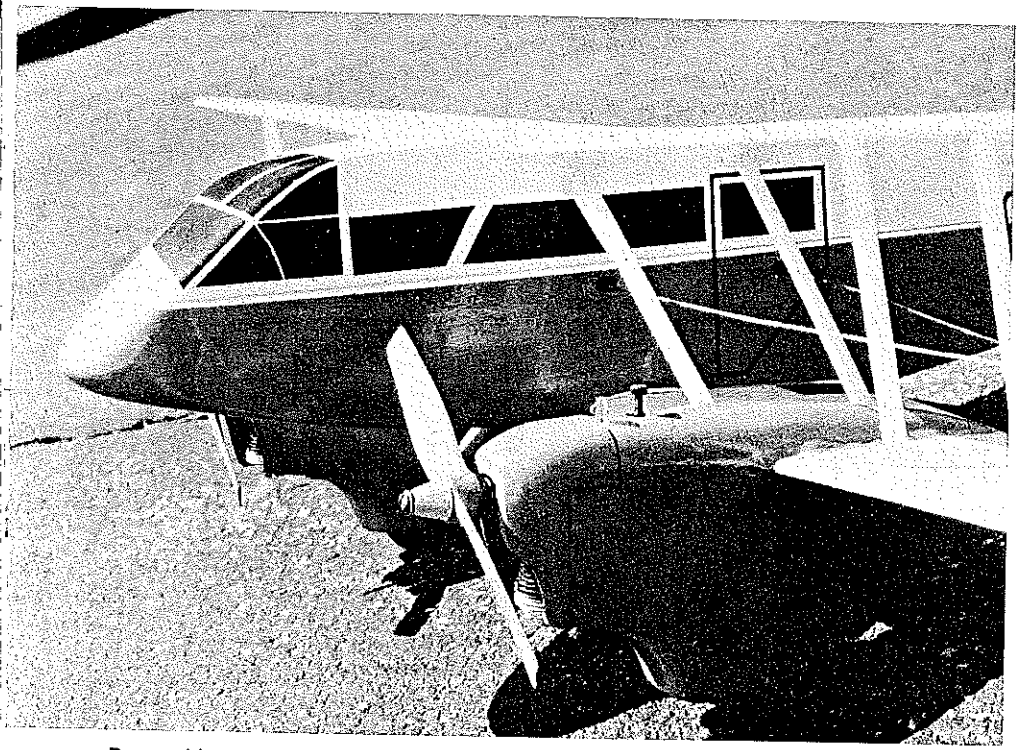


Left: The lead-out guide is epoxied to the last strut. Make sure the system is free to operate without binding at this point. The ailerons are outlined with chart tape and sealed with a coat of clear dope. Right: The pushrod exits cleanly from the fuselage and is attached to the elevator horn with a nylon "snapper-keeper." Nylon pin hinges make for a free moving elevator. Don't omit the tail wheel; wire skids are not scale here.





Left: Lead-outs snake their way between the struts with ease on the Rapide. All the struts are cut from spruce and carefully adjusted to hold the thin wings flat. Right: Williams Brothers wheels tuck neatly into the wheel fairings. The engine pods are built as units, then added to the model after assembly. The glow head is easy to get to with the clips, an important fact you've probably discovered if you've built twins before.



Removable engine cowls make engine servicing easy, but with the Cox .049 being so reliable, the cowlings are rarely ever taken off. The rest of the time they are lightly glued in place. Note the fuel filler extension tube and that the fuel tank is turned 90° to put the needle valve on top.

The splice is made at an odd angle as shown, in order to retain the thin trailing edge section along the full length of the wing.

Cut out the wing shapes. The top and bottom wings have the same outline but different dihedral breaks. Sand the leading edges to the airfoil shape indicated, and make the notches for the wing struts, notching the top of the bottom wing and the bottom of the top wing. Cut the wings as required for the dihedral breaks.

Preglue the end grains. When this is dry, block up the appropriate wing panels and glue in the dihedral. Note that the lower wing has both anhedral and dihedral. To complicate things even more, the dihedral breaks are not on the same line as the engine nacelles! But this just adds to the charm of the design.

