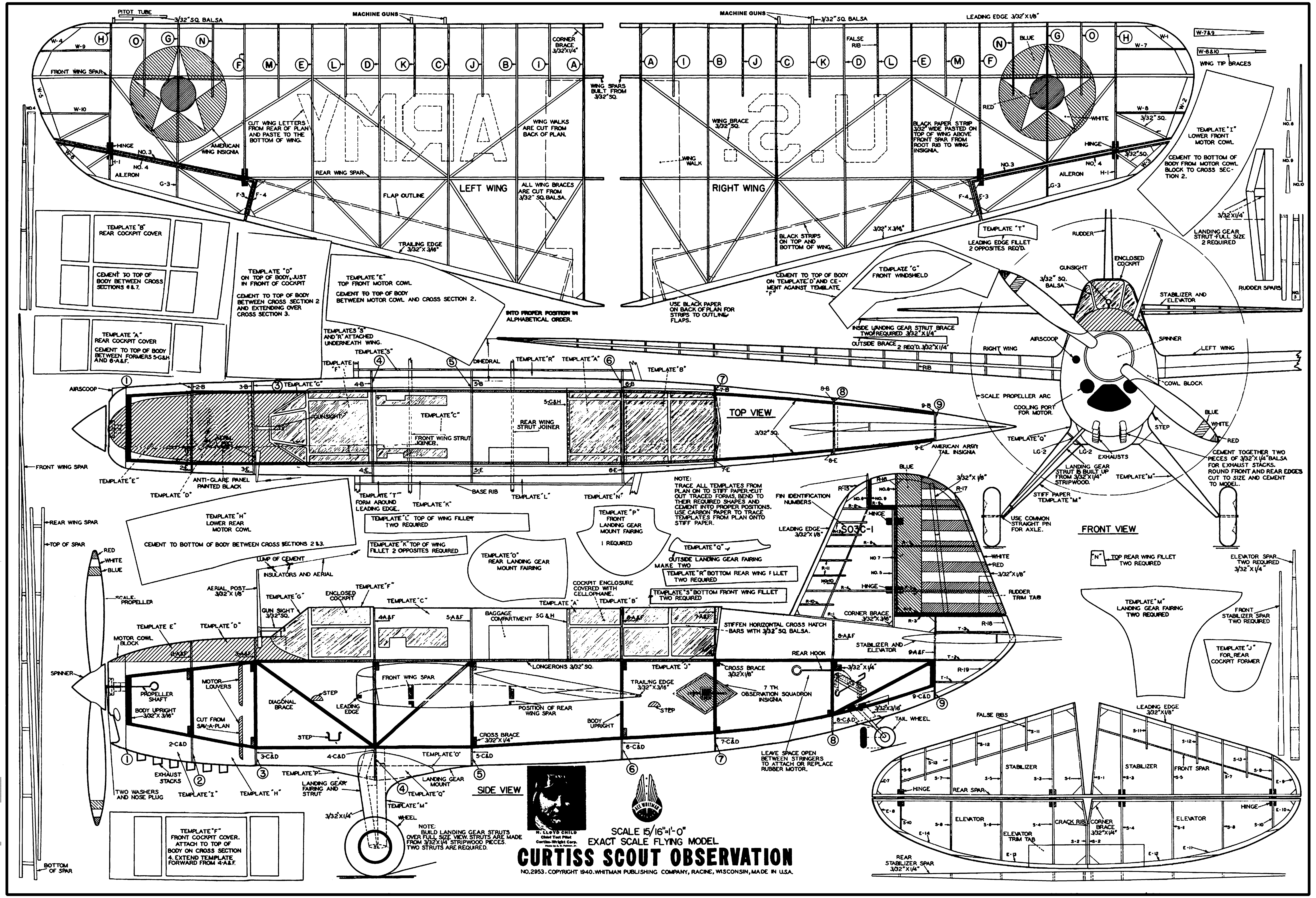
PITOT TUBE
3/32" SQ. BALSA
MACHINE GUNS
3/32" SQ. BALSA
LEADING EDGE 3/32" X 1/8"
W-4
W-9
H
O
G
N
F
M
E
L
D
K
C
J
B
I
A
FRONT WING SPAR
W-5
W-10
W-6
HINGE
H-1
NO. 3
NO. 4
AILERON
G-3
F-3
F-4
CORNER BRACE 3/32"X1/4"
WING SPARS BUILT FROM 3/32" SQ.
CUT WING LETTERS FROM REAR OF PLAN AND PASTE TO THE BOTTOM OF WING.
AMERICAN WING INSIGNIA
REAR WING SPAR
FLAP OUTLINE
LEFT WING
WING WALKS ARE CUT FROM BACK OF PLAN.
ALL WING BRACES ARE CUT FROM 3/32" SQ. BALSA.
TRAILING EDGE 3/32" X 3/16"
WING WALK
WING BRACE 3/32" SQ.
RIGHT WING
BLACK STRIPS ON TOP AND BOTTOM OF WING.
3/32" X 3/16"
FALSE RIB
USE BLACK PAPER ON BACK OF PLAN FOR STRIPS TO OUTLINE FLAPS.
INTO PROPER POSITION IN ALPHABETICAL ORDER.
BLUE
RED
WHITE
BLACK PAPER STRIP 3/32" WIDE PASTED ON TOP OF WING ABOVE FRONT SPAR FROM ROOT RIB TO WING INSIGNIA.
W-7
W-1
W-8
W-2
W-3
3/32" SQ.
W-7&9
W-8&10
WING TIP BRACES
NO. 8
NO. 9
NO. 10
NO. 5
NO. 4
RUDDER SPARS
TEMPLATE "I" LOWER FRONT MOTOR COWL
CEMENT TO BOTTOM OF BODY FROM MOTOR COWL BLOCK TO CROSS SECTION 2.
3/32"X1/4"
LANDING GEAR STRUT-FULL SIZE 2 REQUIRED
TEMPLATE "T" LEADING EDGE FILLET 2 OPPOSITES REQ'D.
TEMPLATE "B" REAR COCKPIT COVER
CEMENT TO TOP OF BODY BETWEEN CROSS SECTIONS 6 & 7.
TEMPLATE "A" REAR COCKPIT COVER
CEMENT TO TOP OF BODY BETWEEN FORMERS 5-G&H AND 6-A&F.
TEMPLATE "D" ON TOP OF BODY, JUST IN FRONT OF COCKPIT
CEMENT TO TOP OF BODY BETWEEN CROSS SECTION 2 AND EXTENDING OVER CROSS SECTION 3.
TEMPLATE "E" TOP FRONT MOTOR COWL
CEMENT TO TOP OF BODY BETWEEN MOTOR COWL AND CROSS SECTION 2.
TEMPLATES "S" AND "R" ATTACHED UNDERNEATH WING.
CEMENT TO TOP OF BODY ON TEMPLATE "D" AND CEMENT AGAINST TEMPLATE "F"
TEMPLATE "G" FRONT WINDSHIELD
INSIDE LANDING GEAR STRUT BRACE TWO REQUIRED 3/32"X1/4"
OUTSIDE BRACE 2 REQ'D. 3/32"X1/4"
RIB
DIHEDRAL
TEMPLATE "S"
TEMPLATE "F"
TEMPLATE "R"
TEMPLATE "A"
TEMPLATE "B"
TEMPLATE "G"
AIRSCOOP
1
2-B
3-B
3
4-B
4
5-B
5
5-G&H
6-B
6
7-B
7
8-B
8
9-B
9
GUNSIGHT
TEMPLATE "C"
FRONT WING STRUT JOINER.
REAR WING STRUT JOINER
TOP VIEW
3/32" SQ.
2-E
3-E
4-E
5-E
6-E
7-E
8-E
9-E
FRONT WING SPAR
TEMPLATE "E"
TEMPLATE "D"
ANTI-GLARE PANEL PAINTED BLACK
TEMPLATE "T" FORM AROUND LEADING EDGE.
TEMPLATE "K"
BASE RIB
TEMPLATE "L"
TEMPLATE "N"
NOTE: TRACE ALL TEMPLATES FROM PLAN ON TO STIFF PAPER. CUT OUT TRACED FORMS, BEND TO THEIR REQUIRED SHAPES AND CEMENT INTO PROPER POSITIONS. USE CARBON PAPER TO TRACE TEMPLATES FROM PLAN ONTO STIFF PAPER.
FIN IDENTIFICATION NUMBERS
AMERICAN ARMY TAIL INSIGNIA
RUDDER
ENCLOSED COCKPIT
GUNSIGHT
3/32" SQ. BALSA
STABILIZER AND ELEVATOR
AIRSCOOP
SPINNER
RIGHT WING
LEFT WING
COWL BLOCK
SCALE PROPELLER ARC
COOLING PORT FOR MOTOR.
STEP
TEMPLATE "Q"
LG-2
EXHAUSTS
LANDING GEAR STRUT IS BUILT UP FROM 3/32"X1/4" STRIPWOOD.
STIFF PAPER TEMPLATE "M"
