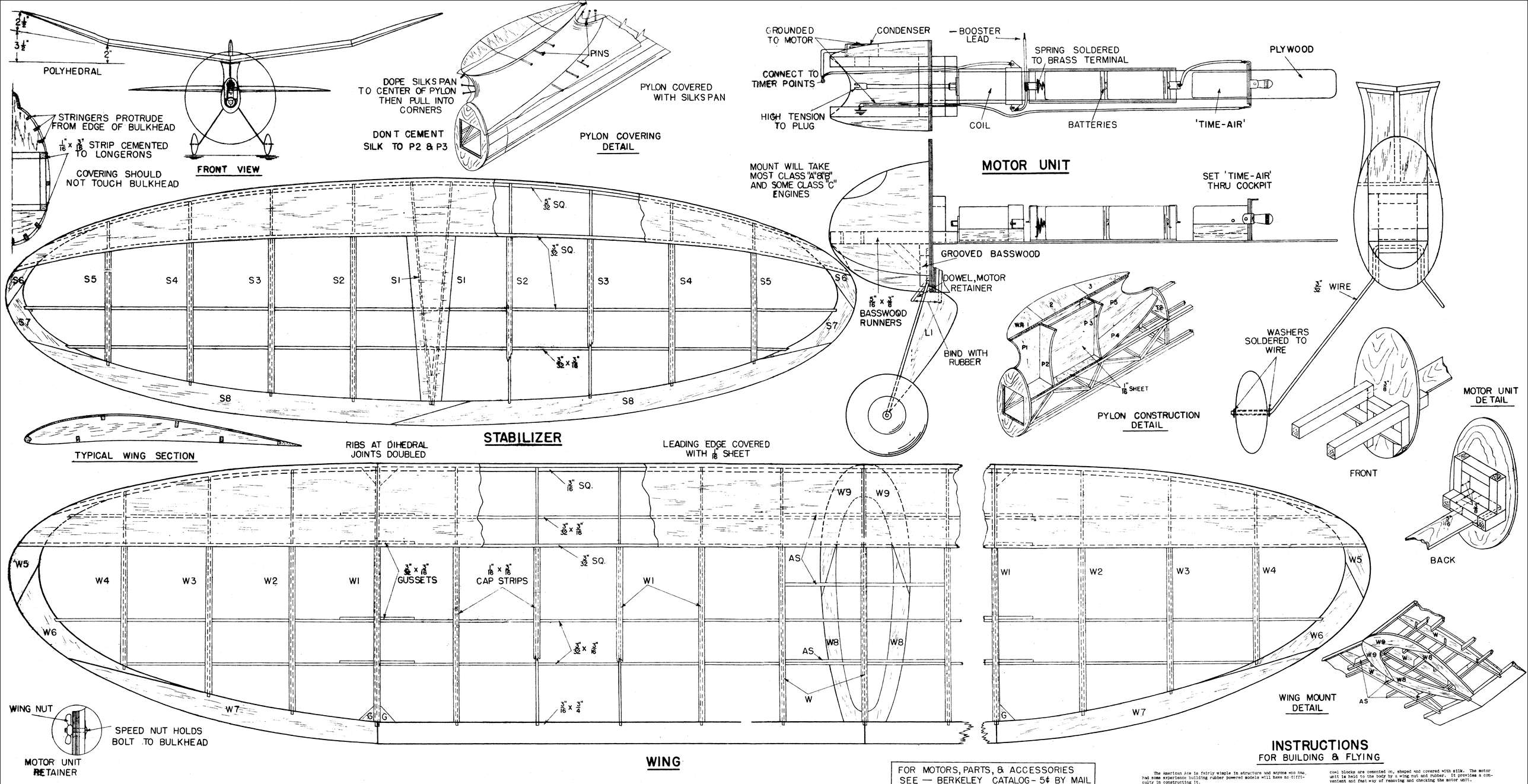

FOR MOTORS, PARTS, & ACCESSORIES SEE — BERKELEY CATALOG - 5¢ BY MAIL

INSTRUCTIONS
FOR BUILDING & FLYING

The American Ace is fairly simple in structure and anyone who has had some experience building rubber powered models will have no difficulty in constructing it.

Before beginning the actual work, study the plans to obtain a general idea of the construction. Any difficulties that might appear clear themselves as work progresses.