Fuselage. Select two sheets of 3/32-in.-thick, 4-in.-wide balsa of matching grain and firmness. Cut out the fuselage sides, formers, and bellcrank mount and its gussets. Glue formers C and D to one of the sides with a fast-setting glue such as cyanoacrylate (CyA). Using a drafting triangle to keep everything square and true, glue the other side to the formers. Assemble the tail halves over the drawings, and glue them together.

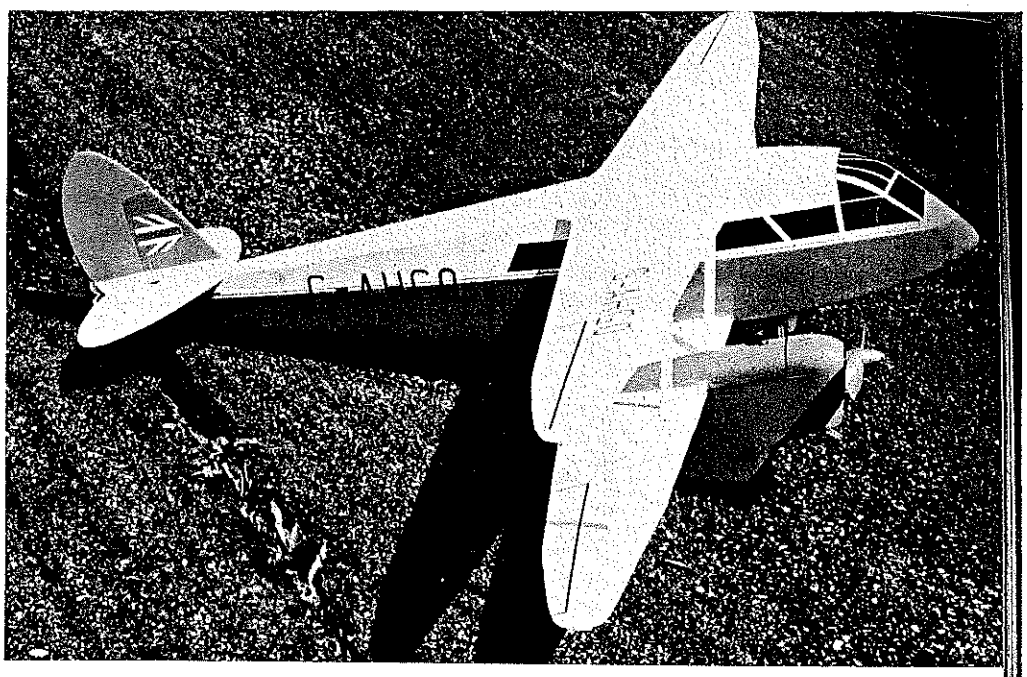
Use water to lightly dampen the sheet sides from former C to the nose. Carefully pull the nose halves together, and glue former A in place. Add the remaining formers and the short nose keel.

Fit and install the bellcrank. Add the lead-outs. Bend and solder the pushrod, then install the works in the proper location. Cut small escape holes for the lead-outs, and check the system for adequate clearance and freedom of movement.

Rudder, elevator, and stabilizer. Fabricate the rudder assembly, adding the indicated offset; sand, and set aside. Make the elevator and stabilizer as per the plans. Connect the elevators with a wire joiner, and hinge them to the stabilizer with cloth or nylon hinges. A small ½A control horn finishes the job.

Position the stabilizer assembly onto the fuselage, check it for squareness, and glue it in place. Finish the pushrod connection. Test fit the wings to the fuselage assembly. Once you're satisfied with their alignment, glue them securely in position.

Sheet the top and bottom of the fuselage with 1/16 balsa, attaching it crosswise as per the plans. Tack on and carve the nose blocks, and then give the whole fuselage-wing assembly a good sanding.



Well known for their beautiful blending of ellipses and curves, the De Havilland designs have been popular with modelers. Our author found the Rapide's appeal just too hard to resist.

