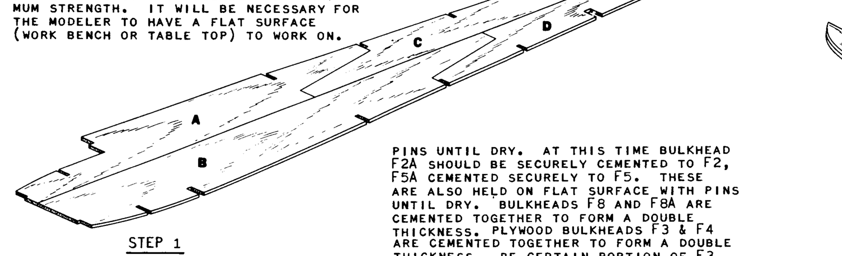
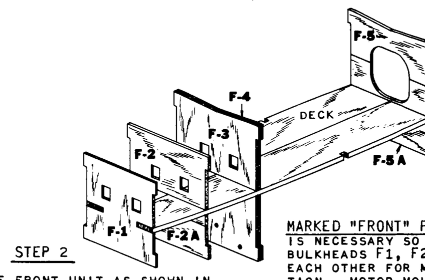
GENERAL CONSTRUCTION INFORMATION

THE MAMBO IS A VERY EASY MODEL TO BUILD; HOWEVER, FOR BEST RESULTS, EXAMINE DRAWINGS BEFORE STARTING CONSTRUCTION. IF ANY DIE-CUT PARTS STICK IN SHEET, THEY MAY BE EASILY REMOVED BY SANDING REAR SIDE OF SHEET. FOR MAXIMUM STRENGTH, ALL JOINTS, ESPECIALLY BUTT JOINTS, SHOULD BE LIGHTLY COATED WITH CEMENT AND ALLOWED TO DRY;- A SECOND COAT OF CEMENT IS THEN APPLIED WHEN THE PARTS ARE ACTUALLY JOINED TOGETHER. THIS IS KNOWN AS PRE-GLUEING AND INSURES STRONG ASSEMBLY AND MAXIMUM STRENGTH. IT WILL BE NECESSARY FOR THE MODELER TO HAVE A FLAT SURFACE (WORK BENCH OR TABLE TOP) TO WORK ON.



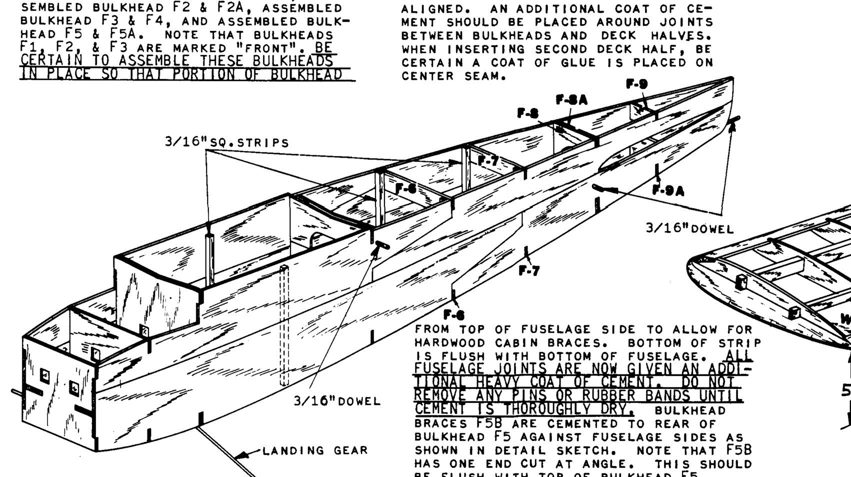
STEP 1

START FUSELAGE CONSTRUCTION BY PREPARING THE 2 SIDES. NOTE THAT EACH SIDE IS MADE UP OF 4 DIE-CUT PIECES,-A, B, C & D. THESE ARE ASSEMBLED AS SHOWN AND SECURELY CEMENTED TOGETHER ON FLAT SURFACE. HOLD SIDES IN PLACE WITH PINS UNTIL DRY. AT THIS TIME BULKHEAD F2A SHOULD BE SECURELY CEMENTED TO F2, F5A CEMENTED SECURELY TO F5. THESE ARE ALSO HELD ON FLAT SURFACE WITH PINS UNTIL DRY. BULKHEADS F8 AND F8A ARE CEMENTED TOGETHER TO FORM A DOUBLE THICKNESS. PLYWOOD BULKHEADS F3 & F4 ARE CEMENTED TOGETHER TO FORM A DOUBLE THICKNESS. BE CERTAIN PORTION OF F3 THAT IS MARKED "FRONT" IS ASSEMBLED AS THE FRONT. WHEN DRY, DRILL 1/8" HOLES AT POINTS INDICATED BY PUNCH MARKS ON LOWER SIDE OF F3 FOR LANDING GEAR INSTALLATION AS DESCRIBED IN A LATER STEP.



