WING LEADING EDGE 1/16" SQUARE HARD "A" GRAIN BALSA.

WING TIPS .0313" X .0625" (1/32" X 1/16") BASSWOOD.

SCRAP BALSA FOR D/T ELASTIC SUPPORT. OPTIONAL.

W-2 W-2 W-2 W-2 W-2 W-2 W-2 W-2 W-1 W-1 W-2 W-2 W-2 W-2 W-2 W-2 W-2 W-2

1/8"X3/8" BALL SUPPORT OPTIONAL.

DUBRO MICRO BALL LINK BALL. OUTDOOR OPTIONAL.

ALTERNATE 1/16" SHEET TIPS OUTLINE IN DASHED LINE.

WING TRAILING EDGE 1/16"X 3/16" HARD "A" GRAIN BALSA.
ALL UPPER AND LOWER SPARS 1/20" X 1/20" MEDIUM "A" GRAIN BALSA.

COVER CENTER SECTION BETWEEN SPARS W/SOFT 1/32" SHEET BALSA.
FRONT BAY TOP AND BOTTOM. 3 REAR BAYS TOP ONLY.

OPTIONAL D/T ANGLE: 45°

WINDSCREEN TEMPLATE. MAKE FROM .005 ACETATE. CUT AND FIT PAPER BEFORE CUTTING ACETATE

BUILD WING FLAT. USE RIB ANGLE TEMPLATE TO SET DIHEDRAL JOINT RIBS AT THE PROPER ANGLE. LEAVE WING STRUCTURE PINNED DOWN UNTIL COMPLETELY DRY. REMOVE WING FROM BUILDING BOARD AND CAREFULLY BLOCK SAND W/320 GRIT SAND PAPER. CAREFULLY CUT DIHEDRAL JOINTS AT HE L.E, T.E AND SPARS. SAND DIHEDRAL RIB FACES SMOOTH. RE-PIN CENTER SECTION TO BOARD AND BLOCK OUTER SECTIONS UP 2" AT THE TIPS. GLUE OUTER SECTIONS TO CENTER SECTION AND LET DRY.

DUBRO MICRO BALL LINK BALL. OUTDOOR OPTIONAL.

C/G

1/16" SQ. WING STOP. OUTDOOR D/T OPTIONAL.

RIGHT/FRONT SIDE UPRIGHT POSITION FOR 1° RIGHT THRUST BUILD-IN.

+2.5° WING INCIDENCE

*ALL FUSELAGE STRINGERS, LONGERONS AND CROSS MEMBERS 1/16" X 1/16" MEDIUM "A/B" GRAIN BALSA.

1/16"x 1/8" X- MEMBERS TOP AND BOTTOM

Rt. F-1
Lt. F-2

BIND AND GLUE L.G. TO RT. SIDE AND TOP.

MICRO EYELET OUTDOOR OPTIONAL.

TYPICAL VISCOUS TIMER OUTDOOR OPTIONAL.

1/16" SCRAP GUSSETS BOTH SIDES.

MICRO EYELET OUTDOOR OPTIONAL.

RUDDER AND DORSAL 1/32" SHEET "C" GRAIN RUN VERTICALLY.

F-3 – 1/32" SHEET. MAKE 2

F-4 – 1/16" SOFT SHEET. MAKE 2

1/8" DIA. X 1/32" NEODIUM MAGNETS EPOXY GLUED TO INSIDE OF SIDE NOSE SHEET AND FLUSH MOUNTED INTO NOSE PLUG TO KEEP NOSE/PROP ASSEMBLY SECURE.

D/T ELASTIC

*LEAVE THIS SECTION UNCOVERED ON THE BOTTOM ONLY FOR RUBBER ACCESS.

STAB SUB-FINS 1/32" SHEET "C" GRAIN RUN VERTICALLY. MAKE 2.

S-1 S-2

ALL STAB RIBS 1/32" SHEET. MAKE 2 S-1s AND 6 S-2s.

BUILD 1° RIGHT AND 3° DOWN FOR OUTDOOR (2° RIGHT AND 3° DOWN FOR INDOOR) THRUST INTO THE FUSELAGE AS A POWER TRIM STARTING POINT.