TEMPLATE "M"
CEMENT TOGETHER TWO PIECES OF 3/32"X1/4" BALSA FOR EXHAUST STACKS. ROUND FRONT AND REAR EDGES CUT TO SIZE AND CEMENT TO MODEL.
USE COMMON STRAIGHT PIN FOR AXLE.
FRONT VIEW
"N" TOP REAR WING FILLET TWO REQUIRED
ELEVATOR SPAR TWO REQUIRED 3/32"X1/4"
TEMPLATE "M" LANDING GEAR FAIRING TWO REQUIRED
FRONT STABILIZER SPAR TWO REQUIRED
TEMPLATE "J" FOR REAR COCKPIT FORMER
REAR WING SPAR
TOP OF SPAR
BOTTOM OF SPAR
RED
WHITE
BLUE
SCALE PROPELLER
TEMPLATE "H" LOWER REAR MOTOR COWL
CEMENT TO BOTTOM OF BODY BETWEEN CROSS SECTIONS 2 & 3.
TEMPLATE "L" TOP OF WING FILLET TWO REQUIRED
TEMPLATE "K" TOP OF WING FILLET 2 OPPOSITES REQUIRED
TEMPLATE "O" REAR LANDING GEAR MOUNT FAIRING
TEMPLATE "P" FRONT LANDING GEAR MOUNT FAIRING 1 REQUIRED
TEMPLATE "Q" OUTSIDE LANDING GEAR FAIRING MAKE TWO
TEMPLATE "R" BOTTOM REAR WING FILLET TWO REQUIRED
TEMPLATE "S" BOTTOM FRONT WING FILLET TWO REQUIRED
LUMP OF CEMENT
INSULATORS AND AERIAL
AERIAL POST 3/32" X 1/8"
GUN SIGHT 3/32" SQ.
TEMPLATE "G"
ENCLOSED COCKPIT
TEMPLATE "F"
TEMPLATE "C"
COCKPIT ENCLOSURE COVERED WITH CELLOPHANE.
TEMPLATE "A"
TEMPLATE "B"
BAGGAGE COMPARTMENT
4A&F
5-A&F
5G&H
6-A&F
7-A&F
8-A&F
9-A&F
STIFFEN HORIZONTAL CROSS HATCH BARS WITH 3/32" SQ. BALSA.
TEMPLATE E
TEMPLATE "D"
MOTOR COWL BLOCK
2-A&F
3-A&F
SPINNER
PROPELLER SHAFT
BODY UPRIGHT 3/32" X 3/16"
MOTOR LOUVERS
CUT FROM SAV-A-PLAN
DIAGONAL BRACE
STEP
LEADING EDGE
FRONT WING SPAR
LONGERONS 3/32" SQ.
POSITION OF REAR WING SPAR
BODY UPRIGHT
TRAILING EDGE 3/32" X 3/16"
TEMPLATE "J"
CROSS BRACE 3/32"X1/8"
7 TH. OBSERVATION SQUADRON INSIGNIA
REAR HOOK
3/32" X 1/4"
3/32"X3/16"
TAIL WHEEL
CROSS BRACE 3/32" X 1/4"
2-C&D
3-C&D
4-C&D
5-C&D
6-C&D
7-C&D
8-C&D
9-C&D
EXHAUST STACKS
TEMPLATE "I"
TEMPLATE "H"
TEMPLATE "P"
TEMPLATE "O"
LANDING GEAR FAIRING AND STRUT
LANDING GEAR MOUNT
TEMPLATE "Q"
TEMPLATE "M"
3/32"X1/4"
WHEEL
TWO WASHERS AND NOSE PLUG
LEAVE SPACE OPEN BETWEEN STRINGERS TO ATTACH OR REPLACE RUBBER MOTOR.
SIDE VIEW
NOTE: BUILD LANDING GEAR STRUTS OVER FULL SIZE VIEW. STRUTS ARE MADE FROM 3/32"X1/4" STRIPWOOD PIECES. TWO STRUTS ARE REQUIRED.
TEMPLATE "F" FRONT COCKPIT COVER. ATTACH TO TOP OF BODY ON CROSS SECTION 4. EXTEND TEMPLATE FORWARD FROM 4-A&F.
H. LLOYD CHILD Chief Test Pilot Curtiss-Wright Corp. Photo by A. D. Paterson, Jr.
ACE WHITMAN
LEADING EDGE 3/32" X 1/8"
S03C-1
HINGE
R-1
R-3
R-4
R-6
R-9
R-11
R-13
R-15
R-16
R-17
R-18
R-19
NO. 5
NO. 6
NO. 7
NO. 8
NO. 9
NO. 10
BLUE
WHITE
RED
3/32"X1/8"
3/32"X1/8"
RUDDER TRIM TAB
CORNER BRACE 3/32"X3/16"
T-1
T-2
T-3
STABILIZER AND ELEVATOR
FALSE RIBS
LEADING EDGE 3/32"X1/8"
S-1
S-2
S-3
S-4
S-5
S-6
S-7
S-8
S-9
S-10
S-11
S-12
S-13
E-7
E-8
E-9
E-10
E-11
E-12
E-13
E-14
STABILIZER
FRONT SPAR
REAR SPAR
HINGE
ELEVATOR
ELEVATOR TRIM TAB
CRACK RIB
CORNER BRACE 3/32"X1/4"
REAR STABILIZER SPAR 3/32"X1/4"

