HEARN'S Hobbies — 50 INCH SPAN "Sportster" FREE FLIGHT OR RADIO CONTROL

J. LAMONT.

DIMENSIONS.

WING SPAN – 50" | TAIL SPAN – 22"
WING CHORD – 10" | TAIL CHORD – 7"
WING AREA – 490 SQ.IN. | TAIL AREA – 154 SQ.IN.
FUSELAGE LENGTH – 37¾"
FIN AREA – 30 SQ.IN.

MOTOR USED IN ORIGINAL WAS E.D. 2.46" MOUNTED INVERTED. ANY 2 cc. – 3.5 cc. ENGINE MAY BE USED. FIT TANK TO SUIT MOTOR USED. WING & TAILPLANE SECURED WITH RUBBER BANDS HOOKED AROUND DOWELS.

DETAIL OF COWL AS USED ON E.D. 2.46 VERSION. COWL MAY BE MODIFIED TO SUIT MOTOR USED.

LOWER HALF OF FORMER F1

SECURE COWL WITH DRESS SNAPS OR RUBBER BANDS.

SKETCH OF COWL WITH ONE SIDE REMOVED TO CLARIFY CONSTRUCTION USED.

BALSA FILLET

3/16" DOWEL

SOFT BALSA BLOCKS

F1.

F2.

1/4" x 3/8" SCRAP BALSA.

1¾" DIA. SPINNER LOCATING DOWELS

COVER SIDES AND FRONT OF CABIN WITH CELLULOID SHEET.

FIT TANK BEHIND F2. WITH OUTLET LEVEL WITH MOTOR CARBURETTOR.

1/4" SHEET BALSA.

3/8" DOWEL.

ALL LONGERONS, UPRIGHTS AND CROSS MEMBERS FROM 1/8" x 1/8" BALSA

COVER FUSELAGE WITH TISSUE. GIVE TWO COATS OF DOPE AND ONE COAT OF FUEL PROOFER.

3/16" SHEET BALSA.

3/16" x 3/16" BALSA

1/8" x 3/16" BALSA.

3/16" BALSA SHEET.

3/16" SHEET BALSA FIN.

1/8" DOWEL.

1/8" DOWEL.

16 GAUGE TAILSKID. BIND & CEMENT TO 1/4" BALSA.

BLOCK & CEMENT IN FUSELAGE.

1/4" SHEET SIDES.

1/8" SHEET BALSA

SOFT BALSA BLOCKS.

3/8" x 1/16" HARDWOOD MOTOR MOUNTS.

3/32" DIA WIRE U/C LEG.

2¼" DIA. RUBBER WHEELS.

PIN PLAN ON FLAT BOARD. COVER WITH GREASE PROOF PAPER AND BUILD TWO FUSELAGE SIDES FROM 1/8" x 1/8" BALSA.

JOIN FUSELAGE SIDES WITH 1/8" x 1/8" BALSA. ADD FORMER F2. AND 3/8" x 3/16" MOTOR MOUNTS. CEMENT BULKHEAD AND MOUNTS SECURELY.

FIT U/C TO FORMER F2. WITH EYE BOLTS. ADD SOFT BLOCKS ABOVE MOUNTS AND 1/4" SHEET CABIN TOP. FILL IN BOTTOM PANEL BEHIND F2. WITH 1/8" SHEET

FIT REMAINING BLOCKS TO NOSE AND CARVE COWL TO SUIT MOTOR USED. LOWER PART OF COWL SHOULD BE DETACHABLE. COVER FUS. WITH TISSUE AND GIVE TWO COATS OF DOPE. COLOR AS DESIRED AND GIVE ONE COAT OF LUSTRE. FIT 1/8" DOWELS FOR WING AND TAIL. BUILD AND COVER FIN AND CEMENT TO FUS.

FORMER F1.
1-OFF 1/16" PLYWOOD.

SECURE U/C TO F2 WITH EYE BOLTS.

FORMER F2.
1-OFF 3/8" PLYWOOD.

1/4" SHEET BALSA CABIN TOP

FRONT VIEW OF WING TIP

4½" DIHEDRAL UNDER EACH WING TIP.

DIHEDRAL BRACE 1-OFF 1/16" PLY.

NOTE: SMALL ALUMINIUM TRIM TABS ON WINGS AND RUDDER MAY BE FITTED TO MAKE TRIMMING ADJUSTMENTS.

