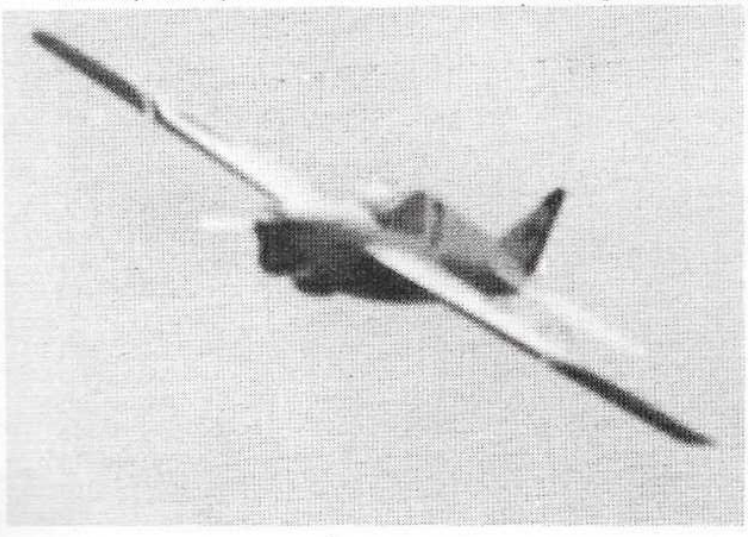
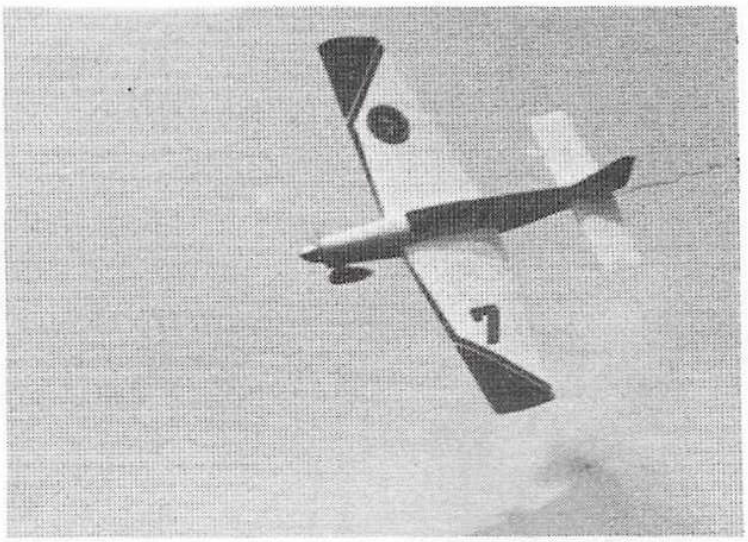
DURING the summer of 1974, the demise of ½A (.049 power) pylon racing led to the emergence of a new class which was cheap and used "standard" .19 or .20cu.in. engines. This class is now universally known as Club-20 and is one of the most popular competitive modelling classes.

The original *Mongoose* flew in 1978, and featured a low wing with undercarriage blocks, as the original rules called for rise-off-ground starts. Although fast, hand launch starts were decidedly dicey with the left wing dropping, and the inevitable correction to the right resulting in a knife edge turn about three feet off the ground. Not exactly the best start to a pylon race, as usually everyone else would be rounding the base





pylons by the time I reached the No. 1 pylon.

Following the advice of several experienced Club-20 pilots I built another *Mongoose,* but this time as a mid-wing one piece model. The higher wing position increased the stability, but most important resulted in an area of fuselage under the wing that could be firmly grasped for safe hand launching.

