



Cutlass

by G. BRAVEY

Tired of the conventional? Get out of the rut with this unique flying-wing for the smaller capacity diesel. Easy to build and fly, it has a high performance and is virtually crashproof!

WE WERE first attracted to George Bravey's swept flying wing at the 1953 *Yorkshire Evening News* Rally where it made many consistent flights to the delight of a group of admirers. Then again, at the '53 All Britain Rally, Mr. Bravey made further impressive demonstrations with this "suitcase size" design, which we thoroughly recommend to all sport flyers.

When we say "suitcase" this is no exaggeration for the largest portion of the dismantled Cutlass is no bigger than $15 \times 6\frac{1}{2}$ in.,—surely no problem for transportation! Breakdown into small parts for easier carriage also adds to the crashproof qualities of this design, for any hard knock taken on the wingtips is easily shockproofed by the split wing fixing at the centre section and elastic band assembly.

Wings: Cut out the ribs using a template on sandwich method. When cutting the spar slots remember to cut at an angle. Construction is normal and to ensure accuracy with the elevons build these in with the wings but remember to set

the end ribs of the elevons at an angle while building.

Wing end ribs should be left off until the rest of the wing has been finished. Then cement in and while drying prop *one* wing tip up $1\frac{1}{2}$ in. and then set the angle on the ribs. This ensures accuracy. When set, mark paper tube position and bore holes through the ribs which accommodate the tubes.

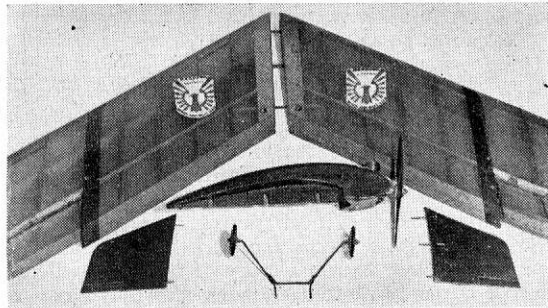
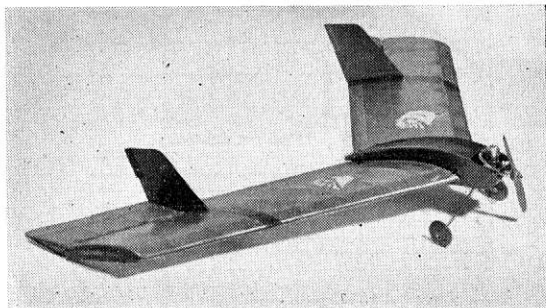
The $\frac{1}{16}$ sheet at the wing root is let in between the ribs. Bore the hole for the rubber bands and set in paper tube.

Tubes for the fin mounting can be made around a bicycle spoke, holes bored, and the tubes simply smeared with cement and pushed in.

Fuselage: Cut out the fuselage sides following the grain as per plan. Cement the respective sides together setting in a slight curve which makes for easier building later.

Lay the engine bearers on the plan and cement in the $\frac{1}{4}$ in. centre spacer using Durofix. Drill bolt holes. Using Durofix again, cement the fuselage sides onto engine bearers.

Cutlass is the name of a full-size American Navy fighter with similar sweepback and twin fin arrangement as George Bravey's model. This model Cutlass also has an interceptor-like performance and zips off the ground after a long take-off run to build up speed. Assembly of the components is simple, as seen in the photo at right.



Pre-cement all joints. Cement on the $\frac{1}{8}$ in. centre piece F.6 the $\frac{1}{16}$ in. sheet platform, F.7, for the $\frac{3}{32}$ in. sheet covering. Bore the holes through Former F.5, into the engine bearers for the u/c brass tubes. Add hardwood and scrap balsa reinforcements. Fit in the $\frac{1}{4}$ in. F.1, bulkheads, F.2-F.4, and add the $\frac{1}{16}$ in. sheet top and $\frac{1}{32}$ in. base. Bore the rubber fixing dowel holes.

Fins: Make these by cementing two $\frac{1}{16}$ sheets, pieces edge to edge. Cut out fins. Add reinforcing strips. Bore paper tube holes. Fit the dowels, or "orange sticks" (used for manicure). Locate the positions of these by checking on the wing tubes.

Bend and solder the undercarriage using fuse wire to reinforce, noting that the u/c trails to the rear. It should be a firm fit in the brass tubes on fuselage. Fit a fuel tank of your own choice on the $\frac{1}{4}$ in. bulkhead F. 1 or side.

Covering: Cover entire model with lightweight Modelspan, give two coats of dope and one coat of fuel proofer if desired. If no fuel proofer is used, give a third coat of dope. Finish off fuselage with coloured dope but use sparingly on the wings to keep the weight to $8\frac{1}{2}$ ozs. as on the original.

Flying: Lightly cement the elevons to the angle shown on the plan *making sure that both are at the same angle* and trim tabs are neutral. Test glide over long grass adjusting elevons until a flat glide results. Not much can really be learned from this so the next step is a power-assisted glide. Reverse prop or cement $\frac{1}{16}$ in. strip along each prop blade and run engine slowly. Note any vicious turns and correct with the trim tabs. (Left wing low raise the right wing tab and vice versa.) Increase power until the plane turns to the left in gentle spirals until you are used to the trimming methods. Note that the rudders are not used to turn the aircraft.

Cutlass is *fast* and should give many an exciting day's sports flying as it is really tough! It has flown under full power into a tree with only a broken leading edge section and torn tissue as scars of the encounter.

Take-offs are simple. Under full power Cutlass takes a long run and quickly rises at an acute angle until the accumulated speed is expended, then rises in spirals until the engine cuts. If the trim tabs are adjusted loops are easily obtained *safely!*