

COCKPIT COVER CUT FROM COMMERCIAL CANOPY

FOR CLARITY 1/16" STRINGERS ARE NOT SHOWN

FINS FROM 1/16" SHT. 2" OFF

PATTERN FOR WINDSHIELD 1" OFF THIN CELLULOID

PATTERN FOR COCKPIT REAR COWLING MAKE FROM NOTE PAPER

PATTERN FOR TROUGH FROM STIFF PAPER

BLOCK Balsa

3/8" x 1/4" FOR JETEX 100 MOUNTING

1/8" SHT. EACH SIDE

MAKE FROM ROLLED GUMMED PAPER 3/4" DIAM.

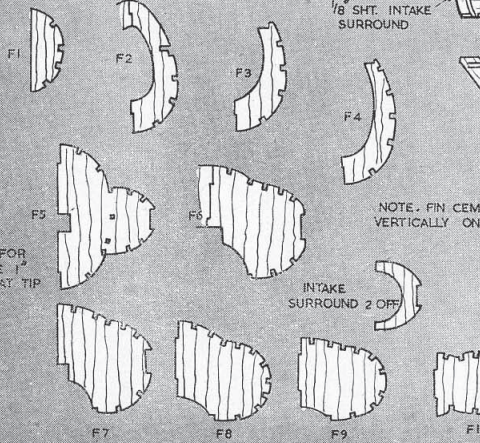
F12 - 1/16" SHT.

1/8" SHT. INTAKE SURROUND

C - 1/16" SHT.

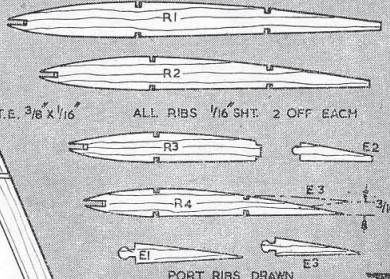
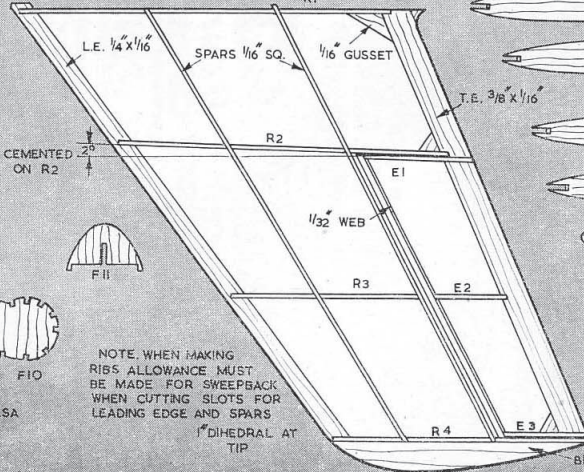
NOTE. TILT R1 TO GIVE 1° DIHEDRAL R1

NOTE. T.E. OF ELEVON IS RAISED 3/16"



TEMPLATE FOR R1 TO GIVE 1° DIHEDRAL AT TIP

FUSELAGE FORMERS - 2 OFF EACH - 1/16" SHT. Balsa



VOUGHT FTW-1  
**CUTLASS**  
 M.A. 147 A.E.HATFULL 2'-  
 SPAN 16" LENGTH 15 1/2"  
 COPYRIGHT MODEL AIRCRAFT  
 23 GT. QUEEN ST. LONDON W.C.2

FULL SIZE WORKING DRAWINGS ARE OBTAINABLE FROM YOUR LOCAL DEALER, OR BY POST FROM THE "MODEL AIRCRAFT" PLANS DEPARTMENT, 19-20, NOEL STREET, LONDON, W.1, 2s. 0d., POST FREE.

# VOUGHT F7U-1 Cutlass

BY A.E. HATFULL



THE *Cutlass* is the U.S. Navy's first tailless twin-jet fighter and although rather large for duty as a carrier based fighter it has been enthusiastically acclaimed by those who have sampled its flying qualities. Readers of the American magazine *Aero Digest* will no doubt have seen the comprehensive write-up on the *Cutlass*.

An important feature of the model *Cutlass* is the 2 deg. "tee-in" on each fin giving a drogue effect which contributes to directional stability.