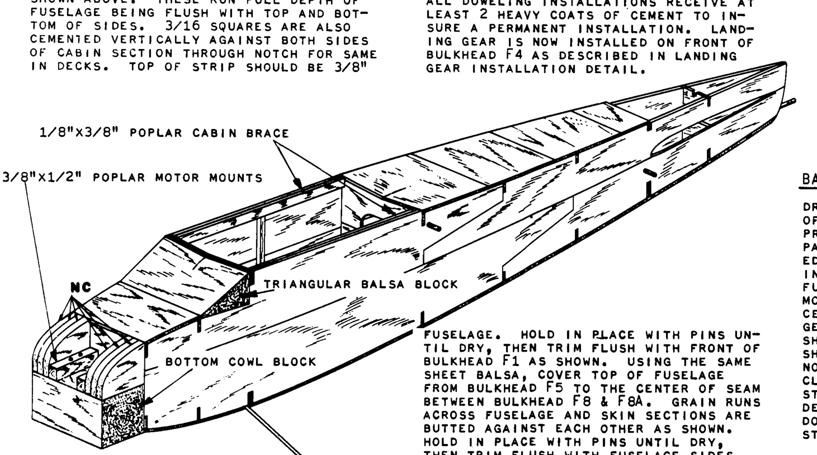
STEP 2

ASSEMBLY OF FRONT UNIT AS SHOWN IN ABOVE DRAWING IS STARTED BY INSERTING AND CEMENTING DECK HALVES INTO SLOTS FOR SAME IN BULKHEADS F1, ASSEMBLED BULKHEAD F2 & F2A, ASSEMBLED BULKHEAD F3 & F4, AND ASSEMBLED BULKHEAD F5 & F5A. NOTE THAT BULKHEADS F1, F2, & F3 ARE MARKED "FRONT". BE CERTAIN TO ASSEMBLE THESE BULKHEADS IN PLACE SO THAT PORTION OF BULKHEAD MARKED "FRONT" FACES FORWARD. THIS IS NECESSARY SO THAT SQUARE HOLES IN BULKHEADS F1, F2 & F3 ARE IN LINE WITH EACH OTHER FOR MOTOR MOUNT INSTALLATION. MOTOR MOUNTS ARE OFF-SET TO RIGHT(TOP VIEW) AND UNLESS BULKHEADS ARE INSTALLED PROPERLY, HOLES FOR MOTOR MOUNT INSERTION WILL NOT BE ALIGNED. AN ADDITIONAL COAT OF CEMENT SHOULD BE PLACED AROUND JOINTS BETWEEN BULKHEADS AND DECK HALVES. WHEN INSERTING SECOND DECK HALF, BE CERTAIN A COAT OF GLUE IS PLACED ON CENTER SEAM.



