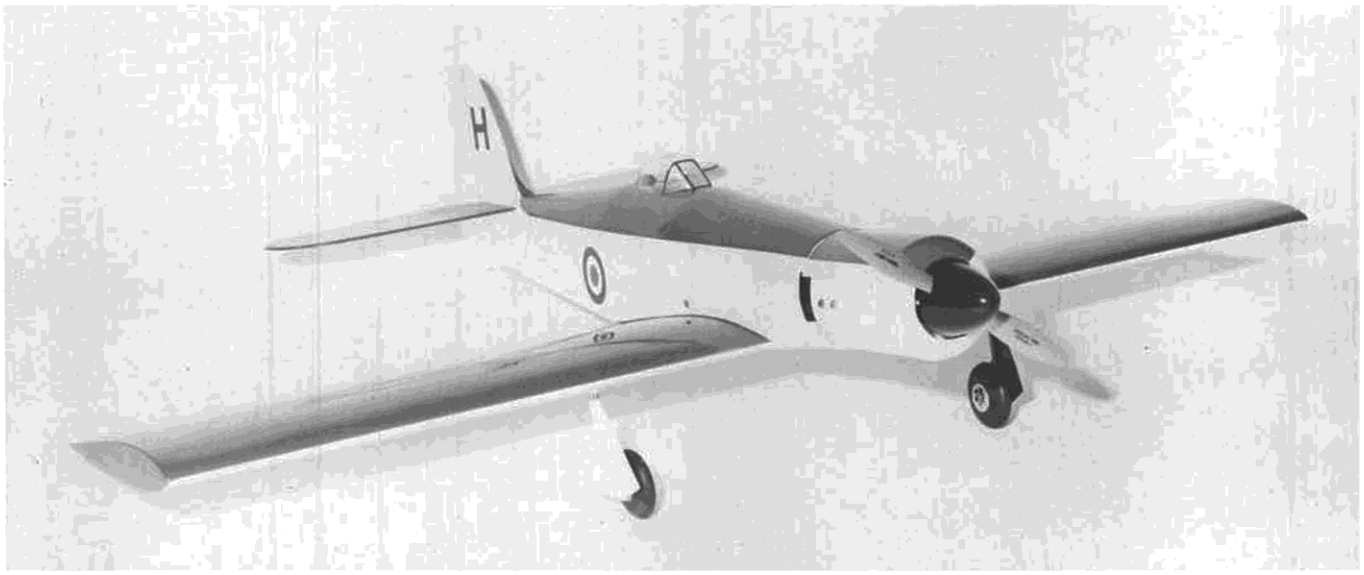


A little too polished for the rigors of Half-A pylon racing? Not really, when you consider the gleaming pieces of work that appear at most Formula I events. Perhaps this will tend to bring up the quality.

SEA FURY PYLON RACER

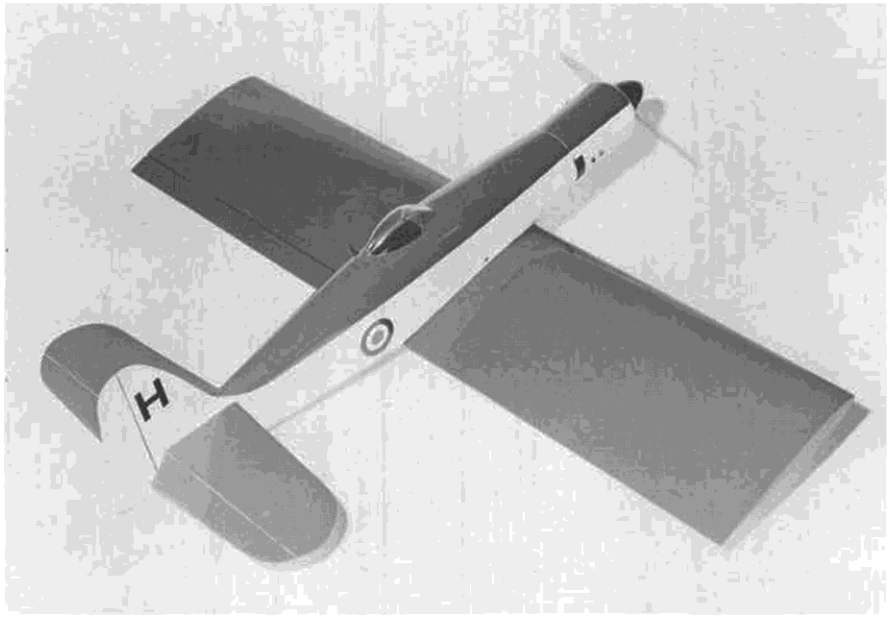
By JERRY HOLCOMB . . . Modified Junior Falcon Half-A Pylon Racers are nice, but semi-scale pylon racers are nicer. The Sea Fury is both fancy . . . and fast.