CONSTRUCTION

The wing

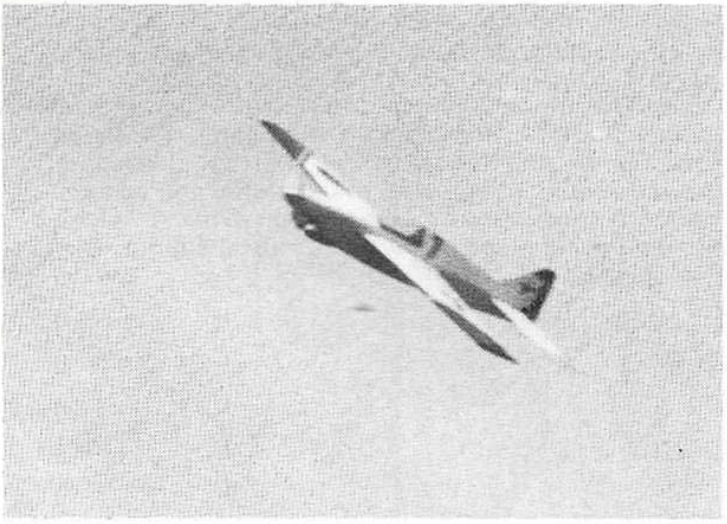
This must be constructed first as the fuselage is built around the completed wing. Cut templates of the root and tip ribs from light alloy or medium plywood, and

39¾in. span model
for sport flying or
Club 20 Pylon Racing

MONGOOSE

by ALEC DELGADO

Full size copies of the plan shown here at 1/5th scale are available as plan No. RM 230, price £1.50 inc VAT plus 20p postage from RM Plans Service, P.O. Box 35, Bridge Street, Hemel Hempstead, Herts HP1 1EE



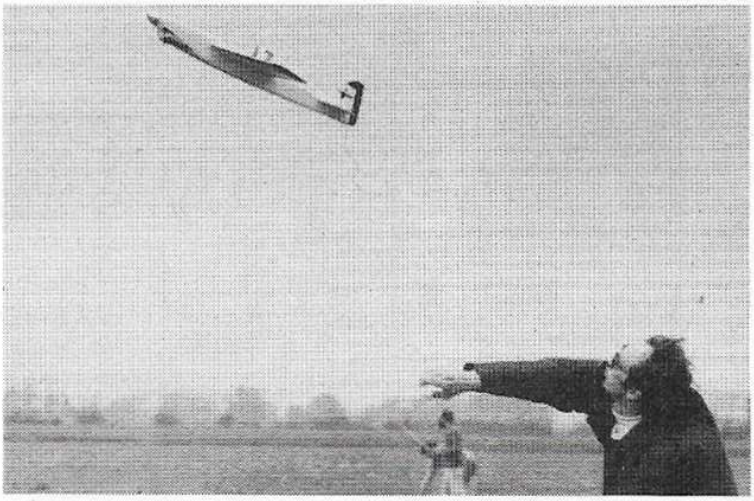
make two sets of wing ribs by the sandwich method. Select suitable 1/16in. sheet for the wing sheeting, and butt joint these sheets together to produce four panels each about ½in. oversize when compared with the plan.

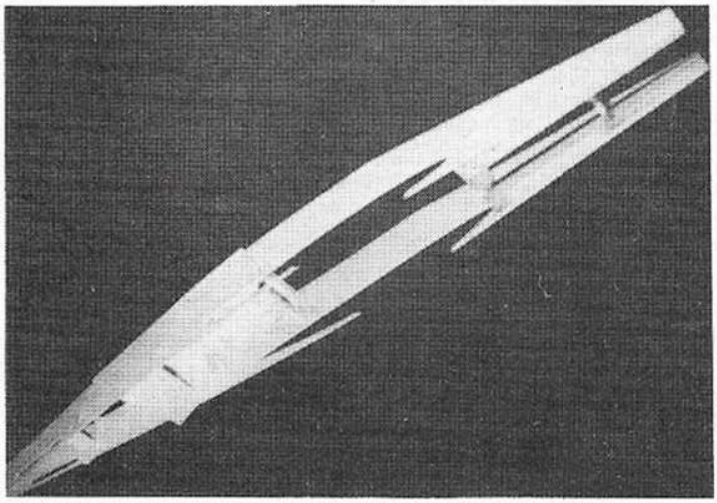
Finish sanding both sides of each panel before assembly, as I have found that sanding after construction results in little dips and channels over the ribs and spars. With this kit of wing parts to hand, the construction proper can begin.

