

THE UPPER WING OF THE BIRD IS PLANE BRACED WITH SINGLE TIE RODS AND THE LOWER WING IS PLANE BRACED WITH DOUBLE TIE RODS. MEMBERS HELD APART WITH SPACERS. FITTINGS WERE OF STEEL PLATE AND WERE NOT OF THE FRASE TYPE. FULL SURFACE WINGS WERE ATTACHED TO HOLLOW BOX TYPE SPRUCE SPAR ON THE UPPER SURFACE AND TO THE LOWER WING ONLY ONE SPAR TYPE SPRUCE WAS USED TO THE UPPER SURFACE. WING HAD THE UPPER SURFACE COVERED WITH A PLYWOOD WALKWAY FROM THE FUSELAGE OUT TO FIRST RIB.

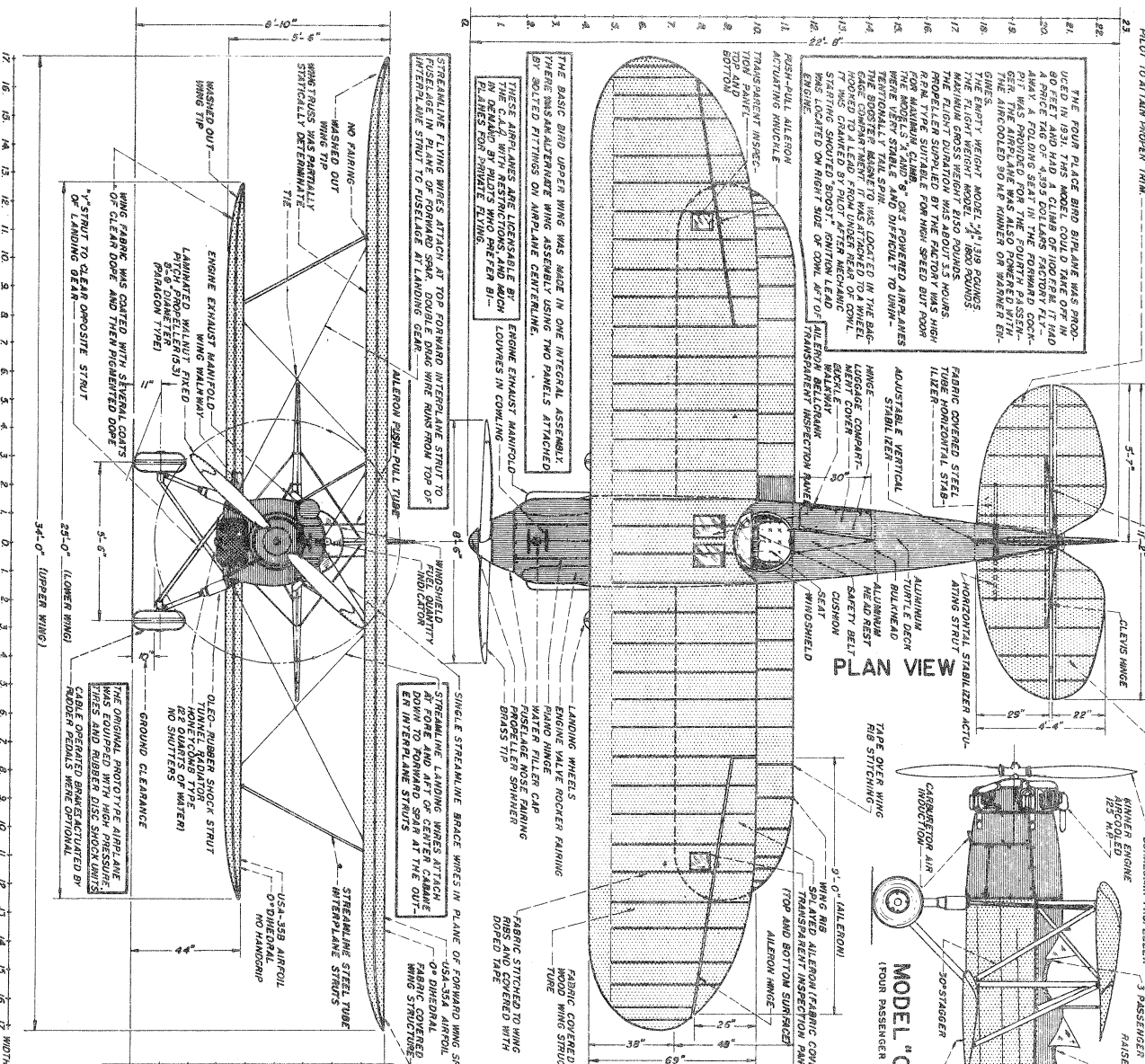
BIRD MODELS "A" & "B"  
 WING AREA 254 SQ. FT. SEA LEVEL  
 CRUISING SPEED 50 M.P.H.  
 WING LOADING (A) & (B) 23.50 FT.  
 RANGE 400 LBS. 24 LBS. (B) 32 LBS.  
 GROSS WEIGHT (A) 250 (B) 1900.  
 LANDING SPEED 35 M.P.H. STILL AIR.  
 CEILING (A) 15,000 (B) 16,000 FT.  
 THE COST OF MODEL "A" 895 DOLLARS.