• This model was designed to be as light weight a racer as could be built within the RAMS Half-A racing rules without ignoring the rules' scale intent. With an all up weight (including a 225 ma battery) of 20 oz, the original design objective was met. Design complexity is somewhat higher than a simple "box" type model, but the much better appearance of the finished model makes the extra work seem worth while. (Incidentally, the original won 2nd Place, 1/2A Pylon, at the 1974 Seattle RAMS Show.)

A fairly low aspect ratio wing planform was chosen to get a more favorable thickness/chord ratio than is possible with the Ace foam wing that a lot of 1/2A designs use. This is not intended as a statement for or against the Ace wing, it is just that the rules require a minimum 7/8 inch thickness, and a wider chord seems to work better.

Simple, squared-off wing tips were used for lightness and simplicity, and because I get lazy sometimes. Aerodynamic tip-losses because of the squared off shape could probably be improved by using some sort of end plate, but I have no proof of this. I do feel that this wing planform and airfoil handles well with no unexpected nasties.

I have not experienced surprise snap-rolls with the CG as shown on the plans, but be warned that a more rearward CG will indeed produce a nice rapid snap when you yank in the "up" for a hard turn. I discovered this when I installed a 500 ma battery in place of the usual 225 ma pack! The model normally stalls straight ahead power-off, but of course, P-factor (or torque, if you wish) will cause a roll off to the left in power-on stalls. If you do encounter a snap-roll tendency with the CG as shown, you have too much control movement. I used the horn lengths shown on the plan and the inside holes on my Kraft KP2B receiver/servo output arms.