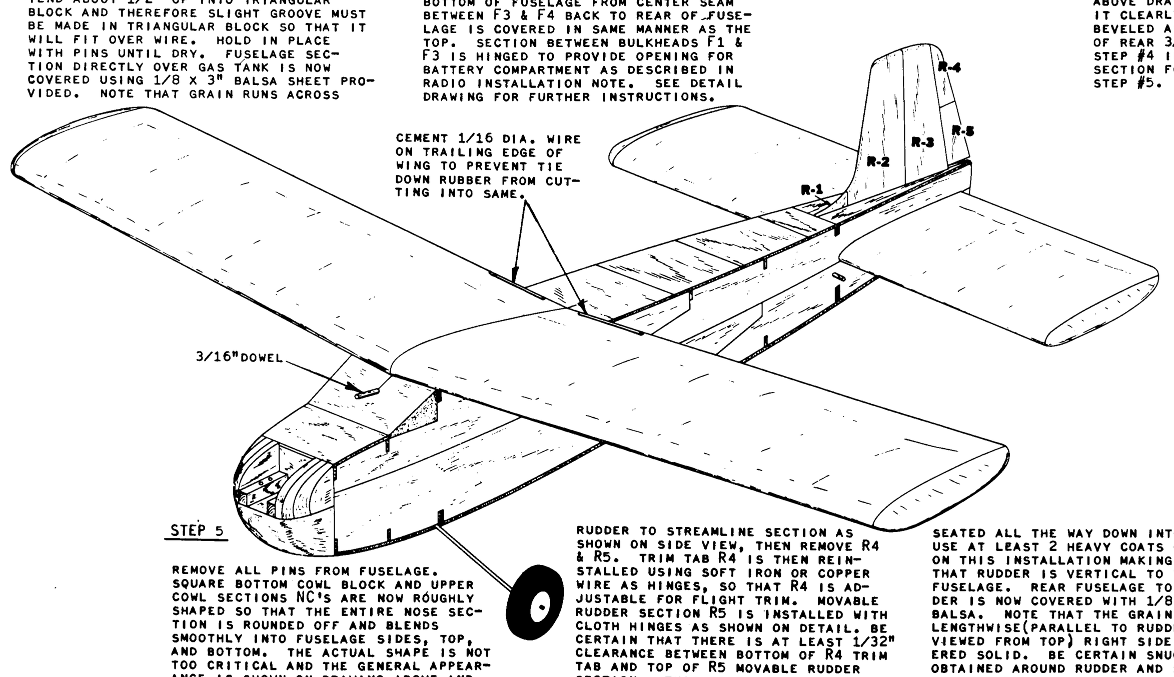
STEP 3

FUSELAGE SIDES ARE NOW ASSEMBLED ON FRONT UNIT. APPLY A COAT OF CEMENT TO OUTER EDGES OF UNIT AND MOUNT SIDES SO THAT PROTRUSIONS IN TOP AND BOTTOM OF BULKHEADS FIT INTO SLOTS FOR SAME IN FUSELAGE SIDES. SIDES SHOULD BE HELD FIRMLY AGAINST FRONT UNIT WITH EITHER PINS OR RUBBER BANDS UNTIL DRY. NOTE THAT F1 IS FLUSH WITH FRONT OF FUSELAGE SIDES AND IS SLIGHTLY ANGLED AS SHOWN ON SIDE VIEW. BEVEL INSIDE REAR OF FUSELAGE SIDES AS SHOWN ON FULL SIZE DETAIL DRAWING. SIDES ARE NOW READY TO BE CEMENTED TOGETHER; HOWEVER, ASSEMBLED BULKHEAD F8 & F8A IS INSERTED INTO NOTCHES FOR SAME IN FUSELAGE SIDES AT THE SAME TIME THAT SIDES ARE CEMENTED TOGETHER AT REAR. USE PINS TO HOLD FUSELAGE SIDES TOGETHER UNTIL DRY. BULKHEADS F6'S AND F7'S ARE NOW CEMENTED IN PLACE TO TOP AND BOTTOM OF FUSELAGE. THESE ARE INSERTED INTO NOTCHES FOR SAME IN FUSELAGE SIDES AS SHOWN ABOVE. BE CERTAIN TO HOLD SIDES AGAINST BULKHEADS TIGHTLY WITH PINS. BULKHEADS F9 & F9A ARE INSTALLED IN SAME MANNER. VERTICAL BRACES ARE NOW CUT FROM 3/16SQ. BALSA STRIPS AND CEMENTED AGAINST BOTH FUSELAGE SIDES AT BULKHEADS F6 & F7 AS SHOWN ABOVE. THESE RUN FULL DEPTH OF FUSELAGE BEING FLUSH WITH TOP AND BOTTOM OF SIDES. 3/16 SQUARES ARE ALSO CEMENTED VERTICALLY AGAINST BOTH SIDES OF CABIN SECTION THROUGH NOTCH FOR SAME IN DECKS. TOP OF STRIP SHOULD BE 3/8" FROM TOP OF FUSELAGE SIDE TO ALLOW FOR HARDWOOD CABIN BRACES. BOTTOM OF STRIP IS FLUSH WITH BOTTOM OF FUSELAGE. ALL FUSELAGE JOINTS ARE NOW GIVEN AN ADDITIONAL HEAVY COAT OF CEMENT. DO NOT REMOVE ANY PINS OR RUBBER BANDS UNTIL CEMENT