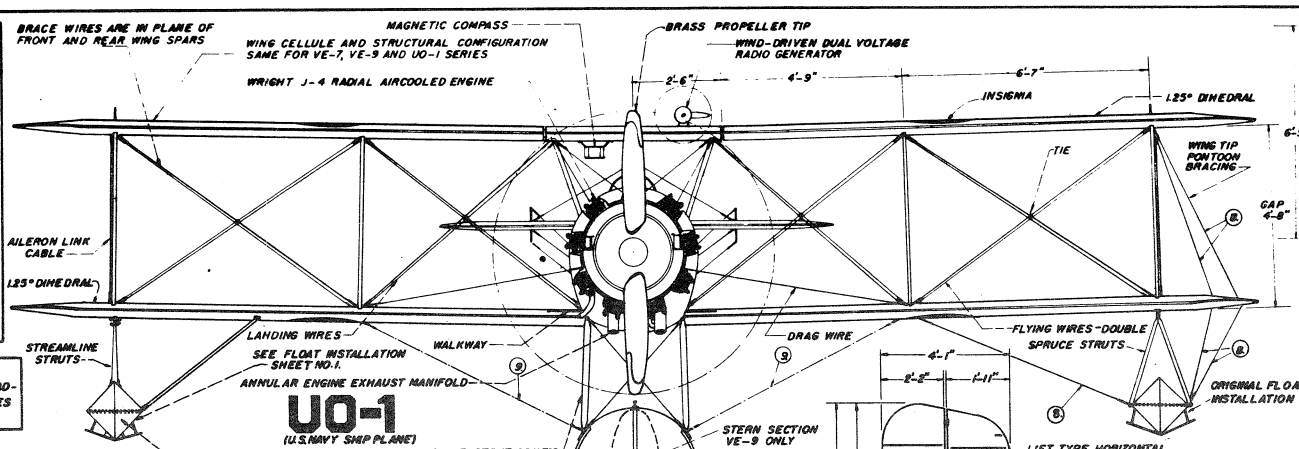
THESE TWO PLATES BEGIN THE TWO-PART DESIGN STUDY.

VOUGHT VE-7

THE CHANCE VOUGHT VE-7 WAS DESIGNED AS AN ENTRANT IN THE U.S. ARMY ADVANCED TRAINER COMPETITION HELD IN 1917. THE FIRST EXPERIMENTAL AIRPLANE WAS SUBMITTED FOR TESTING BY ARMY AUTHORITIES IN 1918. THE VE-7 WON THE COMPETITION AND WAS ORDERED INTO PRODUCTION BY THE PARENT COMPANY AND TWO LICENSEES, THE SPRINGFIELD AIRCRAFT CO. AND THE B.F. STURTEVANT COMPANY. TWENTY VE-7 PLANES WERE DELIVERED BY THE END OF WORLD WAR I. IN 1922-23 YEARS 27 VE-9 AIRPLANES WERE PROCURED BY THE U.S. ARMY AIR SERVICE.

THE AIRPLANE WAS FINISHED IN SILVER PIGMENTED LACQUER. SHADED AREAS GRAY. ENGINE AND TIRES IN BLACK.



HISPANO-SUIZA TYPE "E"

RATED H.P.	180
RATED R.P.M.	1800
BORE	4.72"
STROKE	5.11"
DRY WEIGHT	476"
COMPRESSION	5.33

NAVY VOUGHT VE-9

THIS AIRPLANE WAS AN IMPROVED VERSION OF THE VE-7 MODEL BUILT FOR THE U.S. ARMY. THE VE-9 WAS ADAPTED FOR LAND OR WATER OPERATION. THE VE-9 WAS THE FIRST AMERICAN DESIGNED SHIPBOARD AIRPLANE THAT COULD BE LAUNCHED FROM A CATAPAULT. THE FUSELAGE WAS STRENGTHENED FOR ROUGH WATER LANDING AS WELL AS THE IMPACT OF CATAPAULT LAUNCHING. TWO AIRPLANES OF THIS TYPE WERE ASSIGNED TO EACH BATTLESHIP FOR SCOUTING AND GUNFIRE SPOTTING.

