BUHL 'SPORT AIRSEDAN'

U.S. 3 PLACE SESQUI-PLANE (1928)
34 5/8" WINGSPAN, 22 1/4" LENGTH
FREE FLIGHT POWER, .50 TO .75 C.C.
by H.G. BOWERS, PARIS, JULY 1964

DJP
Plan value 3/6

NOTE: ALL PARTS MADE FROM BALSA UNLESS OTHERWISE INDICATED ON PLAN. A 9 CYL. DUMMY ENGINE MAY BE USED WITH OR WITHOUT DRAG RING.

1 NOSE PLATE

CARVE CABIN TOP FROM BALSA

WING 'V' STRUTS

VENTURI

PLASTIC WINDOWS

SIDE VIEW

F1 F2 F3 F3A F4 F5 F6 F7 F8 F9 F10

C.G.

CARVE DRAG RING FROM BALSA

.020 CU.IN. COX ENG. SHOWN

1/8" SHEET TIP

1/8" SQ. L.E.

SOFT WIRE HINGES

1/16" X 1/4"

1/8" X 1/4" SPARS & T.E.

1/8" X 1/4"

1/8"

1/8" X 1/4"

F4 6 F8 F10

F3A

1/32" SHEET SIDES

THREAD LACING.

1/8" SHEET TIP

1/16" STEEL WIRE

TYPICAL FUSELAGE CROSS SECTIONS

1/16" X 1/4"

FAIR LANDING GEAR WIRE STRUTS WITH SOFT BALSA & SAND TO SHAPE.

BIND WITH FUSE WIRE AND SOLDER.

SOLDER WHEEL RET. WASHERS.

1/8" SQ. L.E.

1/8" X 1/4" SPARS & T. E.

LONGERONS & UPRIGHTS FROM 1/8" SQ. HARD BALSA. DIAGONALS FROM 1/16" X 1/8".

TAILSKID FROM 1/32" X 1/8" BAMBOO LAMINATIONS. BIND TO 3/16" SHEET.

1/32" SHEET SIDES

1/16" PLYWOOD FIREWALL.

CARVE EXHAUST FROM BALSA. F2

SOLID BLOCK BALSA BEHIND F4

F3

COX ENG. MOUNTING POINTS.

2 1/4" WHEELS

THREAD LACING

LOWER WING SPAR POSITION.

1/8" SQ.

3/32" X 1/8" SIDE STRINGERS

1/8"

TOP VIEW

1/8"

SOFT 1/4" SHEET BALSA.

FSP 899

Published AEROMODELLER

LOWER WING SPAR TAPERS FROM 3/8" X 1/8" AT ROOT TO 3/16" X 1/8" AT TIP.

NOTE: 1" DIHEDRAL AT UPPER WING TIPS, 3/8" DIHEDRAL AT LOWER TIPS.

1/32" SHEET

5/16" X 1/4" L.E.

1/4" TIP

"V" STRUT POSITION

1/16" PLY. JOINER

3/16" X 1/2" T.E.

20 HALF RIBS FROM 1/16" SHEET

LOWER WING RIBS; 1/16" SHEET

2 OFF EACH REQUIRED

25 RIBS OF 1/16" SHEET REQUIRED FOR UPPER WING.

FRONT VIEW

UPPER WING SPAR JOINERS; 1/16" PLY.

WING "V" STRUTS FROM 3/32" PLYWOOD

THREAD FLYING WIRES

1/4" X 3/8" L.E.

SOFT BALSA

1/16" PLY.

1/8" X 3/8" FRONT SPAR

1/8" X 1/4" REAR SPAR

1/8" X 1/4" FLUSH WITH BOT. SURFACE OF WING.

"V" STRUT POSITIONS

3/16" X 3/4" T.E.

LOWER WING SPAR JOINER; 1/16" PLY.

