Build This Model of the New Curtiss Fighter

Here You Have Complete Data Which Shows How to Build and Fly the Sensational New U.S. Navy Fighter

By WILLIAM WINTER and WALTER McBRIDE

THE new XF13C-1 Curtiss Experimental Fighter is the last word in pursuit ships. Contrary to the trend toward low-wing designs in late years, this ship is a high-wing cabin job with retractable landing; which when folded fits flush with the fuselage. Wing slots and flaps are incorporated in the design and insure a versatile performance. This latest demon of the air is capable of tremendous speed.

The proportions of the real plane make possible a graceful model of excellent flying characteristics, and you will be greatly pleased with the performance of this plane if you build it according to the following instructions.

Fuselage

The bulkheads are cut to shape from 1/16" sheet as detailed on the plan. Cut the main notches designated, mark the locations of the auxiliary stringers and fasten the four main stringers of 1/16" sq. in place on the widest bulkheads. Allow to dry and then locate the rear bulkhead. It may be necessary to press the stringers to obtain the correct curve at the rear and to eliminate strains that interfere with the alignment of the fuselage. After cement has set, glue the remaining bulkheads in place. Cut the remaining notches as required allowing for any irregularity in your work and cement the auxiliary stringers in place. Bend the rear hook to shape from .028 music wire and fasten to the rear bulkhead (cross grain).

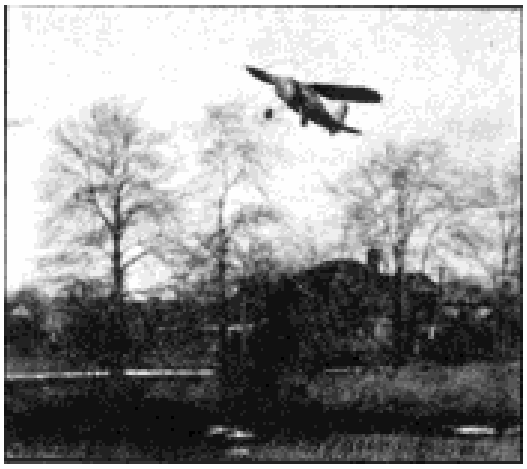
The rear plug is shaped from a block 1-1/8"x15/16"x11/16" as shown on the top and side views and cemented to bulkhead #10.

Former B is cut to the proper shape from 1/16" sheet and cemented in position. Block D is a small piece of balsa 27/8 "x9/16"xS/16" cut as shown on the fuselage plan and fitted against bulkhead #3 to form the peak of the windshield. The windshield structure is of 1/16" sq.
Two pieces of l/l6" outside diameter aluminum are cut to the length given and passed through the fuselage at the position shown on the top and side views.

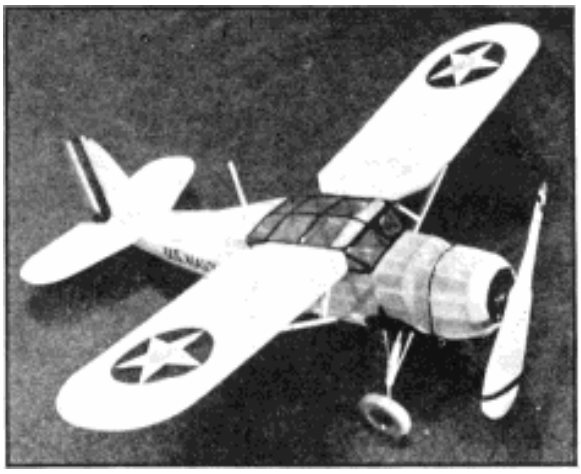
To cover, long strips of Jap tissue must be used to avoid wrinkles. Clear dope is used to apply the covering. All excess paper should be trimmed off and the frayed edges doped down. Finished covering may be lightly doped.