Nacelles. Now the fun begins. The first step is to make all the parts for the two nacelles. Glue the firewall to the side sheet of one half of the first nacelle, and add N-1 to the firewall *only*. Glue the side sheet to the firewall, then pull the sides together at the rear, adding CyA as you go. Insert N-2 between the sides, and add the rear cap. While this dries, repeat the process for the second nacelle.

Make the landing gear units, and epoxy them to the backside of the firewalls. Glue on the lower front blocks, and carve them to

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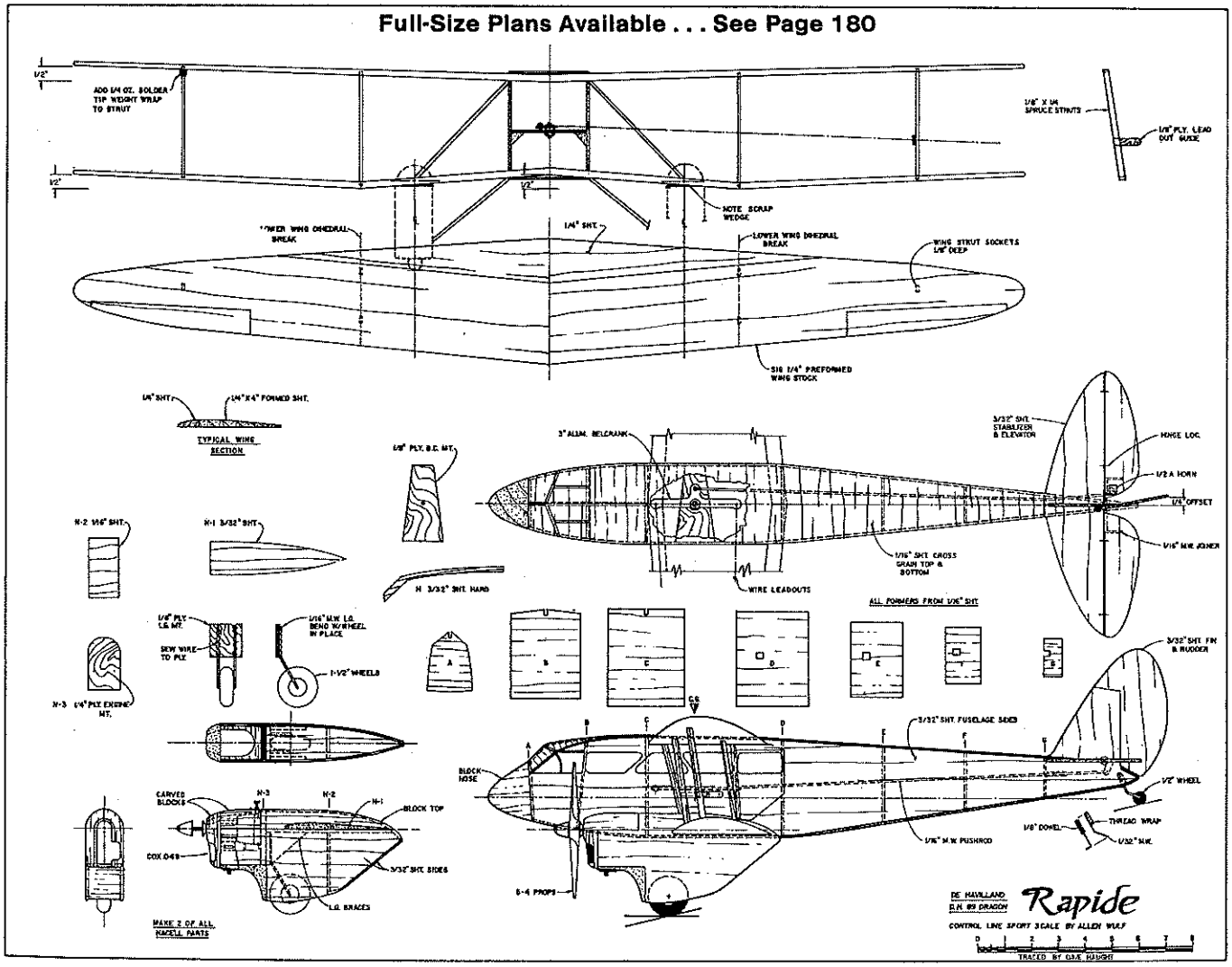
Full-Size Plans Available . . . See Page 180