## Fuselage

Pin pieces *A* and *B* to the plan. Note that *A* carries the nose block profile, and *B* carries the profile of the fairing between the twin jet orifices at the rear. Pin  $\frac{1}{2}$  in.  $\times$   $\frac{1}{16}$  in. "backbone" and "trough strip" pieces in place, cementing joins. Cement piece *D* in place on the trough strip. Cement half formers 1, 2, 5, 6, 7, 8, 9 and 10 perfectly upright over their positions on the plan. Add piece 12, which forms the cockpit cover base, then cement formers 3 and 4 in place. Cement piece *C* into the notches in formers 5 and 6, 7 and 8. Cement the  $\frac{1}{16}$  in. square stringers into the notches in the formers. Remove this side from plan when dry, and cement the opposite side formers and stringers, etc., in position. Add former 11. Cement the piece of  $\frac{3}{8}$  in.  $\times$   $\frac{1}{4}$  in. balsa into the slots in formers 5, 6 and the recess formed by piece *D* and former 7. Add the noseblock in two halves and also the pieces of  $\frac{1}{8}$ -in. sheet on each side of *B* at the rear. From a commercial "bubble cover" cut the centre portion of the cockpit cover, add the windscreen cut from celluloid to the pattern shown, and the rear fairing cut from notepaper to the pattern shown. Cement the notepaper trough pattern in place in the recesses in formers 7, 8 and 9. The original model required the addition of a small amount of nose weight; this may be avoided (to advantage) by filling in with  $\frac{1}{16}$ -in. sheet between stringers and between formers 1 and 2. Cement and screw the Jetex "100" clip in the position shown. Add the  $\frac{1}{2}$ -in. sheet surround to the air intakes on former 5 (each side) and sand off the corners. Sand off all former protrusions and rough corners on the stringers, etc. Tissue cover the fuselage using "bands" of tissue wrapping around

the fuselage, one former bay at a time. Water shrink and clear dope.

## Wings

Pin the lower spars in place on the plan. Cement the ribs in place, tilt rib *R1* to give 1 in. dihedral where shown when assembled to the fuselage. Note the angular offset of *R2* which forms a base for the fins. Cement the  $\frac{1}{4}$ -in.  $\times$   $\frac{1}{16}$ -in. L.E. into the rib slots. Add the top spars. Note the L.E. and rear spars are left protruding to fit into piece *C* of the fuselage. Build the elevons in place while the wing is still pinned down, this ensures a good fit. "Web" the elevon spars as indicated with  $1/32$ -in. sheet. Remove the wings from plan, separate the elevons. Add the block balsa tips, gussets, etc., then sand wings smooth all over. Tissue cover the wings and elevons separately. Water shrink and clear dope. Cut out the fins as indicated (multi direction grain avoids twisting) sand smooth and free from saw marks, clear dope and sand smooth again. Cement the elevons *lightly* (for adjustment) in place with their T.E.'s raised  $\frac{3}{16}$  in. (as shown) from the T.E.'s of the wing rib *R4*. Carefully assemble the wings to pieces *C* on the fuselage, cement the fins directly over the ribs *R2* (above and below), check the fins are vertical in the front view, and that they are flush to the inner faces of *E1*. Midnight blue being unobtainable in dope the original was "doped" with Belco brushing cellulose.

## Flying

Test glide the model with the Jetex "100" loaded. Use plasticine to obviate dive or stall. If you notice a *pronounced* tendency to turn in either direction it is hardly likely to be the fins, so check this out on the elevons. A truer picture of the model's condition of trim will be found if it is launched from a hill top. Take care to balance the model in a lateral direction as well as longitudinally as it is important with block balsa wing tips that balance is obtained. When the glide is straight and fast, light the blue touch paper, etc. Incidentally, a strip rubber catapult launch (as solid glider practice) has proved far superior to hand launching for these scale jet fighters.

# VOUGHT F7U CUTLASS



**Step-brother to the Flying  
Wing, blood brother to an angry  
rocket, this novel Navy  
fighter will play a big role in  
America's air effort**

■ Navy's white hope among its current stable of red-hot jet interceptors is the Vought F7U Cutlass, a weird-looking but terrific-performing fighter. This new jet is the opening wedge in the Navy's assault on the enormously complex problem of operating the transonic fighter from a carrier deck—but most of the solutions are already clear: it can be done!

The Cutlass is the Navy's first swept-wing combat airplane and represents Chance Vought's bold bid for leadership in this exciting but difficult new field. Navy's first wave of jet carrier fighters stuck religiously to the straight wing with its well-known high-lift and good stalling characteristics. McDonnell's successful FH Phantom and F2H Banshee and Grumman's sleek F9F Panther all followed this dependable platform in to long production lines. Chance Vought entered the new jet field in September 1946 with its F6U Pirate single-jet fighter featuring

Metallite construction. Along with North American's FJ Fury, the Pirate played an important role in the Navy's experimental days of jet operation aboard carriers, but the F6U never saw the production line.

The No. 3 Pirate was used in a forward-looking experiment, however—the application of the Solar afterburner to the Westinghouse J34 turbo-jet engine. This simple shell of stainless steel provided an increase in thrust of 30 percent for take-off and 50 percent at best altitude and speed. Flight tests with this Pirate proved that here was an extremely light and simple device which Navy and Vought engineers could not overlook in future design—and that meant the F7U Cutlass!

This deadly new interceptor began life way back in January 1946 (nine months before the F6U had flown!) when the Navy Bureau of Aeronautics invited bids on a 600-mph, 40,000-ft. interceptor.

**In the Cutlass** the Navy has a formidable weapon with a rocket-like climb. Note high angle of attack plane assumes on the ground.

