

**DARTEX**

M.A. 177 K BROWN 3/3

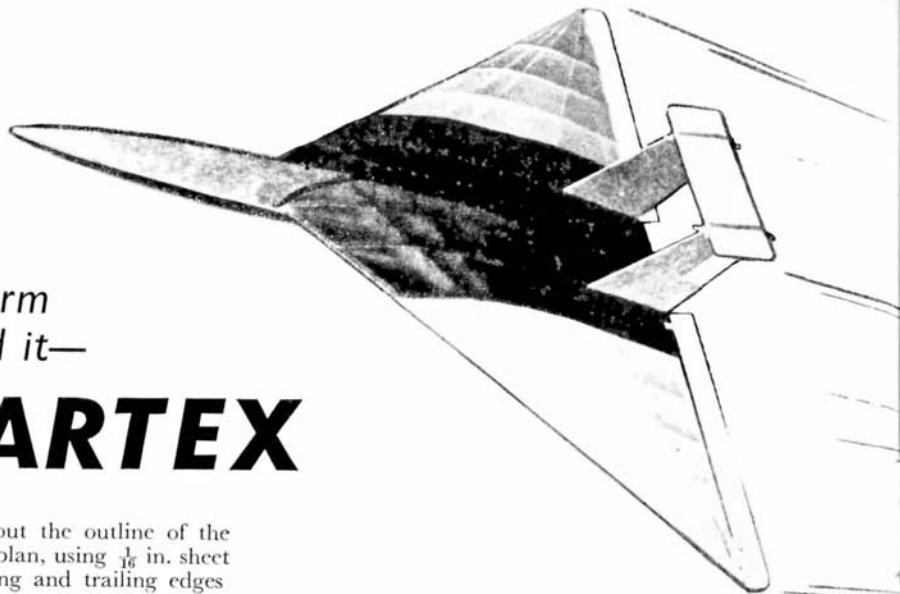
SPAN 22" LENGTH 18 1/2"

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**K. Brown**

*designed this  
stable Jetex 100  
powered delta-form  
model and called it—*

# DARTEX



**C**OMMENCE by laying out the outline of the wing directly over the plan, using  $\frac{1}{16}$  in. sheet medium balsa for both leading and trailing edges. Cut out the  $\frac{1}{8}$  in. sheet motor mount from hard balsa, and pin down in position over the plan, then cement in position the centre rib (R.1). Cut and fit two pieces of  $\frac{1}{4}$  in.  $\times$   $\frac{1}{8}$  in. hard balsa, cementing these one on each side of R.1, on top of the motor mount. Next, cut and cement in place all the under surfaces of the ribs, using  $\frac{1}{16}$  in.  $\times$   $\frac{3}{32}$  in. medium balsa. The ends of these strips are butt-jointed to the leading and trailing edges. Cut out the spars, A, B and C from medium hard balsa, and cement in place on top of the  $\frac{3}{32}$  in. strips. Whilst these are drying, cut out the  $\frac{1}{16}$  in.  $\times$   $\frac{3}{32}$  in. strips for the upper surfaces of the ribs, using soft balsa. Cut these to length, not forgetting to allow for the excess length caused by the curvature of the ribs. Now start at the centre and work outwards towards the tips, cementing to the leading edge *only*. Having completed one half of the wing, do the same for the other half. Make sure that the joints are properly dry before proceeding further. Now start at the centre again, and bend over each strip, cementing at the spar junctions, and finally cement to the trailing edge. It may be found necessary to steam the strip used for the extreme tip rib, although this can be overcome by using a softer grade of balsa.

## Fuselage

With the wing still pinned down to the building board, cut out the fuselage horizontal crutch from  $\frac{1}{16}$  in. medium balsa sheet, and cement to the leading edge. Do the same with the upper half of the fuselage vertical crutch. Make and fit the front bulkhead, and complete by fitting spacers cut out from  $\frac{1}{4}$  in.  $\times$   $\frac{1}{16}$  in. balsa. Allow the whole to set thoroughly, then remove from the building board, and complete the lower half of the fuselage which is built in a similar manner to the upper half. The whole of the fuselage is then covered with  $\frac{1}{32}$  in. sheet, which can be fitted in four pieces.

The  $\frac{1}{16}$  in. sheet elevons should now be made and fitted, using aluminium hinges. The prototype was fitted with hinges cut from the aluminium container of a well-known dentrifice, and proved ideal. The model should now be covered with lightweight

Modelspan, water sprayed, and doped, then pinned down until *thoroughly* dry.

## Tail

This is built from  $\frac{1}{8}$  in.  $\times$   $\frac{1}{16}$  in. balsa strip, and needs no explanation. Cover with lightweight Modelspan, and water spray, but do not dope.

The two upper and lower fins are cut from  $\frac{1}{16}$  in. balsa, with the grain running vertically. A trim tab is fitted to one only, as shown on the plan. Cement to the ribs as shown, making sure that they are vertical, and not offset in either direction. The  $\frac{1}{32}$  in. sheet tailplane platform is then fitted, and the unit completed by cementing in place two  $\frac{1}{16}$  in. dowels at the inside junction of the platform and fins. The fins and fuselage should be covered with lightweight Modelspan doped on. This adds considerable strength and very little weight.

## Trimming

The model should balance as shown on the plan. Check for possible warps, as Jetex models in general, and Deltas in particular are badly affected by warps, due to their acceleration, and high speed. Set the elevons about  $\frac{3}{8}$  in. up, making sure that both are identical. Offset the Jetex mounting clip 5 deg. to one side, and give slight opposite turn with the trim tab. Test glide in calm conditions, with the Jetex 100 motor empty. Test glide until a satisfactory glide is obtained, adjusting the elevons as necessary. Carry out these adjustments carefully, as the elevons are very sensitive. When satisfied, lightly cement the elevons in position. Make the first few power flights on half charges, and aim at a fast, steep climb, straight, or with a slight turn in the direction of the thrust line. Some downthrust may be necessary.

One final point: Don't forget to stick asbestos paper on the covering near the jet. The gases themselves will do little harm, but the writer had some little excitement on one occasion when a piece of red-hot wick was blown through the jet and embedded itself in the covering.