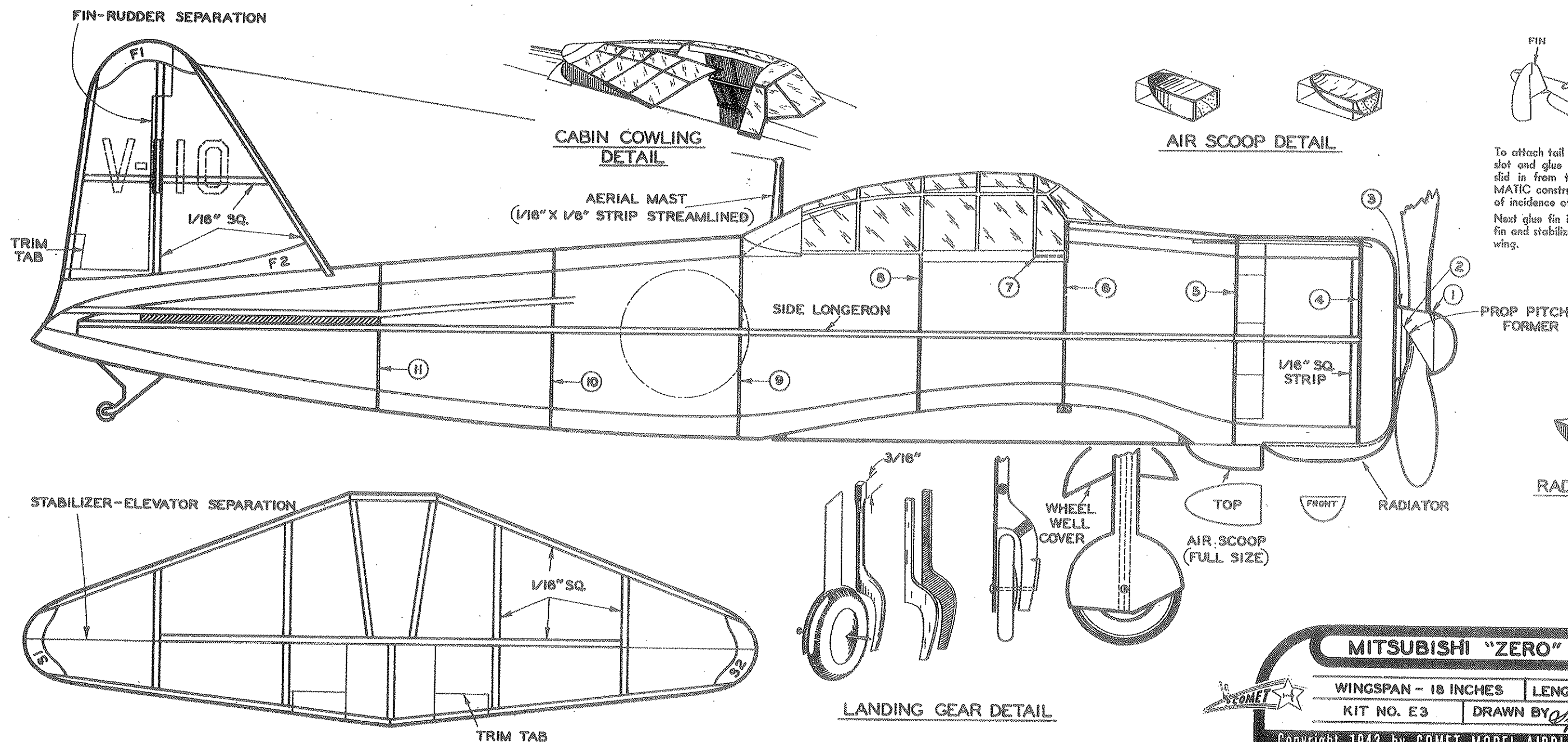
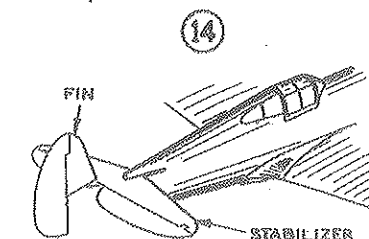
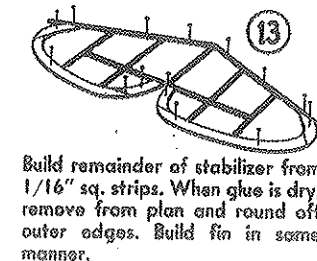
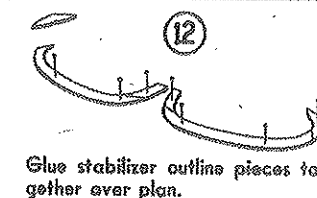
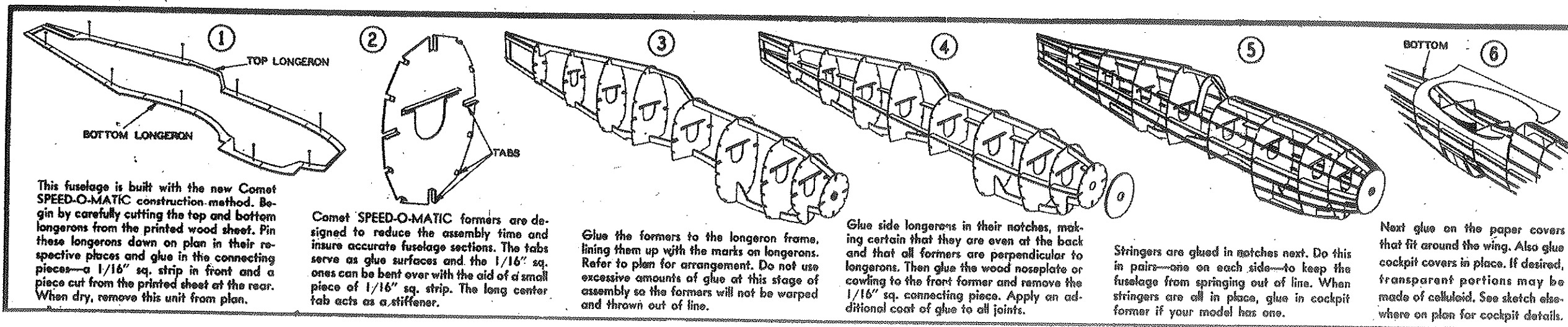




