

The finished model after it had successfully completed twelve test flights with no mishaps.

## ***Sikorsky Amphibian***

*This twenty-eight-inch free flight scale model is a sterling performer over land or lake. Power with any .020 to .049 engine.*

**By Dick Ealy**

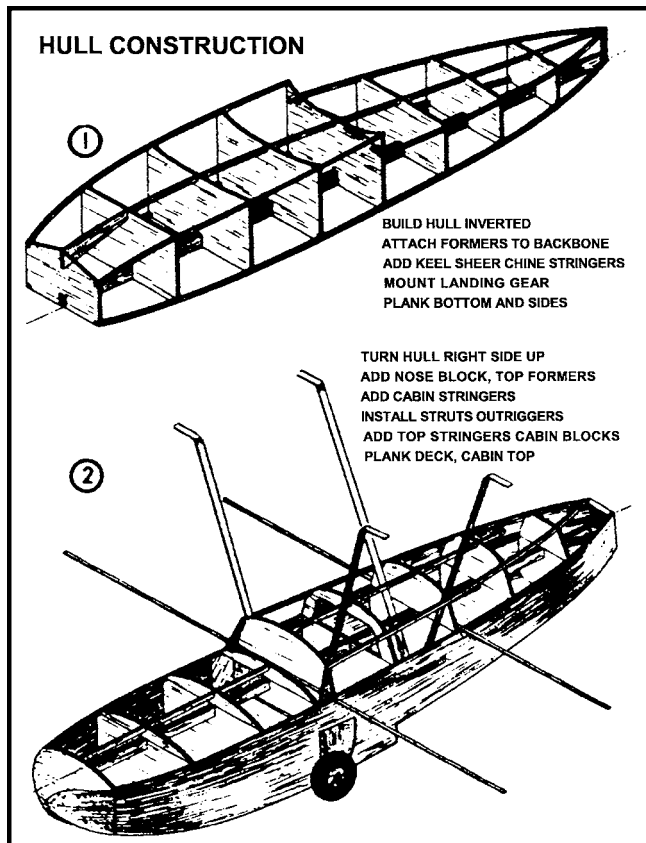
A WHOLE new field of model building was created by the production of the baby engines, which are especially good for powering scale model flying ships. We decided to build a model of the Sikorsky S-38. It satisfied the desired qualities of good appearance, with a high wing for stability and simple construction. The general appearance of the original plane has been retained, but some small changes have been made for simplicity and to improve the model's performance.

Igor Sikorsky's flying boats were both rugged and reliable, so that quite often they were chosen for pioneering new air routes.

It was the Sikorsky S-38 that Colonel Charles A. Lindbergh used on his Central American trail blazing flight for the Pan-American Airways.

Study the drawings and read the instructions carefully before starting construction.

Start to work on the hull first. It is built inverted on the top view of the drawing. Cut out 1/16 in. sheet formers and place in the proper position over the 1/8x1/4 in. backbone spar. Make sure the formers are vertical while the cement dries. Next cement 1/16x1/8 in. keel from B to the tail end. A piece of 1/16 in. sheet is used for the keel from A to B. Place the 1/16 in. square sheer and chine stringers and cement well. Make the retractable landing gear and install as shown in detail. Plank bottom of hull with 1/32x3 in. sheet balsa. Work forward from E with another piece. Make paper templates of cut out for landing gear on the side planking. Slip side panel, made from 1/32x2 in. stock, over gear and cement in place. Now you can lift the hull from the board and turn right side up. Cement formers AT, BT, etc. in place.



The dashboard is the same as CT. Add the cabin stringers made from 1/16 in. square balsa. Make the tail post from 1/16x1/8 in.

Split bamboo is the best for the main struts. Bend as shown over a candle flame or gas jet. You might substitute .040 in. steel piano wire. Cement these struts with several coats of cement. Mount the outrigger bamboo or .040 in. wire as struts as indicated in the plan. Place the 1/16x1/8 in. top stringer in its place and cement it. Plank deck and cabin top with 1/32x3 in. sheet balsa. Cement oversize nose block and the fore and aft cabin blocks in place. Trim on assembly as illustrated. Sandpaper the entire hull with some No. 4/0 sandpaper and then brush on two thin coats of clear dope, then sand again. Cover hull with Jap tissue and give it three coats of thin silver dope, sanding it between each coat. Cement .010 in. celluloid windshield and windows on last.