IS THOROUGHLY DRY. BULKHEAD BRACES F5B ARE CEMENTED TO REAR OF BULKHEAD F5 AGAINST FUSELAGE SIDES AS SHOWN IN DETAIL SKETCH. NOTE THAT F5B HAS ONE END CUT AT ANGLE. THIS SHOULD BE FLUSH WITH TOP OF BULKHEAD F5. BULKHEAD F5C IS NOW CEMENTED ACROSS THE REAR OF BULKHEAD F5 AGAINST THE 2 F5B's AS SHOWN IN DETAIL SKETCH. BE CERTAIN SHALLOW "V" ANGLE IS FLUSH WITH TOP OF BULKHEAD F5. THIS INSTALLATION SHOULD ALSO RECEIVE AN ADDITIONAL COAT OF CEMENT. 3/16 DIA. DOWEL PINS WHICH SECURE WING AND TAIL ARE NOW INSTALLED. CUT A LENGTH OF 3/16 DOWEL TO FIT ACROSS REAR OF CABIN DIRECTLY UNDER BULKHEAD F5C AS SHOWN ABOVE. DOWELING SHOULD EXTEND 1/2" FROM EITHER SIDE OF FUSELAGE. TOP OF DOWELING SHOULD CONTACT BOTTOM OF BULKHEAD F5C AND BE AGAINST BRACES F5B AS SHOWN ON SIDE VIEW. WHEN LOCATION OF DOWEL HAS BEEN ESTABLISHED, DRILL 3/16 HOLES IN BOTH FUSELAGE SIDES TO RECEIVE SAME. ENDS OF DOWEL ARE ROUNDED AS SHOWN IN SIDE VIEW. SLIP DOWEL IN PLACE AND SECURE WITH 2 HEAVY COATS OF CEMENT. DOWEL PIN IS MOUNTED IN SIMILAR MANNER ACROSS FRONT OF BULKHEAD F8 AT LOCATIONS SHOWN ON SIDE VIEW. DOWEL PIN AT REAR OF FUSELAGE IS INSERTED INTO HOLE DRILLED IN CENTER OF FUSELAGE SIDES(WHEN VIEWED FROM REAR) AT LOCATIONS SHOWN ON SIDE VIEW. FRONT OF DOWEL SHOULD BE POINTED AND AFTER DOWEL HAS BEEN PRE-GLUED, IT IS INSERTED INTO HOLE AND DRIVEN SOLIDLY IN PLACE WITH LIGHT TAPS OF HAMMER. BE CERTAIN ALL DOWELING INSTALLATIONS RECEIVE AT LEAST 2 HEAVY COATS OF CEMENT TO INSURE A PERMANENT INSTALLATION. LANDING GEAR IS NOW INSTALLED ON FRONT OF BULKHEAD F4 AS DESCRIBED IN LANDING GEAR INSTALLATION DETAIL.



