THE GREAT LAKES

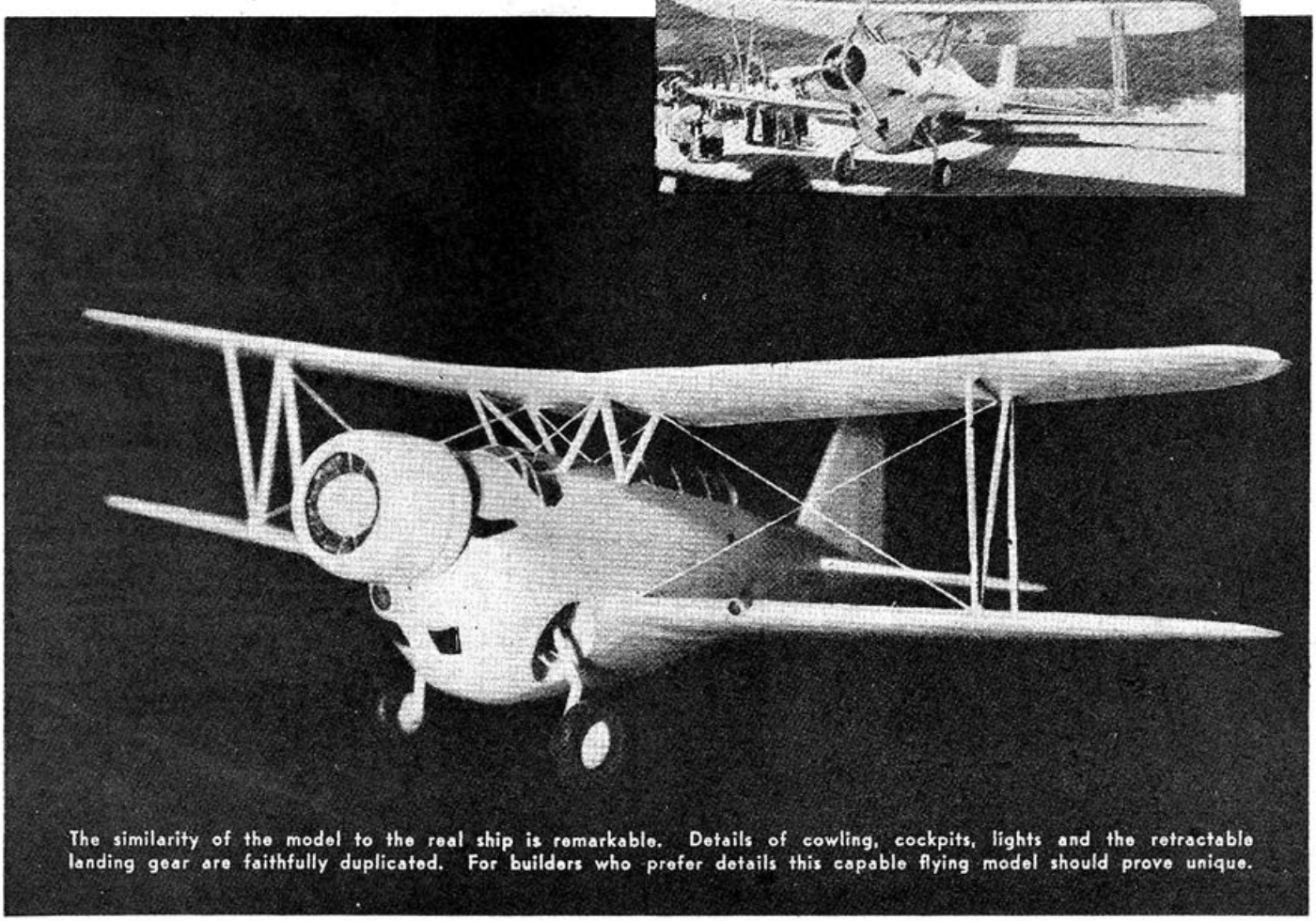
Detailed plans for duplicating a powerful naval bombing plane.

by ALAN D. BOOTON

In this magnified flight shot the model looks just as ominous as the real ship. Stability is inherent in its design.

THE XTBG-1 is an experimental torpedo bomber with features in many respects like those of a fighter. A crew of three man the two hundred-mile-per-hour craft. The unique bomber's "office" just behind the twin-row radial engine includes windows from which the bomber can see below. Other features are the inclosed torpedo-bomb bay that holds a two-thousand-pound lethal load, and the retractable landing gear.

