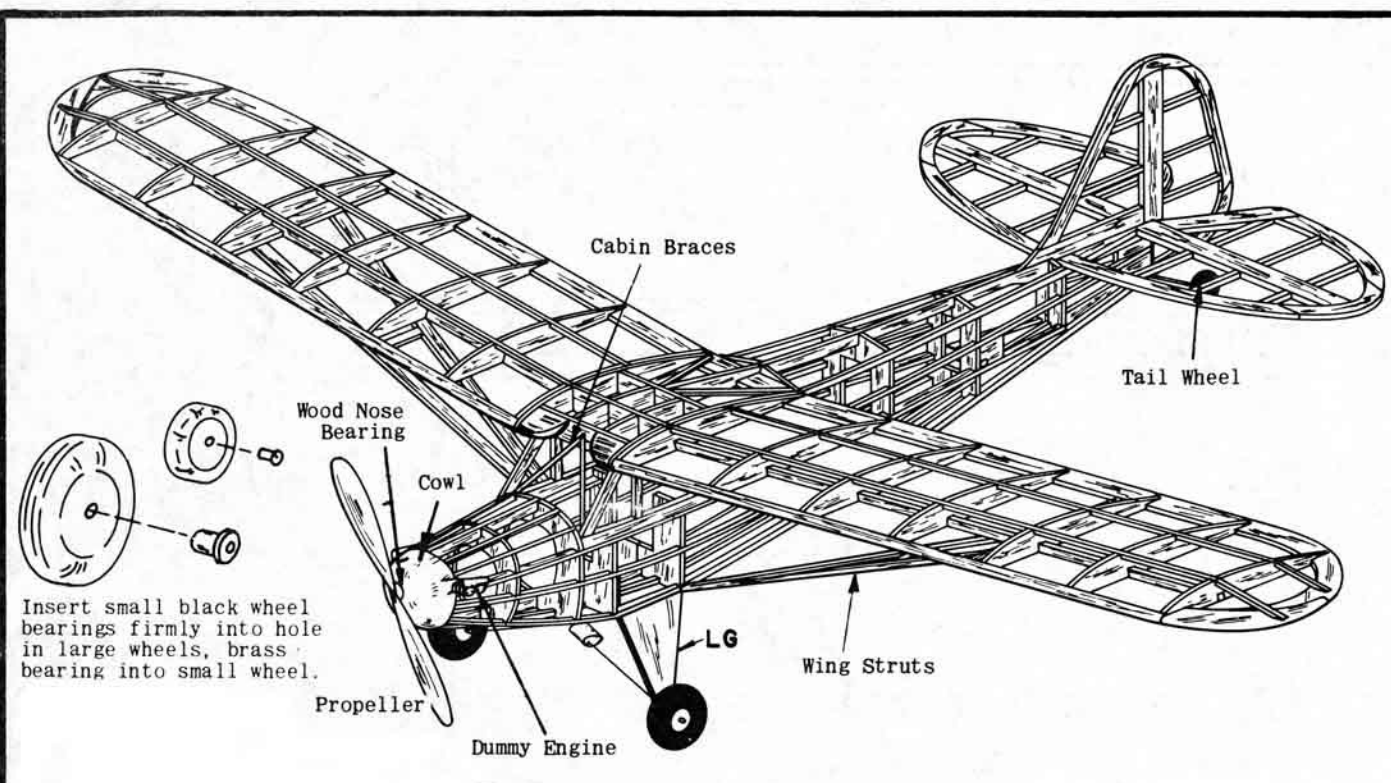
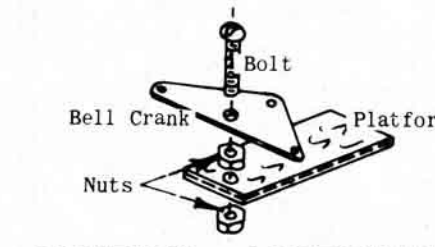
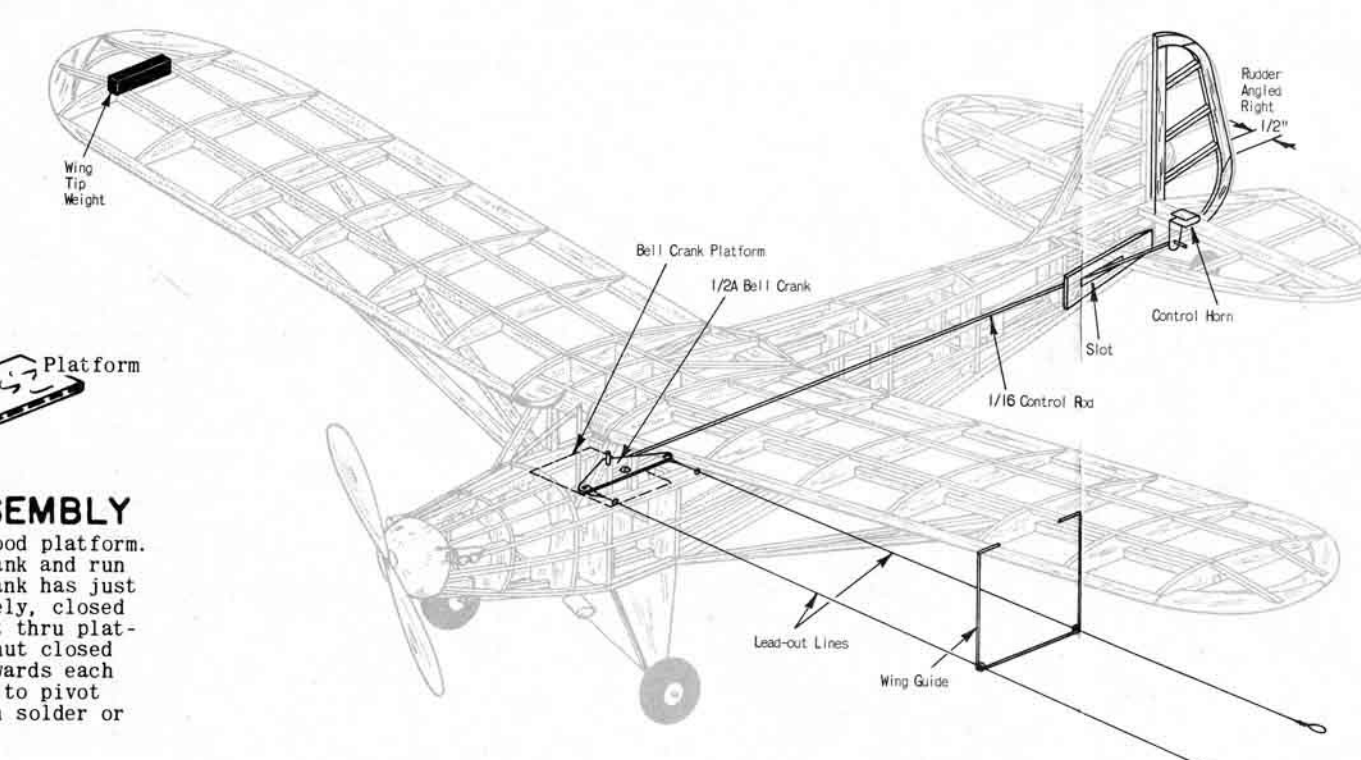




CAUTION:
Do not fly control line models in the vicinity of electric power lines!