1/4" SHEET WINGTIPS

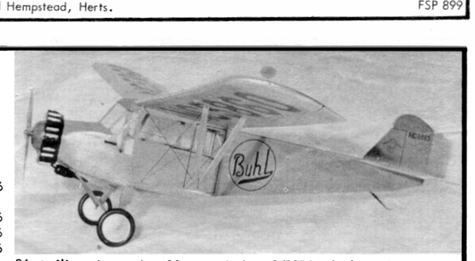
NOTE:
COVER ENTIRE MODEL WITH JAP. TISSUE. DOPE WINGS & TAIL SURFACES SILVER; FUSELAGE, STRUTS, & COWL RED. DETAILS ARE BLACK & SILVER.

Published AEROMODELLER

FSP 899

MATERIALS.

1 sheet, balsa, 1/32 x 3 x 36
2 sheets, balsa, 1/16 x 3 x 36
scrap sheet balsa, 1/8 x 1/4
12 strips, balsa, 1/8 sq. x 36
4 strips, balsa, 1/8 x 1/4 x 36
1 strip, balsa, 1/8 x 3/8 x 36
1 strip, balsa, 5/16 x 1/4 x 36
1 strip, balsa, 1/4 x 3/8 x 36
1 strip, balsa, 3/32 x 1/8 x 36
4 strips, balsa, 1/16 x 1/8 x 36
1 strip, balsa, 1/16 x 1/4 x 36
1 1/2 pieces, balsa, 3/16 x 3/4 x 36, trailing edge stock.
1 piece, 1/16 x 36, steel wire
16 square inches, 1/16" birch plywood
12 square inches, 3/32" birch plywood
2 square yards, Japanese tissue
12 square inches, acetate sheet



The "Sport Airsedan" appeared in 1928 as a high performance aircraft with an eye to attracting the sportsmen-pilots of the era. The lines, and sesqui-plane arrangement were in keeping with other models produced by the Buhl Aircraft Company of Marysville, Michigan, such as the "Miss Doran" and the "Angelena". The former was selected by Auggie Pedlar as his entry in the "Dole Derby" of 1927 from California to Honolulu, and was lost along with Pedlar, V.P. Knope, the navigator, and Mildred Doran, an adventurous school teacher whose family, it is said, financed the venture. The "Angelena" gained fame by setting an endurance record of 246 hours while being flown by Loren Mendell and Pete Reinhart. These aircraft were very sturdy, reliable, and quite popular with serious operators of the period.

General configuration and arrangement of the "Sport Airsedan" is most adaptable to a free flight model. With the light weight radio equipment presently available and the generous volume of the fuselage, some modellers may want to build a radio controlled version, which should also prove feasible.

Building: The construction of the model is completely conventional and simple, not requiring any special care or skills. The completed structure is very light, but strong. Begin by building two basic fuselage sides and joining them at the tail post; then work toward the nose. When joined, install the 1/32" sheet balsa sides, the formers, and other planking around the top and bottom of the nose section. A block of soft balsa is used to complete the underside of the fuselage behind Section 4 after a slot is cut on each side to accommodate the lower wing spar. The block is not attached until after the lower wing is mounted. The wings and tail are quite simple and require no special instructions except that of course you need to trace off the wing panel to produce a reverse side and join this in the centre line so the wing is in one piece. The landing gear is built from 1/16" steel wire, faired with soft balsa, and sanded to the final streamlined cross section.

Cover the components prior to assembly with a good grade of tissue and apply clear dope. Should coloured tissue be used, three coats of clear dope may be used, however; if colour doping is planned. reduce the coats of clear dope so as to keep the weight to a minimum. Exercise extreme caution to avoid warps. The importance of an accurate, properly aligned structure cannot be over emphasised. Cut registration numbers from black tissue and dope in place. Finish details in black and silver and use silk thread for flying wires between the wings.

When the model has been completed and balanced at a point approximately 40 per cent of the upper wing chord back from the leading edge, test glide over high grass. Make adjustments as necessary to achieve a long, flat glide. Next, attempt low power flights and use thrust changes to correct any stalling tendencies, and to provide a gentle left climbing turn. When this is obtained use full power. With the light structure and generous wing area, an excellent glide will result.