Tail wheel housing is formed from a block 7/8" x 5/8" x 2-1/8" as detailed and attached to the fuselage. The tail wheel is 1/8" thick and 3/8"" in diameter and is held in position by small pieces of wire.

The windows and windshield are of cellophane. The edges may be trimmed with black dope or lacquer. Being a Navy plane, the fuselage is silver.



Getting away for a flight of 300 feet. It is very stable



Up to date, graceful and a fine flier

What could be more realistic?

Landing Gear

The oleo struts of 1/4" sq. are cut to their correct lengths and shape as detailed. Small pieces of bamboo are forced into either end as shown on the plan. The finished struts are attached to #2 bulkhead at the position designated. The axles of .034 wire serve as
struts and should be fastened in place by thread as well as cement. The wheels are 1-1/2" in diameter and should be of a heavy type for correct balance.

Tail Assembly

The spars of 3/32" sq. are pinned to the bench and all cross pieces with the exception of F are cemented in place. The edges of 1/16" sq. bamboo are bent to shape by candle flame and glued in position. Cross piece F due to its shape is attached after unit has been removed from the form.

To cover, use separate pieces of[tissue for each side of both stabilizer and rudder. Finished covering is lightly sprayed and doped. Navy stripes are painted on the rudder. The fin and stabilizer are silver. The completed units are attached to the fuselage at the designated positions. Brace both stabilizer and rudder with 1/32” sq. bamboo.

Wings

The wings are built in two separate panels. Each panel is supported by a simple strut arrangement and is detachable. The pilot has an unobstructed vision through the glass cabin top.

Pin the spars of 1/16" x 1/8" to the bench. Using the rib pattern given, cut all the ribs from a soft sheet of 1/16" balsa. Pin the ribs together, sand until matched and cut notches. Cement the ribs in their proper positions. The leading edge of 1/8" sq. is sanded to shape and inserted in the notches at the front of the ribs. The trailing edge of 1/16" x 3/16" is shaped as shown on the rib pattern and , glued in place. The tips are of 1/16" sq. bamboo bent by candle flame. The wing blocks are cut from two pieces of soft balsa 4-3/4" x 7/16" x 1-3/16". They are shaped as shown in detail, the wide edge being similar to the wing rib and glued to it.

Four pieces of heavy music wire are cut to the lengths given. Two are inserted in each block at the position detailed on the plan,

To cover, use separate pieces of tissue for each side of both panels. Apply paper with clear elope and trim the edges. Finished wings are sprayed and doped.

The upper surfaces are yellow and the lower silver. Three inch star insignia are used for decoration.

The wing struts of 1/8" x 1/4" are cut to the given length. The small struts are of 1/16" x 3/16". The fitting shown on the front view is a wire hook bent to shape and fastened to the strut so that it passes through a wire eyelet attached to the fuselage. The mounting of the wings is obvious as shown on the plan and as described.

Cowling

As the cowling is not regular in shape, it is built up to obtain the correct form. Its cross section as shown in detail is self explanatory. The face is three pieces of 1/4" sheet glued up, shaped and cut out as shown. The hole cut in the inner sheet is for the reception of the nose plug. The cylinders are given in detail and are cemented in place. The nose plug is 1" in diameter and 11/16" thick. It is shaped as shown and forms the crankcase. As it is to be removable, it should not be glued in place. The rear of the cowling is of 1/16" sheet. There are 14 cowl ribs. Three are attached at a time and checked for alignment as the work progresses. Their locations are to be found on the front view. The covering is of paper or wood veneer. The skirt is of 1/32" sheet balsa or veneer. The cowling is silver. The cylinders and crankcase are black.

Propeller and Motor

The propeller is cut from a block 8" x 1-1/2" X 3/4". The blank is first cut to the shape shown. The propeller is carved in the usual manner. Care should be given to the proper balancing to avoid vibration. Glue a 3/8" washer to the rear of the hub and another to the front of the nose plug to serve as bearing. The shaft of .028 wire is imbedded in the face of the propeller and passed through the hub and nose plug. A loose washer is placed on the shaft to reduce friction. The nose assembly is cemented to bulkhead K. Motive power is eight strands of 5/8" flat rubber.