STEP 4

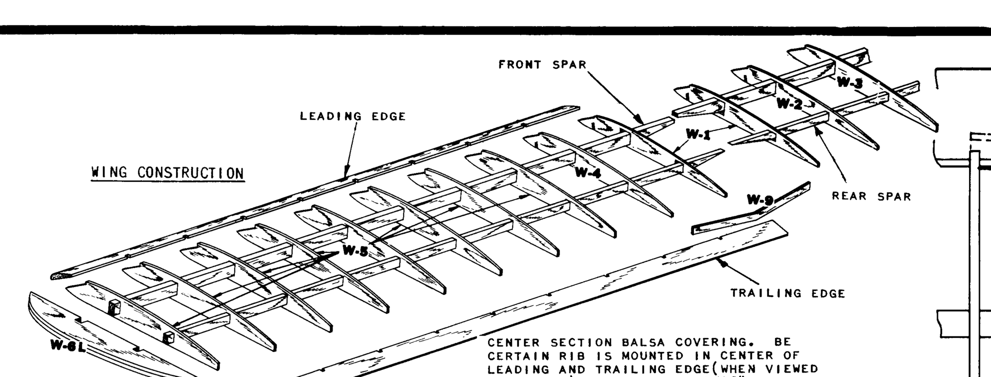
INSTALL 3/8 X 1/2 POPLAR MOTOR MOUNTS THROUGH NOTCHES FOR SAME IN BULKHEADS F1, F2, & F3. BE CERTAIN THAT END OF MOTOR MOUNTS IS SEATED FIRMLY AGAINST BACK UP BULKHEAD F4. USE 3 HEAVY COATS OF CEMENT TO INSURE A PERMANENT AND STRONG INSTALLATION AND ALLOW TO DRY THOROUGHLY. WHEN DRY, PLACE ENGINE ON MOUNT AND LOCATE HOLES FOR MOUNTING BOLTS. DRILL HOLES IN MOTOR MOUNTS. MAKE AND INSTALL NUT PLATES AS DESCRIBED IN DETAIL NOTE. AT THIS TIME GAS TANK SHOULD BE INSTALLED BETWEEN BULKHEADS F1 & F2 AS SHOWN ON SIDE VIEW. IT WILL BE NECESSARY TO CUT HOLE IN BULKHEAD F1 TO ALLOW FUEL LINE TUBING TO PASS THROUGH SAME FROM GAS TANK TO ENGINE. BE CERTAIN THAT FILLER AND OVERFLOW TUBES ARE LONG ENOUGH TO PROTRUDE PAST SKIN COVERING ON COWLING ABOVE GAS TANK AS SHOWN ON SIDE VIEW. ANY COMMERCIALLY MADE TANK MAY BE USED THAT WILL FIT IN THE COMPARTMENT. BE CERTAIN TANK IS SECURELY MOUNTED BECAUSE SECTION WILL BE PERMANENTLY CLOSED. AT THIS POINT IT WILL BE NECESSARY TO INSTALL THE MUSIC WIRE HOOKS UPON WHICH THE RADIO RECEIVER IS SUSPENDED AS SHOWN ON SIDE VIEW AND EXPLAINED IN FULL DETAIL IN RADIO INSTALLATION NOTE. AFTER HOOKS ARE INSTALLED, THE TRIANGULARLY SHAPED BALSA SECTION WHICH IS THE FRONT OF THE CABIN IS CEMENTED IN PLACE ACROSS THE FUSELAGE SIDES AND AGAINST BULKHEAD F3. NOTE THAT RADIO HOOKS EXTEND ABOUT 1/2" UP INTO TRIANGULAR BLOCK AND THEREFORE SLIGHT GROOVE MUST BE MADE IN TRIANGULAR BLOCK SO THAT IT WILL FIT OVER WIRE. HOLD IN PLACE WITH PINS UNTIL DRY. FUSELAGE SECTION DIRECTLY OVER GAS TANK IS NOW COVERED USING 1/8 X 3" BALSA SHEET PROVIDED. NOTE THAT GRAIN RUNS ACROSS FUSELAGE. HOLD IN PLACE WITH PINS UNTIL DRY, THEN TRIM FLUSH WITH FRONT OF BULKHEAD F1 AS SHOWN. USING THE SAME SHEET BALSA, COVER TOP OF FUSELAGE FROM BULKHEAD F5 TO THE CENTER OF SEAM BETWEEN BULKHEAD F8 & F8A. GRAIN RUNS ACROSS FUSELAGE AND SKIN SECTIONS ARE BUTTED AGAINST EACH OTHER AS SHOWN. HOLD IN PLACE WITH PINS UNTIL DRY, THEN TRIM FLUSH WITH FUSELAGE SIDES. NOTE THAT SKIN COVERING OVER BULKHEAD F5 IS CREASED SLIGHTLY SO THAT IT CAN BE PINNED FIRMLY INTO ANGLED TOP OF BULKHEAD F5 AS SHOWN ABOVE. THE TRIANGULAR FRONT BLOCK IS LIKEWISE CARVED INTO SHAPE TO MATCH TOP ANGLE OF BULKHEAD F4 AS SHOWN ABOVE. CEMENT SECURELY 1/8 X 3/8 X 7-11/16 POPLAR CABIN BRACES TO EITHER SIDE OF CABIN SECTION. THESE RUN FROM BULKHEAD F4 TO F5 AND FLUSH WITH TOP OF FUSELAGE SIDES AS SHOWN. SQUARE BOTTOM COWL BLOCK IS NOW CEMENTED SECURELY IN PLACE ACROSS FRONT FUSELAGE UNDER MOTOR MOUNTS. THIS SHOULD BE FLUSH WITH FUSELAGE SIDES. HOLD IN PLACE WITH PINS UNTIL DRY. DIE-CUT TOP COWL SECTIONS NC ARE NOW CEMENTED IN PLACE. NOTE THAT THERE ARE THREE ON EITHER SIDE OF FUSELAGE. FIRST SECTION IS CEMENTED IN PLACE AGAINST MOTOR MOUNTS, BULKHEAD F1, AND TO TOP OF BOTTOM COWL BLOCK AS SHOWN. REMAINDER OF NC SECTIONS ARE CEMENTED AGAINST EACH OTHER AS SHOWN. HOLD IN PLACE WITH PINS UNTIL DRY. APPLY A HEAVY COAT OF CEMENT OVER ALL JOINTS ON INSIDE OF NOSE FOR MAXIMUM STRENGTH AND ALLOW TO DRY THOROUGHLY. AT THIS POINT IT IS NECESSARY TO INSTALL ALL RADIO EQUIPMENT SUCH AS POTENTIOMETER, SWITCH, SHORTING PLUG, PERMANENT WIRING, ETC. AS FULLY DESCRIBED IN RADIO INSTALLATION DETAIL. IN THE EVENT A RUBBER BAND TYPE OF ESCAPEMENT IS USED AS SHOWN ON SIDE VIEW, IT WILL BE NECESSARY TO INSTALL A REAR HOOK AND DOOR AS FULLY DESCRIBED IN DETAIL DRAWING. BOTTOM OF FUSELAGE FROM CENTER SEAM BETWEEN F3 & F4 BACK TO REAR OF FUSELAGE IS COVERED IN SAME MANNER AS THE TOP. SECTION BETWEEN BULKHEADS F1 & F3 IS HINGED TO PROVIDE OPENING FOR BATTERY COMPARTMENT AS DESCRIBED IN RADIO INSTALLATION NOTE. SEE DETAIL DRAWING FOR FURTHER INSTRUCTIONS.



