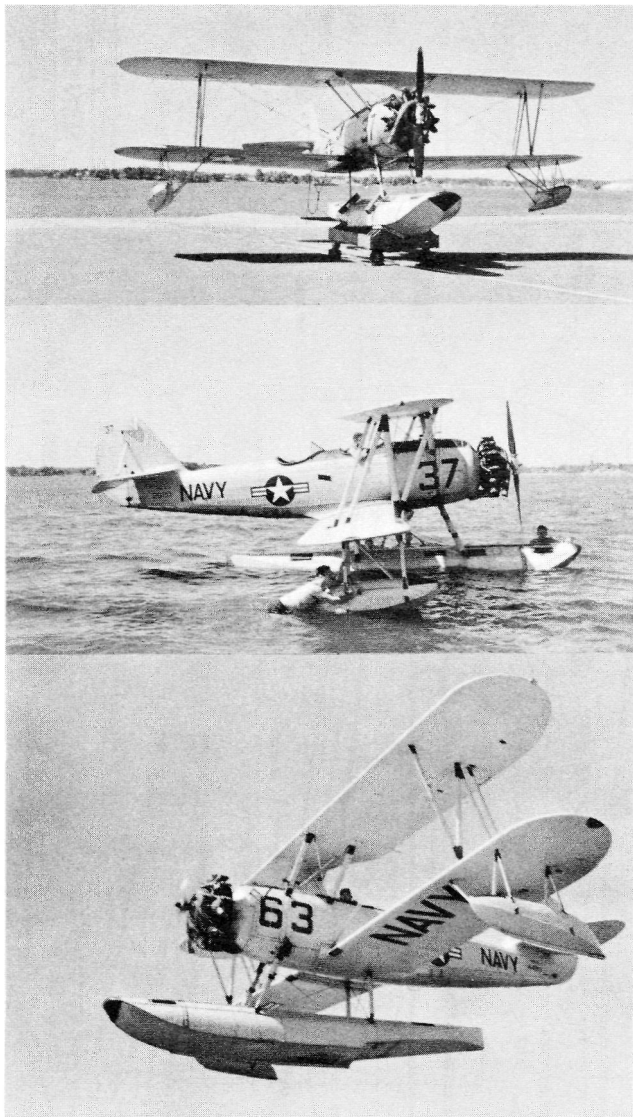


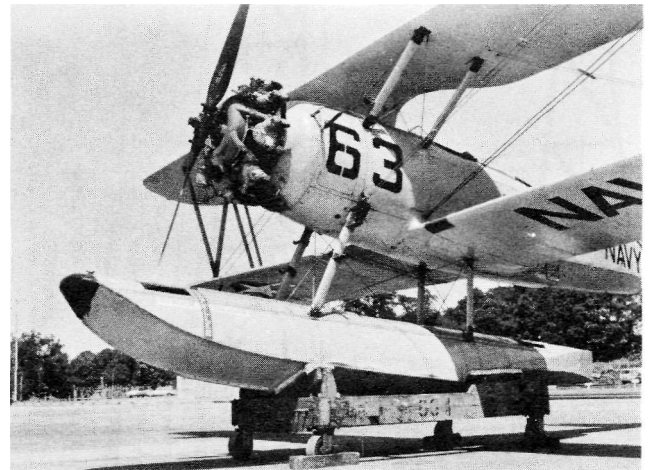


N3N

scale drawing
by
DAVID H. BRAZELTON

Member David H. Brazelton started this drawing of the N3N in three plates in early 1961 but was interrupted before long by a call to active service by Uncle Same, as a part of the Illinois Air National Guards.

The drawings were finished after deactivation of his outfit early this year and this is the first opportunity for inclusion in the JOURNAL. We are proud to present them herewith.



THE N3N AT ANNAPOLIS

By WARREN D. SHIPP

Old "Yellow Peril" has at last been retired from the military service. The venerable trainer has turned in its stars, but has not stopped flying; there's many a good flying hour left in the staunch old girl yet. The Naval Aircraft Factory N3N-3's shown in the photographs accompanying this article were two among 36 assigned to Annapolis on our visit to that facility on 9 August 1958. At that time there were 36 aircraft on hand, most of which were on flying status. All were on floats. The oldest N3N-3 was built 18 March 1940, and the "youngest" at Annapolis was built 1 December 1941. They were used to give the Middies practical experience in theories learned in the classroom. During their stay at Annapolis the Midshipmen each received about 10 hours flying time in the N3N-3.