MITSUBISHI "ZERO" TYPE 00

WINGSPAN - 18 INCHES LENGTH 13-1/8 INCHES

KIT NO. E3 DRAWN BY *Sgt. Hiawaki*

Copyright 1943 by COMET MODEL AIRPLANE & SUPPLY CO.

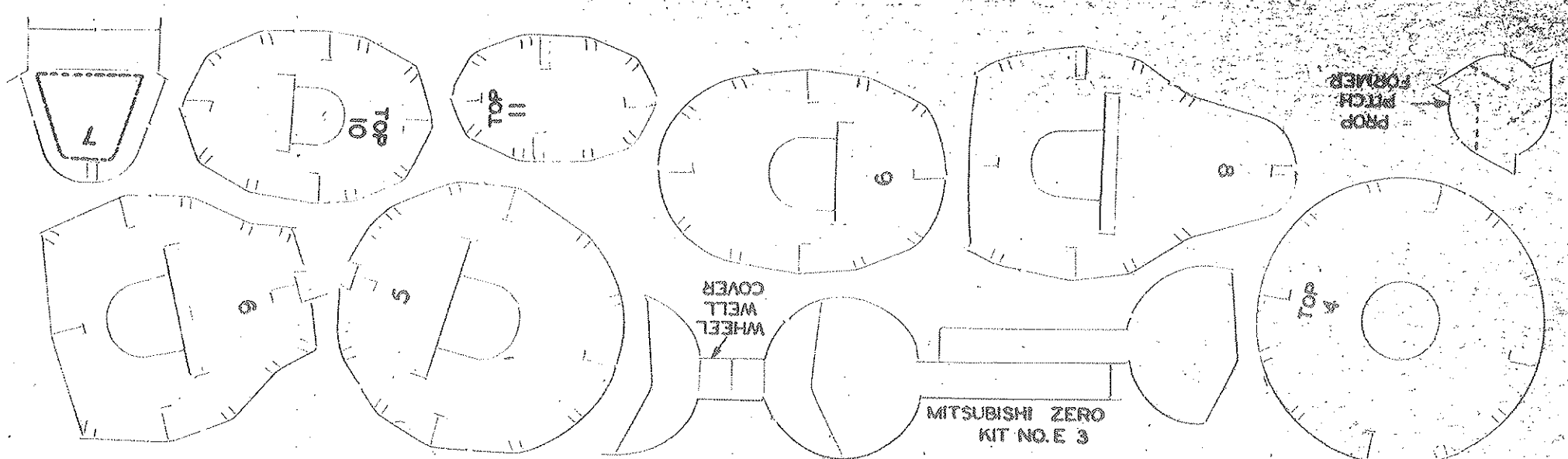
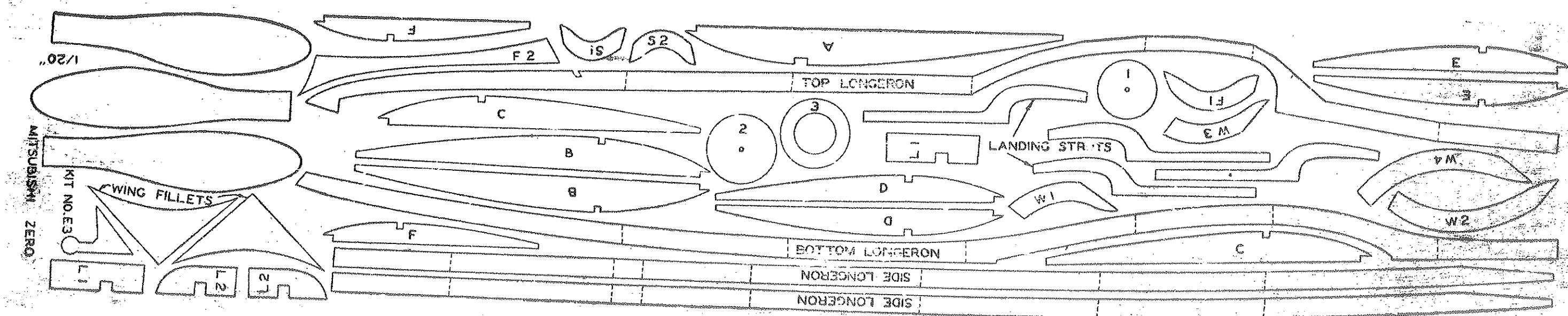


FIG. A FLYING

To insure good flights, the wing and tail surfaces must be without warps. Examine them carefully and if any have developed, straighten these out over heat.

