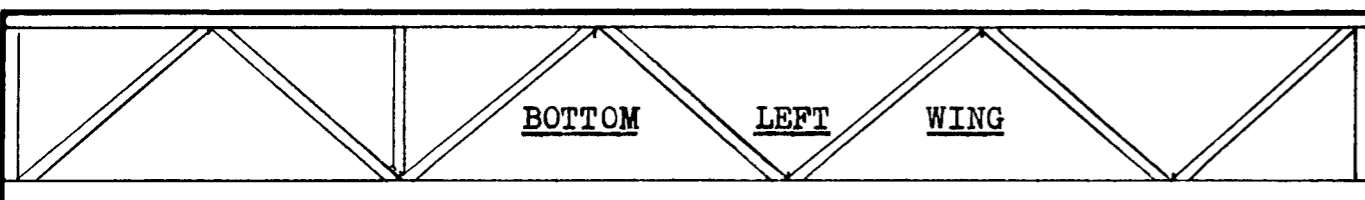
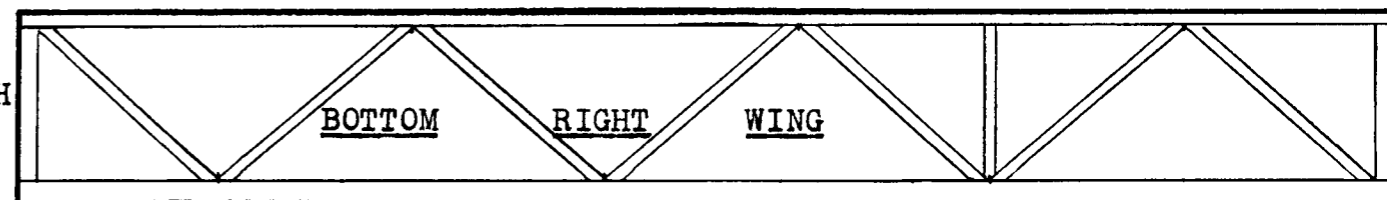


TOP WING



BOTTOM LEFT WING

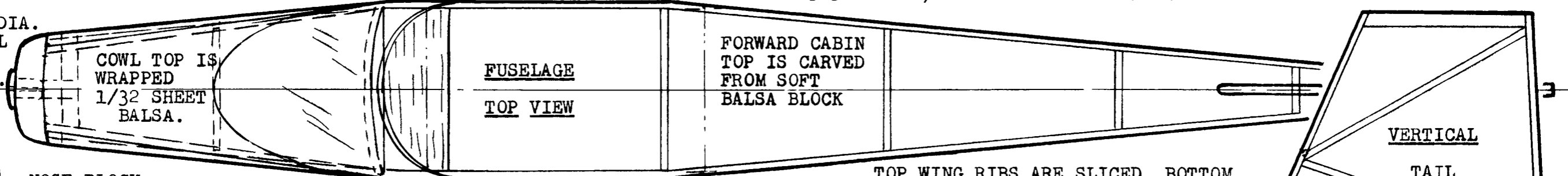
ONE INCH OF DIHEDRAL IS USED UNDER EACH WINGTIP.



BOTTOM RIGHT WING

WING LEADING AND TRAILING EDGES ARE 1/16 BY 1/8. ROOT AND TIP RIBS ARE CUT FROM 3/32 SHEET, OTHER RIBS FROM 1/16. SAND L.E. AND T.E. TO AIRFOIL SHAPE.

USE A 6" DIA. COMMERCIAL PLASTIC PROPELLER & PLASTIC THRUST BUTTON.



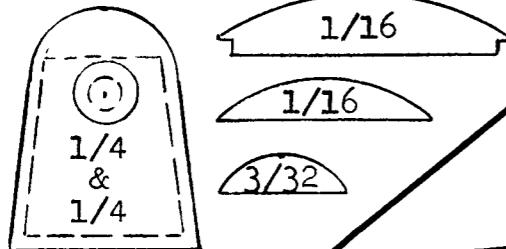
COWL TOP IS WRAPPED 1/32 SHEET Balsa.

FUSELAGE TOP VIEW

FORWARD CABIN TOP IS CARVED FROM SOFT Balsa BLOCK

VERTICAL TAIL

NOSE BLOCK



TOP WING RIBS ARE SLICED, BOTTOM DIAGONALS ARE 1/16TH SQUARE.