Photographer Howard Levy and I visited Annapolis on the above date for the purpose of photographing these planes before they would be disposed of. We were most fortunate in that the weather was ideal, and the cooperation of the base personnel provided us with two aircraft and pilots in order to take the flight pictures. We flew for about an hour, shooting back and forth, and conversing with pilots via Gosport tube. It was an unforgettable flight.

According to communication received from Lt. Commander Joseph A. Adams, U.S. Navy, Service Information Officer at the U.S. Naval Air Station, Norfolk, Va., in the spring of 1960, 36 N3N-3 aircraft were transferred by barge from Annapolis to Norfolk for salvage. Their records showed that the time on air frames was 4,016 hours. One of the N3N-3's was shipped, in the fall of 1960, to the Director of the National Air Museum, Smithsonian Institution, Storage Facilities, 3910 Silver Hill Road, Silver Hill, Maryland. The log-book accompanied this aircraft. Of the remainder, 12 were sent to the State Forestry Service, New Bern, North Carolina, where they were rigged with water bombs for fighting fires. The rest were sold through the Naval Supply Center, Norfolk, Virginia. The log books accompanied these aircraft.

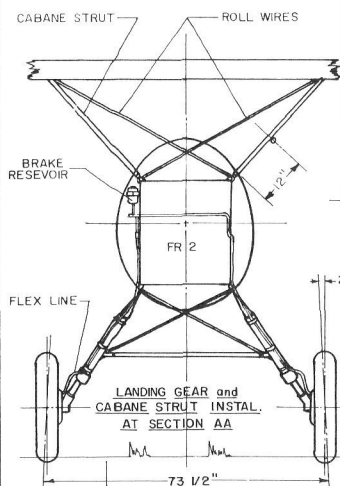
Finis is thus written to a fine military aircraft - one which may have served in military colors for a greater length of time than any other aircraft. Many thousands of pilots learned to fly in these craft, and it is comforting to know that at least one airplane will live on in a museum, occupying an honored and well-earned place in aviation history.

TURN and BANK
AIRSPEED
OIL TEMP.
MAG SWITCH
OIL PRESS
TACHOMETER
ALTIMETER
FUEL PRESS.
GAGE
RHEOSTAT
LIGHT SWITCHES
PRIMER (FRONT ONLY)
FUEL QUANTITY
COMPASS

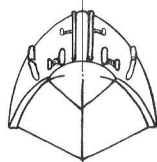
LATE MODEL INSTRUMENT PANEL

COMPASS
AIRSPEED
CLOCK
TACHOMETER
TURN and BANK
ENGINE GAGE
ALTIMETER
FUEL QUANTITY
RHEOSTAT
LIGHT SWITCHES
PRIMER (FRONT ONLY)

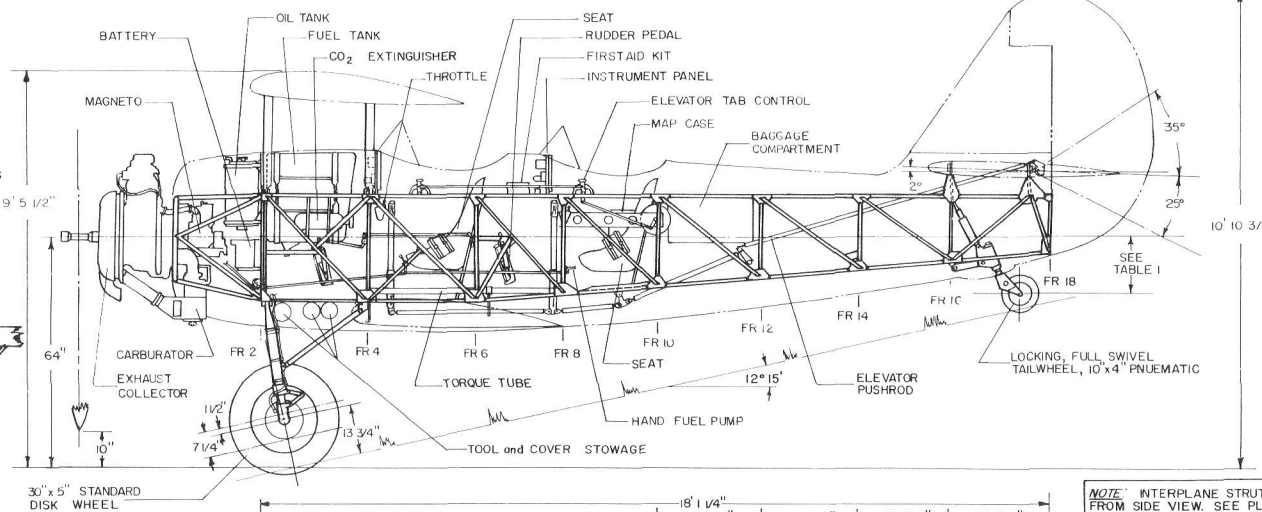
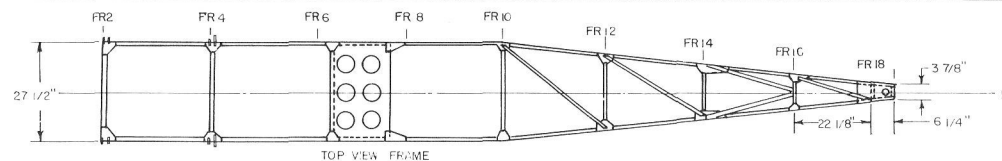
EARLY MODEL INSTRUMENT PANEL