SCALE 15/16"=1'-0"

EXACT SCALE FLYING MODEL

CURTISS SCOUT OBSERVATION

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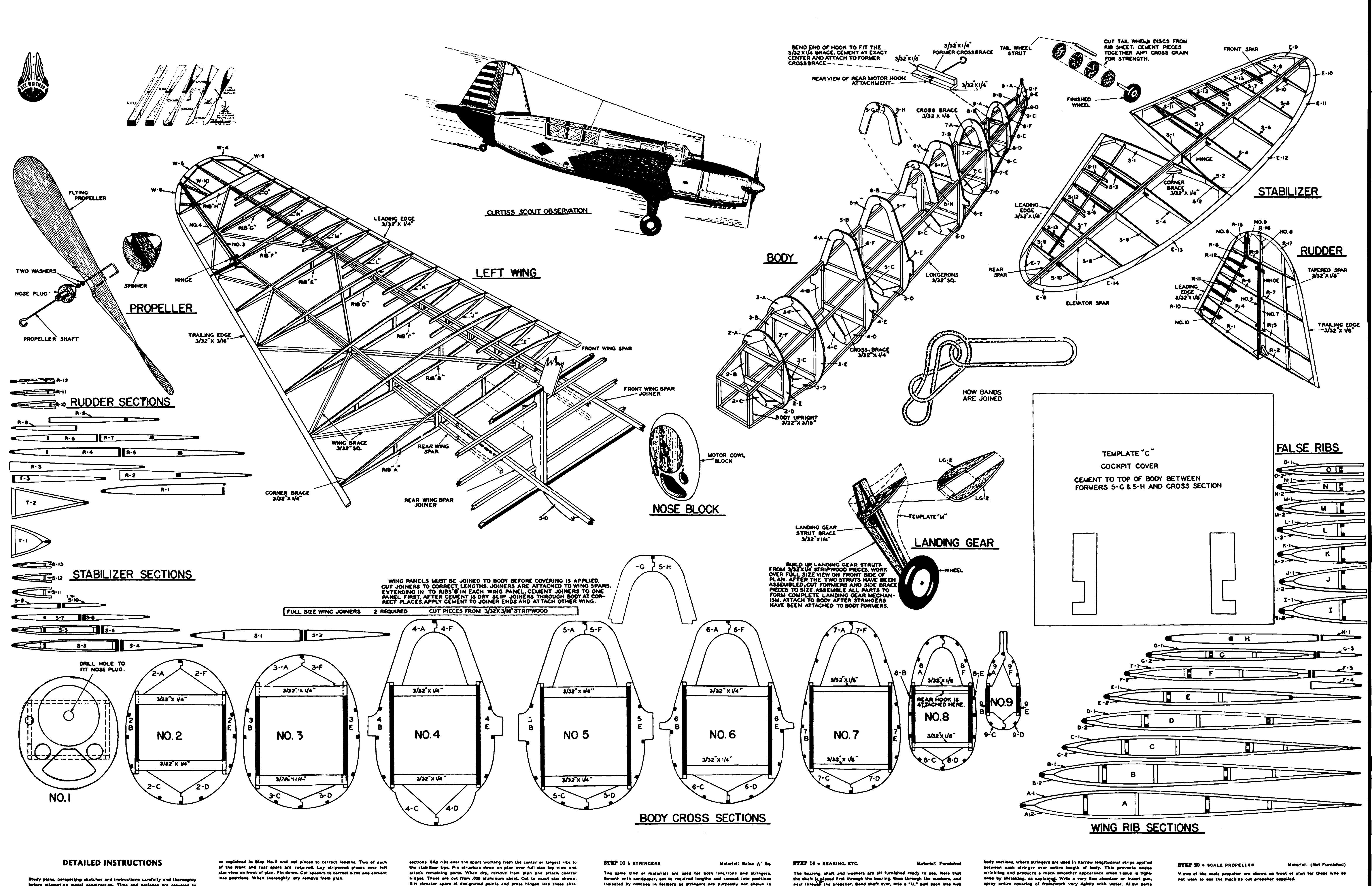
ACE WHITMAN
FLYING PROPELLER
SPINNER
TWO WASHERS
NOSE PLUG
PROPELLER SHAFT
PROPELLER
RUDDER SECTIONS
R-1
R-2
R-3
R-4
R-5
R-6
R-7
R-8
R-9
R-10
R-11
R-12
T-1
T-2
T-3
STABILIZER SECTIONS
S-1
S-2
S-3
S-4
S-5
S-6
S-7
S-8
S-9
S-10
S-11
S-12
S-13
W-4
W-5
W-6
W-9
W-10
NO. 4
NO. 3
HINGE
RIB "H"
RIB "G"
RIB "F"
RIB "E"
RIB "D"
RIB "C"
RIB "B"
RIB "A"
LEADING EDGE 3/32" X 1/4"
TRAILING EDGE 3/32" X 3/16"
WING BRACE 3/32" SQ.
REAR WING SPAR
CORNER BRACE 3/32" X 1/4"
REAR WING SPAR JOINER
FRONT WING SPAR
FRONT WING SPAR JOINER
LEFT WING
CURTISS SCOUT OBSERVATION
BEND END OF HOOK TO FIT THE 3/32X1/4 BRACE. CEMENT AT EXACT CENTER AND ATTACH TO FORMER CROSSBRACE.
3/32"X1/4" FORMER CROSSBRACE
3/32"X1/8"
3/32"X1/4"
REAR VIEW OF REAR MOTOR HOOK ATTACHMENT
TAIL WHEEL STRUT
CUT TAIL WHEEL DISCS FROM RIB SHEET. CEMENT PIECES TOGETHER AND CROSS GRAIN FOR STRENGTH.
FINISHED WHEEL
CROSS BRACE 3/32 X 1/8
BODY
LONGERONS 3/32" SQ.
CROSS-BRACE 3/32" X 1/4"
BODY UPRIGHT 3/32" X 3/16"
2-A
2-B
2-C
2-D
2-E
2-F
3-A
3-B
3-C
3-D
3-E
3-F
4-A
4-B
4-C
4-D
4-E
4-F
5-A
5-B
5-C
5-D
5-E
5-F
5-G
5-H
6-A
6-B
6-C
6-D
6-E
6-F
7-A
7-B
7-C
7-D
7-E
7-F
8-A
8-B
8-C
8-D
8-E
8-F
9-A
9-B
9-C
9-D
9-E
9-F
HOW BANDS ARE JOINED
MOTOR COWL BLOCK
NOSE BLOCK
LG-2
TEMPLATE "M"
LANDING GEAR STRUT BRACE 3/32"X1/4"