Add clay or small tacks to nose of model until it balances at a point about 1/3 back from leading edge of wing (Fig. A). Glide the model a few times. If it stalls add weight to the nose, or if it dives steeply, remove some of the weight. (Fig. B). Then try power flights.

A lot of fun can be had by whirling the model on a thread. This requires no rubber (Fig. C). Attach thread to a wing tip in line with the balance point of plane. Length of thread can vary, depending on space available.

Take-offs can be made easier by shortening the thread and paying it out when model is in the air. With a little practice you can climb or dive the plane by raising or lowering your hand. Perfect take-offs and landings are fun and educational. Spot landing and stunting contests can be held.

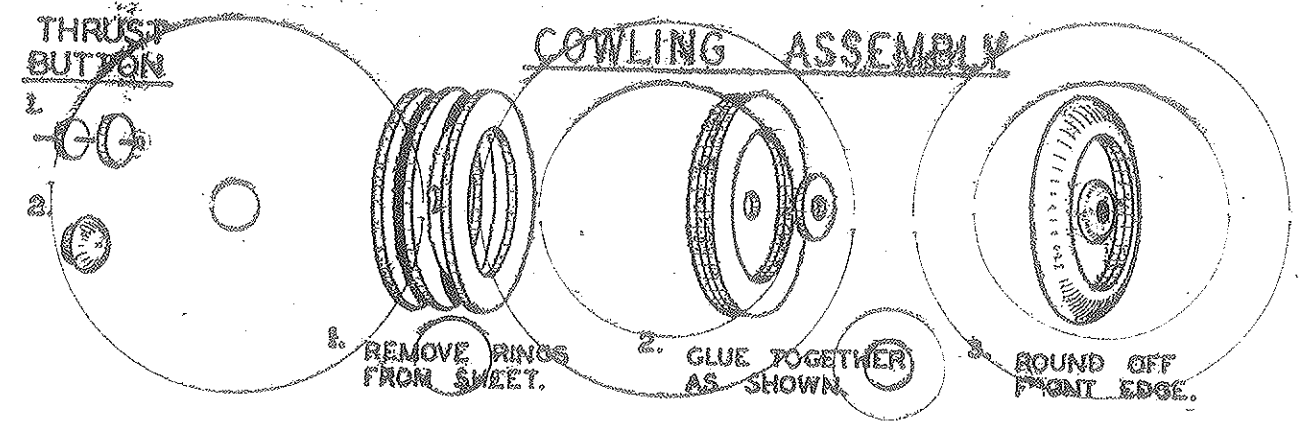
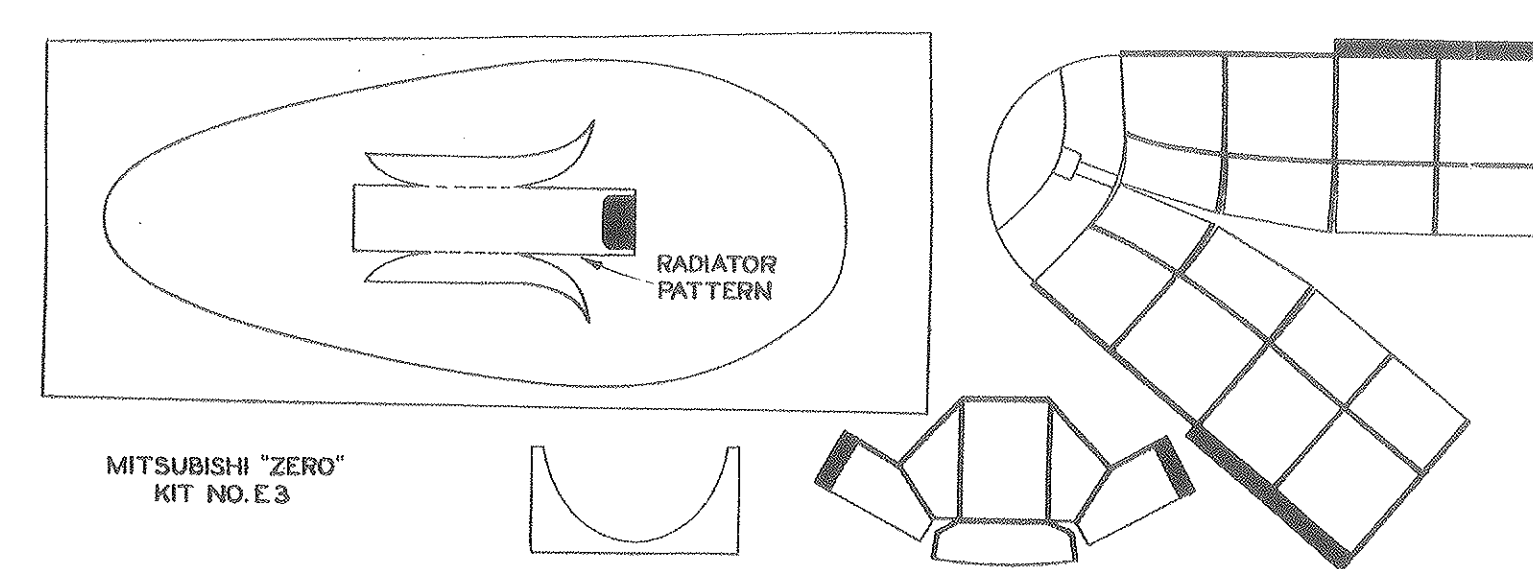
Experiments may also be made by tow-launching the model into the air with a length of thread.