The external appearance of the real ship is faithfully reproduced on the model and a workable landing gear has been incorporated into the design without interfering with the rubber motor. The area of



The similarity of the model to the real ship is remarkable. Details of cowling, cockpits, lights and the retractable landing gear are faithfully duplicated. For builders who prefer details this capable flying model should prove unique.

TORPEDO BOMBER

the wings is one hundred square inches, yet the original model weighed less than 1¾ ounces.

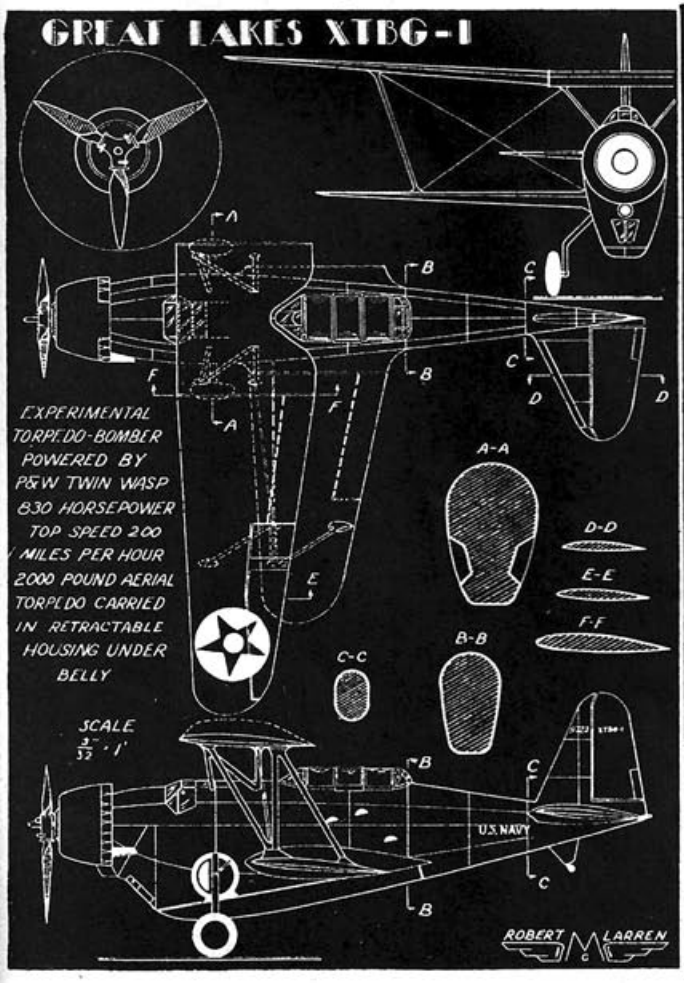
FUSELAGE

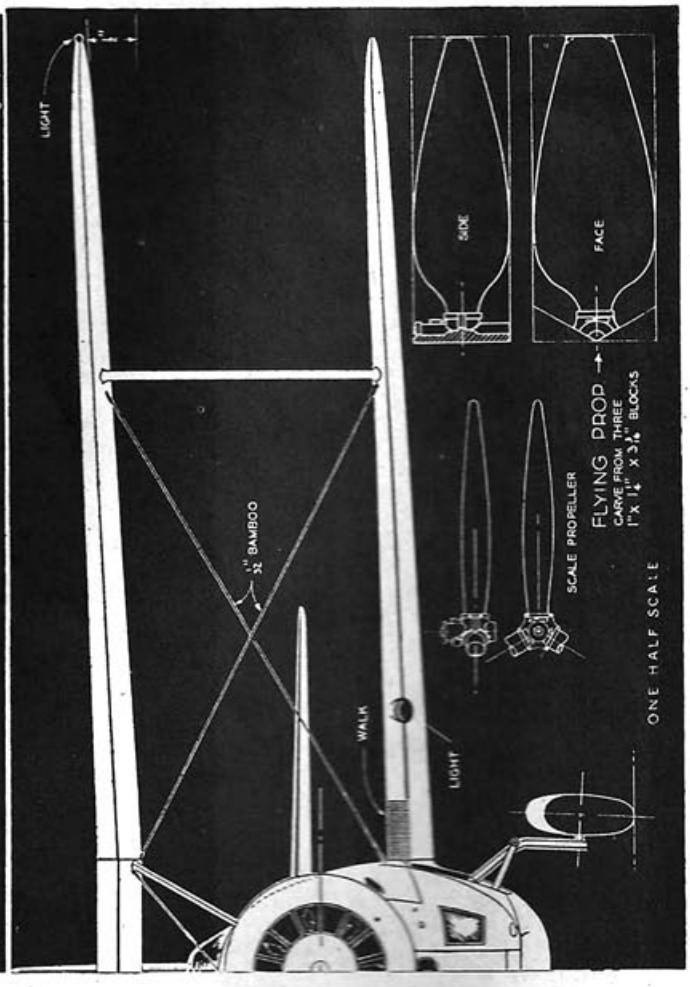
A hollowed balsa fuselage was chosen to eliminate the complications of a framed one. Cement the two fuselage blocks together lightly with several drops of cement, then trace the side and top views onto the block. The joint serves as top-view centerline. It will be best to have the block bandsawed; top view first, then pin the sawed pieces back on and saw the side view.