OUTLINE OF 1/16" SHEET BALSA TAILPLANE PLATFORM GRAIN OF SHEET TO RUN CROSS WISE.

COVER TAILPLANE WITH TISSUE. GIVE TWO COATS OF DOPE AND ONE COAT OF FUEL PROOFER.

ALL RIBS FROM 1/16" SHEET BALSA 12. REQUIRED

3/16" LEADING EDGE

1/4" x 1/8" SPAR

1/4" x 1/8" SPAR

3/16" x 1/8" TRAILING EDGE

1/4" SHEET TIP

1/8" SHEET BALSA TIP

TILT UP AS SHOWN IN VIEW ABOVE.

WING TIP DETAIL.

1/4" SHEET GUSSET.

NOTES FOR RADIO CONTROL.

1. LENGTHEN NOSE BETWEEN F1 & F2. TO 4½". THIS IS AN OVERALL INCREASE OF 1".
2. WIDEN FUSELAGE TO SUIT RADIO USED. WIDEN WING CENTRE SECTION TO SUIT FUS WIDTH AND STRENGTHEN BY SHEETING LEADING EDGE BACK 1½" WITH 1/16" SHEET. SUPPORT SHEET WITH 1/8" x 1/8" BALSA SPAR.
3. TOP PORTION OF RUDDER TO BE USED AS TRIM TAB BY USING SOFT ALUM HINGES. USE LOWER PORTION FOR RADIO CONTROL WITH TAPE HINGES AS USED ON CONTROL LINE MODELS. RUDDER MOVEMENT TO BE 3/16" BOTH WAYS. INCREASE OR DECREASE MOVEMENT AS DESIRED.
4. BALANCE MODEL AS FOR FREE FLIGHT VERSION.

LEADING EDGE 1/4" x 3/8" BALSA

MAIN SPAR 3/8" x 3/16" BALSA.

SUB SPAR 1/2" x 1/8" BALSA

TRAILING EDGE 3/8" x 1/4" BALSA.

COVER WING WITH TISSUE AND GIVE TWO COATS OF DOPE AND ONE COAT OF FUEL PROOFER.

DIHEDRAL BRACE.

ALL WING RIBS FROM 1/16" SHEET BALSA. 18 REQUIRED.

DIHEDRAL BRACE

CENTRE SECTION DETAIL.

TRIM TWO CENTRE RIBS TO DOTTED LINE SHOWN ON PROFILE. COVER TOP AND BOTTOM OF CENTRE SECTION, AFTER DIHEDRAL HAS BEEN ADDED, WITH 1/16" SHEET BALSA.

1½"
1½"
3¾"
7½"

EYE-BOLT.

U/C DETAIL.
WHEELS SECURED WITH SMALL WASHERS SOLDERED TO AXLES ON EACH SIDE OF WHEELS.

TRIMMING DETAILS.

① WING INCIDENCE 3½°
TAIL INCIDENCE 0°
BALANCE POINT 60% TO 75% BACK FROM WING LEADING EDGE.

② IF GLIDE IS TOO STEEP MOVE BALANCE POINT BACK BY ADDING WEIGHT TO TAIL. IF MODEL STALLS IN GLIDE MOVE BALANCE POINT FORWARD BY ADDING WEIGHT TO NOSE.

③ IF MODEL CLIMBS STEEPLY AND THEN STALLS UNDER POWER ADD MORE DOWNTHRUST BY PLACING WASHERS UNDER FRONT MOUNTING BOLTS BETWEEN MOTOR AND MOUNTS. OPPOSITE ON ORIGINAL MODEL WAS 0° BUT IF MODEL CLIMBS STEEPLY DOWNTHRUST ON ORIGINAL MODEL WAS 2°

④ IF MODEL IS CORRECTLY TRIMMED IT WILL CLIMB TO RIGHT UNDER POWER AND GLIDE TO LEFT. DO NOT ADJUST RUDDER TRIM FOR RIGHT HAND TURN OR GLIDE AS THIS WILL CAUSE MODEL TO SPIRAL TO RIGHT UNDER POWER. USE LOW POWER FOR TEST FLIGHTS.

WARNING: MAKE SURE THERE ARE NO WARPS IN THE FLYING SURFACES AND THAT WING AND TAIL ARE CORRECTLY ALIGNED BEFORE ATTEMPTING FLIGHT TESTS.

TAILPLANE TIP DETAIL

SPAR
RIB
SHEET TIP