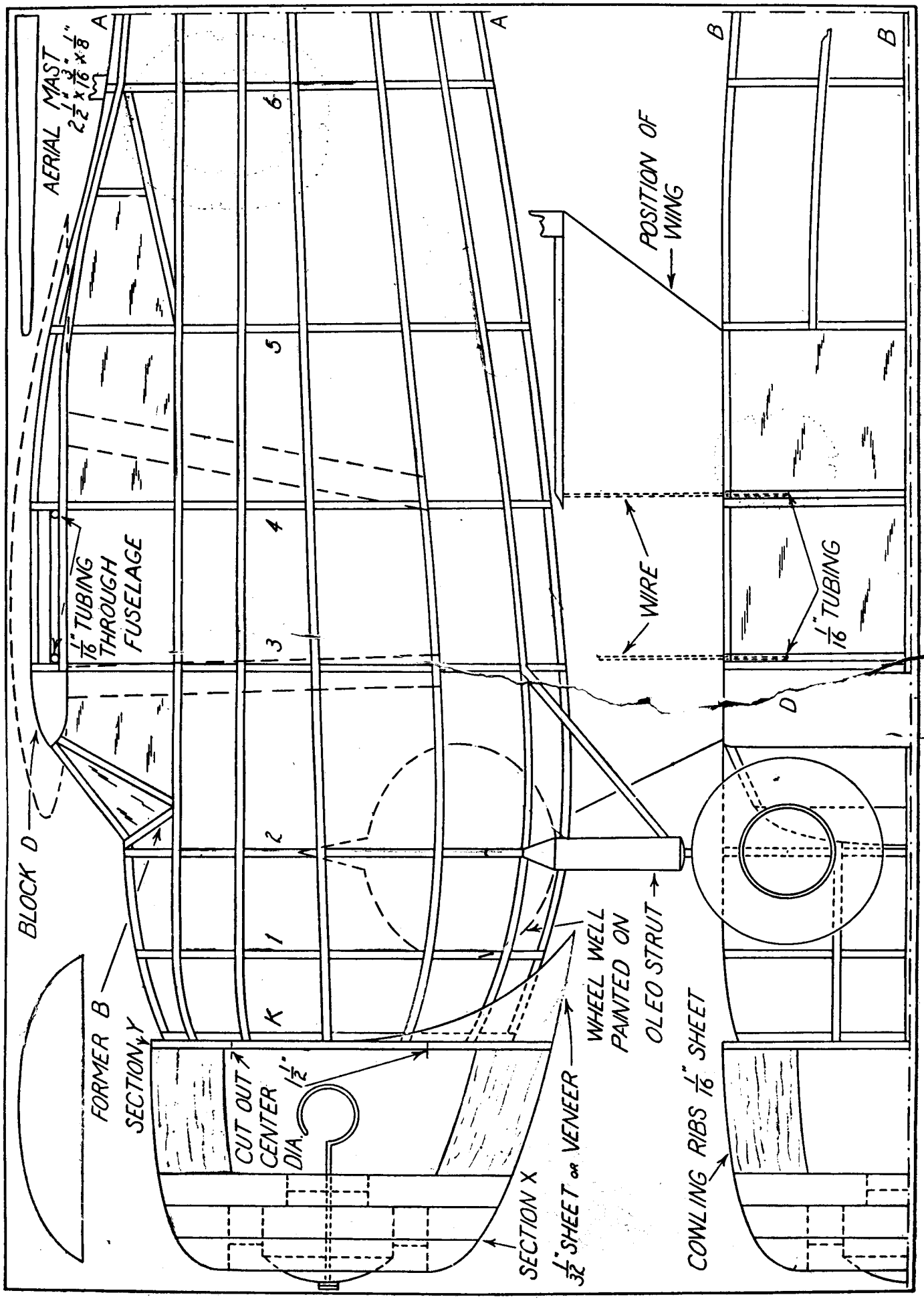
Flying

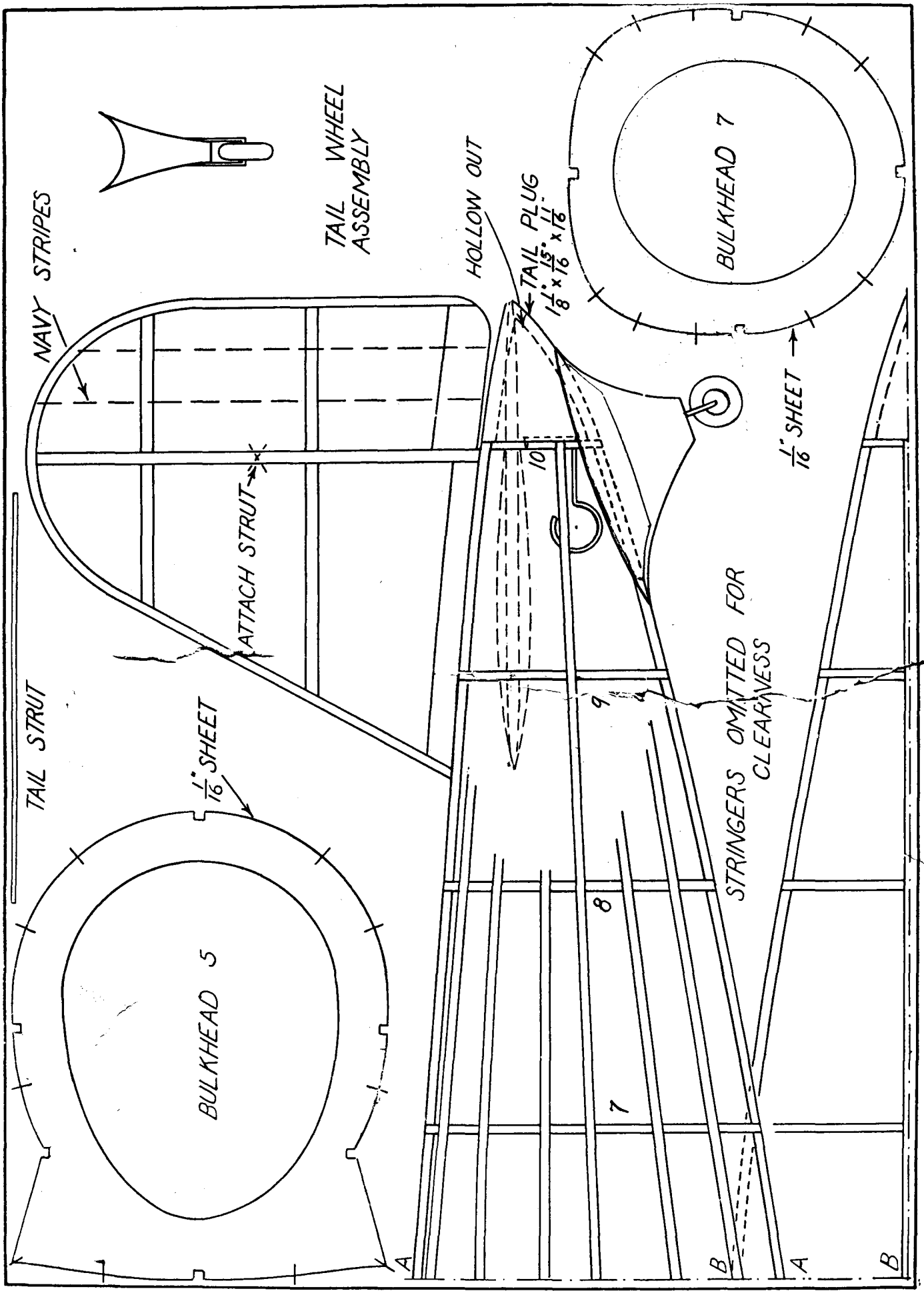
The model should be tested over deep grass. If none is available test the ship R.O.G. with a few turns. A piece of lead is used to obtain the correct balance. The ship has a quick take off and is stable in flight.

