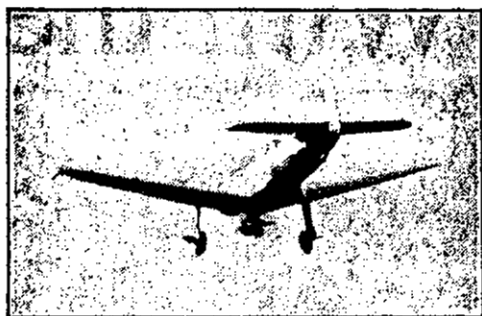


SWISH! You can just hear her tearing by as the camera clicks! We expected to catch a front view, but before we could snap the shutter she showed us her tail.



Clear your benches for action, fellows! For here comes another A-1, sky-hurting military model—the Army's great Vultee Attack-Bomber. Its prototype is one of the sweetest ships in the Service—and you'll find that in like fashion this trim balsa job won't take any craft's prop wash on the model tarmac, either. She's one of Bill Winter's neatest products. Go to it, fans—and good luck!

JANUARY, 1937

Make the Vultee Attack

THE new military Vultee Attack Bomber embodies the high speed and maneuverability of the attack ship, with the range and load carrying ability of the bomber. As an attack job the gross weight is 8,500 lbs., and as a bomber 10,800. The high speeds of the attack and bomber respectively (at 11,000 ft.) are 230 and 209 m.p.h. The attack has a maximum ceiling of 26,000 ft. and a range of 900 miles. The bomber can climb to 21,600 ft. and can cruise for 2,200 miles.

Our model is closely patterned after the original—and it inherits much of its speed. Because of its striking appearance and flying capabilities, this little ship is well worth the time expended in its construction.

The method of construction utilized calls for four master stringers cut to shape from sheet balsa. Thus even the beginner may easily build an accurate model.

By William Winter

sheet the enclosure formers. Trace the top, side and bottom outlines of

the fuselage on 1/16" sheet balsa and cut the master stringers, allowing the required depths at the various stations.

Cement the two side master stringers in place on the widest bulkheads and after allowing time for the cement to set locate the remaining smaller bulkheads to the rear. Cement the enclosure formers in position and complete the superstructure. The one piece bottom master stringer and the small top master stringer are then slid into place in the notches provided for the purpose. The auxiliary stringers are glued in place in the notches required for them and previously marked, being cut as the work progresses. The stub ribs are cut to the shape shown from 1/16" sheet and are integral with the fuselage structure.

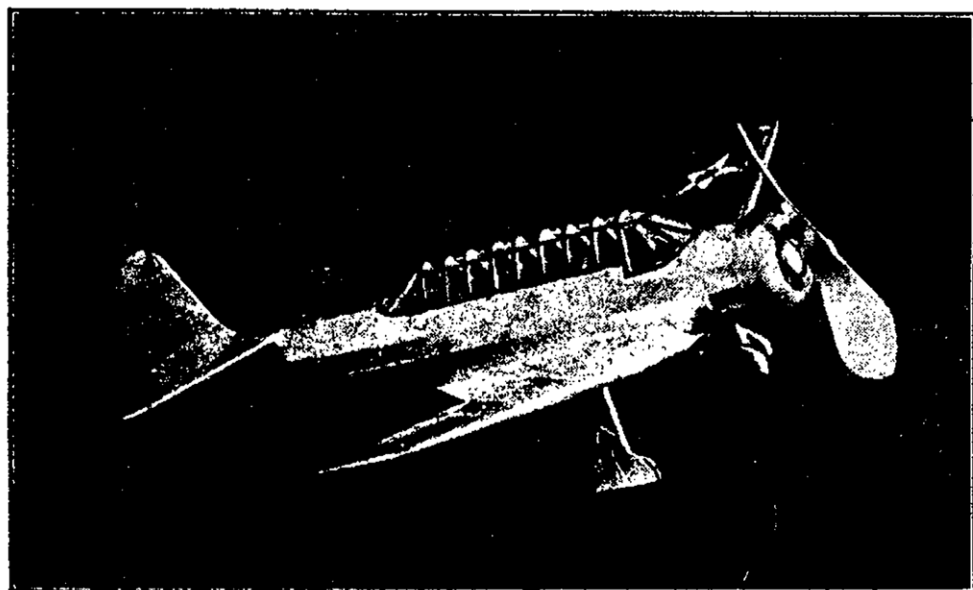
Block "A," shown in detail as well as on both top and side views, is cut to the required shape from a block 2 1/8" sq. by 11/16". Block "B," also given in detail, measures 1 5/8" by 3/4" by 1 15/16". Note that this block is cut out to form the front shape of the enclosure. A lip or raised edge is noticeable on the various views as