Few and simple tools are necessary for building the model. A flat board approximately 3 feet long and 9 inches wide will substitute very nicely for a work-bench. The tools you will need are a small coping saw, tack hammer, hand drill, soldering iron, knife, razor blade and sandpaper.

FUSELAGE.

The fuselage is built up around an inner frame of 3/16" square balsa. Build both sides at the same time, one atop the other, to assure their being alike. When the sides have been removed from the plan, glue the ends of the longerons together and install B-10 and the crosspieces. Cut the bulkheads from the printed sheets and glue in the proper positions. The first step in building the pylon is to glue in the 1/16" sheet floor. P1, P2, P3, P4 and P5 are added in their respective order and 1/16" sheet is added between P2 and P3. Cement the top pieces WR1, 2 and 3 together before adding them to the pylon. Attach the side, top and bottom stringers, and build the headrest on the bulkheads. Add the plywood bulkhead to the nose and fill the first section in with 1/16" sheet. Cement R in its indicated place with the silk toward the [illegible] as this will hold the battery tract. The cockpit is covered with 1/16" sheet balsa. Cement firmly in place the pegs for attaching the wing, tail and motor unit. The tail skid is bent and cemented to the underpart and, if necessary, bound with thread. Cement some balsa strips on the body where the elevator rests to fit the curvature of the airfoil. Carefully sand the framework readying it for covering.

MOTOR UNIT.

Using a coping saw, cut out the plywood bulkhead and the balsa for the motor bearers. Put the motor bearers in and then add the back pieces making sure that it will fit in the body. Grooved basswood is used to hold the landing gear to the bulkhead. The battery tract is cemented flush with the bottom of the motor bearers and bound to them with thread. The coil and timeair are mounted by cementing them to a block that has been recessed to fit them. These may either be cemented or lashed to the tract with rubber. The timeair is prepared for [illegible] by reaching through the cockpit and drawing the lever.

When mounting the motor, drill one hole, put motor in and drill remaining holes seeing that the motor is straight. The nuts may be soldered to a brass plate for ease of installation and removal of the motor. Drill holes in the bulkhead through which the wires must go. The cowl blocks are cemented on, shaped and covered with silk. The motor unit is held to the body by a wing nut and rubber. It provides a convenient and fast way of removing and checking the motor unit.

WING AND TAIL.

As the wing and tail are constructed in a similar manner, they are described together. Cement the curved tip sections together and shape to a triangular cross section using a knife and sandpaper. Notch them and the straight pieces to receive the ribs. Pin the trailing and leading edges down and put in the ribs. When dry, glue the frames together at the correct dihedral angles. Reinforce the joints with gussets and add the spars.

COVERING.

The center section of the wing up to two sections on each side is covered with silk, the remaining parts with silkspan. The pylon is also covered with silk so that it may assume a graceful and natural contour. Wet the silk and lay it in place. Pull the silk vertically between P2 and P3 on the pylon and dope in place. Pins may be used to hold the silk in place while the dope is drying. Now pull the silk into the corners and again dope and pin it into place. When the silk and wood have dried, apply several more coats of dope to the edges of the silk to prevent it from springing loose.

Do not let the silk touch any of the formers inside the pylon or the natural contour will be spoiled. The body should be covered in parts. The side, top halves and bottom halves are all done separately. The wing is covered from rib to rib working from the center out. The bottom is covered first, the paper being doped to each rib. If the paper springs loose, reach in through the top and redope. The top is then covered and the entire wing sprayed with water. Give the body, wing and tail several coats of dope to protect it from the exhaust gas and oil.

ADJUSTMENT AND FLYING.

Attach the wing and tail to the body with about eight strands of 1/4" rubber. The model now should balance at about 4-1/2 inches from the front of the pylon. Glide the ship several times and adjust the rudder for a gradual right circle. Do not open the motor full throttle the first few flights. Set the timeair for 10 seconds on the first flight. The model may be adjusted for a good glide by changing the stabilizer settings. If the ship stalls or washes, decrease the negative angle of the stabilizer, if it glides steeply, increase the negative angle. The model when fully adjusted, spirals upward in right circles and when the motor stops, without losing any altitude and continuing to the right, it goes into its slow and extraordinarily flat glide. With a 20 second motor run, you can expect consistent flights of well over two minutes without the help of the thermals, but when there are thermals lurking about and you aren't in the mood to watch your ship fly away - be careful!