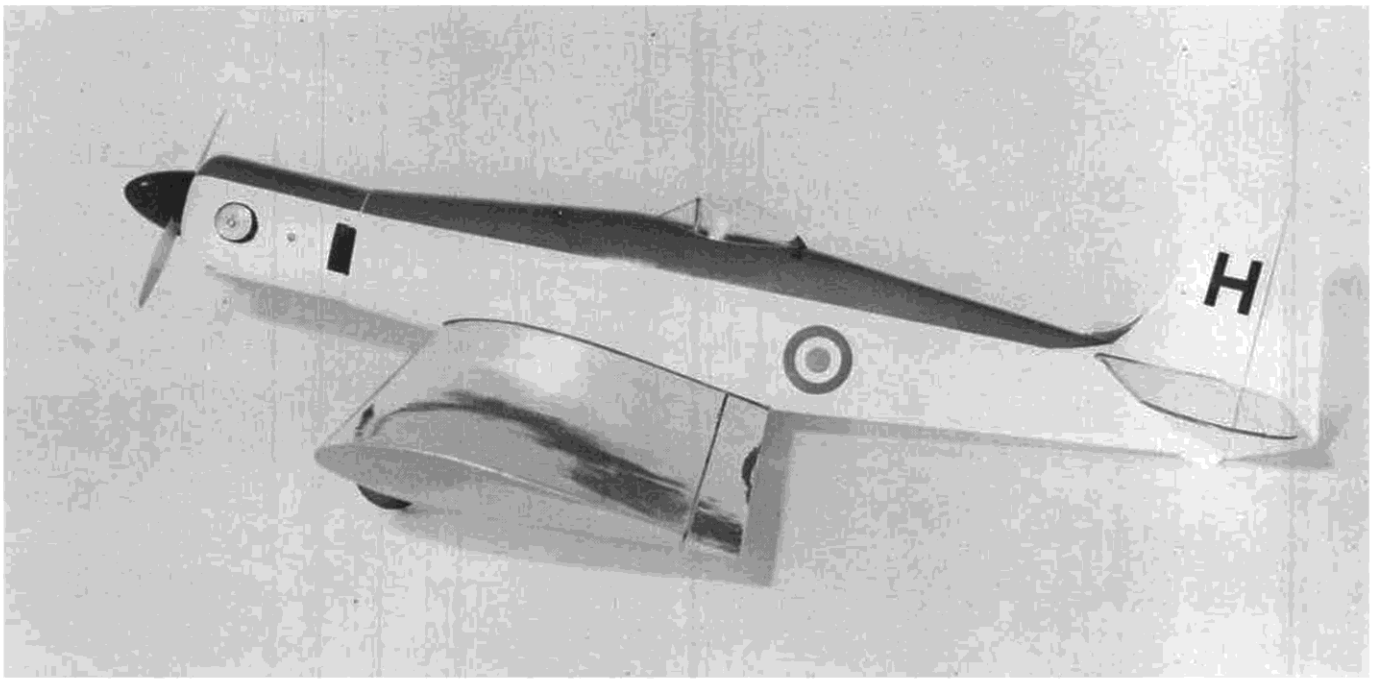


Seattle RAMS rules for Half-A require a minimum of 200 squares of wing area. This one is covered with sheet balsa throughout, yet just meets the required weight.

Wing construction is designed to be as light as possible. I would suggest that you use 1/16 sheeting for the wing if you can find some good light weight wood. I built the original during the last "balsa shortage" and had some trouble finding good 1/16 sheet, thus the 1/32 sheeting shown on the plans. Even using the 1/32 sheet will prove more than strong enough for any flight loads and most landings, provided you include the 3/4 oz fiberglass cloth in the finishing process. (Note that I said "landings" and not "controlled crashes." I try to build my models to fly, not to be crash-proof. If you are looking for an over-built design to compensate for your hard landings, this one isn't for you.)

Tail surfaces are just medium weight 3/32 balsa sheet with a surfacing resin finish. It does get a little tricky installing Klett hinges (which I recommend) in the edge of 3/32 stock, but it can be done if you are careful.

Fuselage construction starts with the two 1/16 balsa sides, with the doublers



Rudder and elevator controls are internal. If you build 'em in, make sure they are going to last several seconds longer than the aircraft! Tail surfaces are of 3/32 sheet balsa. Note outlet for heated engine air. Important if you want the mill to keep running.

installed between formers as shown on the plans. Next, glue in F5, F6 and F7, making very sure that you get everything aligned and square. Now add the top sheeting between F6 and F7. Add F4 and sheet the top of the nose. Form the conical motor mount from F1, F2, and F3 . . . cut to fit these pieces. Add the fuel tank of your choice. A one ounce tank will work for suction and crankcase pressure, or cut a suitable opening in F2 if you intend to use a bladder type tank. Install this unit of F4 and then finish sheeting the forward fuselage. This conical motor mount is quite strong and has proven to be trouble free. Just be certain that it is well glassed in place.

Now you can finally bring the fuselage sides together at the tail and sheet the rear fuselage top. Add the horizontal stabilizer/elevator assembly (the original model had an internal horn and pushrod which must be installed at this point . . . if you decide to use this sort of arrangement, be certain that it will keep on working for the life of the model) and then sheet the fuselage bottom. Add the vertical fin, a couple of small balsa fillets on either side of the fin, fill any small dings with vinyl spackle, and sand the whole machine smooth. Finish the model with surfacing resin and 3/4 oz. fiberglass cloth. Top off the finish with an epoxy paint of a suitable shade . . . the original was dark blue-grey with white undersides. Markings were cut from Trim Monocote.

Oddly enough, you are almost done. You must still figure out where to put your radio gear and how to install the engine. A Kraft "brick" will fit between F5 and F6, while a 225 ma battery will fit quite nicely between F6 and F7. A