well as in the detail. The thickness of the walls after hollowing should not exceed 1/8". Block "C" is saddle-shaped so that it fits entirely around the bottom of the fuselage to form the wing fillet on both sides. This block when carved is slid upward between the stub ribs until it fits in position. A sheet of 1/32" is next bent around this portion of the fuselage as seen on the side view so that a close fit of this block may be made. The required block size is 2 15/16" by 11/16" by 7/8".

The stabilizer fillet block is shaped in accordance with the three cross sections given. It is fitted in the same manner as Block "C" and the wing fillet block were fitted. Stabilizer stub ribs are cut to the required shape and are built into the fuselage. The stabilizer

FUSELAGE

USING the patterns given, cut all the bulkheads to shape from 1/16" sheet balsa, cutting only the notches for the master stringers. Accurately mark the positions of the auxiliary stringers. Also cut from 1/32"



Detail—and plenty of it! That's what makes the Vultee a top-notch for display as well as for flying. Note the gun-sight mounted on the cowl and the realistic bomb along on the rack beneath the fuselage. "She's got everything!" you say. "Boy, you said it!" say we.

fillet block should measure $1\frac{11}{16}$ " by $1\frac{1}{2}$ " by $13/16$ " before carving.

It is necessary to bend $1/32$ " sheet balsa around that section of the fuselage directly forward of No. 6 bulkhead and to cut it out to form the outline of the rear portion of the enclosure as seen on both top and side views.

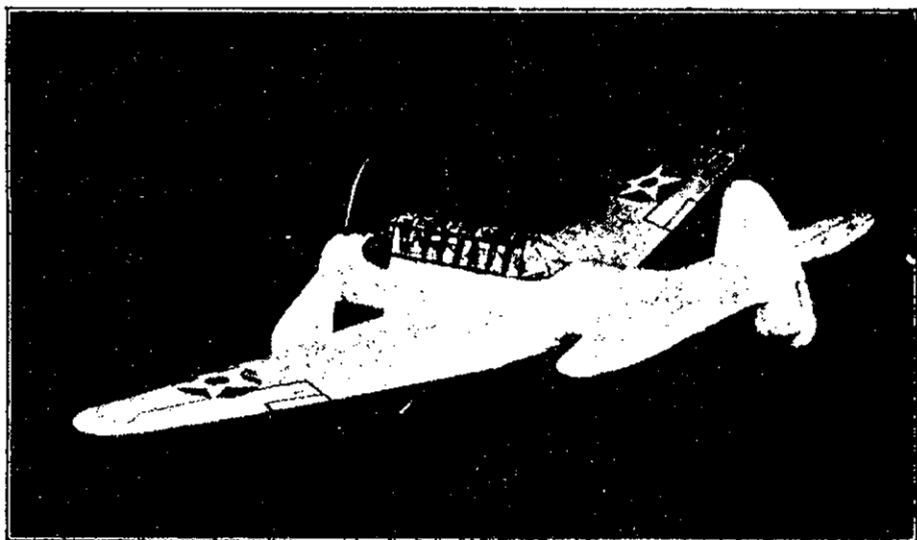
To cover use narrow strips of superfine tissue running longitudinally. Their widths depend on your judgment of the particular section to be covered. The structure is strong enough to permit a taut tightening by spraying. Complete the covering with a smooth coat of clear dope.

The tail wheel housing is cut to shape, as shown on the side view, from $1/4$ " sheet. The front portion is left wide enough to accommodate the $7/16$ " tail wheel. The whole tail plug assembly, shown on the side view, is also given in detail. The cone piece proper is shaped from a block $15/16$ " sq. by $15/16$ ". Its front face is a piece of $1/8$ " sheet. The upper and lower appended structural pieces form part of the rudder surface. They are shaped to the profile shown from $1/4$ " sheet and tapered as shown in the tail plug detail. A square piece of $1/8$ " sheet is cemented to the face of the otherwise completed plug so that the unit will remain in place at all times. The rear hook is bent to shape from .028 wire and is forced through the plug and embedded in it to permit the use of a winder. A scale bomb and sight are to be found on the plan.