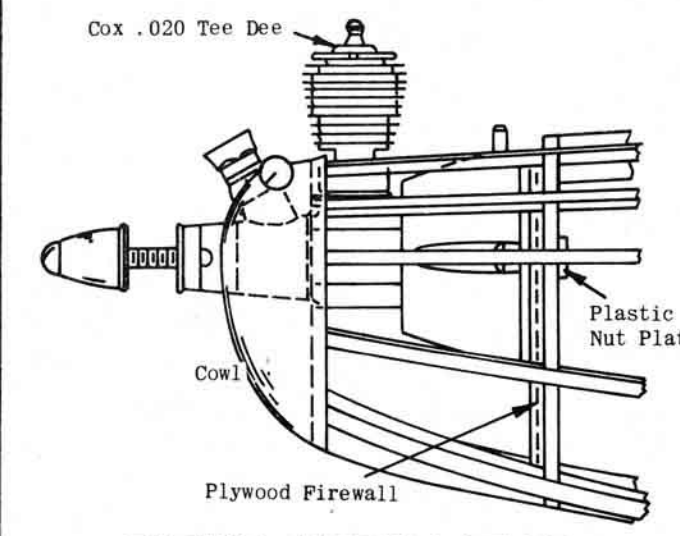


CONTROL ASSEMBLY
Drill 1/8" hole thru plywood platform. Insert bolt thru bell crank and run nut up bolt till bell crank has just enough room to swing freely, closed face of nut down. Insert thru platform and install bottom nut closed face up. Tighten nut towards each other leaving bell crank to pivot freely. Secure nuts with solder or glue.



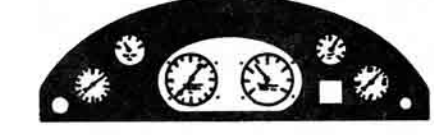
CONTROL LINE INSTALLATION

Wing, tail and fuselage are now covered as described in Silkspan Tissue Note before proceeding. Wing is now securely cemented to top of fuselage against P3. Cut two 2-1/8" lengths of 3/32 sq. strip for cabin braces. Round off. Bevel ends and cement in place from front of cabin sides against P3 to center of front W6 in wing as shown. Cement windshield in place, wrapping around sides of fuselage and over top of wing. Hold in place with pins until dry. Cut out and cement celluloid to wing window frame. Outlines of scale control surfaces may be drawn in place with India ink. Insert eyelet bearings into wheels and place on axles. Hold wheels with drop of cement or solder. Insert straight end of propeller shaft through rear of nose bearing. Slip on two washers and insert shaft through rear of propeller. Bend front of shaft to "C" shape as shown on side view, and cement securely to propeller. Make two loops of rubber. Insert rubber through trap door. Rubber is held on dowel which is inserted through fuselage side between L6's, engaging rubber on dowel at same time. Slip remainder of rubber into fuselage and shake down towards nose. Bend hook on piece of wire. Slip wire through hole in cowl and capture rubber. Pull through and attach to prop shaft. Nose bearing fits into hole in cowl. Cement shock fairings SA together with length of thread sandwiched between, 1/8" from front. Trim and sand to streamline shape. Make 2 and cement from axle to top of opposite landing gear strut on each side, as shown on photos and three view drawings. Cement painted plastic engine in position shown on side view. Your Piper Cub J-3 is now complete. See Flight Instructions before flying. GOOD LUCK AND HAPPY LANDINGS!!!

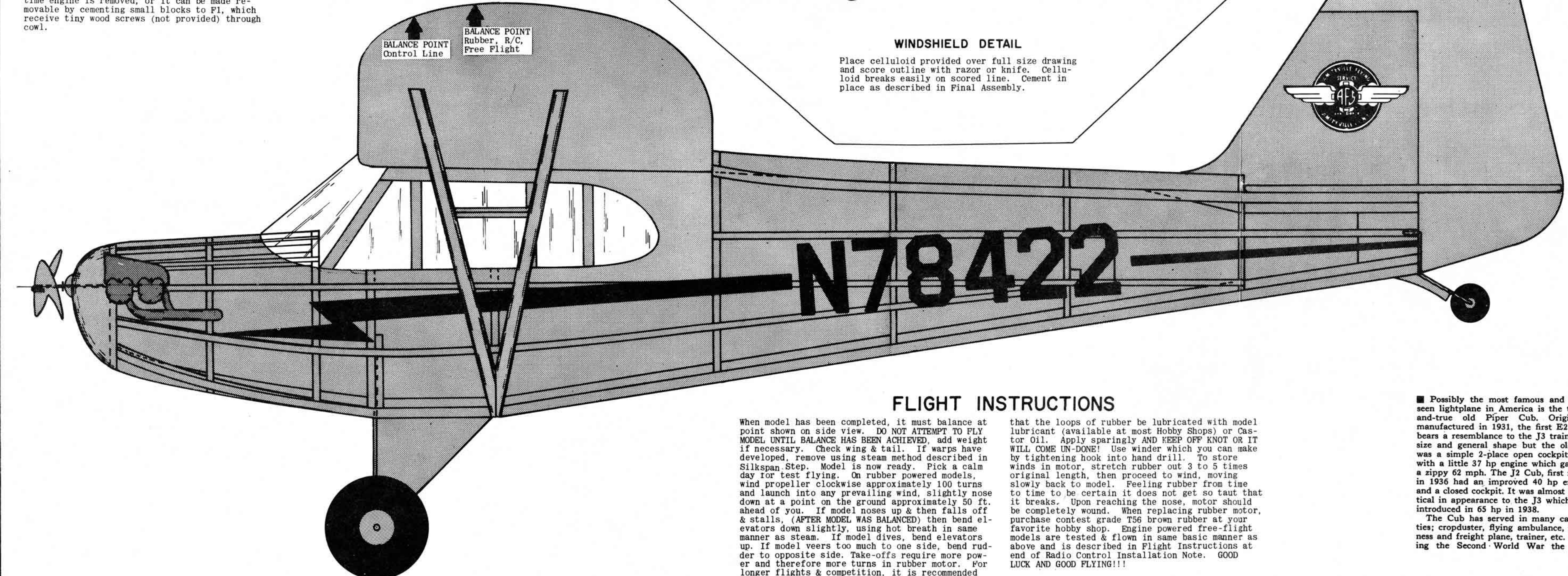


ENGINE INSTALLATION

Engine is used if model is being built for R/C. Control line or Free flight flying. Engine is not provided in kit. Drawing shows the installation of a Cox .020 Tee Dee engine. Hole in FI is now enlarged to permit passage of engine through front. Remove FI back to P2. Mount engine to fire wall with #2 nuts and bolts (not provided) and tighten nuts securely. Cut plastic nut plates from molded sheet, trim to 1/8" around nut itself to provide gluing surface, then cement to back of fire wall over nuts, drilling hole through so that bolts can protrude. Use cement generously. Nut plate keeps nuts from turning so that engine can be removed by just unscrewing bolts. When dry, remove engine. Fuselage should be covered at least back to P6 with 1/32 or 1/16 sheet balsa. Engine is then installed after model has been painted. Cut out front and top of cowl for engine clearance. Cowl can either be cemented in place, breaking glue joint each time engine is removed, or it can be made removable by cementing small blocks to FI, which receive tiny wood screws (not provided) through cowl.



INSTRUMENT PANEL
Cut from Plan and Cement to P3.