FRONT VIEW ENGINE
WRIGHT R-760-2 or -8

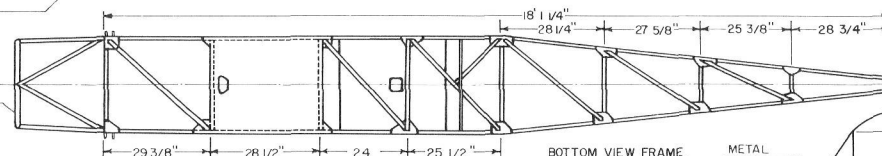


FRONT VIEW FLOAT

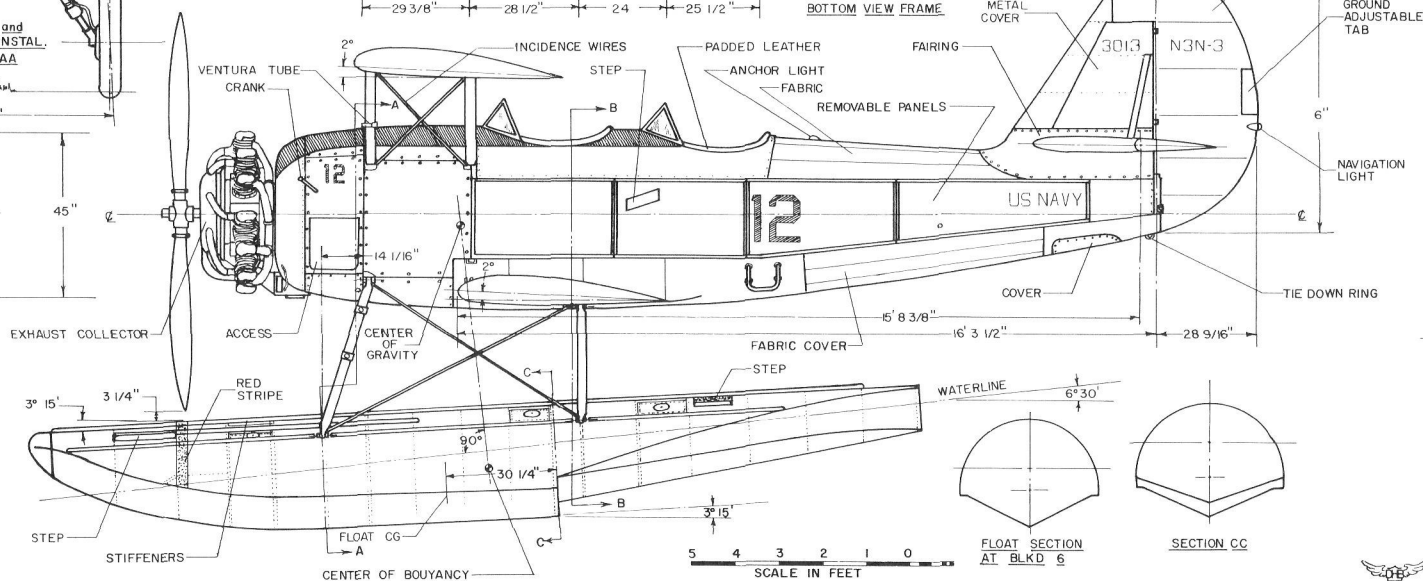


30\"/>

ENGINE MOUNT

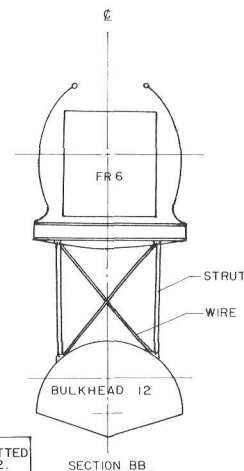


BOTTOM VIEW FRAME

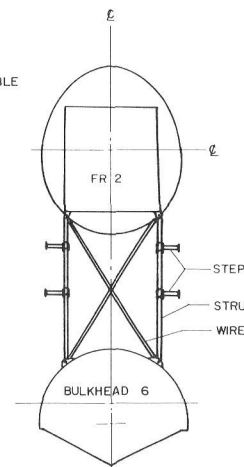


NOTE: INTERPLANE STRUTS OMITTED FROM SIDE VIEW. SEE PLATE 2.