FIG. B STALL

FIG. C CORRECT GLIDE

FIG. D DIVE

FIG. E

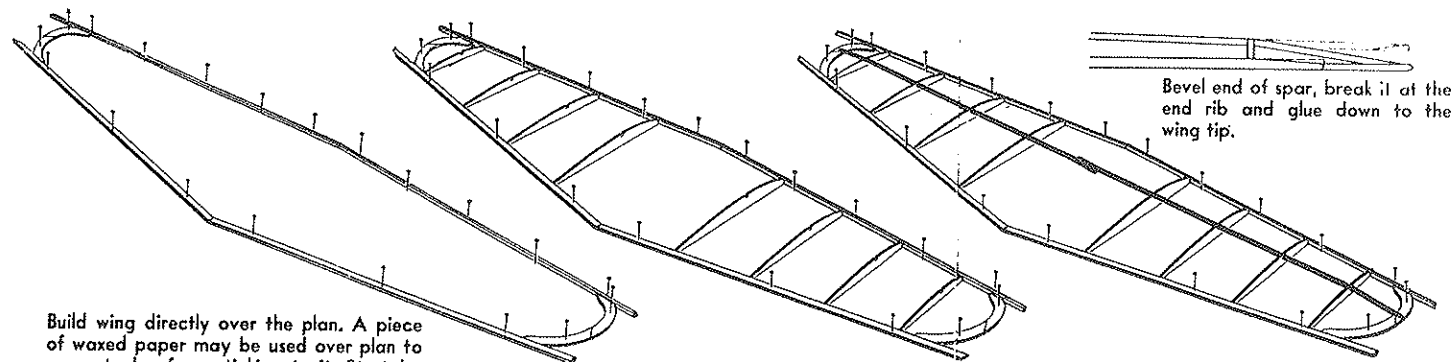


The cowl shown above is printed on heavy cardbord. It was a bear to cut and sand. Naturally today it should be made from bass wood or hard balsa. This piece is identical in both the E-2 Wildcat and E-3 Zero kits.

MITSUBISHI "ZERO" TYPE 00

WINGSPAN - 18 INCHES	LENGTH 13-1/8 INCHES
KIT NO. E3	DRAWN BY <i>Sgt. Thiesmeyer</i>

Copyright 1943 by COMET MODEL AIRPLANE & SUPPLY CO.

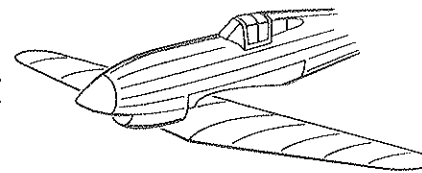


Build wing directly over the plan. A piece of waxed paper may be used over plan to prevent glue from sticking to it. Start by pinning down the leading and trailing edges. Don't glue them together at the center as this will be done when dihedral is built in. Cut out wing tip pieces and glue them in.

Cut out wing ribs carefully, and glue them in place to leading and trailing edges, trimming to fit if necessary. Leave out center rib until dihedral is built in.

Install the top spars, lapping but not gluing them at the center. These are glued when dihedral angle is built into wing. When dry remove framework from plan.

Bevel end of spar, break it at the end rib and glue down to the wing tip.



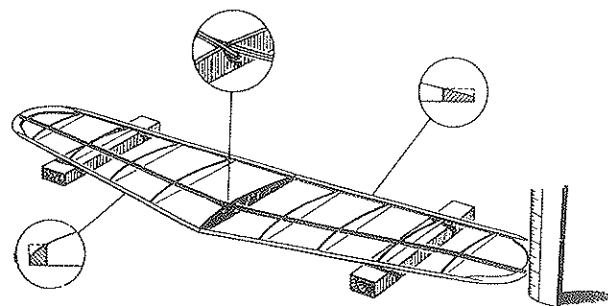
NOTES ON COVERING

Stick tissue to framework using banana liquid or tissue cement. Fibers of tissue should run the length of part being covered. Use narrow strips for covering rounded fuselages and cover between stringers. After all parts of model have been covered, glue them together and spray lightly with water. This shrinks the tissue smooth. A few coats of banana liquid or clear dope may be applied to keep tissue taut.

After wing and fuselage have been covered with tissue, assemble as shown, gluing center rib directly to bottom longeron.

MITSUBISHI "ZERO"

The "Zero" is one of Japan's most popular fighter aircraft. It is light in weight, fast and quite maneuverable. To attain this it has sacrificed ruggedness, armor and self sealing tanks. Power is supplied by a twin-row radial air-cooled engine of 900 H.P. Top speed is about 300 M.P.H.