WHEEL
LANDING GEAR
FRONT SPAR
E-7
E-8
E-9
E-10
E-11
E-12
E-13
E-14
HINGE
CORNER BRACE 3/32" X 1/4"
LEADING EDGE 3/32"X1/8"
REAR SPAR
ELEVATOR SPAR
STABILIZER
RUDDER
NO. 5
NO. 6
NO. 7
NO. 8
NO. 9
NO. 10
R-15
R-16
R-17
TAPERED SPAR 3/32"X1/8"
LEADING EDGE 3/32"X1/8"
TRAILING EDGE 3/32" X 1/8"
TEMPLATE "C" COCKPIT COVER
CEMENT TO TOP OF BODY BETWEEN FORMERS 5-G & 5-H AND CROSS SECTION
FALSE RIBS
O-1
O-2
N-1
N-2
M-1
M-2
L-1
L-2
K-1
K-2
J-1
J-2
I-1
I-2
WING PANELS MUST BE JOINED TO BODY BEFORE COVERING IS APPLIED. CUT JOINERS TO CORRECT LENGTHS. JOINERS ARE ATTACHED TO WING SPARS, EXTENDING IN TO RIBS "B" IN EACH WING PANEL. CEMENT JOINERS TO ONE PANEL FIRST. AFTER CEMENT IS DRY SLIP JOINERS THROUGH BODY AT CORRECT PLACES. APPLY CEMENT TO JOINER ENDS AND ATTACH OTHER WING.
FULL SIZE WING JOINERS 2 REQUIRED CUT PIECES FROM 3/32X3/16" STRIPWOOD
BUILD UP LANDING GEAR STRUTS FROM 3/32X1/4 STRIPWOOD PIECES. WORK OVER FULL SIZE VIEW ON FRONT SIDE OF PLAN. AFTER THE TWO STRUTS HAVE BEEN ASSEMBLED, CUT FORMERS AND SIDE BRACE PIECES TO SIZE. ASSEMBLE ALL PARTS TO FORM COMPLETE LANDING GEAR MECHANISM. ATTACH TO BODY AFTER STRINGERS HAVE BEEN ATTACHED TO BODY FORMERS.
DRILL HOLE TO FIT NOSE PLUG.
NO. 1
NO. 2
NO. 3
NO. 4
NO. 5
NO. 6
NO. 7
NO. 8
NO. 9
3/32" X 1/4"
3/32" X 1/8"
REAR HOOK IS ATTACHED HERE.
BODY CROSS SECTIONS
A
B
C
D
E
F
G
H
A-1
A-2
B-1
B-2
C-1
C-2
D-1
D-2
E-1
E-2
F-1
F-2
F-3
F-4
G-1
G-2
G-3
H-1
WING RIB SECTIONS