TABLE 1	
STATIC	15 3/16"
COMPRESSED	13 3/4"
EXTENDED	20 15/16"



SECTION BB



SECTION AA

PLATE 1	
NAVAL AIRCRAFT FACTORY	
N3N-3	
DRAWN FOR THE AAHS JOURNAL BY	
DAVID H. BRAZELTON	
PEORIA, ILLINOIS	DEC 1961



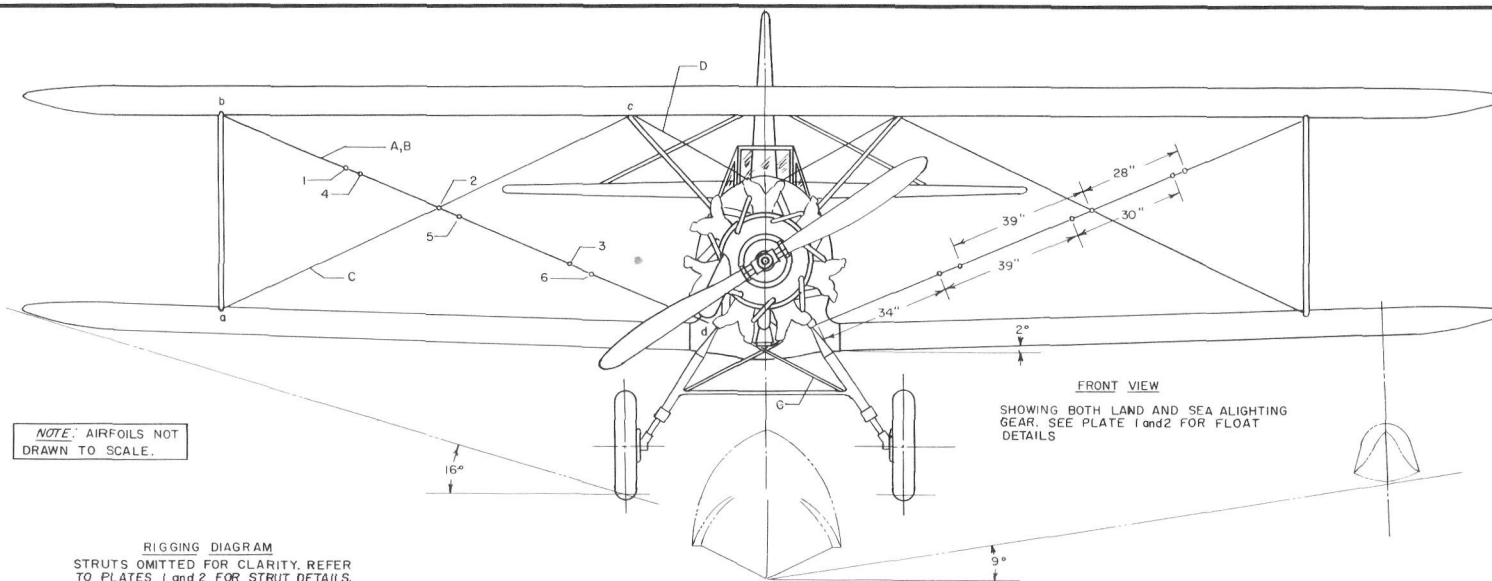
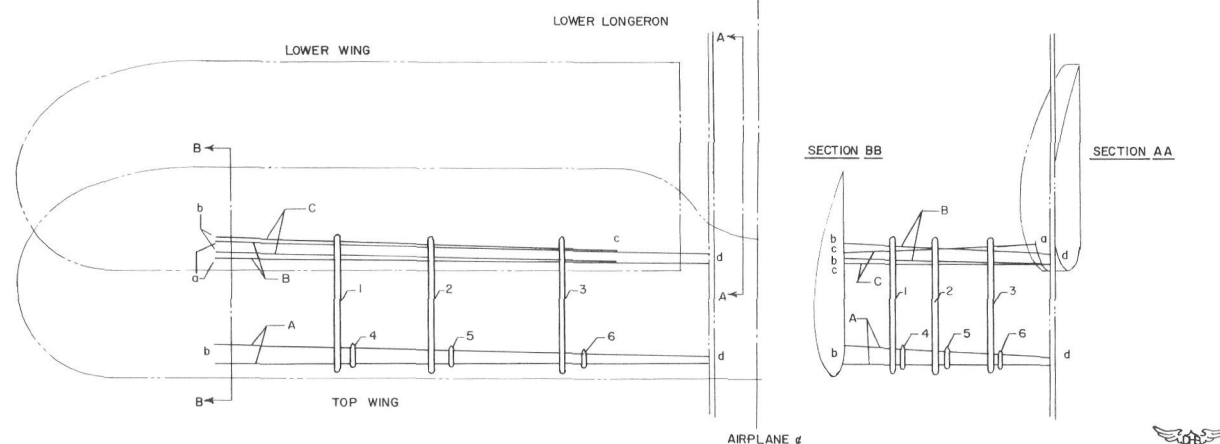