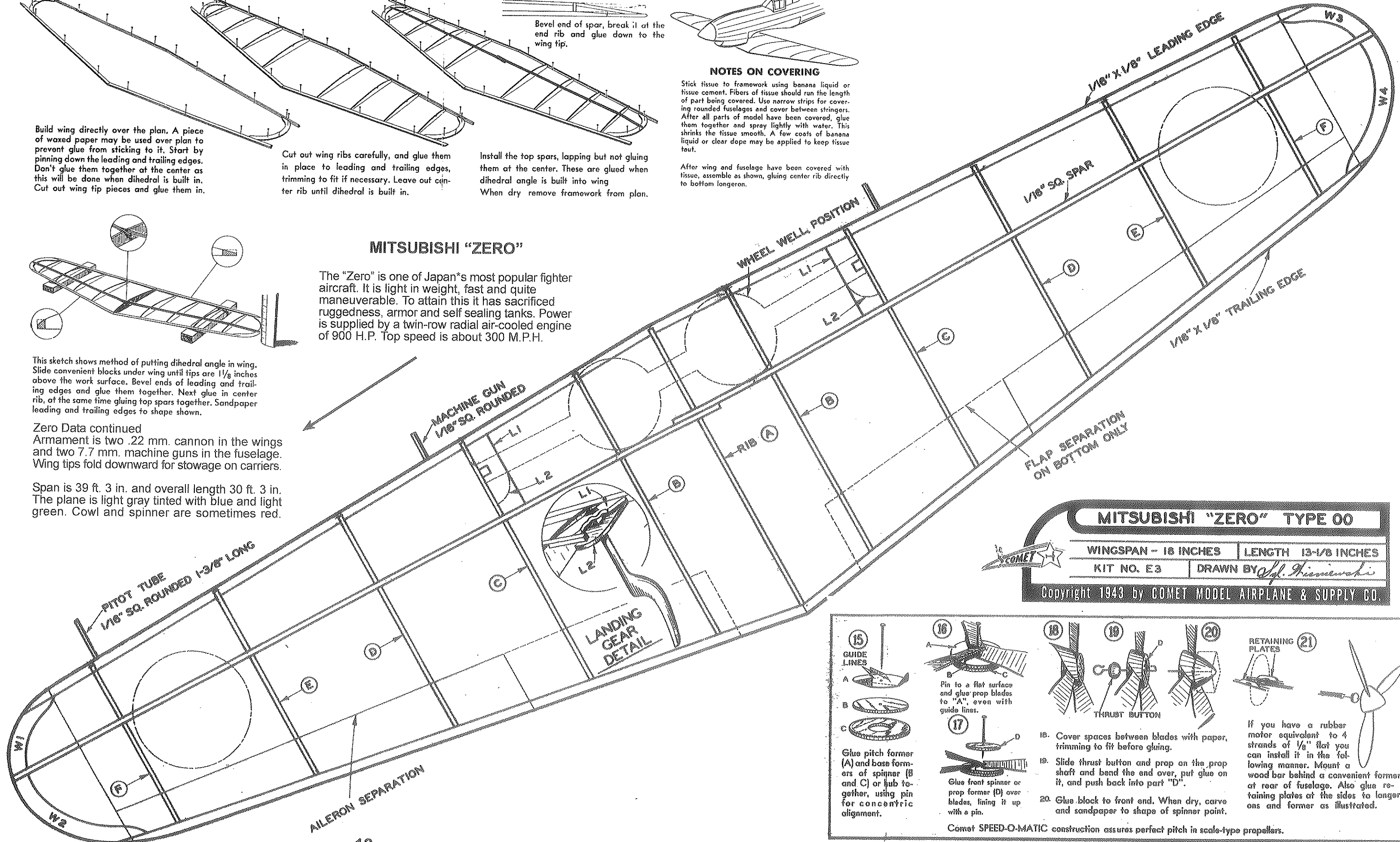


This sketch shows method of putting dihedral angle in wing. Slide convenient blocks under wing until tips are 1 1/8 inches above the work surface. Bevel ends of leading and trailing edges and glue them together. Next glue in center rib, at the same time gluing top spars together. Sandpaper leading and trailing edges to shape shown.

Zero Data continued

Armament is two .22 mm. cannon in the wings and two 7.7 mm. machine guns in the fuselage. Wing tips fold downward for stowage on carriers.

Span is 39 ft. 3 in. and overall length 30 ft. 3 in. The plane is light gray tinted with blue and light green. Cowl and spinner are sometimes red.