BOTTOM WING RIBS

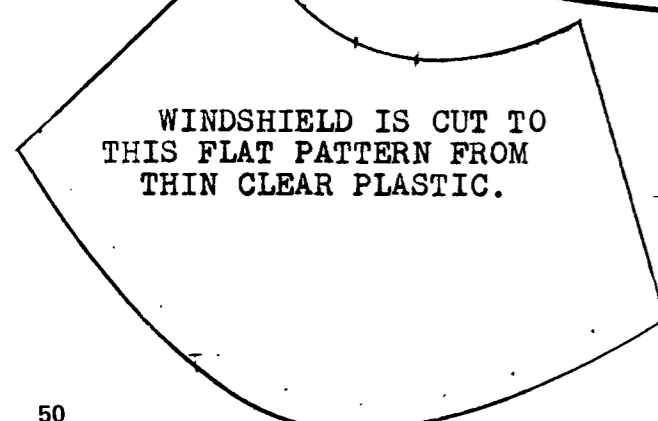
FUSELAGE SIDE FRAMES ARE BUILT DIRECTLY OVER THE PLAN. LONGERONS AND MOST UPRIGHTS AND CROSS-PIECES ARE 1/16 SQUARE. OTHERS ARE 1/16 THICK BY WIDTH SHOWN ON THE PLAN.

1/16 DIAMETER ALUMINUM TUBE REAR MOTOR PEG

1/16 SHEET Balsa COWL SIDES.

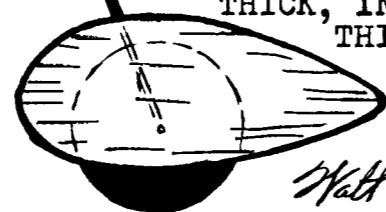
FUSELAGE SIDE VIEW

BOSTONIAN WEST RULES:
 MAX TOTAL WING CHORD ---3 INCHES
 MAX SPAN---16 INCHES, MAX PROPELLER DIA. 6 INCHES.
 FUSELAGE BOX --1 1/2 X 2 1/2 X 3 INCHES. WEIGHT 14gm
 ALL TAIL PARTS ARE 1/16 THICK BY DIMENSION DRAWN



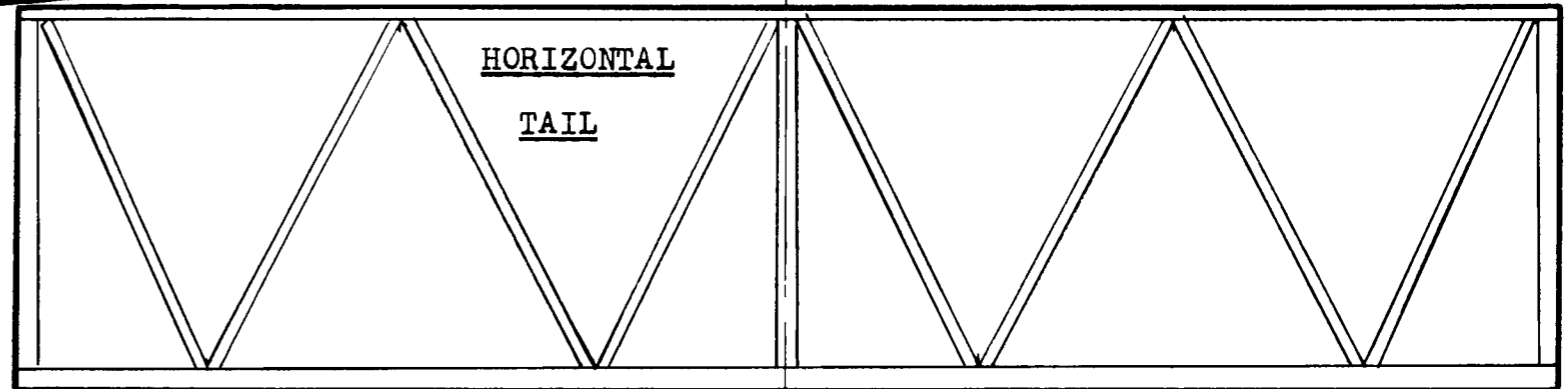
WINDSHIELD IS CUT TO THIS FLAT PATTERN FROM THIN CLEAR PLASTIC.

WHEEL PANTS ARE MADE FROM 3 PARTS. OUTER PIECES ARE 1/16 THICK, INNER PIECE IS THICK ENOUGH TO GIVE WHEEL CLEARANCE.



Walt Mooney 10-30-83

NIEUPORT-BEECH BOSTONIAN



HORIZONTAL TAIL

NIEUPOORT-BEECH BOSTONIAN



By WALT MOONEY . . . Perfesser Peanut ponders the possibilities of poly-winged Bostonians for publication and profit . . . the result is this tissue-covered biplane with backwards fin! Have fun!

• This model was unnamed until after several people had seen it fly up at the Mile Square flying site in the Los Angeles area. I don't know who came up with the name but the consensus was that it looked a little like a Nieuport and a little like a Beech, hence the name.