DETAILED INSTRUCTIONS

Study plans, perspective sketches and instructions carefully and thoroughly before attempting model construction. Time and patience are required to make this exact scale model. Always bear this in mind. The following few additional tools and materials other than those supplied, are necessary to build this airplane model: A razor blade (preferably one with heavy rounded back); a small board upon which to work and cement parts; about fifty small thin pins; a pair of pliers for bending shaft; some small pieces of sandpaper; and a piece of waxed paper 12 x 38 inches.

STEP 1 • REINFORCED PRINTED SHEETS

Printed balsa rib sheets are supplied. But, when stronger models are required, plain sheets of white writing paper can be pasted to backs of rib sheets. Apply library paste to paper and attach to back of each rib sheet. Paper reinforcements eliminate possibility of cracking balsa along the grain. While drying, place pasted parts between two flat surfaces and apply weights to them (some old magazines or books) to prevent warping. Do not remove paper reinforcements from various pieces after they have been cut from rib sheet.

STEP 2 • SANDPAPERING

Material: Wood Block and Sandpaper (Not Furnished)

For sandpapering obtain a small block of wood and fold sandpaper tightly around it. Rub sandpaper-covered block with an outward motion lightly and squarely on all balsa strips. Avoid rounding edges of square longitudinal pieces.

STEP 3 • WING SPARS — Material: Balsa 3/32" Sq.

The first construction step is the assembly of the wing spars. These are built up from the 3/32" square stripwood pieces. Sandpaper edges smooth as explained in Step No. 2 and cut pieces to correct lengths. Two of each of the front and rear spars are required. Lay stripwood pieces over full size view on front of plan. Pin down. Cut spacers to correct sizes and cement into positions. When thoroughly dry remove from plan.

STEP 4 • WING RIBS — Material: 3/32" Sq. and Printed Rib Sheets

Cut out all necessary pieces needed to make the wing ribs, from the printed rib sheets. Place a piece of waxed paper over wing rib sections and pin down. Assemble wing ribs over full size drawings. The spacers are cut from 3/32" square stripwood. Apply cement to edges of pieces before placing down into position. As two ribs of each size are required, build second rib directly over the first assembled rib of its corresponding size. Remove from plan when thoroughly dry and check all cemented joints to assure perfect adhesion. It is advisable to give all cemented surfaces a second application.

STEP 5 • ASSEMBLING WING PANELS

Slip ribs over spars beginning with ribs A, B, C, etc. Start at wing tip ends of spars and slide every rib down until rib position is reached. A slight sanding or cutting may be necessary to bring rib to its designated position. After all ribs are in place check their alignment. Next pin down wing panels over plan and attach leading and trailing edges. Apply cement to proper surfaces and let dry. Attach wing tips and all cross braces. When wings are thoroughly dry, remove from plan. Sandpaper leading and trailing edges round to conform to wing rib sections. Attach wing spar joiners to one wing panel and cement securely. Wings must be attached to body before tissue covering is attached.