STEP 5

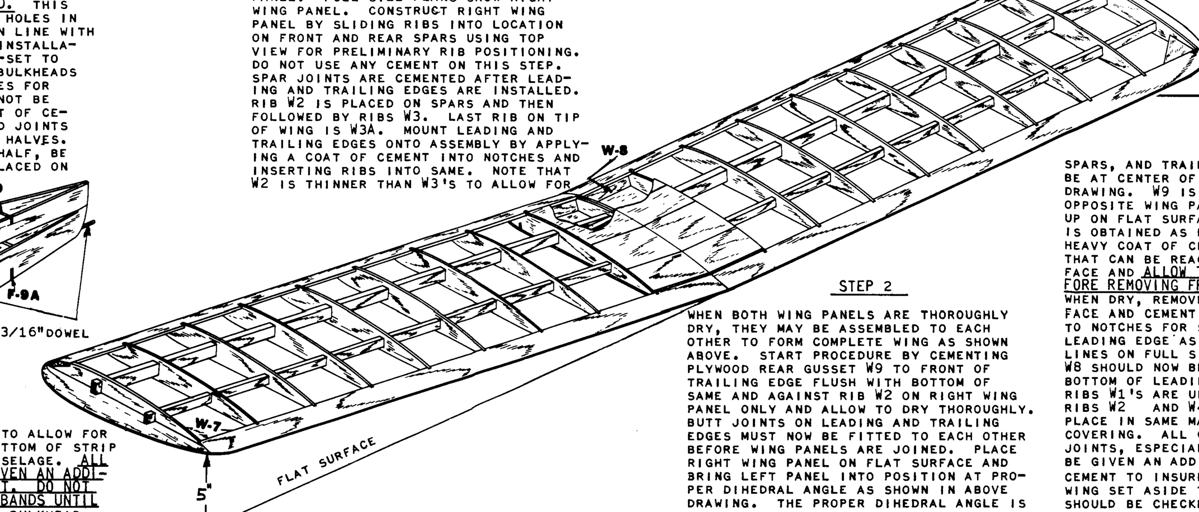
REMOVE ALL PINS FROM FUSELAGE. SQUARE BOTTOM COWL BLOCK AND UPPER COWL SECTIONS NC'S ARE NOW ROUGHLY SHAPED SO THAT THE ENTIRE NOSE SECTION IS ROUNDED OFF AND BLENDS SMOOTHLY INTO FUSELAGE SIDES, TOP, AND BOTTOM. THE ACTUAL SHAPE IS NOT TOO CRITICAL AND THE GENERAL APPEARANCE IS SHOWN ON DRAWING ABOVE AND ALSO IN PHOTOGRAPHS OF MODEL. RUDDER IS NOW ASSEMBLED ON FLAT SURFACE OVER FULL SIZE SIDE VIEW DRAWING. RUDDER SECTIONS R1, R2, & R3 ARE PERMANENTLY CEMENTED TOGETHER USING THE PRE-GLUE METHOD. HOLD IN PLACE WITH PINS UNTIL DRY. TRIM TAB R4 AND MOVABLE RUDDER SECTION R5 ARE LIGHTLY CEMENTED IN PLACE. SAND RUDDER TO STREAMLINE SECTION AS SHOWN ON SIDE VIEW, THEN REMOVE R4 & R5. TRIM TAB R4 IS THEN REINSTALLED USING SOFT IRON OR COPPER WIRE AS HINGES, SO THAT R4 IS ADJUSTABLE FOR FLIGHT TRIM. MOVABLE RUDDER SECTION R5 IS INSTALLED WITH CLOTH HINGES AS SHOWN ON DETAIL. BE CERTAIN THAT THERE IS AT LEAST 1/32" CLEARANCE BETWEEN BOTTOM OF R4 TRIM TAB AND TOP OF R5 MOVABLE RUDDER SECTION. THIS PORTION OF THE RUDDER IS ACTUATED BY THE RADIO MECHANISM TO MANEUVER YOUR MAMBO. THIS IS FULLY DESCRIBED IN THE RADIO INSTALLATION. RUDDER IS NOW SECURELY CEMENTED IN PLACE. NOTE THAT FRONT OF RUDDER FITS DOWN INTO NOTCH FOR SAME IN F8A, ALSO INTO NOTCH IN TOP OF BULKHEAD F9, AND THE REAR FITS BETWEEN FUSELAGE SIDES. BE CERTAIN RUDDER IS SEATED ALL THE WAY DOWN INTO NOTCHES. USE AT LEAST 2 HEAVY COATS OF CEMENT ON THIS INSTALLATION MAKING CERTAIN THAT RUDDER IS VERTICAL TO TOP OF FUSELAGE. REAR FUSELAGE TOP AT RUDDER IS NOW COVERED WITH 1/8" SHEET BALSA. NOTE THAT THE GRAIN RUNS LENGTHWISE(PARALLEL TO RUDDER WHEN VIEWED FROM TOP) RIGHT SIDE IS COVERED SOLID. BE CERTAIN SNUG FIT IS OBTAINED AROUND RUDDER AND SKIN IS TRIMMED FLUSH WITH FUSELAGE SIDES. LEFT SKIN HAS A SECTION CUT OUT AS SHOWN ON FULL SIZE REAR TOP VIEW DRAWING TO PERMIT THE ACTUATING ROD FOR THE RADIO MECHANISM TO PASS THROUGH FUSELAGE WHERE IT ENGAGES MOVABLE RUDDER AS FULLY DESCRIBED IN RADIO INSTALLATION DETAIL; OTHERWISE IT IS MOUNTED IN SAME FASHION AS RIGHT SKIN. ALLOW ALL SKINS TO DRY THOROUGHLY. MODEL IS NOW SANDED SMOOTH WITH COARSE, THEN FINE SANDPAPER. JUST SAND ENOUGH TO GET A SMOOTH SURFACE. EXCESSIVE SANDING WILL REDUCE STRENGTH OF FUSELAGE. ALL CORNERS OF FUSELAGE WITH THE EXCEPTION OF TOP OF CABIN SECTION MAY BE SLIGHTLY ROUNDED. LOCATE POSITION OF FRONT 3/16" DIA. DOWEL PIN WHICH SECURES WING FROM SIDE VIEW. THIS PIN WHEN VIEWED FROM TOP IS IN CENTER OF FUSELAGE. DRILL 3/16" HOLE FOR SAME THROUGH FRONT BLOCK AND PLYWOOD BULKHEADS F3 & F4. DOWEL IS INSERTED AND SECURED WITH 3 HEAVY COATS OF CEMENT. DOWEL MAY PROTRUDE SLIGHTLY PAST PLYWOOD BULKHEAD F4. BEND TAIL SKID FROM 1/16" WIRE PROVIDED IN KIT AS SHOWN ON PATTERN. PRONGS ARE NOW PUSHED UP INTO FUSELAGE SKIN AS SHOWN ON SIDE VIEW AND SECURED USING 3 HEAVY COATS OF CEMENT. 2-1/2" DIA. WHEELS ARE NOW SECURED ON LANDING GEAR. WING AND ELEVATOR ARE SHOWN ON THIS DRAWING FOR POSITIONING ONLY. MOUNTING DETAILS ARE EXPLAINED IN FINAL ASSEMBLY AND FLYING INSTRUCTIONS.