ENGINE INSTALLATION: WATER COOLED, AEROMARINE MANUFACTURE, 250 H.P. MODEL U-873.

FUSELAGE: STRENGTHENED SPRUCE LONGERONS AND STRUTS AND STEEL CABLES AND FITTINGS.

SEATING: SAME AS VE-7.

WINDSHIELDS: SAME AS VE-2

EMPENNAGE: SAME AS VE-7, EXCEPT INCREASED VERTICAL STABILIZER AREA.

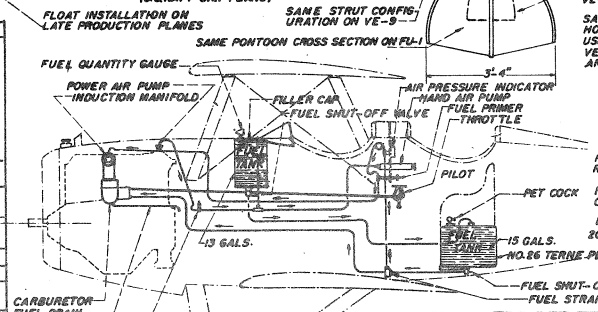
FACTOR OF SAFETY: SAME AS VE-7.

WEIGHT: IN EXCESS OF VE-7.

WING CELLULE: IDENTICAL TO VE-7. CENTER SECTION OF UPPER WING REINFORCED FOR HOISTING PURPOSES.

FLIGHT CONTROLS: SAME AS VE-7.

FUEL SYSTEM: IMPROVED OVER VE-7.



FUEL SYSTEM

(GRAVITY-AIR PRESSURE TYPE-VE-7 & VE-9)

RUDDER 30° RIGHT-LEFT
FABRIC COVERING
ELEVATORS-20° UP-DOWN

PROCURED IN QUANTITY IN 1918 FOR U.S. ARMY AIR SERVICE. (MODEL VE-7)
LIMITED PROCUREMENT IN 1920 FOR U.S. NAVY (MODEL VE-9).
LIMITED PROCUREMENT IN 1921 FOR U.S. MARINES (VE-9 HISPANO-SUIZA)

VE-7

(U.S. ARMY TRAINER)

FIXED SURFACE -1.25° ANGLE OF INCIDENCE TO THRUST LINE

U.S. NAVY SERIAL NO. A-5698 U.S. NAVY

1'-10"
8'-4"
2'-6"
4'-3"

VE-7 DESCRIPTION

WING AIRFOIL	R.A.F. 15
WING AREA (2)	283 SQ. FT.
STAB. AREA	18 SQ. FT.
ELEV. AREA (2)	17 SQ. FT.
AIL'N AREA (4)	39 SQ. FT.
FIN AREA	2.3 SQ. FT.
RUDDER	8.4 SQ. FT.
WT. EMPTY	1360 LBS.
WT. LOADED	2100 LBS.
WT. SQ. FT.	7.4 LBS
WT. H.P.	11.6 LBS.
CLIMB 6,500'	9.25 MIN.
CLIMB 10,000'	17.00 MIN.
SERV. CEILING	16,000'
DURATION	2.33 HRS.
MAX. SPEED 5,000'	111 M.P.H.
MAX. SPEED 10,000'	100 M.P.H.
LANDING SPEED	40 M.P.H.