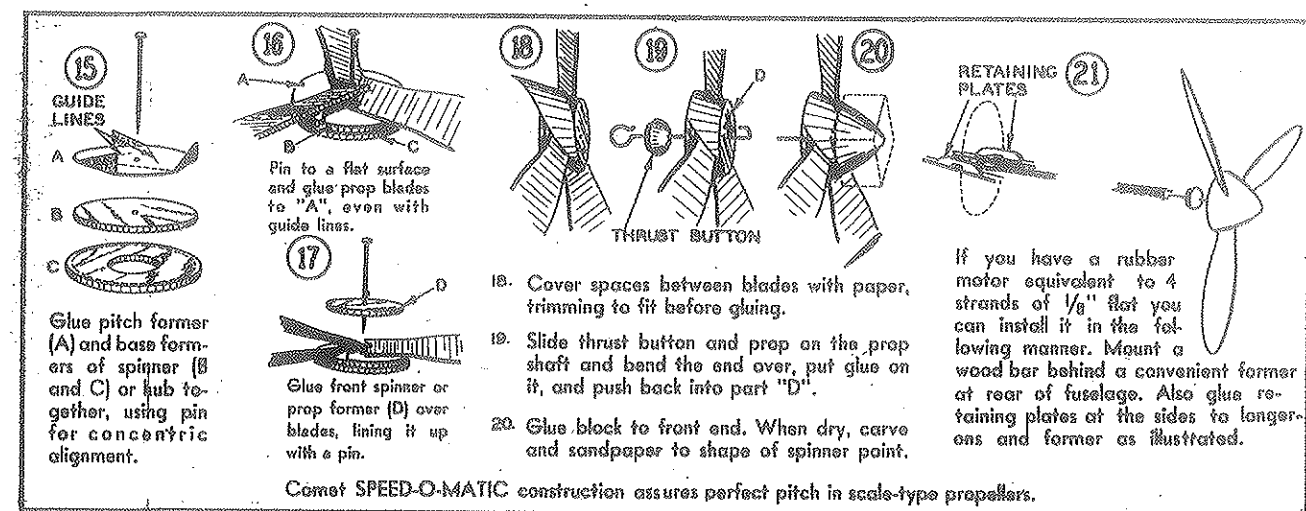


MITSUBISHI "ZERO" TYPE 00

WINGSPAN - 18 INCHES LENGTH 13-1/8 INCHES

KIT NO. E3 DRAWN BY *Inf. Hiramachi*

Copyright 1943 by COMET MODEL AIRPLANE & SUPPLY CO.



If you have a rubber motor equivalent to 4 strands of 1/8" flat you can install it in the following manner. Mount a wood bar behind a convenient former at rear of fuselage. Also glue retaining plates at the sides to longerons and former as illustrated.

Comet SPEED-O-MATIC construction assures perfect pitch in scale-type propellers.

Building the E3 ZERO

Stew Meyers

I bought a Comet E3 kit of the Zero at Geneseo last year for \$10. Sure enough it had pine print wood and stringers and a cardboard cowl in addition to the file card stock "Speed-O-Matic" formers. After putting out the first issue of this series I was inspired to throw together the Zero. I built it per the plans except for substituting balsa for the cardboard and pine.

I made copies of the print wood and formers on balsa by placing a Xerox copy of the print wood or former upside down on the wood and tracing it with a felt tip blender pen filled with acetone.

The fin and stab were built per the plan no changes. Maybe the stab needs to be 10% larger. The wing was also built per the plan except for a 1/8th sq leading edge. I used thin alphatic glue on the wing and tail. The wings were joined with ambroid, rib A added and the dihedral set. Gussets were added between rib A and the LE and TE and a 1/8 by 1/16th balsa reinforcement is added behind the LE in the bay that supports the wing guns. I goofed and added more dihedral than I meant to, the plans show 1-1/8" per panel, I read this as 1-7/8. 1-1/2 would be about right.

The photos show how I modified the formers. The first step was to notch the longerons (keels) 1/16th wide and 1/16th deep on the inside at the former locations defined by the dotted lines. Symmetry allows one to accurately determine the center line of the formers while the other notch positions may not be correct. So the formers were notched 1/16 wide and 1/8th deep on the top and bottom only. The first former #4 is notched 3/16th deep and the longeron is not notched at this position.

The upper and lower longerons were glued together at the rear. The formers now were slid into place on the upper and lower keels. Don't glue it! Friction will hold it. The side longerons are slid in place roughly where they are shown on the formers. There are no notches in them yet. After aligning things by eyeball mark the formers where the side longerons line up. Take it all apart and notch the formers 1/8th deep on the marks. Reassemble it to check the notches, and then take it apart again.

Now add the 1/16th sq braces to the formers and cut the holes for rubber clearance and lightening. Since former # 5 is nearly round and up where rubber clearance is critical, a large ellipse is cut out and a hoop of .007x.063 carbon fiber glued inside with cyano. Carefully sand the edges smooth, exposed carbon fiber can act as a knife on rubber. Former 4 is left whole.

Now reassemble everything and hit it with cyano except for the bottom of formers 6 and 8. I cut the bottom longeron just ahead of the wing and jogged it up 3/32" to provide wing incidence. The bottom notches in formers 6&8 were deepened to accommodate this.

You can now mark the stringer positions notch them and add the stringers. I filled in between the stingers between formers 4 and 5 with 1/16th balsa. On the top where the cowl guns go, I used 3/16th sheet.

I drilled a 1/16th hole in a hard wood block and

glued in a length of 1/16 OD brass tubing with 3/32" extending above the surface. I then punch a 1/16th dia hole in a piece of 1/16th balsa and place it over the tubing on the block. Now I have a bearing for the OLFA circle cutter in the balsa. I cut five disks of 1-15/16" dia. I then set circle cutter to 1-1/2" dia. and cut the centers out of four of the disks to make rings. I assembled these into the cowl with white glue alternating the grain.

You could glue 1/2" dia 1/64th ply disks cut with the circle cutter on either side of the rear disk aligning the 1/16th dia hole. Then mount it on a Dremel mandrel and stick it in a drill press to turn the radius of the cowl. I just glued the cowl on the front of former 4 and sanded it by eye ball.

The kit features a paper oil cooler chin radiator, I replaced this with hard balsa as gear up landings take it on the chin.