WING CONSTRUCTION



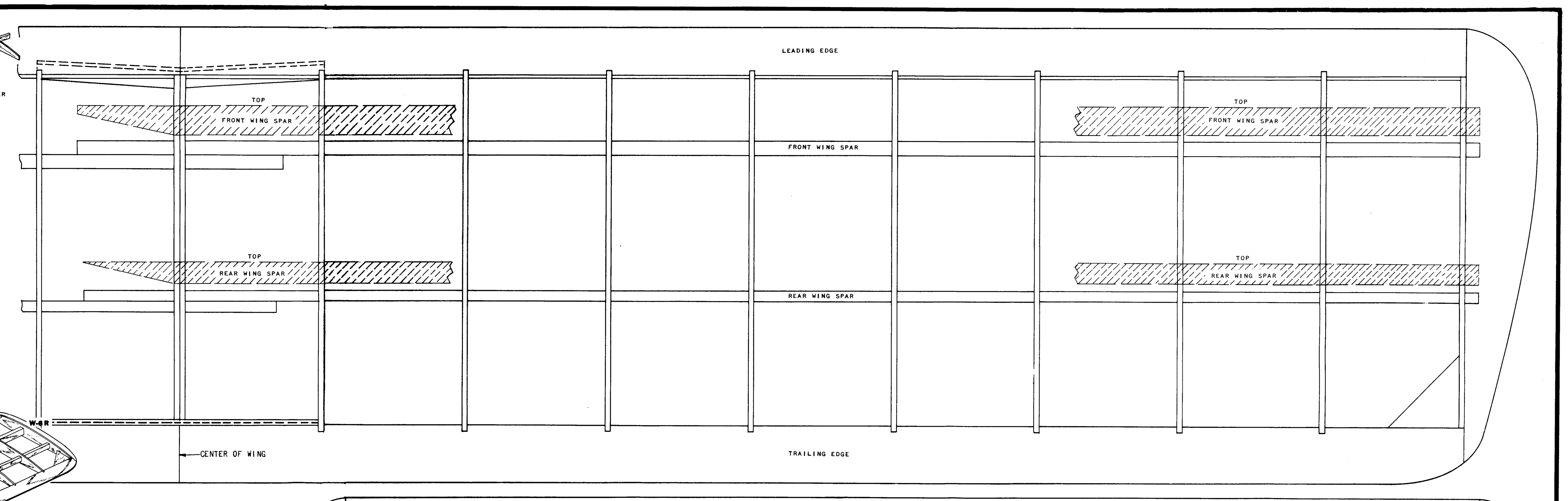
STEP 1

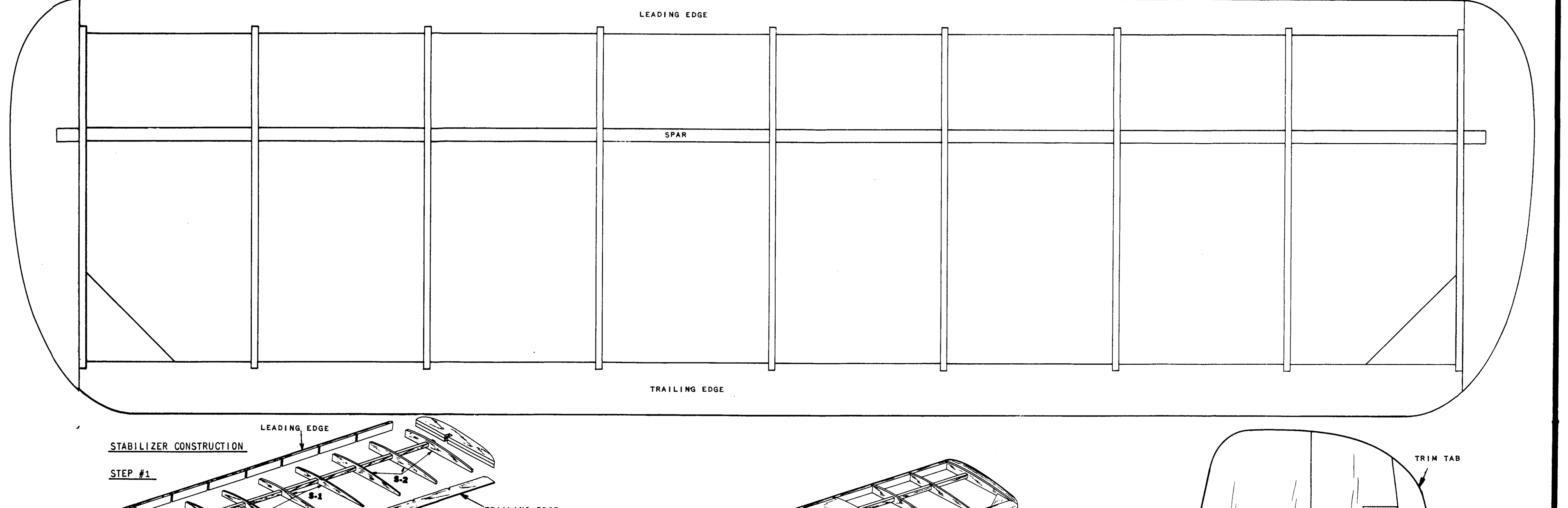
WHEN BUILDING WING IN THE FOLLOWING INSTRUCTIONS, BE CERTAIN TO CHECK PANELS REPEATEDLY THROUGHOUT ASSEMBLY TO BE CERTAIN THAT NO WARPS APPEAR. FOR THIS REASON WING IS BUILT ON FLAT SURFACE. CHECK FOR WARPAGE THROUGH ENTIRE CONSTRUCTION AND COVERING PROCEDURES. PREPARE FRONT WING SPAR 1/4 X 1/2 X 24-7/8" BY TRIMMING BOTH ENDS TO LENGTH AND SHAPE AS SHOWN ON HEAVILY SHADED AREA ON FULL SIZE DRAWING. WING SPAR PATTERN IS EXACT SHAPE AND LENGTH, HAVING BEEN BROKEN OFF IN CENTER FOR CLARITY. NOTE THAT SPAR IN CENTER OF WING IS CUT AT ANGLE TO PROVIDE FOR DIHEDRAL AS DESCRIBED IN STEP 2. PREPARE REAR WING SPAR 3/16 X 3/8 X 24-7/8" IN SAME MANNER. AS FULL SIZE WING PLAN WILL SHOW, SPARS ARE STAGGERED(ONE IN BACK OF THE OTHER) SO AS TO PROVIDE MAXIMUM STRENGTH AT CENTER JOINT. FOR THIS REASON THE RIGHT WING PANEL USES ONE RIB W2, SEVEN W3'S AND ONE W3A. THE LEFT WING USES ONE RIB W4, SEVEN W5'S AND ONE W5A. THE ONLY DIFFERENCE IN THESE RIBS IS THAT THE NOTCHES FOR THE WING SPAR LOCATIONS ALLOW THE SPARS ON THE LEFT WING PANEL TO FIT BEHIND THE SPARS IN THE RIGHT WING PANEL. FULL SIZE PLANS SHOW RIGHT WING PANEL. CONSTRUCT RIGHT WING PANEL BY SLIDING RIBS INTO LOCATION ON FRONT AND REAR SPARS USING TOP VIEW FOR PRELIMINARY RIB POSITIONING. DO NOT USE ANY CEMENT ON THIS STEP. SPAR JOINTS ARE CEMENTED AFTER LEADING AND TRAILING EDGES ARE INSTALLED. RIB W2 IS PLACED ON SPARS AND THEN FOLLOWED BY RIBS W3. LAST RIB ON TIP OF WING IS W3A. MOUNT LEADING AND TRAILING EDGES ONTO ASSEMBLY BY APPLYING A COAT OF CEMENT INTO NOTCHES AND INSERTING RIBS INTO SAME. NOTE THAT W2 IS THINNER THAN W3'S TO ALLOW FOR CENTER SECTION BALSA COVERING. BE