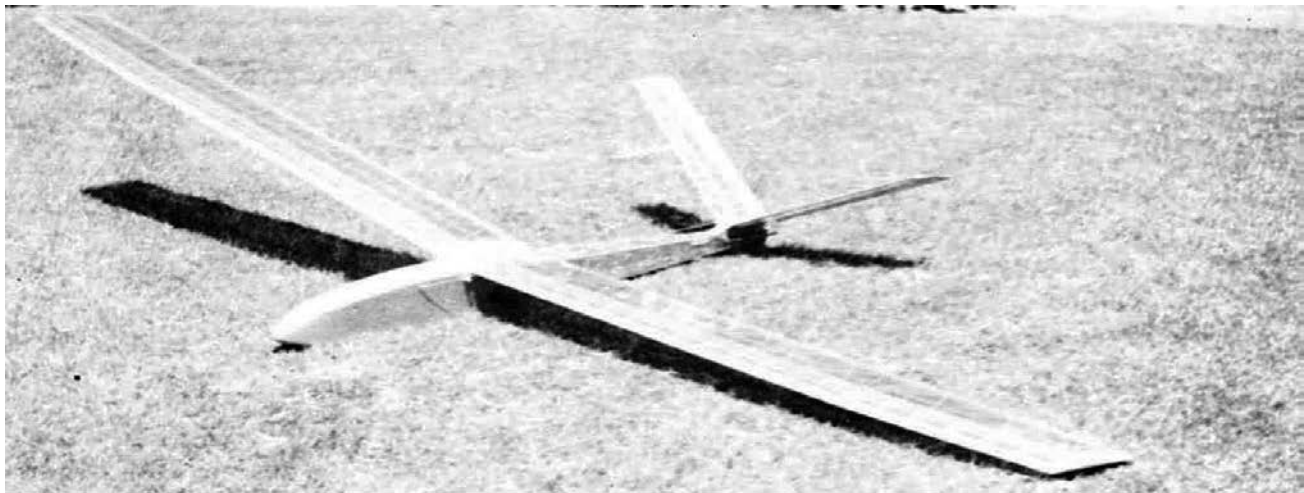
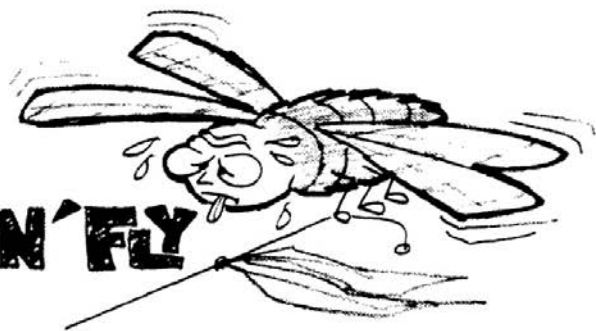




DUANE HYER'S

DRAGGIN' FLY

Text by Le Gray



As if in purposeful opposition to our R/C Soaring editor's comments this month, our glider designer offers a moderate size lightweight model for lazy soaring among the summer's weakest thermals.

It has been said by a man wiser than most that every job is a self-portrait of the person who did it. Duane Hyer's Draggin' Fly is three-dimensional proof of that statement. The Draggin' Fly obviously is the product of mind and hands dedicated to the task. It is the product of a modeler's modeler ... to use an over-used phrase one more time.

Hyer's Draggin' Fly, as a building project, may not appeal to those sportsmen who consider model construction a necessary chore ... or to those who judge the merit of a kitted design by its degree of prefabrication. But for the Model Builder ... the craftsman who enjoys fine woods, appreciates accurate structures, and recognizes the intrinsic value of workmanship, the Draggin' Fly presents an opportunity not to be long denied.

The Draggin' Fly is a small sailplane by most standards ... only seven feet in span and two pounds or so, give or take a couple of ounces, all up weight. Total wing area is a shade under 600 square inches ... call it four square feet. Its primary purpose in life is fun-flying ... drifting about in lazy circles on those



The designer and the plane. Note the strong free flight influence in the construction of the wing and stab. Wing airfoil is HLG type; curved to the high point and then straight to the trailing edge.

summer days which seemingly were designed especially for R/C sailplanes.

There is no long list of awards or important competition statistics to hang out for review. The Draggin' Fly has never been registered on a contest flight schedule. An introduction to battle remains to be made by subsequent builders . . . Hyer's original is still pure and true to purpose, the casual challenge of sport soaring.