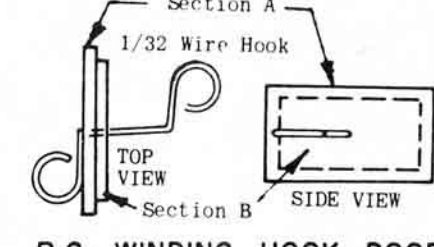
FLIGHT INSTRUCTIONS

When model has been completed, it must balance at point shown on side view. DO NOT ATTEMPT TO FLY MODEL UNTIL BALANCE HAS BEEN ACHIEVED, add weight if necessary. Check wing & tail. If warps have developed, remove using steam method described in Silkspan Step. Model is now ready. Pick a calm day for test flying. On rubber powered models, wind propeller clockwise approximately 100 turns and launch into any prevailing wind, slightly nose down at a point on the ground approximately 50 ft. ahead of you. If model noses up & then falls off & stalls, (AFTER MODEL WAS BALANCED) then bend elevators down slightly, using hot breath in same manner as steam. If model dives, bend elevators up. If model veers too much to one side, bend rudder to opposite side. Take-offs require more power and therefore more turns in rubber motor. For longer flights & competition, it is recommended

that the loops of rubber be lubricated with model lubricant (available at most Hobby Shops) or Gas-tor Oil. Apply sparingly AND KEEP OFF KNOT OR IT WILL COME IN DONE! Use window which you can make by tightening hook into hand drill. To store winds in motor, stretch rubber out 3 to 5 times original length, then proceed to wind, moving slowly back to model. Feeling rubber from time to time to be certain it does not get so taut that it breaks. Upon reaching the nose, motor should be completely wound. When replacing rubber motor, purchase contest grade T36 brown rubber at your favorite hobby shop. Engine powered free-flight models are tested & flown in same basic manner as above and is described in Flight Instructions at end of Radio Control Installation Note. GOOD LUCK AND GOOD FLYING!!!!

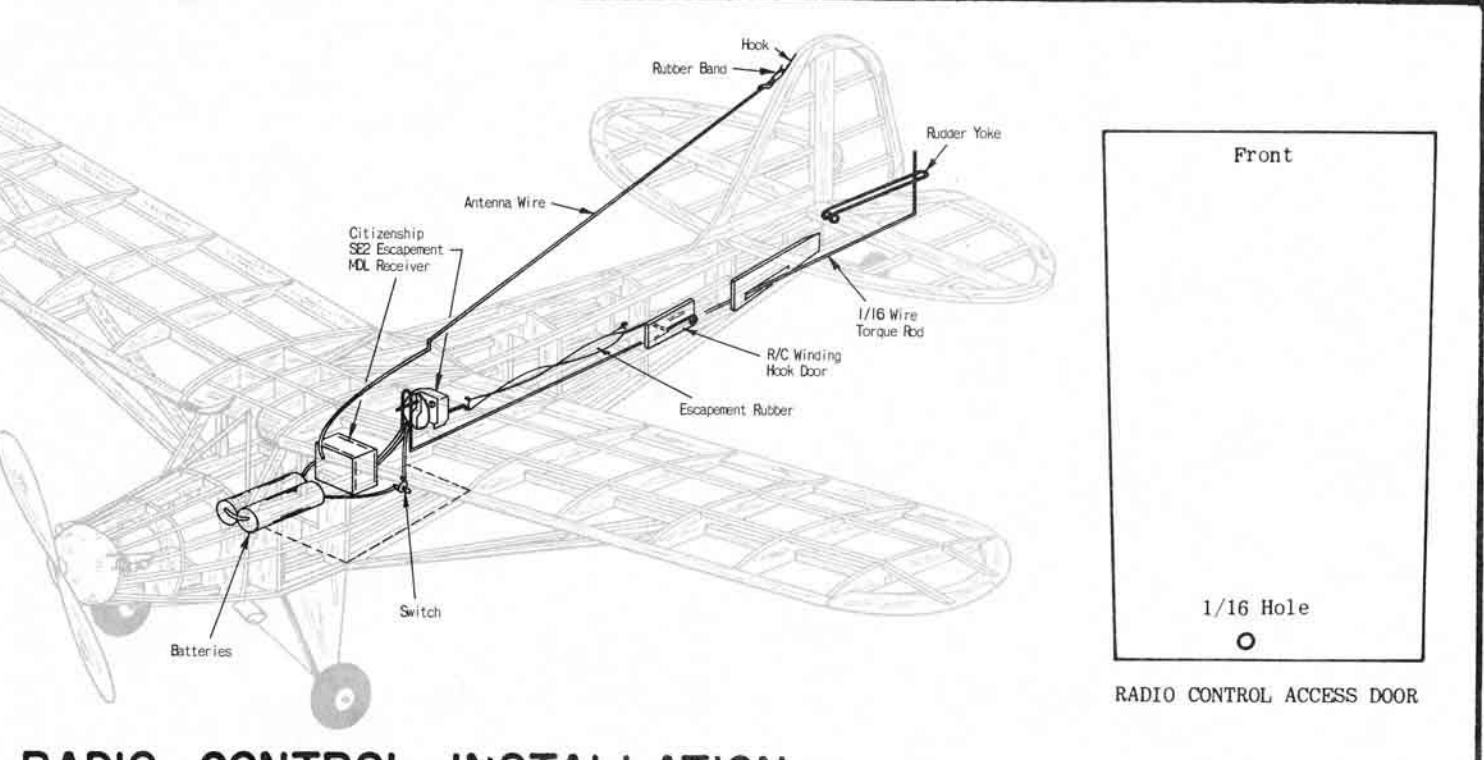
HINGE DETAIL
Use cloth tape for hinges. Apply cement only on top and bottom. Alternate hinges, as shown above.

RUDDER YOKE
Bend from 1/32 Wire



R.C. WINDING HOOK DOOR

Inset 1/16 sheet in area between P8 & P9, from side keel to stringer above it. When dry, cut out square hole 3/8 x 3/4. Cement piece cut out to 1/16 x 1/2 x 7/8 (grain running cross-wise) as shown above, to form door. Bend half of hook shown from 1/32 wire and push straight end in door - then bend hook on other end as shown in top view. Cement hook securely to door in position shown. Place loop of rubber between escapement and hook on inside of door.