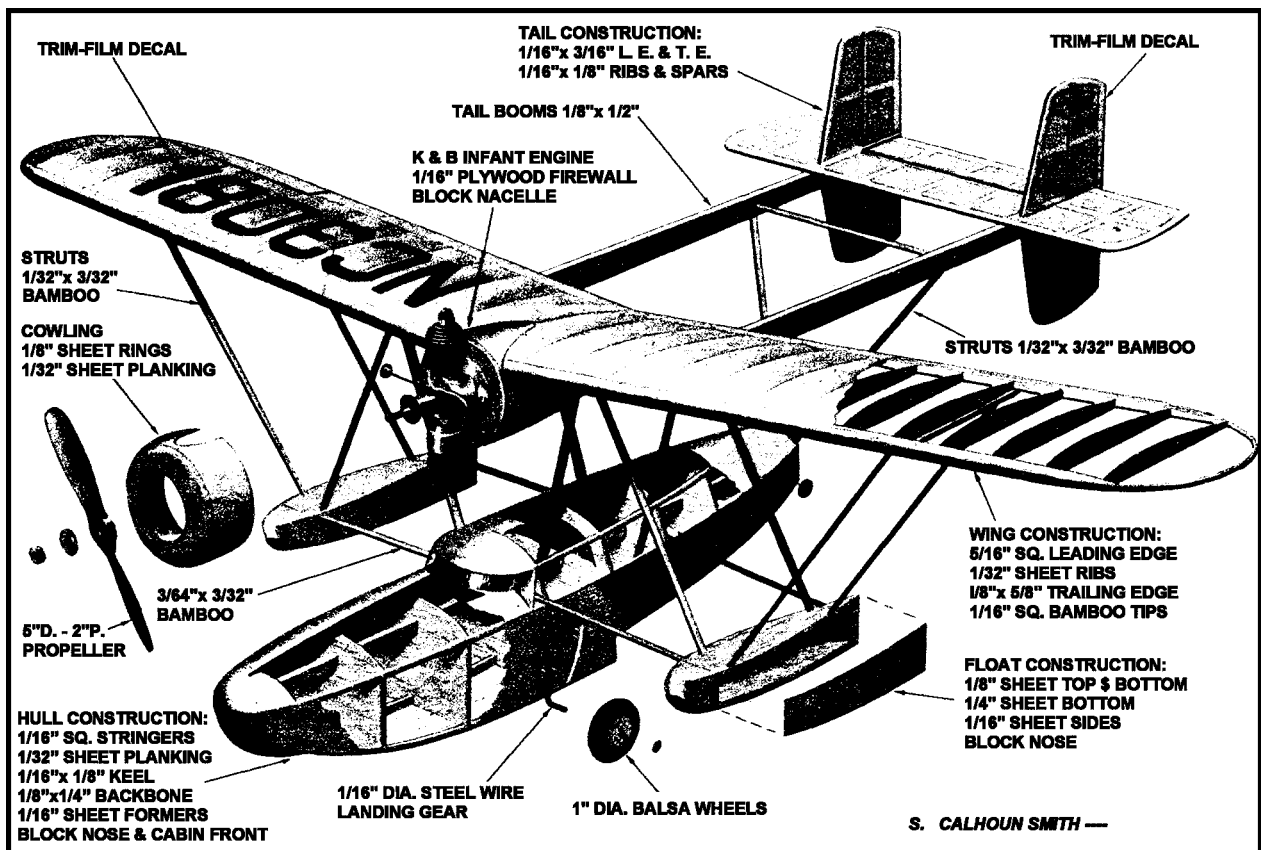
Make the wing next. Cut the ribs as indicated and assemble the frame on a flat surface. Omit the center rib until later. The wing tip should be made of bamboo. Bend a piece 1/16x1/8 in. over a flame and split to make two identical tips. Balsa tips made

of 1/16 in. sheet may also be used. Notch spars at the center and crack, to form 9/16 in. dihedral at each tip. Add 1/16 in. sheet balsa gussets and flush bottom inserts for boom and nacelle attachment. Round off the leading edge and sandpaper the frame. Mount the wing as shown in attachment detail. The bottom of the wing and the base line should be parallel. Make the tail booms from 1/8x1/2 in. stock and taper as shown. Cover them with Jap tissue and clear dope. Give them three coats of thin silver dope, sanding lightly between each coat. The horizontal tail and two vertical rudders are made next and covered with yellow Jap tissue. Brush on two thin coats of thin clear dope. Cement both booms in place on the bottom of the tail. Slip the vertical rudders over the tail from the rear and cement them in place. Mount the boom and the tail assembly to the underside of the wing. There should be zero incidence between the tail and wing under surface.

Carve the engine nacelle and hollow it out as shown. Make the firewall from 1/16 in. plywood and drill to fit your motor. Attach your engine to the firewall. Give both surfaces several thin coats of cement before cementing the firewall to the nacelle permanently. Cover the nacelle with strips of Jap tissue and clear dope. Brush on three thin coats of silver dope and sand between each coat. Use the same cementing procedure in attaching the nacelle to the wing bottom as used for the firewall.

Cover the wing frame with yellow Jap tissue and shrink with water before brushing on four thin coats of clear dope. Make balsa engine cowl and cover with tissue and clear dope. Give it three coats of thin silver dope and attach to the tank as shown.

Build the floats inverted and cover them with tissue and clear dope and then apply three thin coats of silver dope. Attach the outrigger struts and add the remaining struts and paint them silver. Cement the tail wheel to the rear end of the hull. Decorations such as the Pan-American insignia, window frames, ailerons, rudder and stabilizer, outlines and license can be cut from black tissue or Trim-Film decal a coat of hot-fuel proofer over the entire model will preserve the plane much longer and it is recommended. The original model balanced at 1/3 of wing chord.