STEP 6 • ELEVATOR AND STABILIZER

Material: 3/32" x 1/4", 3/32" x 1/8" and Printed Rib Sheets

Build up all ribs necessary to assemble the elevator and stabilizer. Work over full size views on rear of plan. Cut out all spars to correct sizes and shapes. Sandpaper smooth. Mark off, on spars, the exact positions of rib sections. Slip ribs over the spars working from the center or largest ribs to the stabilizer tips. Pin structure down on plan over full size top view and attach remaining parts. When dry, remove from plan and attach control hinges. These are cut from .008 aluminum sheet. Cut to exact size shown. Slit elevator spars at designated points and press hinges into these slits. Apply a layer of cement to outer edges of hinges.

STEP 7 • RUDDER — Material: 3/32" x 1/8" and Printed Rib Sheets

The rudder is assembled in the same manner as stabilizer. Cut out all necessary pieces from stripwood and rib sheets. Work over side view. Hold parts in position with pins. When dry, remove from plan. Insert metal control hinges. Attach tail and rudder to body before tissue covering is applied.

STEP 8 • BODY-SIDES — Material: Balsa 3/32" sq. and 3/32" x 3/16"

Place waxed paper over side view of plane. Pin down longerons. Cut uprights to size and cement into position. Put in diagonal braces. When cement is thoroughly dry, remove body side from plan. As two such body sides are required, replace waxed paper over plan and make another similar body side.

STEP 9 • BODY-SQUARE

Material: Balsa 3/32" x 1/8", 3/32" x 1/4" and Printed Rib Sheets

The second body construction step is the assembly of the two sides into a square frame. Cut out all formers and crosspieces to correct sizes. Cement pairs of top and bottom formers together, as shown in perspective sketch, before attaching to body. First, put in all required cross braces. Bend longitudinals where necessary. Start at rear and work toward front. After all the cross-braces are in place, insert body formers. Apply a liberal amount of cement to proper surfaces before placing into position. Do not cut out stringer notches until formers have been attached to body square. Check structure to make sure all corners are square and body is in true alignment. After all parts are thoroughly dry stringers can be attached.

STEP 10 • STRINGERS — Material: Balsa 3/32" Sq.

The same kind of materials are used for both longerons and stringers. Smooth with sandpaper, cut to required lengths and cement into positions indicated by notches in formers as stringers are purposely not shown in perspective sketches. They run lengthwise along outside of body to help round out body and support covering.

STEP 11 • TEMPLATES — Printed on Plan

All stiff paper templates are shown in full size on plan. With carbon paper trace these templates onto stiff paper. Cut out traced forms to exact size, bend to required shape and cement into position during the process of assembly. Apply cement to proper edges and hold or pin into position until cement is thoroughly dry.

STEP 12 • NOSE BLOCK — Material: Balsa 1/2" x 2 1/2" x 3"

Mark off exact shape of nose block on thick balsa piece. Cut out along outside edge of marked line with razor blade or scroll saw. Sandpaper edge until smooth. Cut out the small indentations for dummy air intakes. Make indentations about 1/8" deep. This gives a more realistic appearance when model is completed.

Mark off position of cross section No. 1 on back of block. Cement nose block to front of ship.

STEP 13 • PROPELLER AND SPINNER — Material: Balsa

A machine cut propeller is supplied. However, it is not completely finished. Sandpaper corners and edges round. Propeller must be balanced. Do this by piercing propeller center with a very thin pin which in turn is stuck to the edge of a board, thus permitting propeller to revolve freely. When propeller is properly balanced it will remain stationary, on its shaft, in any position. Sandpaper heavier blade until balance is attained. Notch nose spinner, attach propeller as shown and cement securely.

STEP 14 • BEARING, ETC. — Material: Furnished

The bearing, shaft and washers are all furnished ready to use. Note that the shaft is placed first through the bearing, then through the washers, and next through the propeller. Bend shaft over, into a "U," pull back into hub of propeller and cement securely. Be sure shaft is aligned properly with blades so they will revolve truly. As tension of rubber motor will hold nose bearing in position, do not cement it to nose block. This will permit propeller unit to be readily removable from front of ship. Now insert rear motor hook into position shown in side view. Cement securely.

STEP 15 • LANDING GEAR AND TAIL WHEEL

Material: Balsa 3/32" x 1/4", Templates and Printed Rib Sheets

The main struts of the landing gear are made from 3/32" x 1/4" balsa stripwood. Assemble struts over full size view on front of plan. Cut pieces to size and hold parts in positions with pins. Apply a liberal amount of cement to joined surfaces. When thoroughly dry, remove from plan and attach formers LG-2 at exact positions. Put in side braces. Attach assembled landing gear struts to correct positions on body. A heavy layer of cement applied to joined surfaces is advisable to assure a strong, permanent joint. Attach wheels to ends of struts. Use common straight pins for axles.

The tail wheel is made from four separate pieces. Cut required parts from rib sheet. Cement pieces together, "crossgrained." This is done to obtain extra strength and to avoid warping. After cement is thoroughly dry, round outer edges to a tire shape. Insert tail wheel strut. Tail wheel is not attached to model until the final assembly.

STEP 16 • COVERING, ETC.