The model has been flown both indoors and out and does well in either arena. However, if your indoor site is the typical high school basketball court gymnasium, a drag flap of about half a square inch of area is advised under the tip of the top wing that you want it to turn toward. Indoors a loop of 3/16 rubber twice as long as the motor has worked. Outdoors it was flown with a loop of 1/4 rubber twice as long as the motor base, and it proved to be a spectacular climber. Flight times outdoors of over a minute are usual, and a half dozen flights have exceeded two and a half minutes (these were thermal enhanced of course).

The required fuselage box for Bostonian is 1-1/2 by 2-1/2 by 3 inches. In this model it was placed with the long dimension vertical because a large gap between the wings was thought desirable.

The first vertical tail designed turned out to be too small, so a larger one was designed and proves to be just right. (I note that I installed the new vertical on my model backwards so that the trailing edge is where the leading edge was meant to be. As a result, the tip slants . . . I would like it better the way it is drawn, but its flying characteristics won't

change, and it is cemented on securely so. . .

The center of gravity is shown on the side view, (the little black and white circle between the struts). The model required some modeling clay ballast at the tail to achieve this position when flying indoors because of the lighter motor, but no ballast was required when flying outdoors because of the heavier motor.

Diagonal rib structure was used for the flying surfaces to eliminate the tendency for warps to develop and has worked quite well. Except for this structural characteristic, the model follows very standard construction methods.

The tail surfaces are one-sixteenths of an inch thick and are built directly over the plan. When they are dry, remove them from the plan and sand the leading and trailing edges half round. Cover both sides of the tail surfaces with Japanese tissue.



Without drag flaps for tight turns in flight, the Nieuport-Beech will really take off!

The tip ribs and the root ribs of the wings are shown on the side view of the fuselage. Cut these from firm 3/32 sheet balsa.

The bottom wings each require seven diagonal ribs of 1/16 sheet balsa which are cut to match the pattern shown just forward of the vertical tail. They also require one straight rib out from the same stock.

Pin the leading and trailing edges to the plan and cement the straight ribs in place. Then, carefully trim the front and back of the diagonal ribs to install them between the leading and trailing edges. Make sure the edges remain parallel while the diagonal ribs are being fitted and cemented in place. When the wings are dry, remove them from the plan and shape the leading and trailing edges to match the airfoil shown on the side view. 320 sandpaper is ideal for this task. Use a sanding block to support the sandpaper.

The top wings are constructed a little differently from the bottom wings. I use the sliced rib technique, and all the sliced upper rib caps are glued in straight ahead. There are 1/16 square bottom caps which are also straight ahead beneath all the top caps. In addition, 1/16 square diagonals are used between the leading and trailing edges of adjacent ribs. Also the top wing has a 1/16 by 1/8 spar.

Pin the wing leading and trailing edges down on the plan and cement the root and tip ribs in place. Then add all

the straight and diagonal bottom caps cementing them to the edges. Now thread the spar through the root and tip ribs from one end to the other. (Hope you didn't forget to cut the hole for the spar in the root and tip ribs.)

Now cement all the sliced top caps in place. When the wing is dry, remove it from the plan, and sand the leading and trailing edge to the correct contour. Cut the wing just on the outside of the root ribs and carefully trim the free ends of the leading and trailing edges and the spar so that the wings can be cemented together again with the tips one inch higher than the center section to obtain the proper dihedral angle.

Cover both sides of the wings with Japanese tissue.

The fuselage is a standard box structure where both sides of the frame are assembled directly over the plans and then removed and separated for the installation of the cross members. Add the formers and sheet the top of the cowl. Fill in the first inch and a half of the bottom of the fuselage with 1/16 sheet similarly to the way the sides are made.

The nose block is made from two pieces of 1/4-inch sheet balsa. The back piece is made to fit snugly in the nose of the fuselage frame and the forward piece is sanded to match the external contour of the nose. The nose block is removable so that the rubber motor can be stretched for winding. Use a commercially available six-inch diameter propeller and a plastic thrust button.

Bend the wire landing gear wire and install it in the fuselage. Wheel pants are not required, but they look good and might even lower the wheel drag a little.

Cover the fuselage with Japanese tissue. Water shrink all the tissue covering. I'm using an old "Easy-off" oven cleaner pump sprayer to rain a light fog of water onto my tissue. This sprayer is adjustable. (Volunteer to clean your mother's oven if she'll let you keep the used sprayer, and you'll make points . . . unless, of course, your mother is insulted because she's a perfect housekeeper.)

Set the top wing temporarily in place, and carve the cabin top to fit.

Now give everything a light coat of dope. Give the fuselage one more coat than the rest of the airplane.

Make the V struts out of hard balsa sticks or out of model railroad basswood. They should be sanded to a streamlined cross-section.