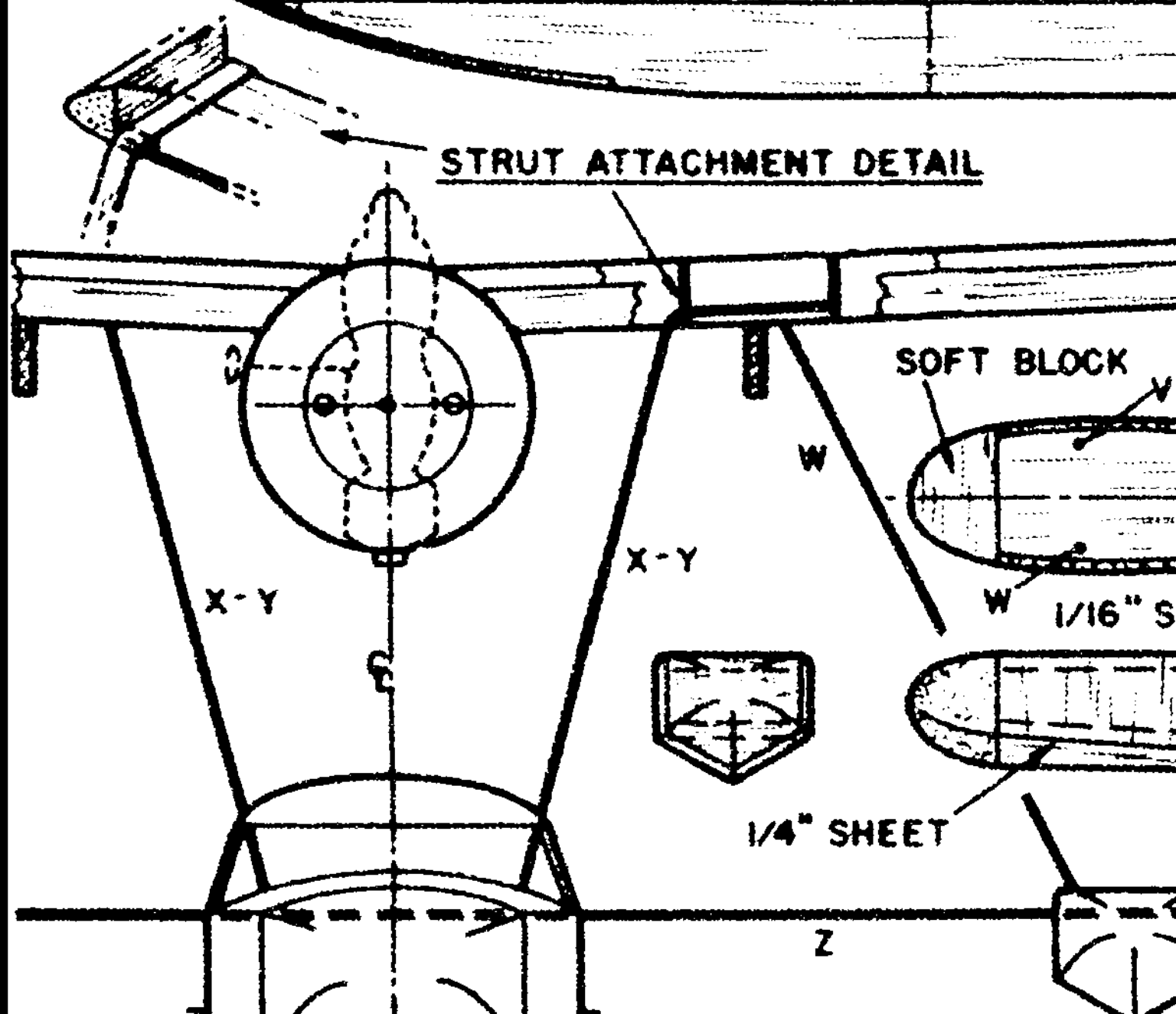
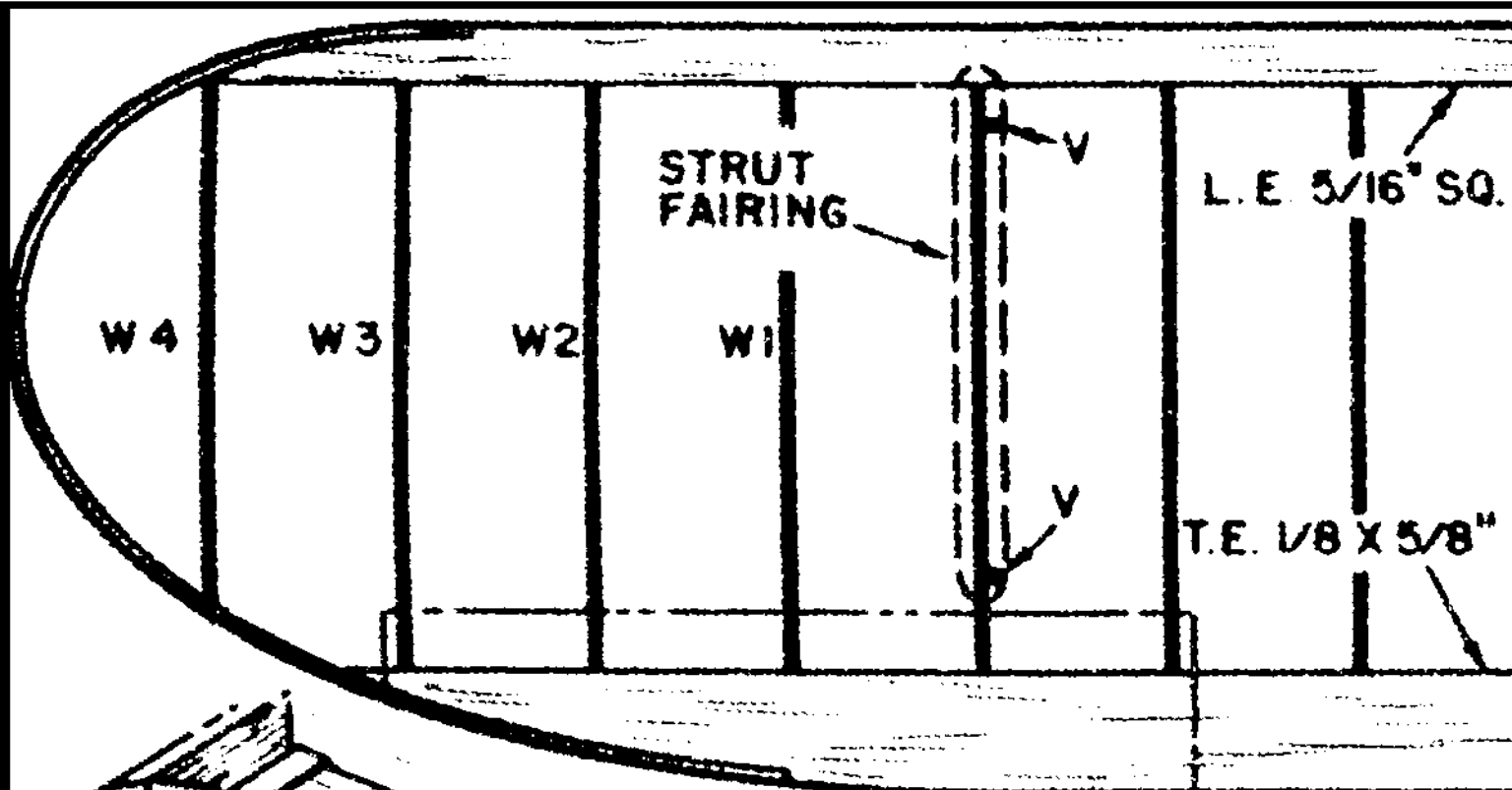