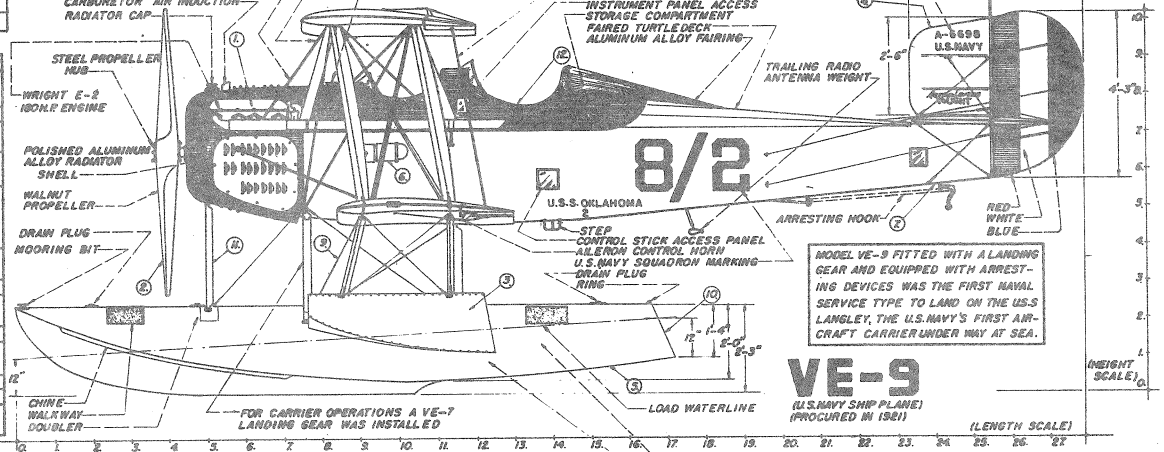
ANGLE OF INCIDENCE TOP WING 1.75°

ANGLE OF INCIDENCE BOTTOM WING 2.25°

AILERON MOVEMENT UP-DOWN 20°

DESIGN NOTES VOUGHT VE-9

1. AEROMARINE TYPE ENGINE VEE CYLINDER BLOCK.
2. WAS NOT SUCCESSFUL AS AN ENGINE TYPE.
2. PROPELLER 8'-4" DIAMETER LAMINATED TYPE.
3. WING TIP FLOAT TYPE USED ALSO ON EARLY MODELS OF UO-1. (ALUMINUM ALLOY STRUCTURE)
4. FIN INCREASED IN AREA AS REQUIRED WHEN PONTOONS ARE INSTALLED. (ADJUSTABLE SETTING)
5. PONTOON CONSISTS OF SPRUCE FRAMES AND LONGITUDINAL MEMBERS AND LAMINATED MAHOGANY PLYWOOD (2 LAYERS) AT 90° DIRECTION OF GRAIN TO EACH OTHER.
6. WIND-DRIVEN GENERATOR FOR RADIO TRANSMITTER WITH LOW AND HIGH VOLTAGE OUTPUT.
7. ARRESTING HOOK OMITTED ON SEAPLANES.
8. THIS BRACE CABLE USED ON VE-9 ONLY, AND EARLY PRODUCTION UO-1 AIRPLANES.
9. THIS BRACE CABLE USED ON VE-9 SEAPLANES ONLY.
10. THIS TYPE OF FLOAT STERN USED ON VE-9 SEAPLANES ONLY.
11. STREAMLINE SPRUCE STRUTS.
12. REAR COCKPIT WAS ADAPTABLE FOR GUNNERY.
13. ORIGINAL IDENTIFICATION MARKS WERE RED, WHITE AND BLUE ROUNDELS. (1918).



MODEL VE-9 FITTED WITH A LANDING GEAR AND EQUIPPED WITH ARRESTING DEVICES WAS THE FIRST NAVAL SERVICE TYPE TO LAND ON THE U.S.S. LANGLEY, THE U.S. NAVY'S FIRST AIRCRAFT CARRIER UNDER WAY AT SEA.

VE-9

(U.S. NAVY SHIP PLANE)
(PROCURED IN 1921)

THE FLOAT BRACING IS RIGGED IN SUCH A WAY THAT WHEN THE AIRPLANE IS FLYING, THE LONGITUDINAL CENTERLINE OF THE FLOAT IS 6° INCIDENCE TO THE THRUST LINE.

MAIN PONTOON COVERED WITH 2-PLY PLYWOOD. PLIES AT 45° TO EACH OTHER.

CHANCE VOUGHT

THANKS IS EXTENDED TO THOSE THAT ASSISTED TO MAKE THIS PRESENTATION POSSIBLE:
WILLIAM LARKINS, SECRETARY, AMERICAN AVIATION HISTORICAL SOCIETY.
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ARTHUR SCHOENI, CHANCE VOUGHT AIRCRAFT.
WILLIAM MIER, CHANCE VOUGHT AIRCRAFT.
F.E. DALLY, CAPT. U.S.N. TECHNICAL DATA DIVISION, BUREAU OF AERONAUTICS, U.S. NAVY.

(DRAWN FOR MODEL AIRPLANE NEWS BY WILLIS L. NYE)