TABLE OF STREAMLINED TIE-RODS			
REF.	SPEC. NO.	QUANT.	LENGTH
A	AN 674 AC - 13925	4	141 3/8"
B	AN 676 AC - 13950	4	141 7/16"
C	AN 675 AC - 11400	4	116 7/8"
D	AN 667 AC - 3950	2	
E	AN 676 AC - 4150	2	44 3/16"
F	AN 675 AC - 4500	2	45 15/16"
G	214282	2	35 3/4"

NOTE: REF E IS THE INCIDENCE WIRE FROM FUSELAGE TO TOP OF THE FRONT CABANE STRUT. REF F IS THE INCIDENCE WIRE FROM FUSELAGE TO THE TOP OF THE REAR CABANE STRUT. SEE PLATE 1 FOR ILLUSTRATION.

THE N3N-1 WAS THE FIRST AIRPLANE TO BE BUILT BY THE NAVAL AIRCRAFT FACTORY UNDER THE VINSON-TRAMMEL NAVAL TREATY BILL OF 1935. 185 WERE BUILT BETWEEN JUNE 1936 AND 1938. A TOTAL OF 650 N3N-3 AIRCRAFT WERE BUILT FROM 1938 ON. A FEW N3N-3'S STILL FLY AT THE US NAVAL ACADEMY AT ANNAPOLIS, MARYLAND. OVER 200 WERE SOLD SURPLUS AFTER WORLD WAR 2. MANY OF THESE WERE MODIFIED FOR DUSTING OR SPRAYING. THE ENGINE WAS ALSO BUILT BY THE NAVAL AIRCRAFT FACTORY UNDER THE CONDITIONS OF THE SAME BILL.

RIGGING DIAGRAM
STRUTS OMITTED FOR CLARITY. REFER TO PLATES 1 and 2 FOR STRUT DETAILS.



NAVAL AIRCRAFT FACTORY **N3N-3** CONVERTABLE SEAPLANE

DRAWN FOR THE AMERICAN AVIATION HISTORICAL SOCIETY JOURNAL

DAVID H. BRAZELTON, Major, USAF PEORIA, ILLINOIS DECEMBER, 1961

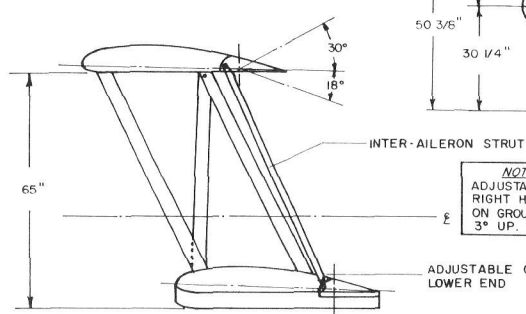
PLATE 3 TECHNICAL NOTES SCALE: 1/4" = 1'