All individual complete parts are to be covered all around or on all sides. First, sandpaper all rough edges and make all corners slightly rounded. Fit the tissue paper first, a section at a time, then apply cement and finally attach tissue and allow it to dry. Cover all parts completely and apply as much tissue in one section as possible without undue wrinkling. Cover body sections, where stringers are used in narrow longitudinal strips applied between each stringer over entire length of body. This prevents undue wrinkling and produces a much smoother appearance when tissue is tightened by shrinking, as explained. With a very fine atomizer or insect gun, spray entire covering of framework very lightly with water. Allow parts to dry. The tissue shrinks as it dries. This gives the parts a smooth tightly stretched covering. When parts are completely covered and dry they are ready for decorations.

STEP 17 • DECORATIONS

Material: Printed on Plan and Emblem Sheet

Cut various decorations from back of plan and emblem sheet. Apply a thin layer of cement to backs and place in positions. Cut "U. S. Army" from plan and cement to bottom of wing.

STEP 18 • RUBBER MOTOR — Material: 3/32" x 1/8" x 9" (2 Bands)

Two large rubber bands are supplied. Tie them together to form a two strand rubber motor about 18" long. Sketch shows how bands are joined. Attach rubber motor between propeller shaft and rear motor hook. Rubber motor can be easily inserted by threading or pulling into position with a piece of string dropped through body if held in a vertical position. At front of ship nose plug is removable, but at rear of ship a small opening in the covering should be provided for inserting the rubber motor.

STEP 19 • WINDSHIELD AND ENCLOSED COCKPIT

Material: Transparent Stock

Windshield and cockpit windows can be made with transparent stock or cellophane. Cut and fit material until proper size and shape are attained. Insert pilots and instrument panel into place before cementing windshield into position. Apply cement to outer edges of pieces and place into positions. Use pins in assembly until cement is thoroughly dry.

STEP 20 • SCALE PROPELLER — Material: (Not Furnished)

Views of the scale propeller are shown on front of plan for those who do not wish to use the machine cut propeller supplied.

STEP 21 • FLYING

When model has been completely assembled it must be checked for center of gravity balance before a trial flight is attempted. Place the forefingers at the midpoint of the wing tips and lift model to see whether it balances. If tail has a tendency to drop it denotes tail heaviness which may be overcome by adding a little weight to nose of ship. If nose has a tendency to point downward, add a little weight to tail. Use this procedure until proper balance is attained. Tacks or pins can be inserted into front or rear of model to produce proper balance. When plane remains horizontal, while suspended on finger tips, it can be considered balanced. A few short trial glides should be made AFTER the model has been properly balanced (not before). When gliding, if ship has tendency to climb and if it does not make a gradual glide downward, it indicates that tail is still a little too heavy. This must be offset by additional weight at front of model. To be certain that ship is correctly balanced, hold it, unwound, in position for launching and if the glide after leaving the hand is steady and consistent and goes forward 10 or 15 feet, ship can be considered as making a normal glide. Model is now ready for its trial flight. When gliding the ship do not launch it upward. Launch it with the nose pointed slightly downward which permits gravity to take effect. Before trying a powered flight it is advisable to test motor by winding propeller with right forefinger. Permit rubber motor to unwind completely, two or three times. At this time check trueness of propeller rotation. While turning propeller and thus winding rubber motor, hold model firmly by its nose block. The proper number of turns for the rubber motor is attained when its coils or twists are fairly small and tight.