In fact, I recently tackled the so-called "Canadian" Jimmy Allen, and can conclusively pronounce it a job best left to others—as anyone who had overheard me in the "cut and glue" phase, methinks, would agree. Still, for modelers 60 years of age or thereabouts the Jimmy Allen planes can prove satisfyingly reminiscent of those earlier Air Race days.

How do we assess the future of Taft as a viable flying site? As our trek to Mecca came to a close, I spent a few minutes on the phone with Steve Beebe on that subject. Steve reassured me that, other than the continuing expansion of the Kitty Litter factory which is a potential airplane grabber, he sees no immediate threat to our annual migration to Taft. In point of fact, Steve says, foot chases after errant models spreading out over a 2½-mile radius are still the order of the day, and he sees no reason why they won't continue. Also, most of the Taft residents are solidly supportive of what we do. Many of the local folks voluntarily scour the hills and ditches in the course of their work and even on weekends, retrieving and gladly returning OOS equipment. And we do fill their lodges and eateries on at least 25 occasions a year. As Steve puts it, "So not to sweat!"

I wound things up with another phone call, this one to Contest Director Carlo Godel. Carlo has shaped and led the USFFC for several years, an excruciating and mostly thankless job. I admire his ability to show fairness even when forced to make quick decisions, since few of us are totally selfless. Monster Free Flight carnivals such as the USFFC do not spring full-blown from a vacuum, nor are they duplicated without a ton of volunteer brains and sweat each and every year. All of us pilgrims to Mecca owe a huge thanks to Carlo and his crew—as we welcome next year's sacrificial lamb, Bill Booth, Jr.

With that, we summon up aching legs and voice for a yearlong weather dance dedicated to the U.S. Free Flight Championships, 1989 edition, when the event comes of age. If our propitiations are successful, *next* year the sun will shine down on us from a sky bedecked with tall, friendly boomers. Sunscreen No. 32 recommended!

DH Rapide/Wulf

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fit. The top and front blocks are tacked in place, then carved and sanded to fit. Remove the top block, and fit the lower nacelle to the wing. You will need to add the small wedge-shaped fillers to the wing to compensate for the anhedral. Glue the nacelles to the lower wing, making sure that they are along the centerline.

Fit and trim the upper blocks to match the wing curve, then glue them to the top of the nacelles and wing. Make the cowlings so that they are easily removable. Mine are fitted quite tightly and secured with a drop of glue; there's little room for screws to hold them.

Cut the struts from spruce, and sand. Install the struts, working from the center outward and using a slow-setting epoxy to allow time to adjust and align them as you go. I wrapped masking tape around the wings to hold them together until the assembly had fully set up. Cut out and install the line guide on the inboard wing strut. Run the lead-outs through the exit holes, and finish the ends of the wires. Add the rudder and tail wheel.

Finishing begins with two coats of sanding sealer. Sand all surfaces liberally as you apply the sealer. Follow with several coats of clear dope, and then the color. The Rapides were often decorated in brightly colored, glossy paint, so go ahead and trim the model to suit your fancy.

Check the airplane over for any undesired warps, and correct them. Don't forget to add the wing tip weight to the outboard wing strut. Install two reliable .049 engines, and balance your model at the point shown on the plans.

Select a calm day for your first jaunt into history. The Rapide is a spunky model and will perform quite well, whether on both engines or one. However, due to all the frontal drag she's not very fast even with both engines running, so be extra careful on those windy days. If you enjoy Control Line flying and speed isn't your first priority, the classic elegance of this Sport Scale model should bring you many hours of plea-