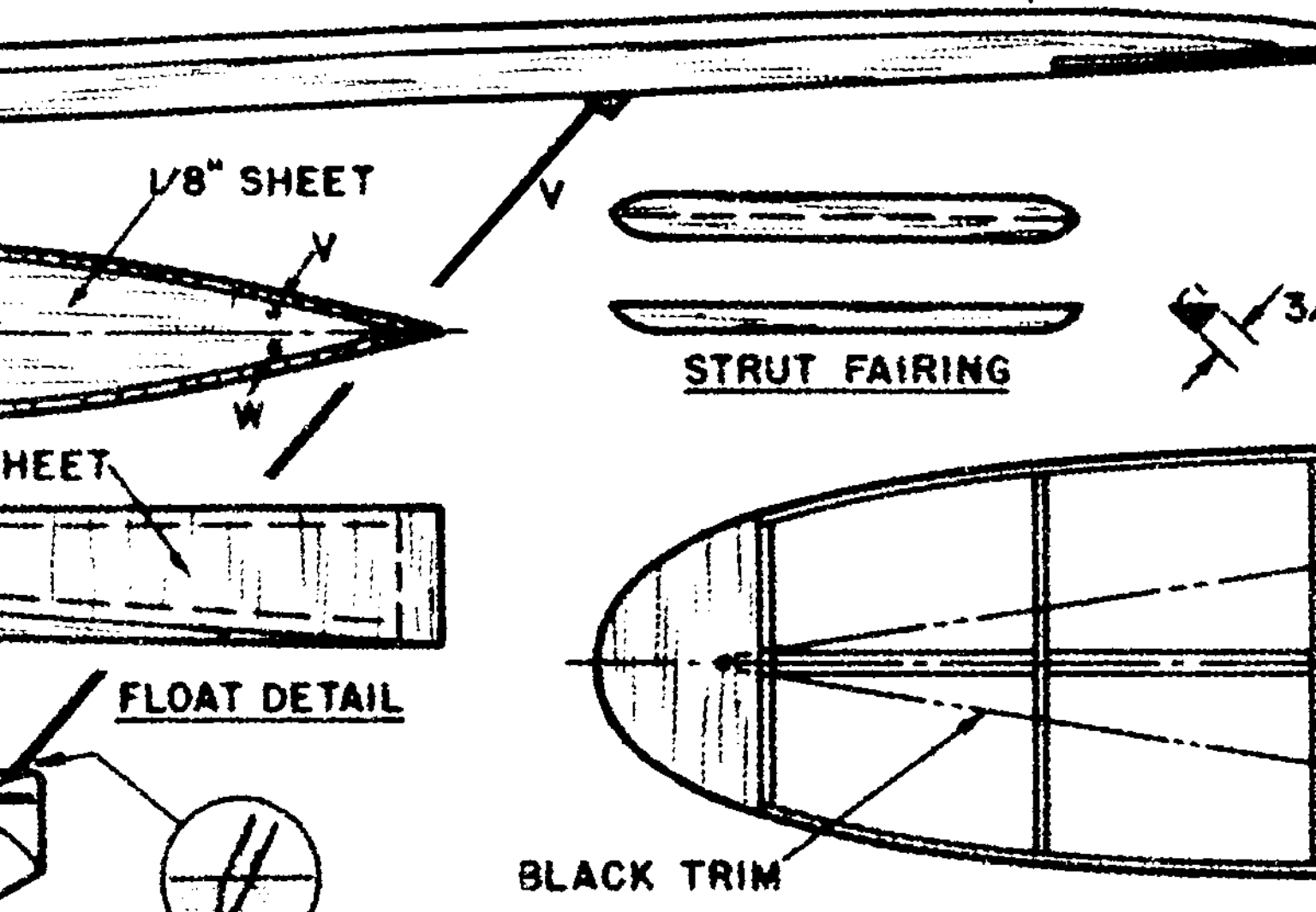
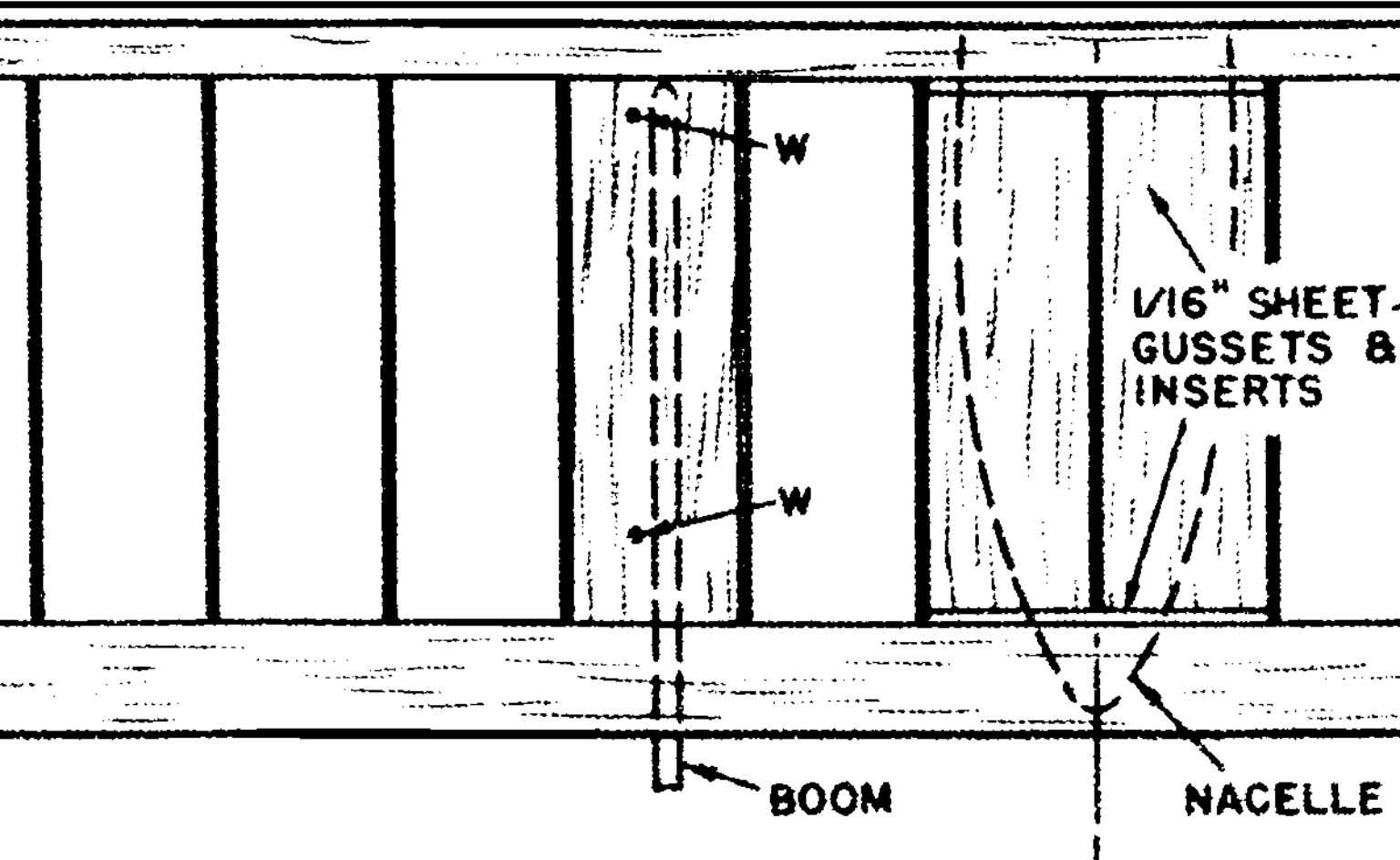
Glide by hand over grass before you make a power flight to check its balance and stability. A little right rudder may be used to circle the model. Hand launch your model for test flights before trying flights from ground or flights from water. The ship will climb fairly fast and glide nicely so be ready to chase your flying boat.