THE BIRD BIPLANE FUSELAGE STRUCTURE WAS CONSTRUCTED OF STEEL TUBES WITH TRUSS CONFIGURATION. THE DIAMETER OF THE TUBES WAS REDUCED TOWARD THE TAILPOST. ATTACHING LUG FITTINGS AND THE TAILPOST, ATTACHING LUG FITTINGS WERE COVERED WITH DOPED CARBON STEEL TO WEAR THE JOINTS AND LOSS OF STRENGTH THROUGH WEARING. THE INTERIOR OF THE STEEL TUBE STRUCTURE WAS COATED WITH OIL TO PREVENT CORROSION AND ALLY DETERIORATION.

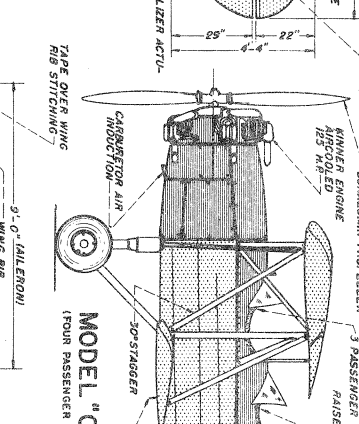
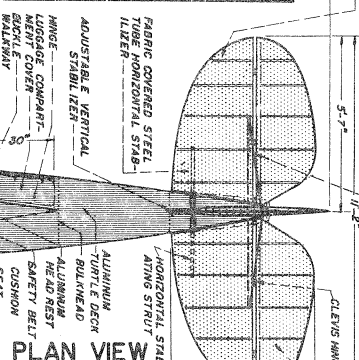
THE CURTIS TYPE GX-5 AIRPLANE ENGINE WAS BUILT BY THE CURTIS AIRPLANE AND MOTOR CORPORATION. 60 H.P. 2700 R.P.M. OIL CAPACITY ENGINE CRANKCASE 2.7 GALLONS WEIGHT DRY 135 LBS. WEIGHT WITH OIL 175 LBS. OUTPUT 145 H.P. 2800 R.P.M. 4 X 3 SINGLE SPARK PLUGS ENERGIZED BY A BERLING MAGNETO (1).

**HEAD ON VIEW**

THE FUEL SYSTEM CONSISTS OF A MAIN FUEL TANK HELD TO THE FUSELAGE BY FOUR BRASS BRACKET BOLTS. THE FUEL LINE PROVIDED IN THE FUEL LINE RUNNING FROM THE LOW PART OF THE RESERVOIR TO THE MAIN FUEL TANK. FUEL LINES ARE FIRST ATTACHED TO THE FUEL VALVE. THE FUEL LINE WAS CONTROLLED BY THE THROTTLE VALVE. THE FUEL LINES FROM THE VALVE AND THE THREE WAY FUEL VALVE. THE FUEL LINES RUN FROM THE STRAIGHTENED PART OF THE AIRPLANE. THE ENGINE WAS MANUALLY OPERATED BY A LINK MECHANISM. THE ENGINE WAS PLACED ON 7 GALLONS OF FUEL PER HOUR.