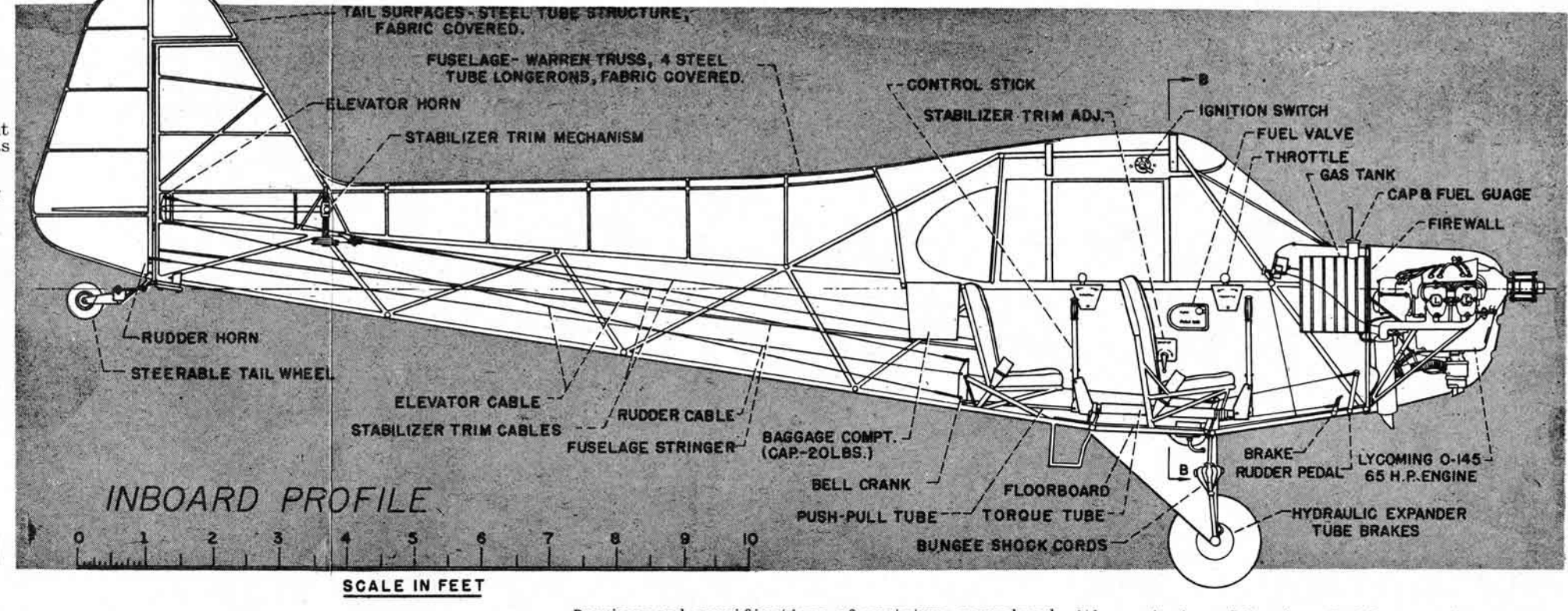


RADIO CONTROL INSTALLATION

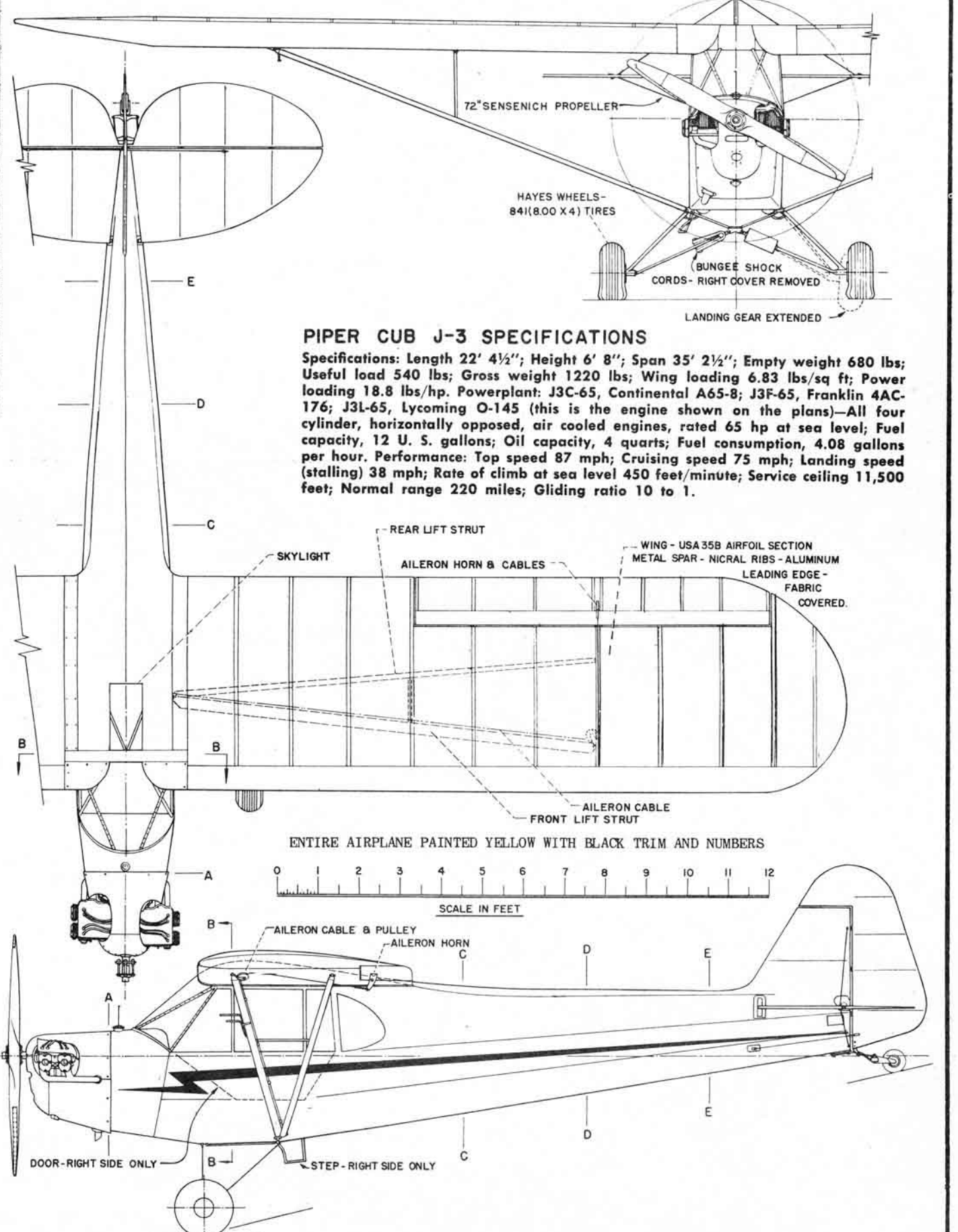
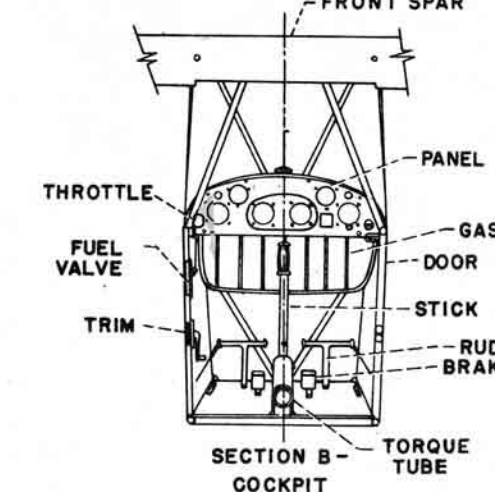
Test models used and drawing, shows Citizenship MDL Receiver, SE2 Escapement, used with SPX Transmitter. This equipment and other material necessary is not provided in kit. Access to radio equipment is through 1/16 balsa (scrap) door made using full size drawing above. Door fits between bulkheads P8 & P9 and corner stringers. Remove stringers and center keel L3 from this section. Cement 1/8 x 3/16 x 1-3/4 hardwood strip against front of P8, recessed 1/16, to act as door stop. Cement a length of cloth tape across front, half on door and half on fuselage, for hinge. Bear is secured to hardwood strip with wood screws. Cut rudder apart at location shown by dotted lines, then assemble together with cloth hinges. Bend wire yoke from 1/32 wire and install on rudder with 2/56 nut and bolt. Cut escapement base from 1/16 plywood and mount escapement, then cement to front of bulkhead P6 as shown. Fill in area P9 to rear, from L6 to stringer above, with scrap 1/16 balsa. Make 1/16 hole through balsa at location shown, for torque

rod. Using a length of 1/16 wire at least 16" long, insert through hole, then bend "U" in front of wire according to R-C manufacturer's instructions and as shown above. Pull back and engage "U" in escapement. Bend rear at right angle as shown, to engage in yoke. Cut off wire 3/4" above yoke. Raising and lowering yoke will increase or decrease the amount of rudder movement. Wire all radio equipment together in accordance with R-C manufacturer's instructions. Batteries are stored between P3 & P5. After they have been soldered, line compartment with foam rubber, then insert battery (receiver stored above batteries). Bend small wire hook for antenna attachment and cement to front of rudder. Bring antenna out of cabin at trailing edge of wing and fasten to hook with rubber band as shown. When model has been completely finished, it must balance as shown on side view. If necessary add weight but DO NOT ATTEMPT TO FLY UNTIL BALANCE HAS BEEN ACH-

IEVED. Check wings and tail for warps. If any have developed, remove with steam method as described in Covering Instructions. Wait for calm weather for test flights. Field test R-C equipment before flying, as described in manufacturer's instructions. Start engine and THROTTLE DOWN TO LOW SPEED, then launch model with nose pointed slightly down at a point 50 or 60 feet in front of you and release at approximate flying speed. Model should fly in a straight line and either maintain or slightly lose altitude. If model turns to either side, rudder or engine may be off set to opposite side to achieve a straight flight, which is how it should glide and fly. If model glides well but stalls under power, point front of engine down (down thrust) by placing shin under top of fuel tank. Increase engine RPM as adjustments are made, checking R-C controls before each flight. GOOD LUCK AND GOOD FLYING!!!!