WING		EMPENNAGE	
SPAN, UPPER	34' 0"	HORIZONTAL	
LENGTH, EA. LOWER PANEL	15' 1 7/32"	SPAN	12' 2"
CHORD, BOTH	57"	MAX. CHORD, STAB.	30 1/4"
GAP, AT ROOT LOW WING	63"	AREA, STAB.	23.5 SQ FT
DIHEDRAL, UPPER	0°	INCIDENCE, STAB.	+2°
LOWER	2°	MAX. CHORD, ELEV.	20 1/8"
INCIDENCE, UPPER	+2°	AREA, ELEV.	15.0 SQ FT
LOWER	+2°	TOTAL AREA	38.5 SQ FT
AREAS, INCL. AILERONS		ELEV. MOVEMENT UP	35°
UPPER	150 SQ FT	DOWN	25°
LOWER	155 SQ FT	TAB MOVEMENT UP	15°
TOTAL	305 SQ FT	DOWN	15°
AILERON		AIRFOIL	NACA 0006
LENGTH	6' 0"	VERTICAL	
EFFECTIVE CHORD	14 1/4"	HEIGHT	6' 0"
AREA	132.6 SQ FT	MAX. CHORD, RUDDER	
MOVEMENT UP	30°	AFT OF HINGE	28 9/16"
DOWN	18°	AREA, RUDDER	11.35 SQ FT
MEAN AERODYNAMIC CHORD		AREA, FIN	9.5 SQ FT
LENGTH	54.06'	TOTAL AREA	20.85 SQ FT
DIST. FROM L.E.L.W.	13.5"	RUDDER, MOVEMENT LEFT	30°
DIST. ABOVE T.L.	15.33"	RIGHT	30°
STAGGER	26 7/32"	AIRFOIL	NACA 0009
AIRFOIL	CYH	GROSS WEIGHT	

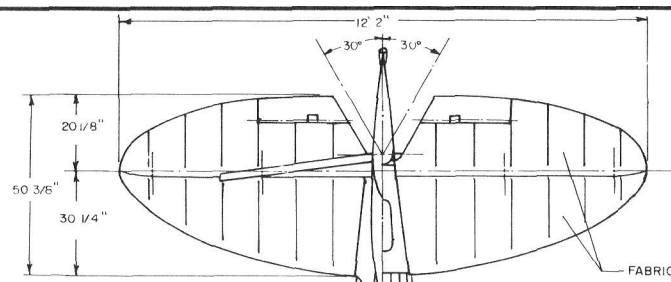
FINISH IN A/W REPORT		M4098, SPEC SR-6E	
LANDING GEAR, FLOATS, FUSELAGE STRUCTURE, INTERIOR OF COWLING, FIREWALL, FLOORS, AND ENGINE MOUNT.		1 COAT ZINC CHROMATE 2 COATS ALUMINUM LACQUER	
EXTERIOR METAL SURFACES		1 COAT ZINC CHROMATE 2 COATS ORANGE-YELLOW LACQUER	
INTERIOR OF FLOATS, TAIL SURFACES, WINGS, AND AILERONS		1 COAT ZINC CHROMATE 2 COATS ALUMINUM PIGMENTED ZINC CHROMATE PRIMER	
SEATS, RUDDER PEDALS, CONTROLS, THROTTLE QUADRANT, BRAKE PEDALS		1 COAT ZINC CHROMATE 2 COATS GLOSS BLACK LACQUER	
FABRIC SURFACES		4 COATS CLEAR NITRATE DOPE 2 COATS ORANGE-YELLOW NITRATE DOPE	