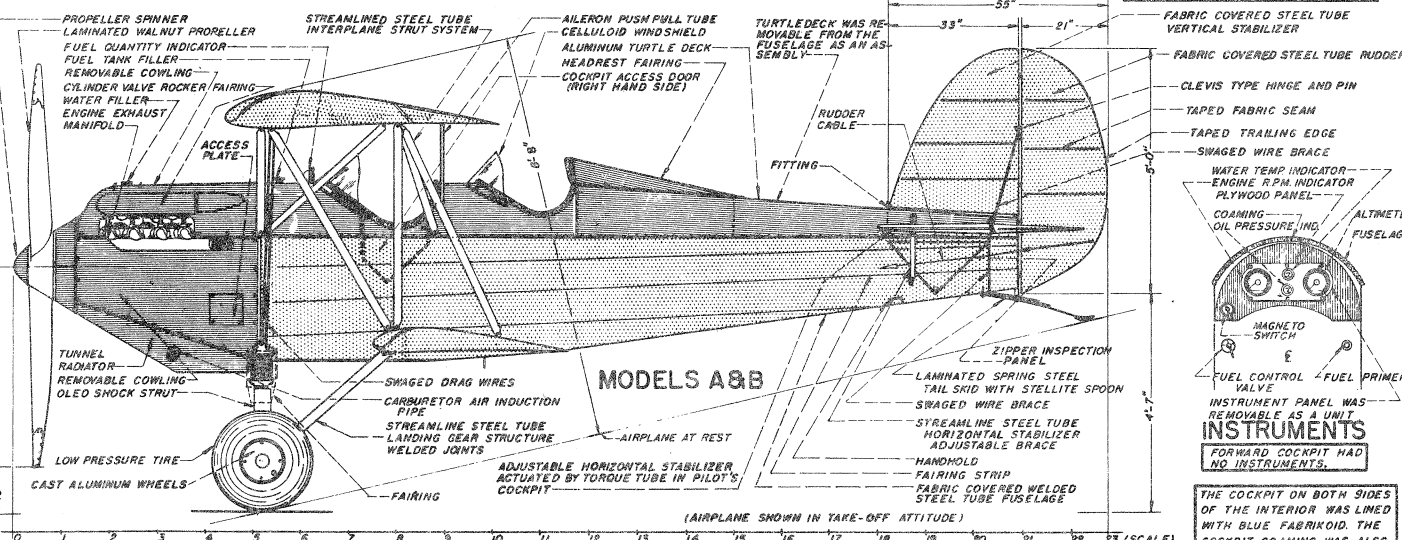
HORIZONTAL STABILIZER WAS ADJUSTABLE IN FLIGHT BY THE PILOT TO OBTAIN PROPER TRIM.  
 THE FOUR PLACE BIRD BIPLANE WAS BROUGHT IN 1931. THIS MODEL COULD TAKE OFF IN 90 FEET AND HAD A CLIMB OF 100 FEET IN 10 SECONDS. IT WAS BUILT AT A COST OF \$300 DOLLARS FACTORY PRICE. IT WAS PROVIDED FOR THE FORTY PILOTAGE. THE AIRCRAFT WAS ALSO POWERED WITH THE CURTIS TYPE GX-5 AIRPLANE ENGINE. THE FLIGHT WEIGHT MODEL 24-1319 SOONS REACHED A CROSS WEIGHT OF 1350 POUNDS. PROPELLER SUPPLIED BY THE FACTORY WAS HIGH RPM TYPE SUITABLE FOR HIGH SPEED BUT ROO FOR MOUNTING. ONE OF THE POWERED AIRPLANES WAS BROUGHT IN 1931. THIS MODEL COULD TAKE OFF IN 90 FEET AND HAD A CLIMB OF 100 FEET IN 10 SECONDS. IT WAS BUILT AT A COST OF \$300 DOLLARS FACTORY PRICE. IT WAS PROVIDED FOR THE FORTY PILOTAGE. THE AIRCRAFT WAS ALSO POWERED WITH THE CURTIS TYPE GX-5 AIRPLANE ENGINE. THE FLIGHT WEIGHT MODEL 24-1319 SOONS REACHED A CROSS WEIGHT OF 1350 POUNDS. PROPELLER SUPPLIED BY THE FACTORY WAS HIGH RPM TYPE SUITABLE FOR HIGH SPEED BUT ROO FOR MOUNTING. ONE OF THE POWERED AIRPLANES WAS BROUGHT IN 1931. THIS MODEL COULD TAKE OFF IN 90 FEET AND HAD A CLIMB OF 100 FEET IN 10 SECONDS. IT WAS BUILT AT A COST OF \$300 DOLLARS FACTORY PRICE. IT WAS PROVIDED FOR THE FORTY PILOTAGE. THE AIRCRAFT WAS ALSO POWERED WITH THE CURTIS TYPE GX-5 AIRPLANE ENGINE. THE FLIGHT WEIGHT MODEL 24-1319 SOONS REACHED A CROSS WEIGHT OF 1350 POUNDS. PROPELLER SUPPLIED BY THE FACTORY WAS HIGH RPM TYPE SUITABLE FOR HIGH SPEED BUT ROO FOR MOUNTING.



THIS DATA WAS SUPPLIED BY MR. JOHN DANIELS, 600 N. WATER AVENUE, SHARON, PENNSYLVANIA. ADDITIONAL DATA WAS ALSO SUPPLIED BY MR. WALTER WRIGHT, FRANKLIN AVENUE, SEATTLE, WASHINGTON. THE INITIAL ENGINEERING DRAWINGS AND DESIGN WERE MADE UNDER THE DIRECTION OF M. S. GREGOR. FOR OTHER DATA SEE AERO AND AVIATOR MAGAZINES OF 1927 AND 1928. THIS AIRPLANE HELD A C.A.A. APPROVED TYPE CERTIFICATE (NO. 1013 POLBI).

THE PROTOTYPE AIRPLANE WAS ORIGINALLY KNOWN AS THE PROHENSIVE SESSOUIPLANE AND WAS BUILT BY THE ROYAL AIRCRAFT CORPORATION IN 1927. SEVERAL MODELS WERE CONSTRUCTED FOR COMMERCIAL FLYING. THE AIRPLANE SHOWN ON THIS PAGE WAS POWERED WITH THE CURTIS GX-5 WATER COOLED ENGINE (90 H.P. AT 1400 R.P.M.).

NAMED PILOT WILEY POST WAS ONCE A DISTRIBUTOR OF BIRD BIPLANE MODEL 'CK'.



**BIRD BIPLANE**  
 MANUFACTURED BY THE:  
**BRUNNER-WINKLE AIRCRAFT CORP.**  
 GLENDALE, BROOKLYN NEW YORK  
 (SHEET NO. 1 OF 2)  
 DRAWN BY WILLIS L. EYER