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EASY CONVERSION TO CONTROL LINE OR R/C FLYING

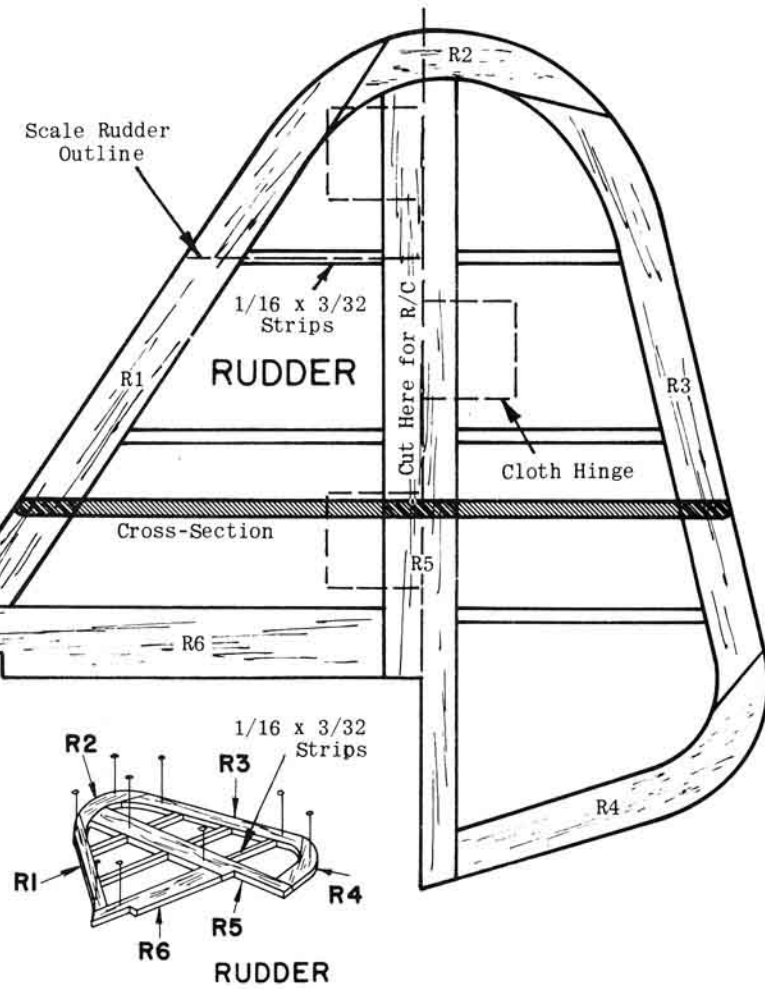
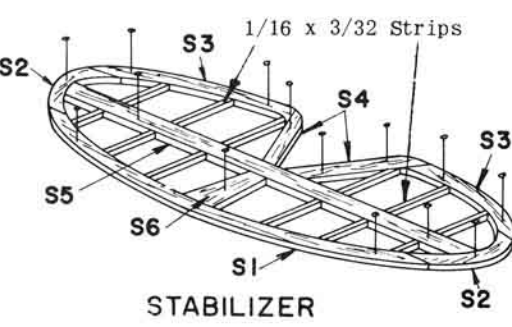
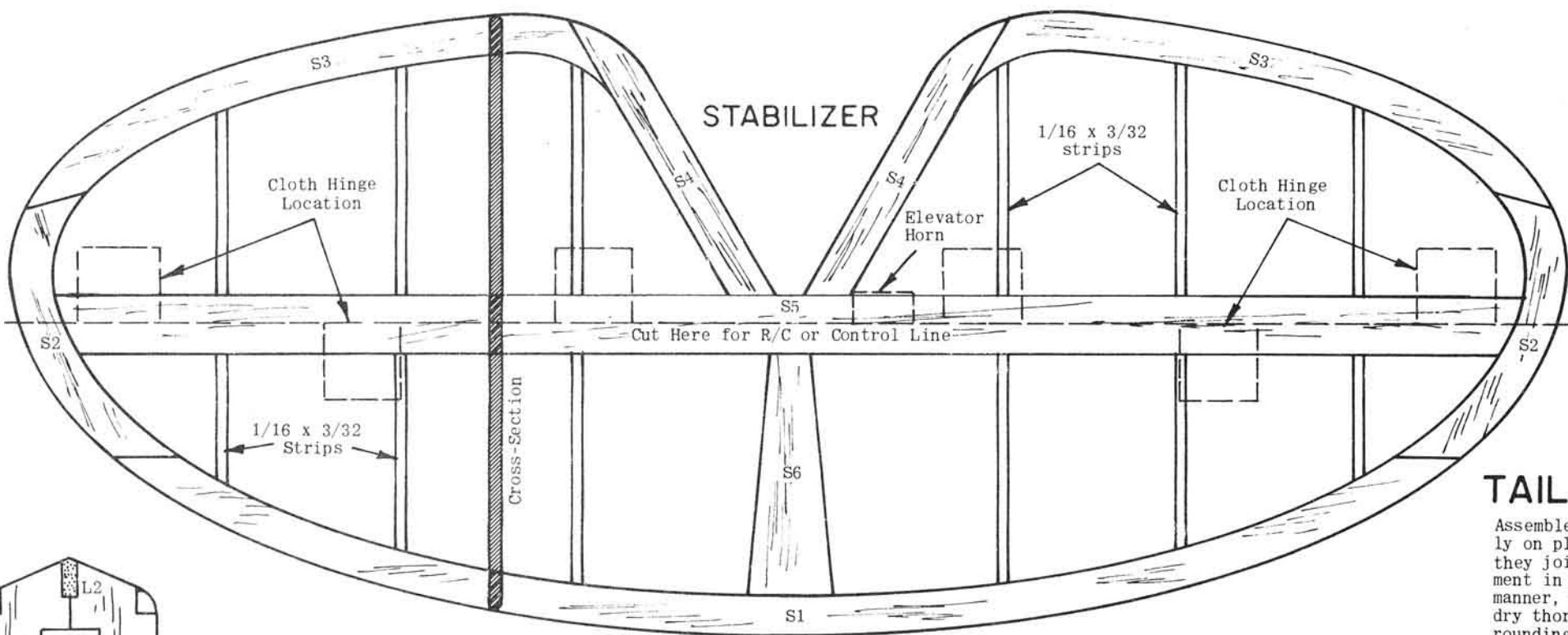
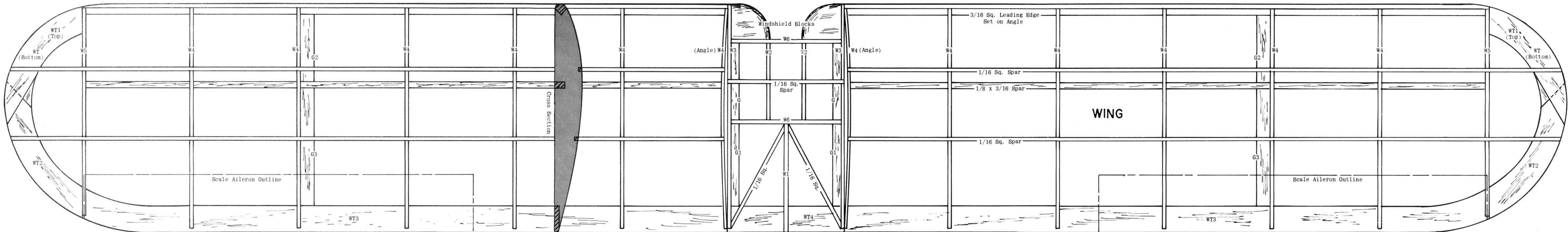
PIPER CUB J-3