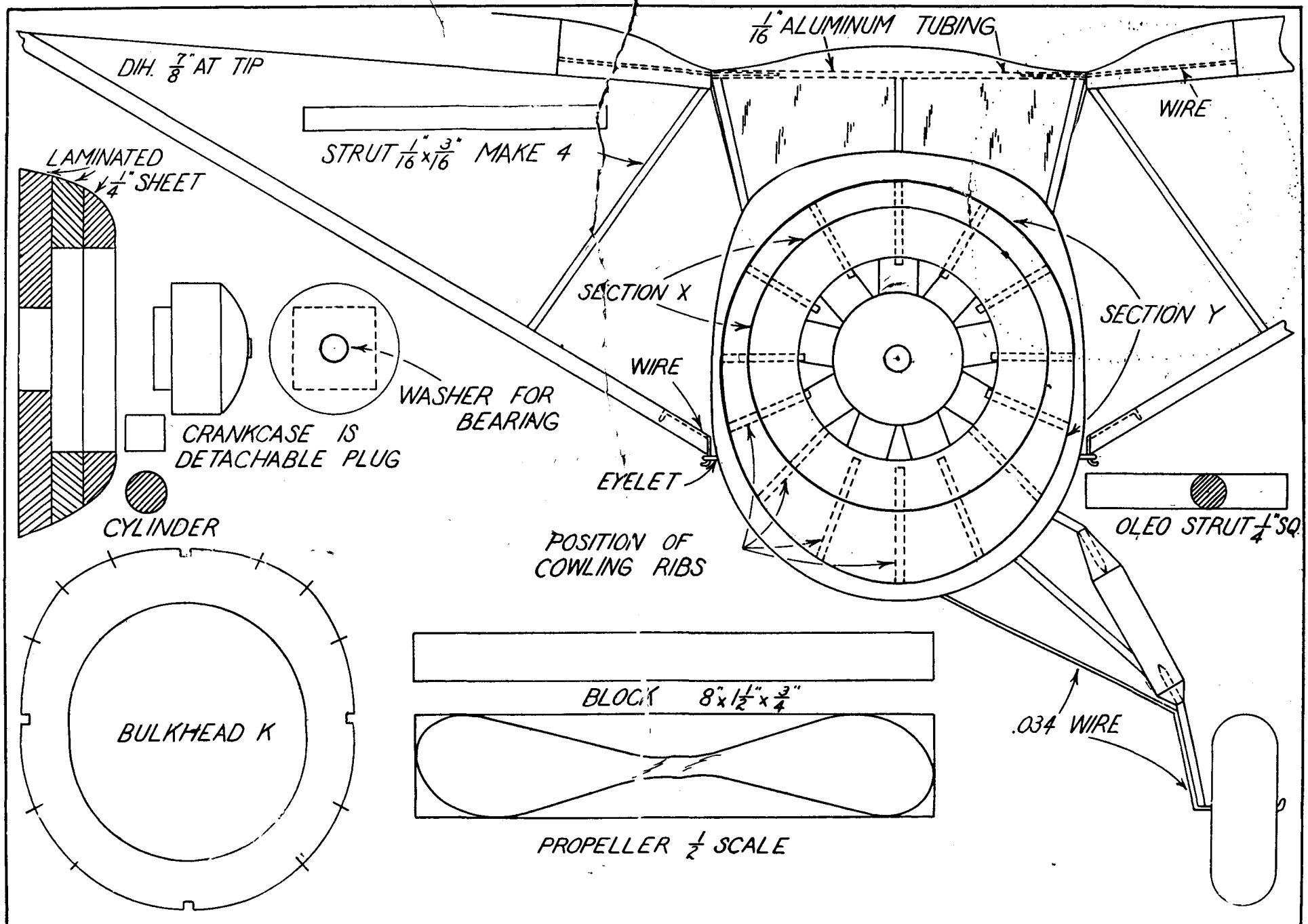
Bill of Materials

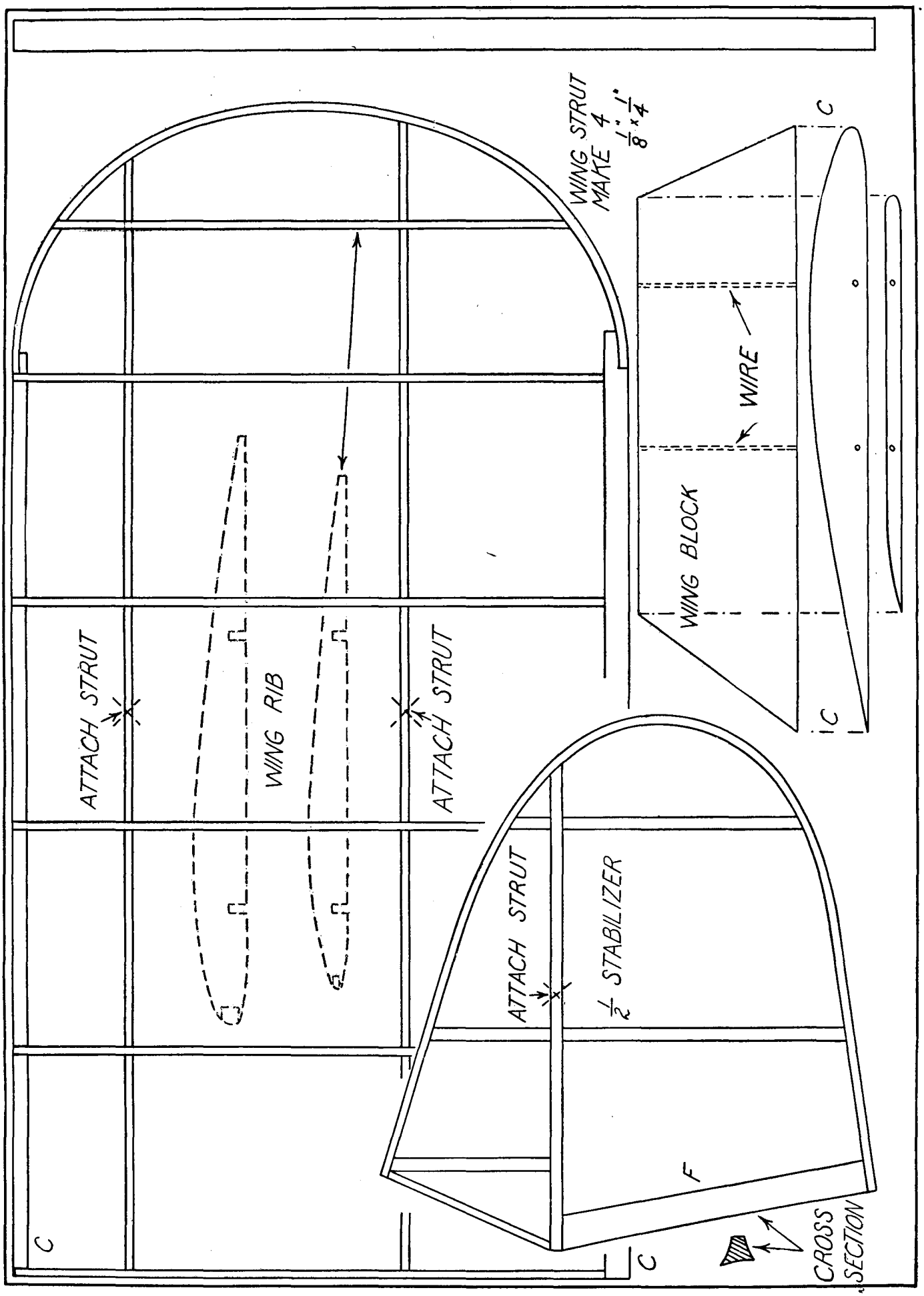
2	1/16"x3"x24" balsa -- Bulkhead, wing ribs and in cowling
1	3/32"sq.x36" balsa -- tail surfaces
7	1/16"sq. x36" balsa -- stringers and windshield
1	1/4"sq. x 10" balsa -- oleo struts and block F
2	1/16"x1/8"x24" balsa -- wing spars
1	1/8"sq. x 24" balsa -- leading edge
1	1/16"x3/16"x24" balsa -- trailing edge
1	1/8"x1/4"x36" balsa -- wing struts
3	2-3/4"sp. x 1/4" balsa -- cowl face
2	4-3/4"xl-3/16"x7/16" balsa -- wing blocks
1	9/16"x5/16"x2-7/8"" balsa -- windshield block
1	1-1/8 "x15/16" "x 11/16" " balsa -- tail plug
1	7/8"x5/8" x 2-1/8" " balsa -- tail wheel housing
1	8"x1-1/2"x3/4" balsa -- propeller
4	1/16 sq. x15"" bamboo -- wing tips, tail edges and landing gear braces
1	6" .028 music wire