The 1/64th ply facing disk has the square hole for the nose block cut into it before it is glued to the rear of the cowl. Fit up the square 1/4" basswood block to it by sanding until you have a tight fit. When the ply facing is glued to the cowl it provides a template to cut the rubber clearance hole in the back of the cowl and former 4. Check the fit of the basswood block in the rubber clearance hole which is now over 1/8 thick and when hardened with cyano will assure a snug fit.

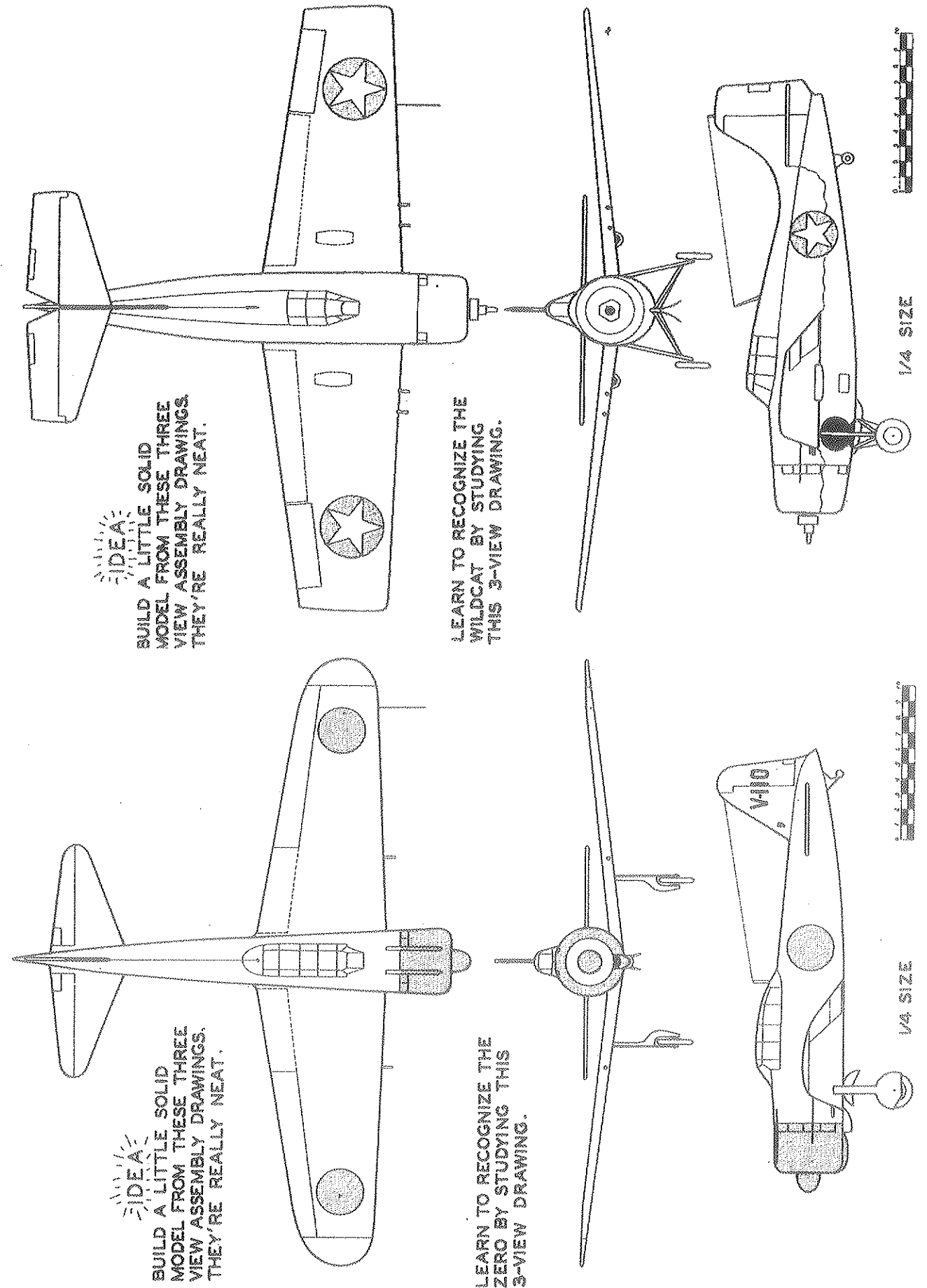
You can now assemble the nose block by glueing the square block and thrust button support ring to the 1/16th ply disk. Of course you need a "S" hook and clutch.

The paper canopy fit well, but I don't like the opaque look of it. I copied the canopy pattern to a transparency (viewgraph) film. Now the structure of the longerons and thick formers showed up and offended me. I laminated the top of formers 7 and 8 from three layers of 0.020 x 0.063 basswood. Now these 1/16th square hoops are a lot less offensive. To locate former 7, I notched the out side of the top longeron, slid the hoop in place and glued the bottom to the stringers with gussets. I then cut the upper longeron off from the front of the canopy location to the back. I then cut down former 8 to form a low deck and added the hoop. A piece of vellum is used in this area. It would have been easier to modify former 8 before the final assembly if I had known I was going to do it.

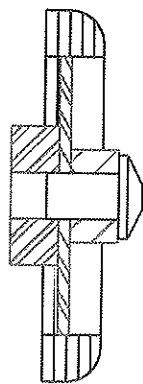
It turns out the balsa wing fillets don't fit but are easy to trim to shape. You really need to make a paper fairing to blend this to the fuselage.