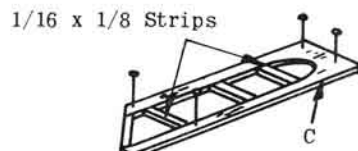
Sterling
MODELS
PHILA. PA. USA

KIT A22
WING SPAN 30"

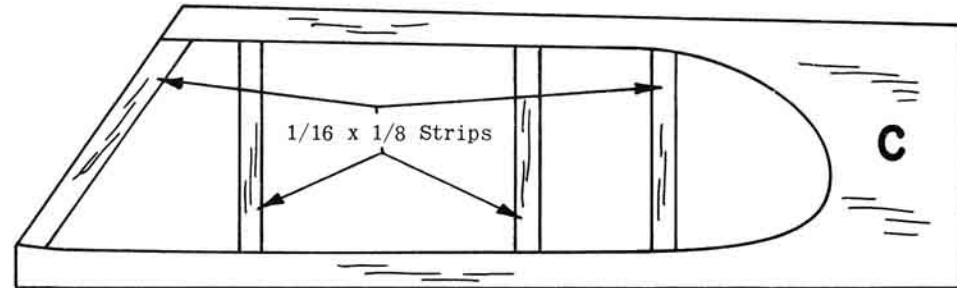
C23EDEN20



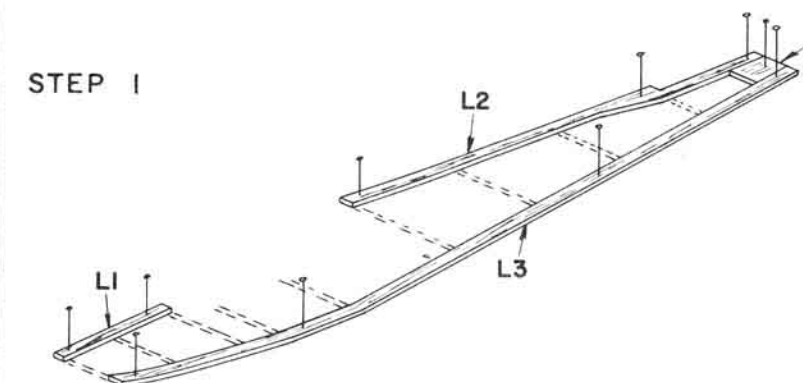
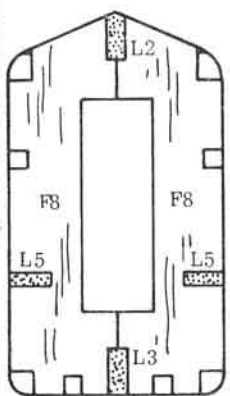
TAIL SURFACE ASSEMBLY
Assemble stabilizer by pinning all 8 parts directly on plan as shown, cementing to each other where they join. Cut 1/16 x 3/32 strips to fit, and cement in place, upright. Rudder is built in same manner, using 8 parts shown. Allow assemblies to dry thoroughly on flat surface, then sand smooth, rounding edges (except R5 & R6) as shown on cross section. If model is being built for control line, check note before covering with tissue.



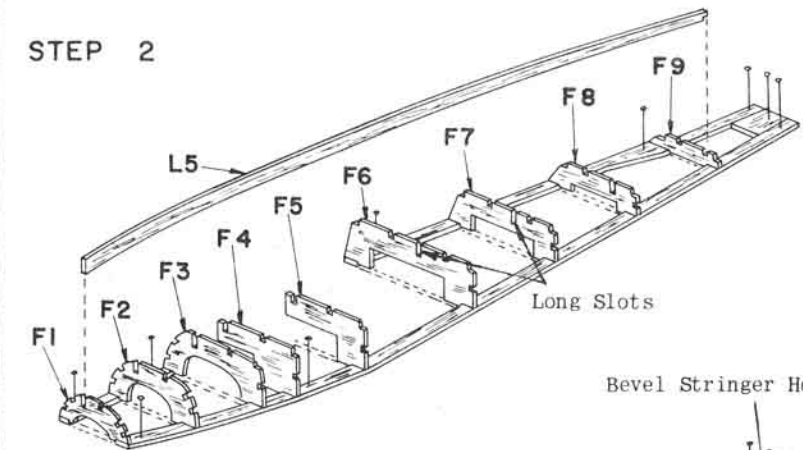
CABIN SIDE ASSEMBLY
Pin C on plan. Remainder of frame is 1/16 x 1/8 balsa strips cut to length. Pin in place on plan as shown in Assembly Sketch. MAKE ACCURATELY so that wing will have proper angle of incidence. OTHERWISE MODEL MAY NOT FLY! Use cement generously and allow to dry thoroughly before removing from flat surface. Make two exactly alike.



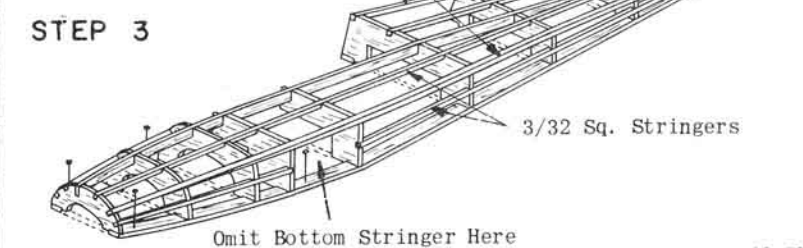
FUSELAGE ASSEMBLY



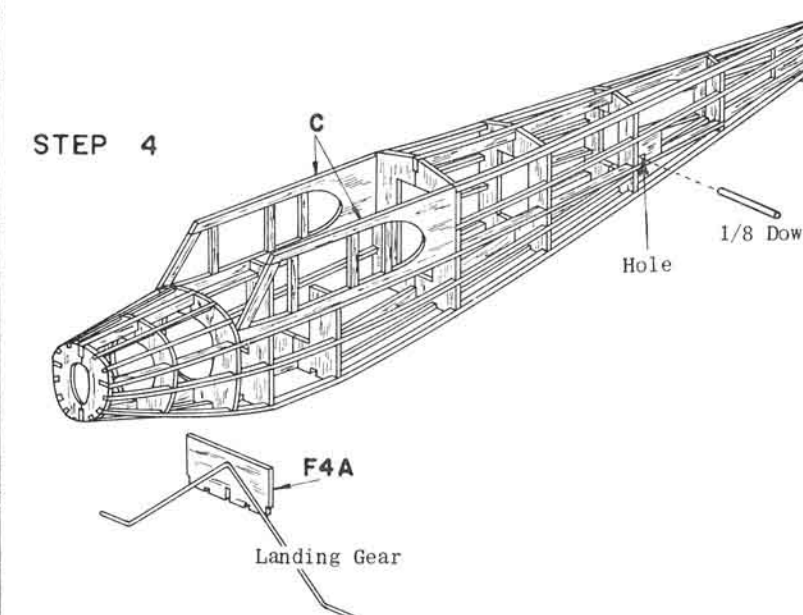
STEP 1
Build fuselage directly on plan. Pin L parts in place as shown, cementing where they join at rear.