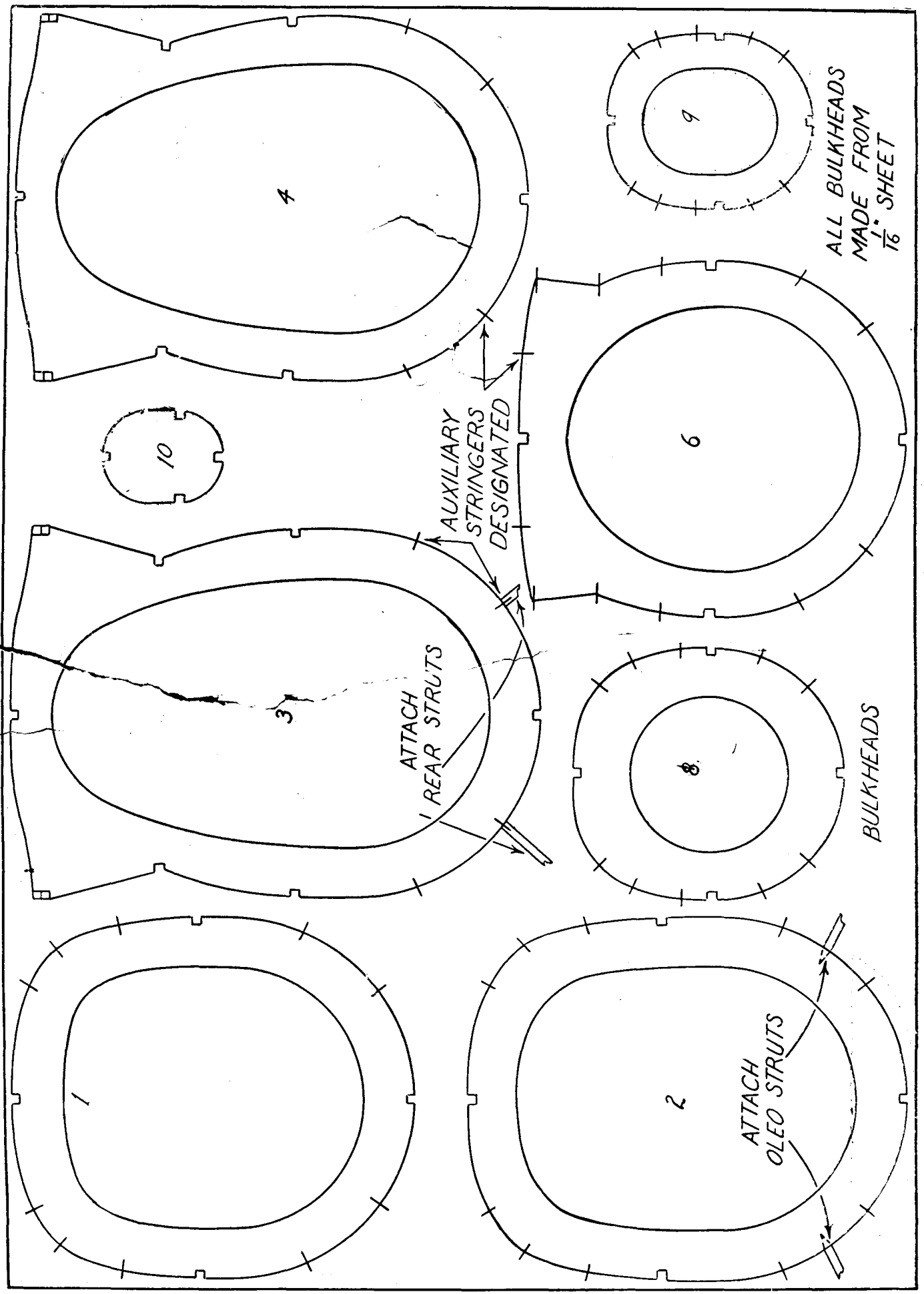
1	8" .034 music wire
3	1/8" washers
1	1 oz. Cement
1	2 oz. clear dope
1	1/2 oz. yellow dope
2	sheets Tap tissue
1	pr. 1 -1/2" wheels
8	ft. 1/8" flat rubber
1	sheet cellophane
4	3" stars
1	6" 1/16" aluminum tubing