Cement the top wing in place on the fuselage. Cement the cabin top in place at the front of the wing. Now, cut the windshield out of thin plastic to the pattern shown, and cement it in place. Add the side windows. Cement the vertical tail in place on the top of the fuselage. Cement the V struts to the top wing at the third rib in counting the tip rib as one.

Cement the bottom wings in place on the sides of the fuselage and to the struts. Slit the fuselage tissue where the horizontal tail penetrates it and insert the tail. Cement only the trailing edge of the tail to the fuselage structure at this time so that the leading edge can be moved up or down for flight adjustments.

Install a motor and start the test flight program.

Continued on page 82

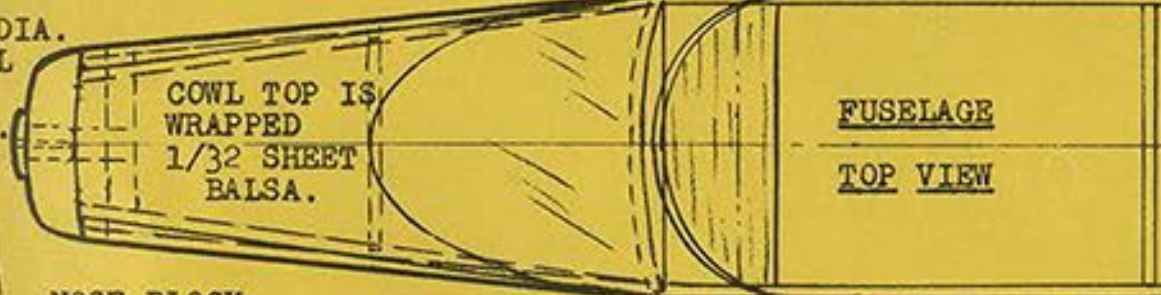


ONE INCH OF DIHEDRAL IS USED UNDER EACH WINGTIP.

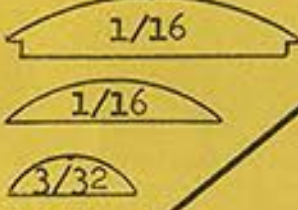
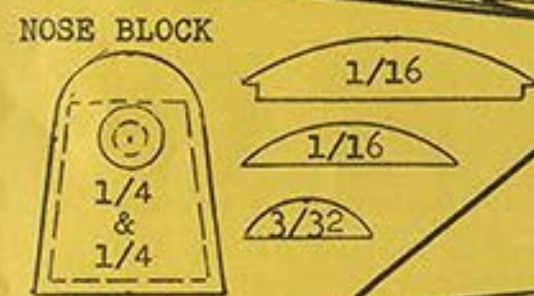


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USE A 6" DIA. COMMERCIAL PLASTIC PROPELLER & PLASTIC THRUST BUTTON.



FORWARD CABIN TOP IS CARVED FROM SOFT Balsa BLOCK



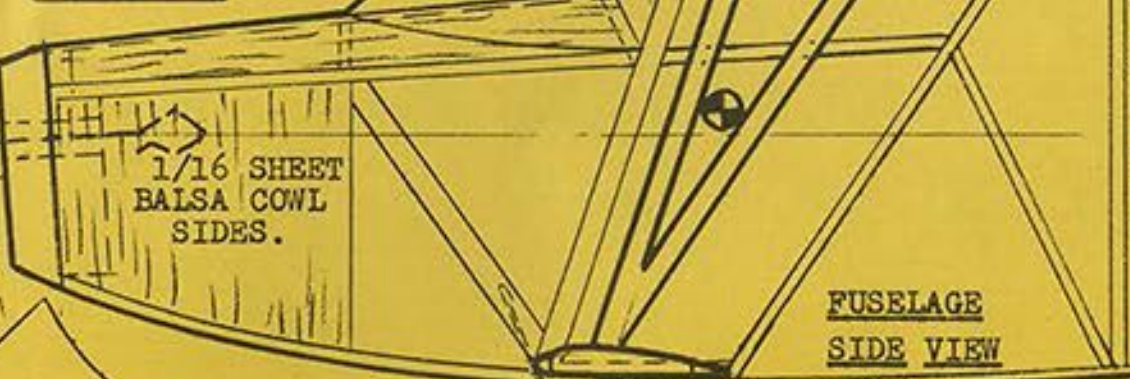
HARD Balsa "v" STRUT

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TOP WING RIBS ARE SLICED, BOTTOM DIAGONALS ARE 1/16TH SQUARE.

BOTTOM WING RIBS

1/16 DIAMETER ALUMINUM TUBE REAR MOTOR PEG



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Walt Moorey 10-30-83

NIEUPORT - BEECH BOSTONIAN