The side longerons end just ahead of the juncture of the upper and lower vertical longerons. This so confused me as a kid that I tried to glue them in 3/8" rearward. If you extend the rear end of the side longerons a bit they will over lap the vertical longerons just as the rest of E-series do. Just sand them each 1/32 aft of the printed length to provide a 1/16 notch to fit the vertical longerons.

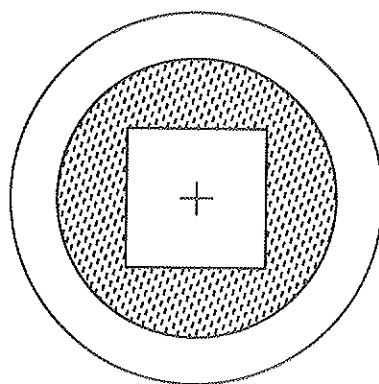
I haven't applied color to the model yet but the all up airframe weight is 22 grams and it balances on the spar with a 6" peck prop. Let's say 24 grams complete. 8 grams of rubber will give 25% power. Four strands of 3/32 rubber 30 inches long will do the job. That's good for over 2000 turns. It will fly a damn site better than the one I built in 1945.



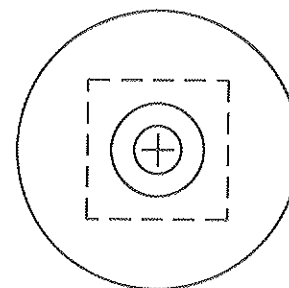
COWL AND NOSE BLOCK ARRANGEMENT FOR COMET ZERO



Cross section of cowl with nose block and thrust button



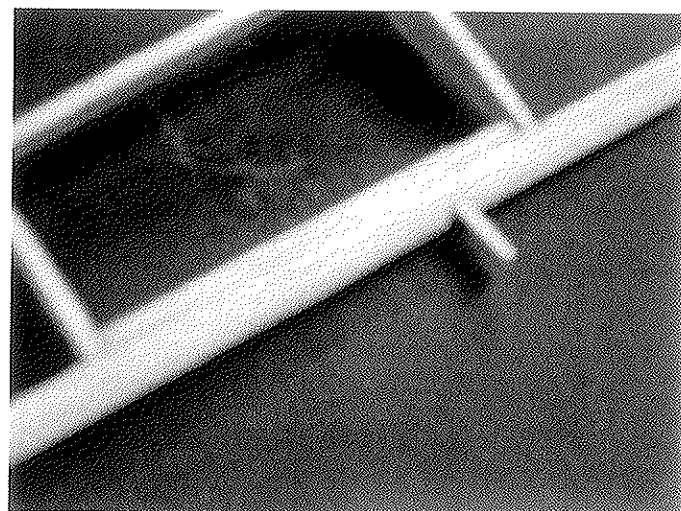
Cowl with out nose block showing hole in 1/64 ply for nose block



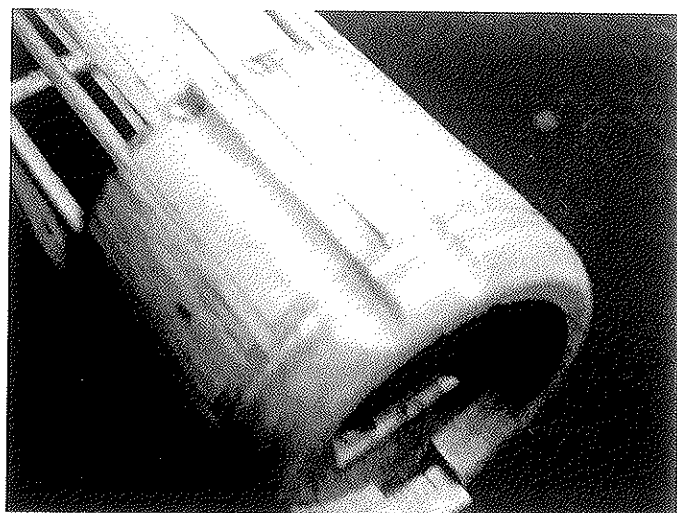
Nose block without thrust button made from 1/16 plywood and 1/4" basswood. Hole for thrust button is 1/4"



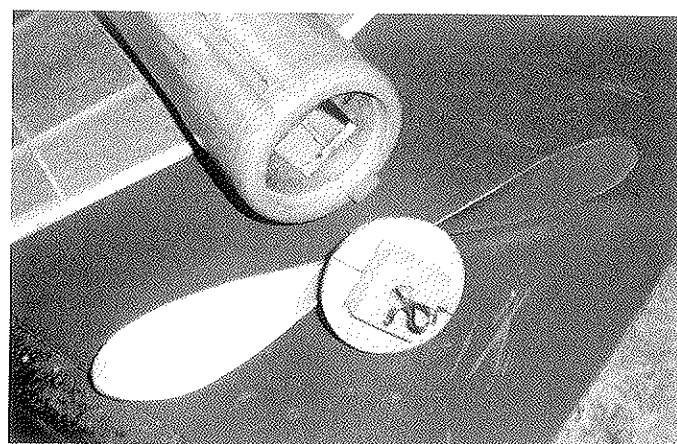
HARD BALSA AIR SCOOP



WING GUN SUPPORT



COWL GUN TROUGHS



WORKING END OF NOSE BLOCK
NOTE THE REVERSE "S" HOOK