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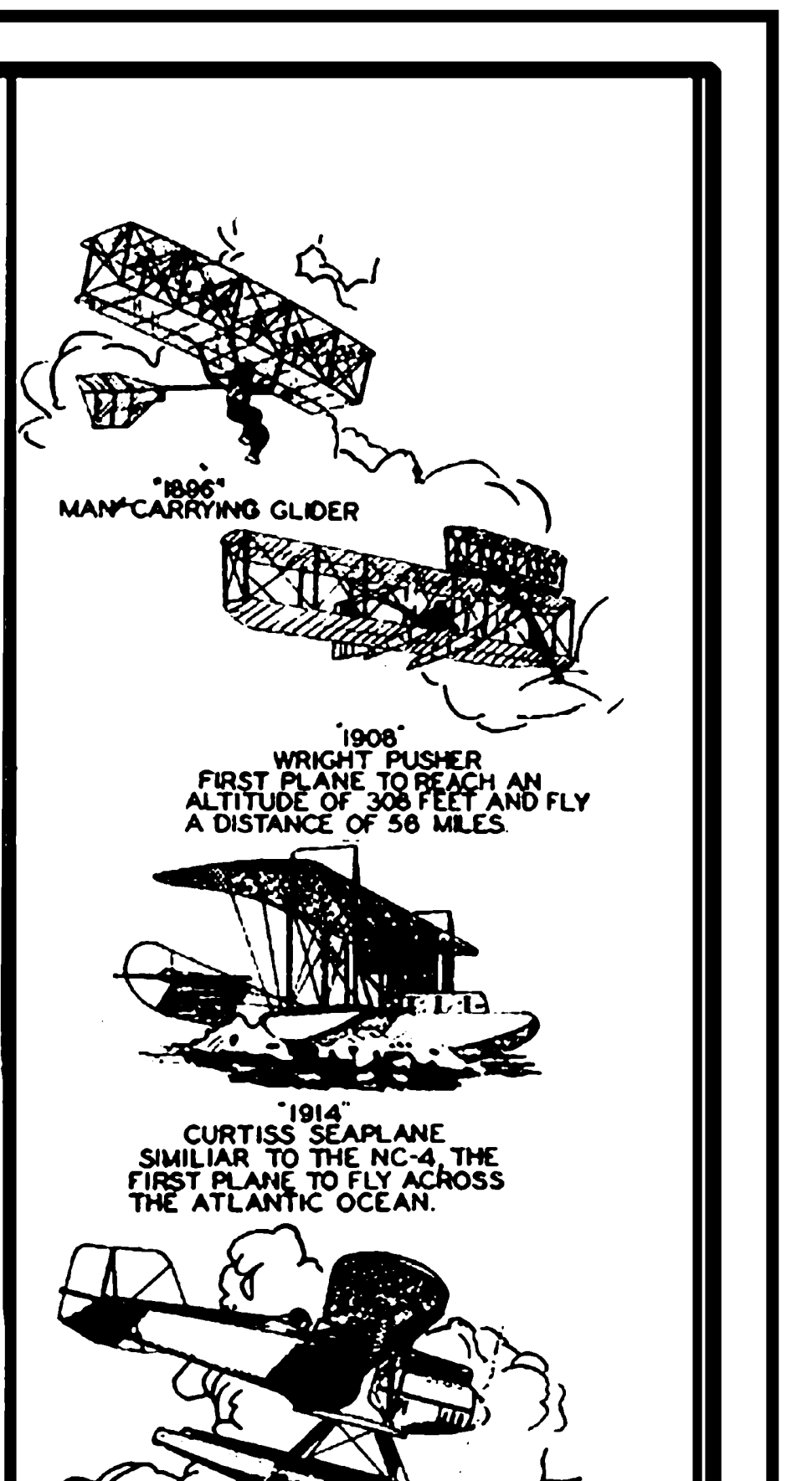


"1896" MAN-CARRYING GLIDER

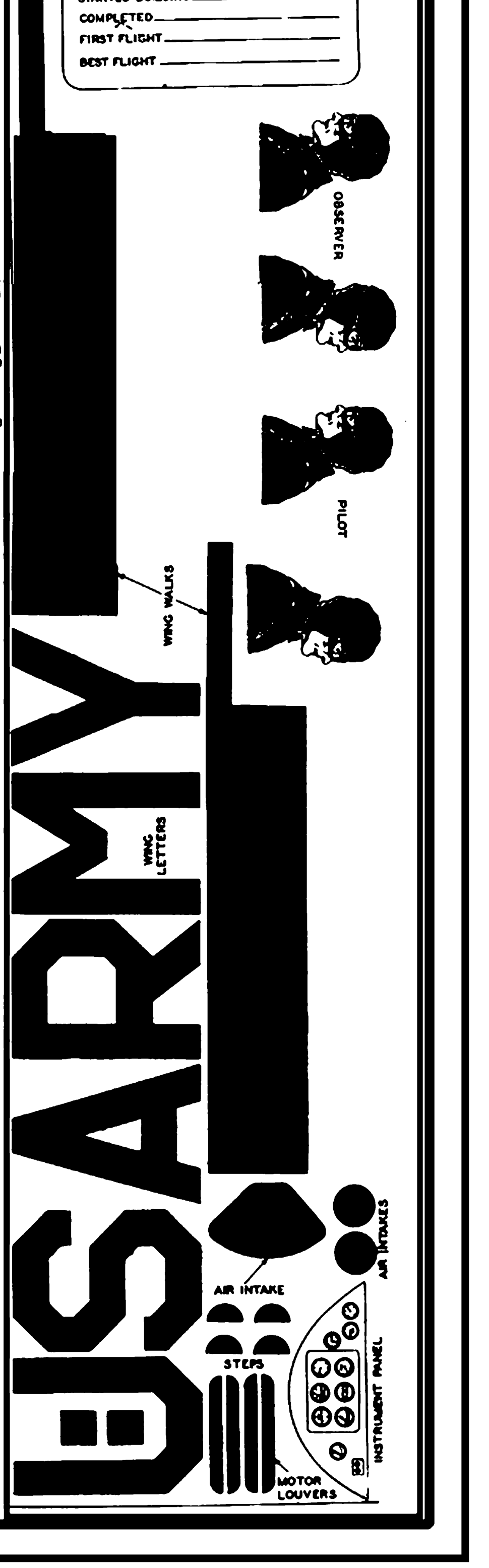
"1908" WRIGHT PUSHER FIRST PLANE TO REACH AN ALTITUDE OF 308 FEET AND FLY A DISTANCE OF 56 MILES.

"1914" CURTISS SEAPLANE SIMILIAR TO THE NC-4, THE FIRST PLANE TO FLY ACROSS THE ATLANTIC OCEAN.

"1924" SCHNEIDER CUP RACER SPEED 200 MILES PER HOUR

MODEL BUILDERS RECORD

NAME ____________
PURCHASED ____________
STARTED BUILDING ____________
COMPLETED ____________
FIRST FLIGHT ____________
BEST FLIGHT ____________


OBSERVER
PILOT
WING WALKS
WING LETTERS
USARMY
AIR INTAKE
AIR INTAKES
STEPS
INSTRUMENT PANEL
MOTOR LOUVERS