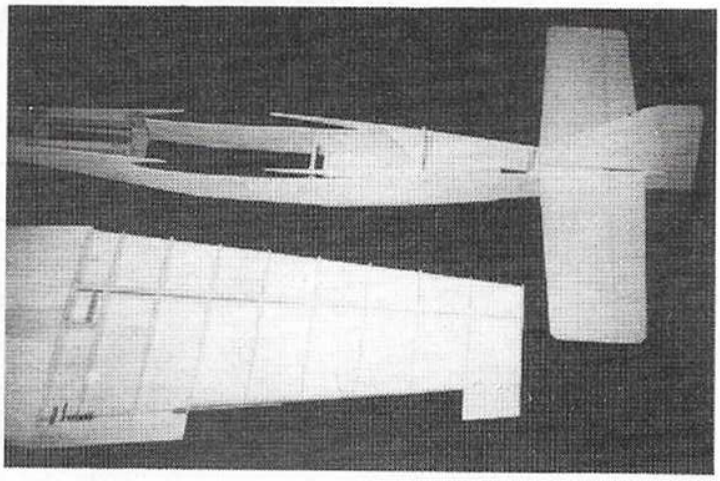
Lay a ¼ x 1/8in. spruce spar over the plan and a washout strip (¼in. high at the root, 3/8in. at the tip) along the trailing edge. Glue the ribs to the lower spar, fit the upper spar and the top surface sheeting. When dry, lift the wing (which is now rigid enough to hold the washout) and build the remaining panel to the same stage. The wing panels may now be joined, upside down, with the top spar absolutely flat on the board. Now cut the trailing edge sheeting and ribs for the ailerons, fit aileron facing spar, torque rods, servo boxes and lower wing sheeting, finishing off with the ½in. leading edge.

All the rest

The first parts of the fuselage to be assembled are the two parallel engine bearers and the ply formers F1 and F2, which should be glued together, upside down, on







Above, the fuselage before adding wing and tail surfaces. Sheeting is not finished until the elevator is hooked up and the wing slid sideways into the fuselage and glued in place. Above right, the wing awaits the final sheeting panel and leading edges.

the bench. Absolute accuracy is essential here, so use a setsquare or similar guide. Trim the outer front edges of the bearers to suit the nose taper from F2 through F1 to the nose-ring. The lower fuselage sides and lower formers may now be added in the usual way, (the model should be upside down on the bench). Turn the lower part of the fuselage over and fit the wing and tailplane, checking carefully for squareness before finally glueing. Tailplane linkage should also be fitted at this stage. The remaining half formers, spine, upper fuselage sheeting and the ½in. sheet on top of the nose should now be added, not forgetting the cut-out in the lower ½in. sheet for the fuel tank. Fit the fin and its fairing blocks, make up the removable lower cowl and sand the fuselage to shape. Offer up the spinner to the nose-ring from time to time, to help in obtaining smart streamlining around the nose.

The engine and tank bays should be given a liberal coat of glass fibre resin (in fact I use g/f resin as an adhesive when assembling the bearer assembly) and then construction is finished.

I personally prefer a tissue, sanding sealer and spray paint finish but a fully sheet structure such as this is suitable for any type of covering. Although small, there is sufficient room for any of the modern R/C systems in the fuselage, even for a third (throttle) servo, although the prototype only used two. I have found that a 250 mAh Ni-Cad is sufficient for two servos, with more than enough capacity for a full day's racing. Control surface movements must be kept down to three-sixteenths of an inch up and down on both ailerons and elevators or the model will be over-sensitive.

"One minute . . ."

Initially, the speed of a pylon racer comes as a shock, but the basic flying characteristics of the *Mongoose* shouldn't present any problems. If a throttle is fitted, slow her down, *Mongoose* becomes quite docile and sociable at lower speeds. (That's where the name comes from. A mongoose looks like a harmless furry animal until it gets steamed up). The plane is as aerobatic as any model lacking a controllable rudder can be, so if you are looking for a Club-20 racer, or a small aerobatic sports model, *Mongoose* is the plane for you.

Should you wish to enter Club-20 events you should contact the **CTA Secretary, A. Rathbone, 1 Hillyard Road, Southam, Warwicks.** He will be pleased to answer enquiries regarding membership and venues. Do not be discouraged by the thought of being "wiped out" by the experienced pilots, as most meetings have a novices' award.