One of the important things to remember when flying your scale model plane is the same thing that pilots of all amphibians worry about, the landing gear. You can get into as much trouble on a smaller scale if you have the gear in the wrong position for a landing. More than one pilot has had quite a surprise as he tore the belly out of his plane by not having the gear down.

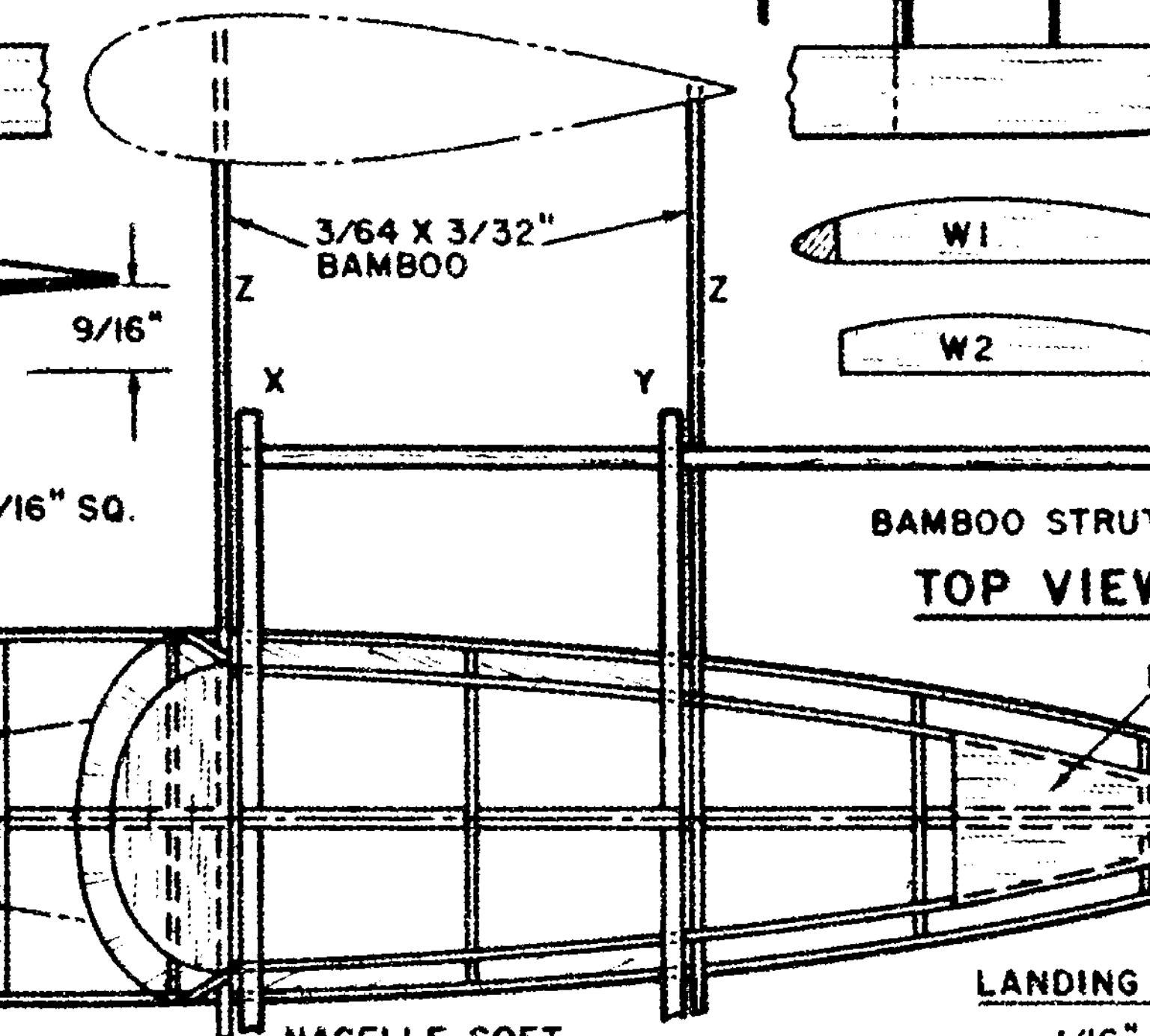


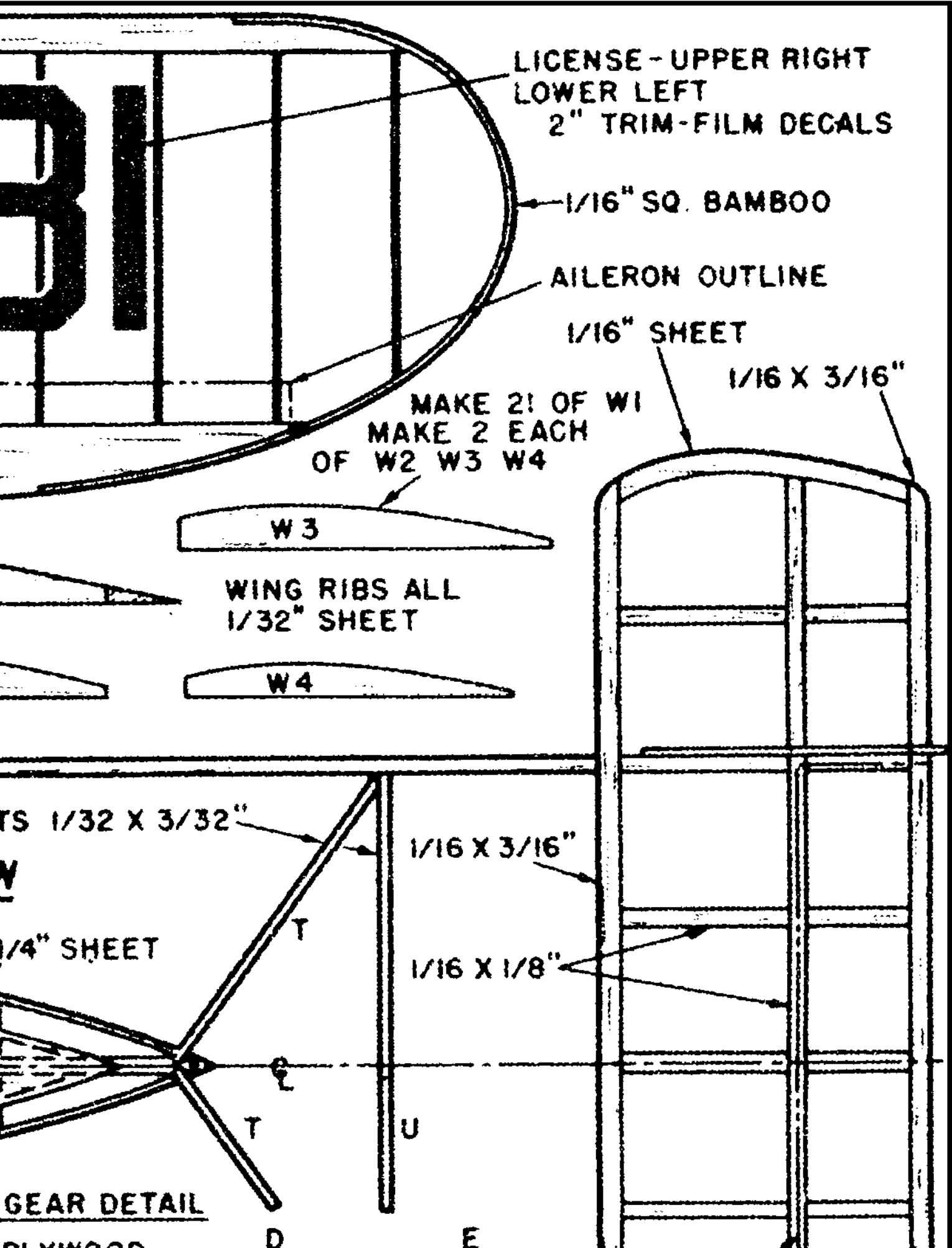
Hand launch your model on its test flights before you try ground or water flights to check stability and avoid accidents.