TAIL SURFACES

THE main spars of the tail and all the crosspieces, with the exception of those that form the contact with the fuselage, are $1/32$ " by $3/16$ ". They can be stripped from $1/32$ " sheet if the size specified is unavailable. The exception noted calls for $1/16$ " by $3/16$ " stock. The tips are preferably scant $1/16$ " sq. bamboo bent to the desired shapes around a candle flame. As the rudder and stabilizer surfaces are tapered, their front views have been included on the plans.

Cover each side of both stabilizer halves and rudder with one piece of tissue. If it is desired to spray the finished surfaces, do so lightly. Finish the surface with a coat of clear dope. Cement the stabilizer halves to the stub ribs with thickened cement and hold in position until the cement has set. Glue the rudder in position in the same manner. Be sure not to cement the rear lower portion of the rudder to the tail plug. Finally, cement the $1/32$ " sheet rear stabilizer edge fillets in place.



There's certainly lots of dash in this striking model. That's quickly seen in this excellent rear-quarter "shot" which brings out the fine sweep of the wings. The interesting construction of the tail is also shown to advantage in this view.

WINGS

OUR wings are built in two pieces, one left and one right. They are to be attached to their respective stub ribs after they have been finished complete with the built-in landing gear. All the ribs shown, with the exception of the first, are of $1/32$ " sheet. The excepted ribs are $1/16$ " sheet. The spars are cut from $1/16$ " sheet to agree with the pattern shown in black on the front view of the wing. The leading edges are $3/32$ " half-round and are fitted into the leading edge notches provided for the purpose.

The trailing edge is a pointed section shaped and sanded from $1/8$ " by $3/16$ " stock. The wing tips are formed by bending $1/16$ " sq. bamboo to form around a candle flame. Small pieces of $1/16$ " sq. are cemented in place between the first two ribs of either wing panel on both upper and lower surfaces.

It is of the greatest importance that the first rib be slanted as shown for dihedral and that the amount of slant be not less than called for. A reasonable amount of extra dihedral will be more of an aid than a detriment to the flying qualities.

Two sectional ribs of $1/16$ " sheet marked "Z" are provided to form the attachment facilities for the landing gear. The lower portion of the wing between the second and third ribs is covered on either side of the pieces designated "Z" with $1/16$ " sheet so that the whole cannot be twisted out of place under landing or crash impacts. The landing gear strut will later be slid between these two rib pieces to its proper position.

Use one piece of tissue for each surface of both wing panels. Spray lightly and dope evenly. Attach each

BILL OF MATERIALS

STRIP Balsa

Five pieces $1/16$ " sq. by 36 ";
Two pieces $1/32$ " by $3/16$ " by 24 ";
One piece 6 " by $1/16$ " by $3/16$ ";
One piece $3/32$ " sq. by 24 ";
One piece $1/8$ " by $3/16$ " by 24 ";
One piece $1/4$ " sq. by 2 ".

SHEET Balsa

One piece $1/16$ " by 2 " by 36 ";
One piece $1/32$ " by 2 " by 24 ";
One piece $1/4$ " by 3 " by 12 ";
One piece $3/32$ " by 2 " by 3 ";

One piece $1/8$ " by 2 " sq.

BLOCK Balsa

One piece $15/16$ " by $15/16$ " sq.;
One piece $2\frac{1}{8}$ " sq. by $11/16$ ";
One piece $15/8$ " by $3/4$ " by $1\frac{15}{16}$ ";
One piece $25/16$ " by $7/8$ " by $11/16$ ";
One piece $1\frac{11}{16}$ " by $1\frac{1}{2}$ " by $13/16$ ";
One piece $2\frac{1}{2}$ " by 1 " sq.;
One piece $13/16$ " sq. by $11/16$ ".

MISCELLANEOUS

One ounce of cement;
Two ounces of clear dope;

One sheet superfine white tissue;
One pair $1\frac{3}{8}$ " wheels;
One tail wheel (approx. $1\frac{1}{2}$ ";)
Cellophane;
One foot of .028 wire;
Two feet of .014 wire;
One piece $1/16$ " by $1/4$ " bamboo;
Six feet $1/8$ " flat rubber;
Bronzing liquid and silver bronzing powder;
Silver paper, or silver or aluminum paint.