Cut stiff cardboard templates from the section drawings to check with while carving. Start at section C-C and work carefully both ways, not forgetting that the lower wing bases are included. Hollow the wheel wells and sand the job to a smooth finish. Apply four coats of clear dope, sanding between coats, then split the fuselage apart and hollow the halves ⅛" to 3/32" from A-A to C-C, then taper gradually to 1/32" at the extreme rear. Cut a 1/16" bulkhead to fit between sections D-D and E-E, as shown on the drawing of section E-E, and two sets of halved formers cemented in under the L. G. well to support the braces.

If the retractable gear is desired, the parts must be made, installed and tested before the halves are replaced. The action has been carefully worked out, so follow the shapes and centers closely. The ⅛" reed must be coated with cement after bending, several times at the bend. A short rubber band serves for the spring action. If the wells are cupped slightly at the bottoms, tension will hold the wheels in. Drawings for automatic release devices appeared in the January and February 1937 issues of Air Trails and can be easily adapted to this model.

After the gear operates satisfactorily, install rear hook hangar, the bulkhead, and cement the fuselage halves back together as quickly as possible. Rubber bands of different diameter are indispensable to compress the halves while hurriedly matching the joints before the cement sets.





GREAT LAKES TORPEDO BOMBER

COWL

Follow the procedure as on the fuselage. Carve the seven bas-relief cylinders on the face of the $^3/_{16}$" disk, and lacquer black. Add the push rods after the disks are cemented in. Make the nose plug as shown, to fit snugly. Extra wedge-shaped disks may be added to get the desired downthrust.

PROPELLERS

The three-bladed prop serves best, because of the limited diameter, though it takes more time and patience. Cement the three blocks together, blank and carve in the conventional manner. After the prop has been sanded, apply four or five coats of cement to the hub, and several coats of dope to the blades.

WINGS

The one wing drawing, traced in reverse on white paper and added to the original, serves as a pattern for both upper and lower wings. The center section and upper wings should be assembled as a unit and include the dihedral. First assemble the wing parts dry with numerous pins. When all the parts are lined up, apply the cement. Assemble the frames as if no ailerons would be included, and after the cement has set, the ribs can be slotted and the spars and extra parts inserted easier than on the first assembly.

TAIL ASSEMBLY

Build the stabilizer as a unit. Use unshaped $^1/_{32}$ x $^1/_4$" stock for the ribs, centering the leading and trailing edges and the tips to them. After the cement has set, it is easier and more satisfactory to sand the assembly to streamline and taper.

ASSEMBLY AND FINISH

Cut a $^1/_8$" sheet template the shape of the space between the center section and the top of the fuselage. Pin the template on the fuselage and the wing onto the template. Pin the lower wings on and then block the model up solidly in neutral position. Pin the wing tips equally apart with lengths of balsa strips and then fit and cement all the struts in. Check the fit of the tail surfaces, then dismantle the assembly. (Of course, the covering may be continued while the parts are first assembled.) Cover the top of the upper wing with yellow tissue and the remaining covering with silver tissue. Leave enough surplus on the tail surfaces to be trimmed for fillets. Permanently reassemble the parts and spray the tissue with water.

Add all the remaining detail except lettering and apply two coats of aluminum dope to the wood parts and one to the tissue. Lacquer the bomber windows, tires, lenses, and lettering, black. Top of the upper wing is yellow.