# NC308



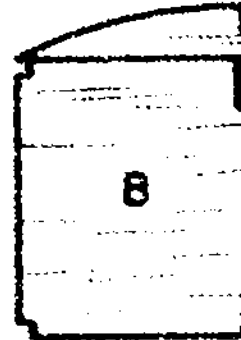


PULL GEAR OUT FROM PE  
TO RAISE OR LOWER



**FRONT VIEW**

BT

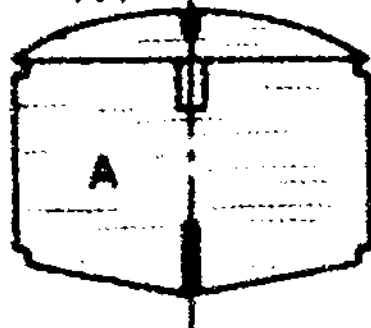


B

STRUTS  
1/32" X  
BANE

X

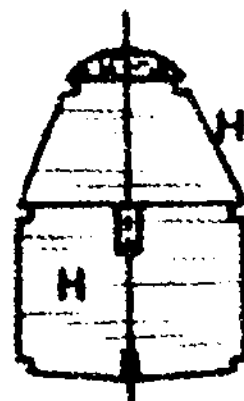
AT



A

Y

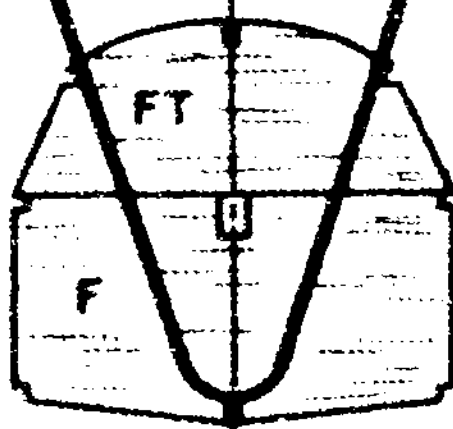
HT



H

ALL FORMERS  
1/16" SHEET

FT



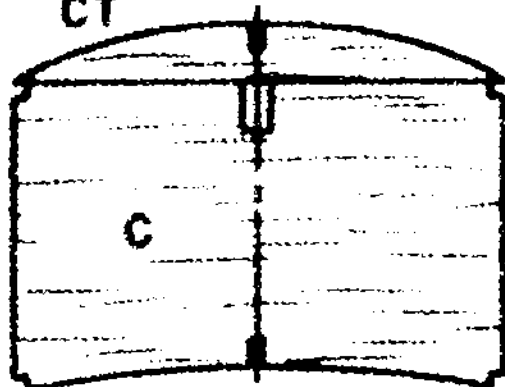
F

DT



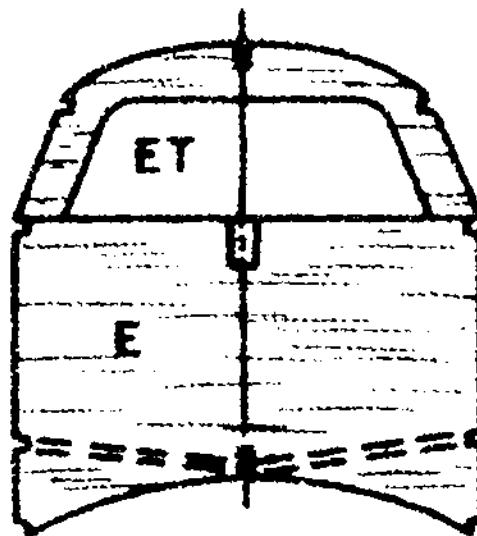
D

CT



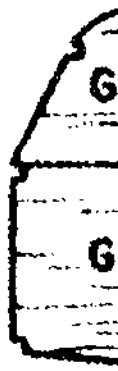
C

ET



E

G



G



GS

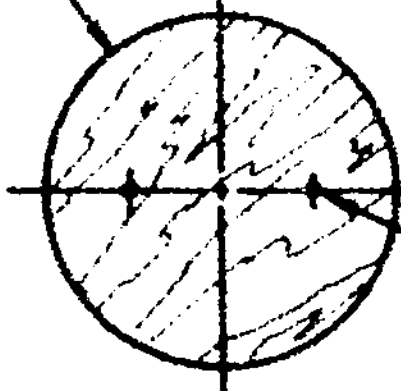
POINT STRUT  
ENDS

6 X 8 Y  
X 1/8"  
300

WIND-  
SHIELD  
PATTERN  
.010"  
CELLULOID



FIREWALL - 1/16" PLYWOOD



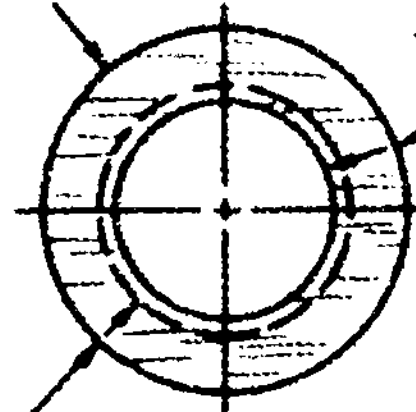
MOUNT ENGINE  
WITH 2- 56 M.S.

DRILL 3/32"

1/32" SHEET

"INFANT" ENGINE  
OR SIMILAR  
.020 - .049

COWL RING



1/32" SHEET  
FACE RING

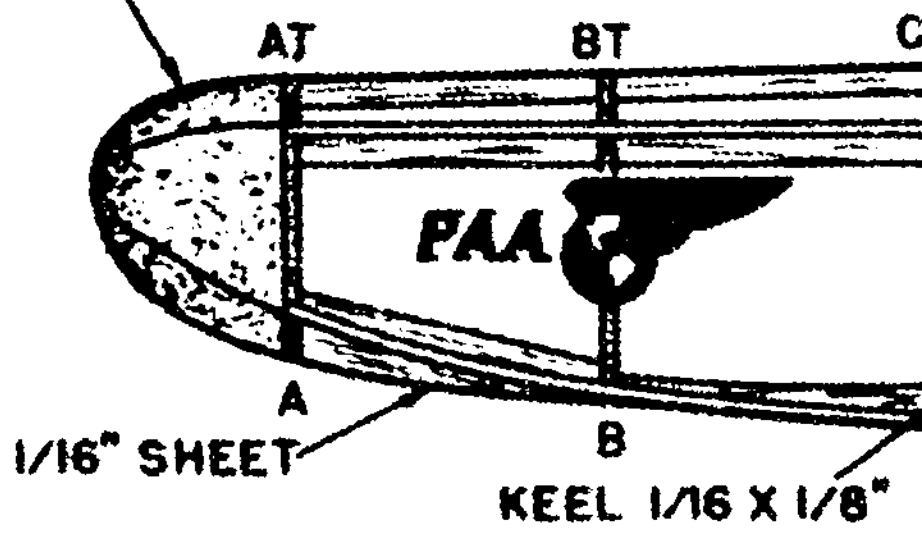
5"D. - 2"P.  
PROPELLER

1/8" SHEET 2 REQ'D.

ATTACH COWL  
TO TANK

SOFT BLOCK  
1 X 1-1/2 X 1-7/8"

SOFT BLOCK  
3/8 X 13/16



1/16" SHEET

KEEL 1/16 X 1/8"

INCHES 0 1 2 3