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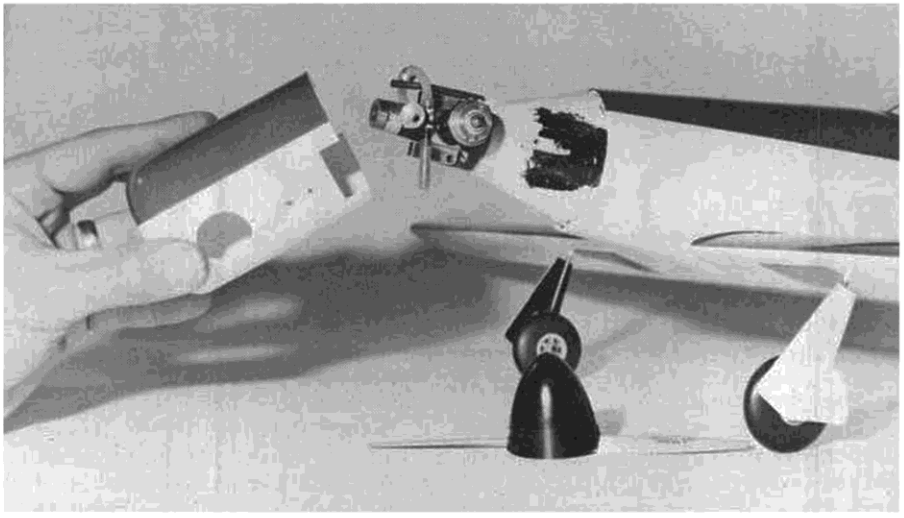
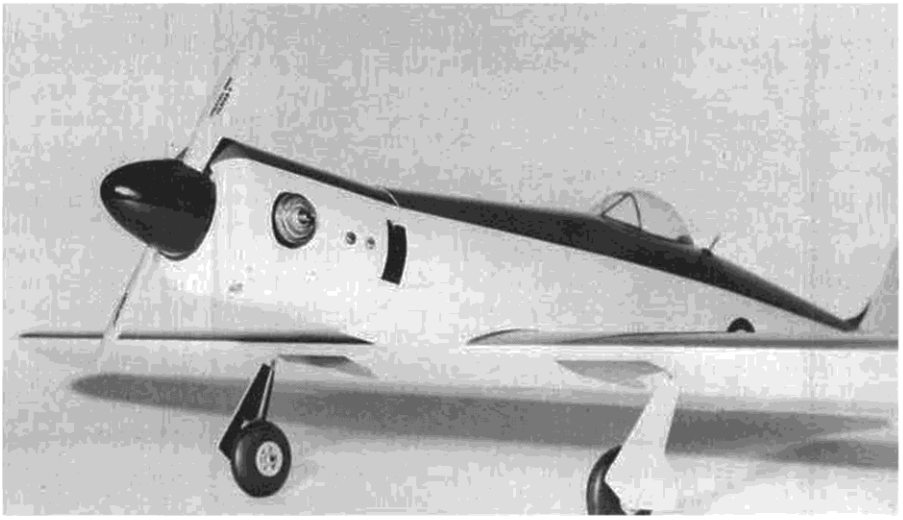


Cowl is made from a plastic bottle. Filler line extends almost to thrust washer for refueling without removing cowl. Note line filter.



RAMS rules permits Jerry to use a Kirn-Kraft TeeDee .051, also pen bladder pressure, if desired. Much of the fun of Half-A racing is due to the use of local club rules.

Sea Fury . . . . *Continued from page 21*

500 ma battery will also fit, but watch that CG! The switch can be mounted on F7 with a pushrod to the outside, or you could just mount it in the fuselage side. Make sure that all the assorted wires and pushrods clear one another.

Your best engine choice is a Kirn Kraft TD .051. A pen-bladder/pacifier pressure system works well on TD's, but remember that, with or without pressure, you have to be able to consistently start on time, so use a system you can cope with during the tension of a race.

The cowling is from a 2-1/2 inch diameter plastic bottle I found at the local drug store. Look for one that is opaque (mine had Flowers of Sulphur in it . . . anybody need a lot of that stuff?) although I saw many translucent ones that could be used if you don't mind painting the entire cowling. Mount it onto the hardwood blocks on the sides of F2 using sheet metal screws . . . two No. 2 x 3/8 inch screws, about 1/2 inch apart, work well.

My canopy was heat-formed in the kitchen oven from acetate over a carved balsa mold, although you might be able to find a commercial unit you could adapt.

Some miscellaneous thoughts: Keep it light. An extra ounce or two can make the difference between a racer and a dog on these small planes. Make certain that your radio is in top condition and that your engine and fuel system will keep on working, since you have to go the whole ten laps in all the heats in order to win. If you have any questions or comments, write to me at 1010 N.E. 122nd Avenue, Vancouver, WA 98664, or c/o MODEL BUILDER.

Good luck. ●