THE PROPELLER IS A VERY WELL-BALANCED PECK 6" SILVER FREE-WHEELER. INSTALL A SHORT LENGTH OF 1/16" O.D. ALUMINUM TUBE AS A SHAFT BUSHING TO REDUCE PROP WOBBLE. SHAVE BLADES TO REDUCE WEIGHT FROM 2+ GRAMS TO 1.5 GRAMS.

3/4" DIA. BALSA OR FOAM WHEEL.

STAB LEADING EDGE 1/16" SQUARE HARD "A/B" GRAIN BALSA.

S-2 S-2 S-2 S-1 S-1 S-2 S-2 S-2

STAB TIPS .0313" X .0313" (1/32" SQ.) BASSWOOD.

BOTTOM SPAR

TOP SPAR

ALTERNATE 1/16" SHEET TIPS OUTLINE IN DASHED LINE.

COVER CENTER SECTION TOP ONLY BETWEEN SPARS W/SOFT 1/32" SHEET BALSA.

STAB TRAILING EDGE 1/16" X 3/16" HARD "A" GRAIN BALSA.
UPPER AND LOWER FRONT SPARS 1/20" X 1/20" MEDIUM "A" GRAIN BALSA.
UPPER AND LOWER REAR SPARS 1/20" X 1/32" HARD "A" GRAIN BALSA.

1/32" SHEET BALSA FILL BOTH SIDES F-1 AND F-2. TOP F-5 AND BOTTOM F-6.

Tp. F-5
Bt. F-6

1/16" L.G. SUPPORT GUSSET BOTTOM ONLY.

1/32" PLY. TIMER MOUNT BOTTOM ONLY! OUTDOOR OPTIONAL.

F-7 – 1/32" SHEET BALSA FILL TOP ONLY.

- CROSS-LAMINATE 5-LAYERS 1/8" SHEET NOSE BLOCK. 2-LAYERS 1/8" SHEET PLUG.
- 1/16" O.D. ALUMINUM TUBE PROP BUSHING.
- 1/32" DIA. PROP SHAFT.
- 2 MEDIUM TEFLON PROP WASHERS.

L.G. PATTERN

MAKE FROM .020 M.W. BIND WITH THREAD AND GLUE TO RIGHT SIDE AND TOP OF FUSELAGE FRAME.

1/16" DIA HARDWOOD DOWELS (TOOTHPICKS) FOR INDOOR WING HOLD DOWN. (FOR OUTDOOR D/T VERSION, OMIT THE FRONT DOWEL AND INSTALL MICRO EYELET ON LEFT SIDE AS A D/T ELASTIC GUIDE).

*MAKE ALL GUSSETS FROM 1/32" SHEET SCRAP.

3/32" ALUMINUM TUBE MOTOR PEG.

BOTTOM CROSS-MEMBER LOCATION.

FORMED BASSWOOD WING TIPS
MAKE A CARDBOARD PATTERN TO THE INSIDE OF THE TIP CONTOUR. SOAK BASSWOOD STRIPS IN HOT WATER WITH A FEW DROPS OF AMMONIA ADDED FOR A FULL HOUR. REMOVE THE STRIPS AND REMOVE EXCESS WATER. TAPE OR PIN THE STRIPS TO YOUR FORMS AND BAKE IN OVEN FOR 25 MINS. @ 220° F.

W-1

W-2

WING RIBS W-1: MAKE 2 FROM 1/16" SHEET.
W-2: MAKE 16 FROM 1/32" SHEET.

TOP

76°

DIHEDRAL RIB ANGLE TEMPLATE.

2°

NOTE:
STAB TILT ON PROTOTYPE SET AT 2° (1/8") FOR RIGHT-HAND GLIDE.

A.R.F.A. Senator

(Another Real Fine Airplane)

Indoor or Small Field Sport Cabin

Wingspan: 16"	Indoor Power: 1–16" loop 1/16" Tan II.
Length: 14.5"	Outdoor Power: 1–16" loop 3/32" Tan II.
Wing Area: 35 sq."	"There's no school like the old school"
Airframe Weight: 12 to 16 grams less rubber.	

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