KEY

PRINTED PARTS AND SHEET COVERING

END GRAIN

EXTRA COATS OF CEMENT

"AMERICAN ACE"

DESIGNED BY *Henry Struck*

WING AREA ..... 432 SQ. IN.

A.M.A. MIN. WT. ..... 24 OZ. WITH MOTORS UPTO .30 CU. IN.

WING LOADING ..... 8 OZ. PER. SQ. FT.

POWER PLANT ..... ANY MOTOR BETWEEN .19 & .49 CU. IN.

BERKELEY MODELS, INC.
230 STEUBEN ST. BROOKLYN, N.Y.

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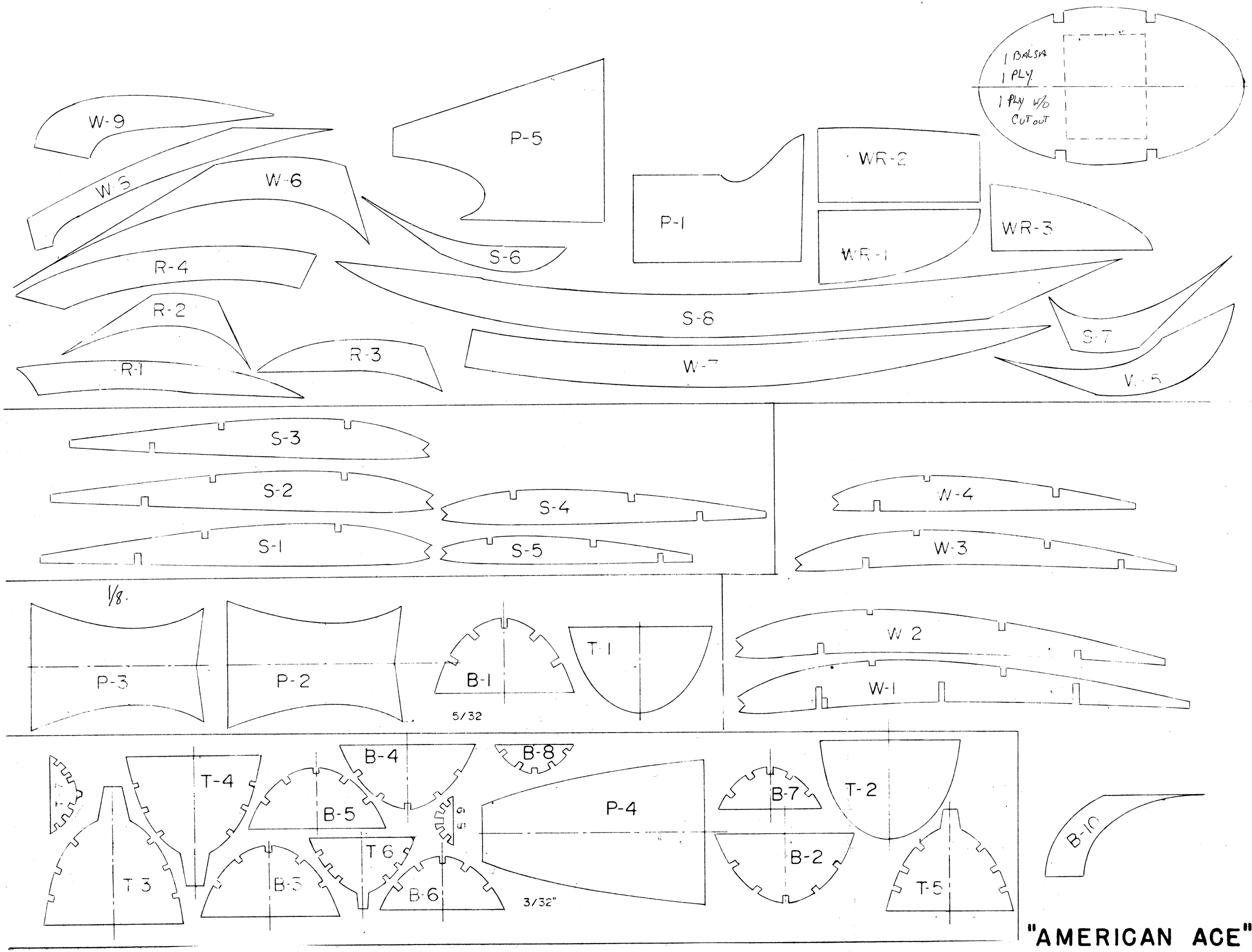

"AMERICAN ACE"