GENERAL DIMENSIONS		PROPELLOR		USEFUL LOAD		ENGINE SPECIFICATIONS	
OA LENGTH	25' 10 5/8"	HUB	BU AERO NO 5406 R	CREW	400 LB	NAF WRIGHT R-760-2 or -8	
OA HEIGHT, LEVEL	10' 10 3/4"	BLADES	BU AERO NO 4350 F	GASOLINE	45 GAL	DIAMETER	45"
OA HEIGHT, 3 POINT	9' 4 1/2"	DIAMETER	9' 0"	OIL	28 LB	OA LENGTH W/ACCESSORIES	46 25/64"
HINGE DISTANCE FROM LELW		BLADE ANGLE AT 42" STA.	14.5°	EQUIPMENT	4 LB	DIA. MOUNT BOLT CIRCLE	19 1/4"
RUDDER	16' 3 1/2"	ATTACHING PARTS		MAPS	1 LB	CENTER OF GRAVITY	
ELEVATOR	15' 8 3/8"	FRONT CONE	AN 5007-30	FIRST AID KIT	3 LB	DIST. ABOVE EL	0.3"
DISTANCE CENTER OF MLG		REAR CONE	AN 5008-30	TOTAL	702 LB	DIST. FWD OF MOUNT	7.0"
WHEEL TO LELW	19 1/2"	SNAP RING	AN 5009-30	AIR PRESSURES		BORE	5.0"
DISTANCE CENTER OF MLG		SPACER	AN 5010-30	MAIN TIRES	50 PSI	STROKE	5.5"
WHEEL TO FUS E (STATIC)	50 1/4"	HUB NUT	AN 5011-30	TAIL WHEEL TIRE	55 PSI	NO. CYLINDERS	7
HEIGHT, TOP WING FROM GND	9' 5 1/2"	INERTIA STARTER		OLEO STRUTS	10 PSI	DISPLACEMENT	756 CU IN
MEAN GAP OF WINGS	62.3"	SERIES VI HAND OPERATED INERTIA STARTER WITH INTEGRAL BOOSTER MAG, ENGINE PRIMER, AND CRANK EXTENSION.		MISCELLANEOUS NOTES		COMPRESSION RATIO	5.1:1
PROP CLEARANCE		STARTER WAS MOUNTED ON THE RH SIDE OF THE FIRST 50 PRODUCTION PLANES, LATER RETROFIT TO LH SIDE. CRANK STOWED ON ENGINE MOUNT ON LANDPLANE, BOLTED TO CRANK EXTENSION ON SEAPLANE.		1. CARBURETOR HEAT WAS CONTROLLED FROM THE FRONT SEAT ONLY.		HP AT 2000 RPM, SEA LEVEL	235 HP
TO GROUND	10"			2. REAR COCKPIT OF EARLY MODELS HAD MANUAL LOCK ON MIXTURE CONTROL WHICH HAD TO BE TAPED OPEN FOR SOLO.		WEIGHT	445 LB
TO FLOAT	3 1/4"			3. NO GENERATOR OR OIL COOLER WAS INSTALLED.		MAGNETOS	SCINTILLA MN7-D-F
HYDROSTATIC TYPE FUEL GAGE WAS ACCURATE AT 78 KTS. CONVERSION WAS NEEDED FOR MEASUREMENT IN THREE POINT OR STATIC WATERBORNE POSITION USING CONVERSION CARD ON PANEL.						CARBURETOR	STROMBERG NA-R7
						FUEL CONSUMPT.	.55 LB/BHP/HR
						OIL CONSUMPT.	.025 LB/BHP/HR
						ENGINE ROTATION	CLOCKWISE
						PROP HUB SPLINE	SAE NO 30
						PROP DRIVE	DIRECT

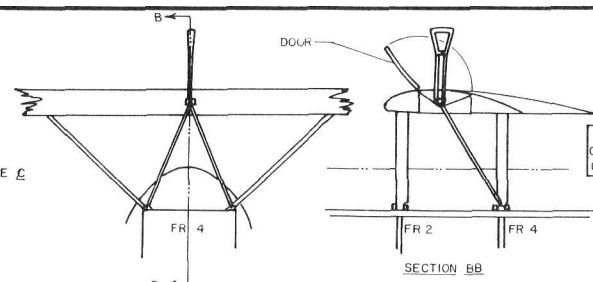
NOTE: BOTH CABANE AND INTERPLANE STRUTS ARE OF FIXED LENGTH SIMPLIFYING ASSEMBLY. WING ALIGNMENT ACCOMPLISHED BY ADJUSTING WIRES