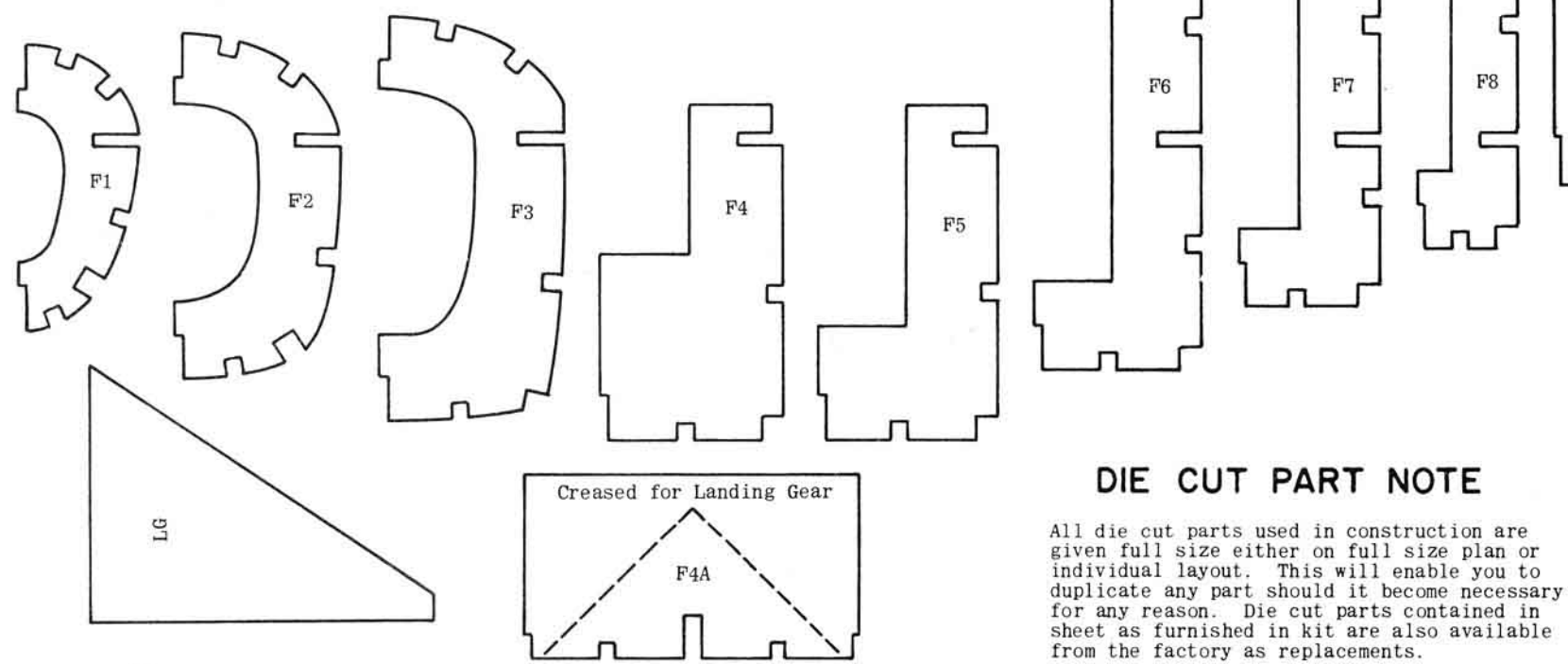
STEP 2
Cement bulkhead halves from F1 to F9 vertically in place as shown. Insert and cement L4 into long slots in center of bulkheads.



STEP 3
Build two cabin sides, see detail note. Cement strip (stringers) into notches for same as shown, beveling rear to knife edge. Corner stringers are 1/8 sq. Others are 3/32 sq. Omit bottom stringer between F4 & F5 until landing gear is installed in Step 4. Stringer below L5 ends at F8. If necessary, stringers can be more easily bent by soaking in hot water. Cement L6 against rear of F8, between L5 and stringer above it. Allow frame to dry overnight to prevent warping. Wing or tail can be started meanwhile.

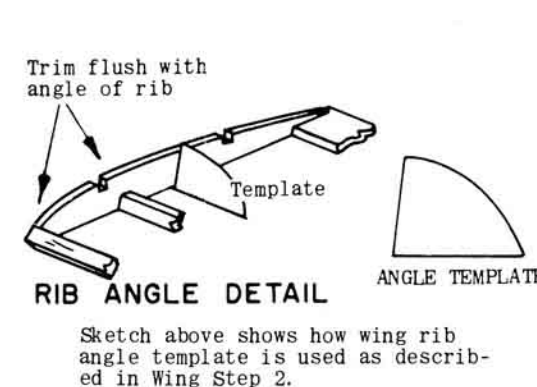
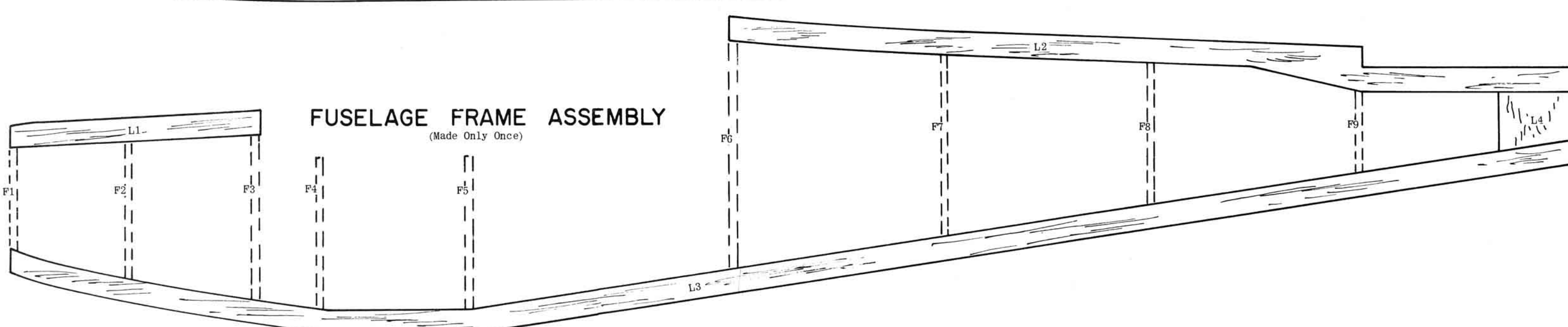


STEP 4
Pull out pins and remove frame from flat surface then cement opposite halves of bulkheads in place followed by L5. Cement all stringers in place. Cement both cabin sides in place. Landing gear is shown on sketch in crease marks in F4A for clarity only. It is then inserted through bottom of fuselage. F4A is then inserted through top. Place gear into crease marks and cement F4A against F4, sandwiching landing gear between them. Landing gear struts are against bottom corner stringers on each side. 1/8 dowel provided is inserted, through hole in L6's to hold rubber band, as described in Final Assembly Note. Do not install at this time. Bend 1/8 spar on tail wheel gear as shown on side view, then sink spur into rear of fuselage. Cement T to bottom of fuselage against front of tail wheel gear. Use cement generously and allow to dry thoroughly. Install bottom stringers between F4 & F5. Frame is now complete. Allow to dry thoroughly, then sand lightly to present a smooth surface for tissue covering, which is described in its Detail Note. If model is to be engine powered, see Engine or Control Line Note BEFORE COVERING FUSELAGE.