The Draggin' Fly is not difficult to build, but it's not a weekend project. There are a lot of pieces. . . mostly sticks and other straight cuts. The basic structure of the forward-cranked wing panels is quite similar to modern competition tree-flight practice . . . check some of those "Fast Richard" Mathis brainstorms. The V-tail hasn't a rib in it . . . just geodetic capstrips and sheet balsa movable surfaces. The fuselage is classic . . . functionally as developed by years of practice and evolution. A review of Zaic's Model Aeronautic Yearbooks will substantiate its heritage.

If you're a Builder you may be on your way to the local balsa dispensary before reading this far. If you have yet to achieve that happy status, give the Draggin' Fly a chance to help you know an added dimension of pleasure in your chosen sport. You'll find it to be a project of long lasting and most prideful rewards. You may even learn something. It won't hurt.

CONSTRUCTION:

Building details are on the drawings . . . where you need them . . . and won't be buried in this text. So what's left to say? Maybe a bit of philosophy rather than specific directions. How about this: "Waste a little balsa if necessary to get good joints . . . and enjoy. This, Friend, is modeling."

PREFLIGHT:

Do it at home . . . not on the field. We're talking about pre-flight check-out Essentially this means to know what your machine is before you commit it to flight. Check for unwanted warps . . . washout as called for on the plans if good stuff, but must be equal in each wing panel. Wing and stabilizer should be square to fuselage center line. Dihedral should be the same distance above horizontal on either side of the fuselage. Balance point should check at, or forward of, point shown on drawings. About $\frac{1}{8}$ inch forward will be safe for test flights. And while you're checking, find out how much weight change gets the CG right on the 33 percent point. Write it down so you can remember it at the field. It's an odd day that is calm enough that a good balance check can be made outside.

Do it at home . . . then, at the field "by the numbers".

Make careful measurements of the stabilizer setting. The angle must be negative to that of the wing . . . which happens to be parallel to the top surface of the fuselage. Minimum angle should be 1 degree, which measures out to be about 1/16th inch. More negative is all right, but shouldn't go much beyond 2 degrees . . . about 1/8 inch. Prepare wood shims . . . plywood is best . . . of various thicknesses so that you can accurately adjust stabilizer incidence on the field. These shims should be about an inch long and $\frac{1}{4}$ inch wide. Remember to make them in sets because they must be used on either side of the V saddle. A couple of sets of 1/32 and 1/16 will give you enough combinations to make adjustments in 1/32 increments.

Check radio equipment operation . . . and especially the movement of control surfaces in relation to movement of control sticks. This is especially important in rigging the V-tail arrangement. Be sure you're right. The surface on the side of the direction of the turn moves "down". This is opposite to the roll action caused by ailerons, so don't let that confuse the issue. Up's still up.

FLIGHT TESTS:

The Draggin' Fly is just the right size for meaningful hand glide tests . . . if you know what you're doing. It's got to have air speed . . . and a reasonable angle of attack when released. Otherwise it's just going to go out there a-ways and die. The Draggin' Fly . . . as most sailplanes of reasonable size and loading . . . flies at someplace around 15 mph, maybe a bit less. If you can run at this speed, you oughta get in touch with the U.S. Olympic Committee, 'cause 15 mph is like a 4-minute mile. *(But don't call 'em unless you can run that fast for the whole 4 minutes! — WCN)*. They might have a spot for you. But in case you're not of championship stock, plan on giving that sailplane a heave as you let it go.

Chances are you'll (a) hand launch the thing at least slightly nose high, and (b) . . . hopefully, due to "a" . . . fling it at a higher speed than required for level flight. Thus, expect it to climb immediately upon release . . . also and expect an immediately following stall if you don't do something about it . . . Quick; Be ready on the transmitter and get that nose down as the climb speed/ rate starts to slow. Don't dive it into the ground . . . just round off the climb and utilize the altitude. Let the flight speed stabilize, then let it glide hands-off . . . if it looks safe . . . to almost touch

down. A bit of a flare by gentle back stick might soften the landing. One thing to keep in mind for almost any aircraft/flight situation: a little too much speed is so much better than not quite enough.

Give the Draggin' Fly a chance and those early hi-start or winch launches should be a pleasure. There's no reason not to enjoy first test flights . . . if you do your homework and take your time. . . and that's it . . .