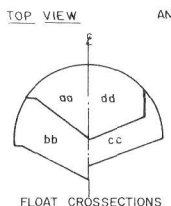
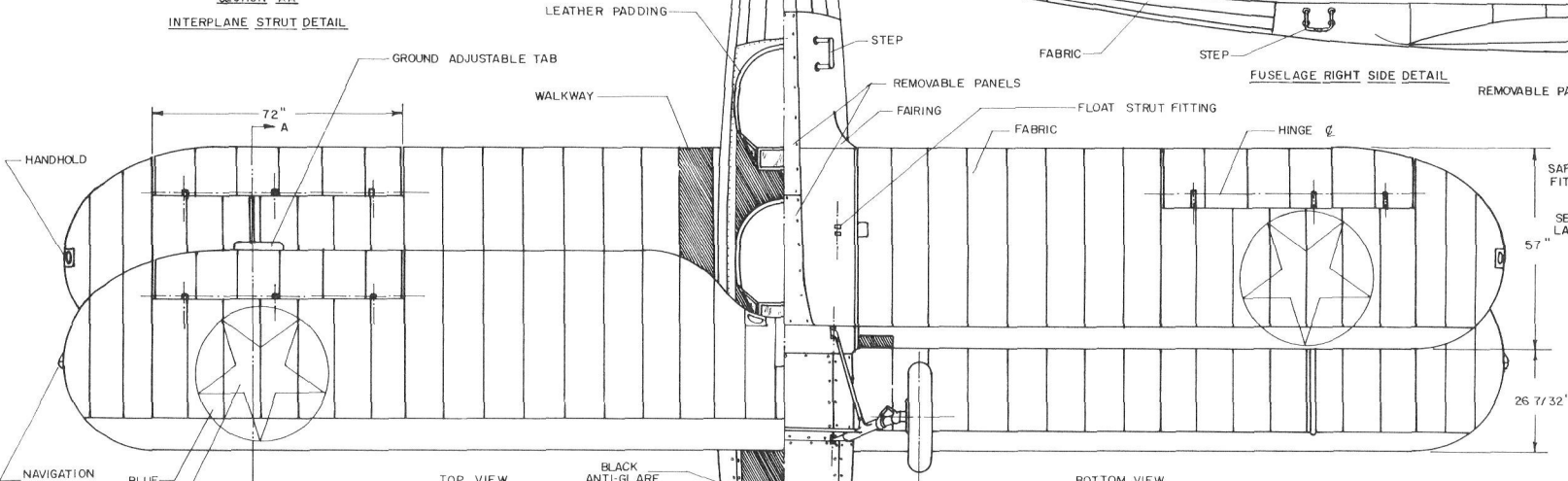
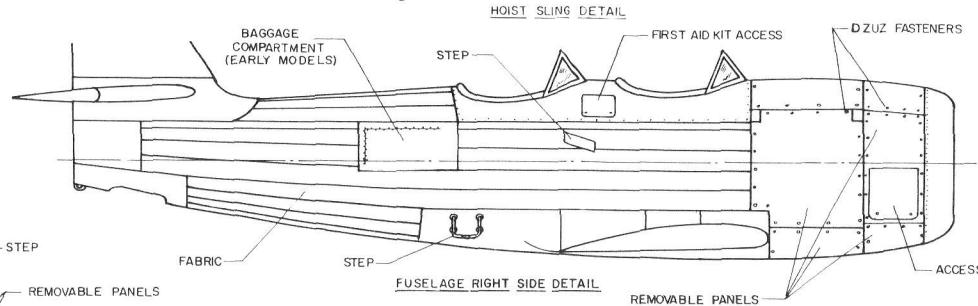
SECTION AA
INTERPLANE STRUT DETAIL



NOTE: LEFT HAND ELEVATOR TAB ADJUSTABLE FROM EITHER COCKPIT. RIGHT HAND ELEVATOR ADJUSTABLE ON GROUND ONLY, NORMALLY SET 3° UP.

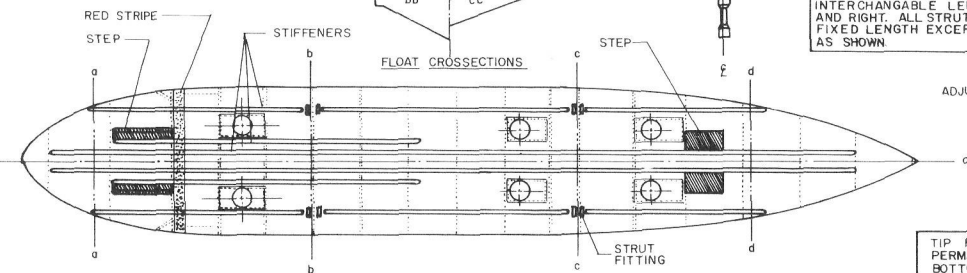


NOTE: HOIST SLING OFTEN REMOVED FOR LAND OPERATION.

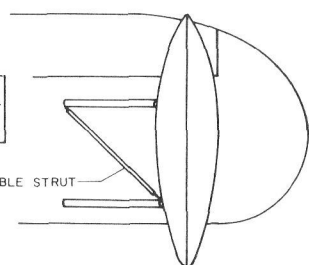


FLOAT CROSSSECTIONS

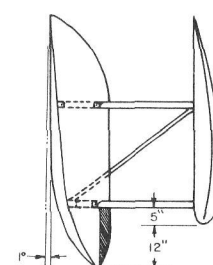
NOTE: TIP FLOATS ARE INTERCHANGABLE LEFT AND RIGHT. ALL STRUTS OF FIXED LENGTH EXCEPT AS SHOWN



CENTER FLOAT TOP VIEW



TIP FLOAT DETAIL



PILOT SEAT DETAIL
(FRONT SEAT SHOWN)