AERIAL MAST 22½" x 3/16" x 1/8"
A
A
B
B
POSITION OF WING
1/16" TUBING THROUGH FUSELAGE
WIRE
1/16" TUBING
BLOCK D
D
FORMER B
SECTION Y
K
CUT OUT CENTER DIA 1½"
WHEEL WELL PANTED ON
OLEO STRUT
1/32" SHEET OR VENEER
SECTION X
COWLING RIBS 1/16" SHEET
1
2
3
4
5
6


NAVY STRIPES
TAIL WHEEL ASSEMBLY
HOLLOW OUT
TAIL PLUG 1" x 15/16" x 1/8"
BULKHEAD 7
1/16" SHEET
ATTACH STRUT
TAIL STRUT
1/16" SHEET
BULKHEAD 5
STRINGERS OMITTED FOR CLEARNESS
10
9
8
7
A
B
A
B


1/16" ALUMINUM TUBING
DIH. 7/8" AT TIP
WIRE
STRUT 1/16 x 3/16" MAKE 4
LAMINATED 1/4" SHEET
SECTION X
SECTION Y
WIRE
WASHER FOR BEARING
CRANKCASE IS DETACHABLE PLUG
EYELET
OLEO STRUT 1/4" SQ
CYLINDER
POSITION OF COWLING RIBS
BULKHEAD K
BLOCK 8" x 1 1/2" x 3/4"
.034 WIRE
PROPELLER 1/2 SCALE


WING STRUT MAKE 4 1" 1" 1/8 x 1/4
C
WIRE
WING BLOCK
C
ATTACH STRUT
WING RIB
ATTACH STRUT
ATTACH STRUT
1/2 STABILIZER
F
C
C
CROSS SECTION


4
9
ALL BULKHEADS MADE FROM 1/16" SHEET
10
AUXILIARY STRINGERS DESIGNATED
6
3
ATTACH REAR STRUTS
8
BULKHEADS
1
2
ATTACH OLEO STRUTS