DIE CUT PART NOTE

All die cut parts used in construction are given full size either on full size plan or individual layout. This will enable you to duplicate any part should it become necessary for any reason. Die cut parts contained in sheet as furnished in kit are also available from the factory as replacements.



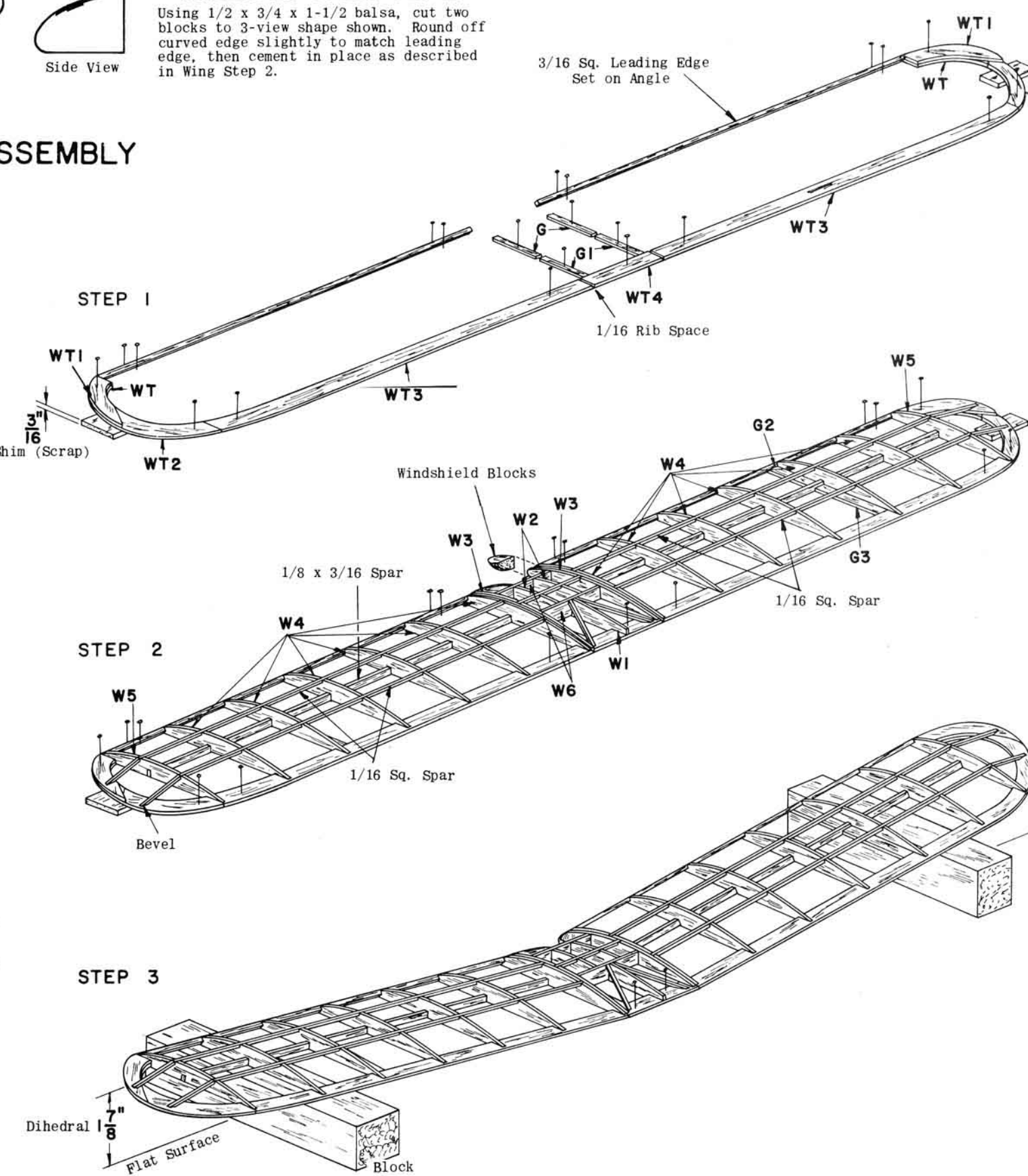
WING ASSEMBLY

STEP 1
Build wing on flat surface directly on plan. Assemble both tips over plan by cementing WT to WT2, then cementing WT1 to top and allow to dry. Pin all WT parts to plan as shown. Be sure to leave 1/16 space for rib between WT3's & WT4; and place 3/16 shim (scrap) under tips. Pin G's & G1's in place. Pin 3/16 sq. leading edges in place, set on corner as shown. All joining parts are cemented.

STEP 2
Cut 1/8 x 3/16 spar to length and pin to plan. Cement all ribs, including window spars W6's, in place. Ribs W4 that adjoin W3's are set at angle using rib angle template as shown in Detail Sketch. This insures proper dihedral angle. All other ribs are vertical. DO NOT cement W3's to W4's since panels are separated for dihedral angle in next step. Cement strut gussets G2's & G3's in place. Cement 1/16 x 3/32 spars into notches along top of ribs. Spars are cracked at tip ribs W5 and are bevelled on bottom and cemented to wing tip as shown. Shape windshield blocks (see Detail Note) and cement in place. Allow frame to dry thoroughly before removing from flat surface.

STEP 3
Pull out pins and remove frames from flat surface. Separate panels and trim & sand leading edge to shape shown on wing cross section. Round off tips, blending WT1 into WT2, flowing it into leading and trailing edge to make a smooth rounded wing tip. Trim leading edge, spars and trailing edge flush with angle of W4. Pin center section down on flat surface. Cement panels to center section, blocking up tips 1-7/8" for dihedral angle as shown. Use cement generously and allow to dry thoroughly. When dry, sand frame smooth to prepare for tissue covering.

WINDSHIELD BLOCK DETAIL
Using 1/2 x 3/4 x 1-1/2 balsa, cut two blocks to 3-view shape shown. Round off curved edges slightly to match leading edge, then cement in place as described in Wing Step 2.



SILKSPAN TISSUE COVERING

The finest grade wet strength silkspan tissue provided in this kit permits covering of compound curves without wrinkling WHEN FIRST MOISTENED WITH WATER BEFORE APPLYING TO FRAME. Tissue shrinks when dry to tight smooth surface. Use clear dope to attach tissue to frame as follows: Apply a coat to the outside edges of area to be covered. When dry, cut tissue to shape needed, about 1/4" larger on all sides. Place tissue on flat surface and dampen with moistened cloth. Apply a second coat of clear dope to frame, then place moistened tissue in place. Pull tissue gently with fingers, working out all wrinkles. WHEN COVERING WING AND TAIL SURFACES, PIN FRAMEWORK TO FLAT SURFACE TO PREVENT WARPS AS TISSUE DRIES. Cut out any area that wrinkles (bounded by nearest framework) and re-cover section in same manner. Apply two coats of clear dope, thinned 50-50 with thinner, on wing and tail surfaces before assembling to model. COVER WING FIRST: On control line models add about 1/2 ounce of weight to right wing tip. Cover top and bottom of wing from dihedral breaks to tip with one piece each. Center section in front of rear W6 is left uncovered. COVER TAIL SURFACES NEXT: Cover both sides of rudder and stabilizer with one piece each. COVER FUSELAGE NEXT: Cover sides of fuselage (from front to back) with one piece each. Cover top rear of fuselage from F6 to F9 in one piece. Cover top front with one piece. Cover entire bottom in one piece. Apply four coats of thinned dope to tissue covering on fuselage. Check wings and tail surfaces for warps before assembling. Warps are removed by holding over steam (from boiling kettle) and twisting gently in opposite direction. Finished model must be warp-free if successful flights are to be obtained.