CERTAIN RIB IS MOUNTED IN CENTER OF LEADING AND TRAILING EDGE(WHEN VIEWED FROM REAR) TO ALLOW FOR 1/16" SKIN. SAME WILL HOLD TRUE FOR RIB W4 WHEN CONSTRUCTING OPPOSITE PANEL. FRAME MAY BE PINNED DIRECTLY OVER PLAN ON FLAT SURFACE TO INSURE PROPER ALIGNMENT. CEMENT TOGETHER TWO RIGHT WING TIP SECTIONS W6R. THESE ARE NOW CEMENTED IN PLACE AGAINST WING TIP RIB W3A AND ONTO PROTRUDING SPARS. W6R IS LIKEWISE PINNED FLAT TO TABLE. TRIANGULAR GUSSET W7 IS NOW CEMENTED BETWEEN REAR OF WING TIP RIB W3A AND TRAILING EDGE AS SHOWN IN ISOMETRIC #2 AND WING DRAWING. APPLY A HEAVY COAT OF CEMENT TO ALL JOINTS THAT CAN BE REACHED WITHOUT REMOVING PANEL FROM FLAT SURFACE AND ALLOW TO DRY THOROUGHLY. IF FRAMEWORK IS NOT PINNED DOWN, WEIGHTS SHOULD BE PLACED ON FRAME TO PREVENT ANY WARPS FROM DEVELOPING. WHEN PANEL IS ABSOLUTELY DRY, REMOVE FROM PLANS AND GIVE ALL JOINTS INCLUDING JOINTS BETWEEN WING SPARS AND RIBS A HEAVY COAT OF CEMENT AND SET WING PANEL ASIDE ON FLAT SURFACE TO DRY THOROUGHLY UNDER WEIGHTS. OPPOSITE WING PANEL(LEFT) IS CONSTRUCTED IN EXACTLY SAME MANNER. SINCE WING IS SQUARE AND RIB SPACING IS EQUAL, LEFT WING PANEL MAY BE CONSTRUCTED DIRECTLY OVER FULL SIZE PLAN. IN THIS PROCEDURE THE LOCATIONS OF THE WING TIP AND CENTER SECTION ARE REVERSED.

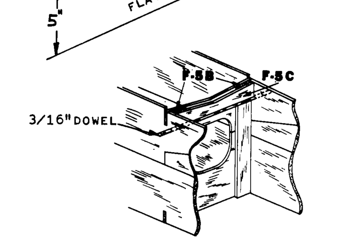


STEP 2

WHEN BOTH WING PANELS ARE THOROUGHLY DRY, THEY MAY BE ASSEMBLED TO EACH OTHER TO FORM COMPLETE WING AS SHOWN ABOVE. START PROCEDURE BY CEMENTING PLYWOOD REAR GUSSET W9 TO FRONT OF TRAILING EDGE FLUSH WITH BOTTOM OF SAME AND AGAINST RIB W2 ON RIGHT WING PANEL ONLY AND ALLOW TO DRY THOROUGHLY. BUTT JOINTS ON LEADING AND TRAILING EDGES MUST NOW BE FITTED TO EACH OTHER BEFORE WING PANELS ARE JOINED. PLACE RIGHT WING PANEL ON FLAT SURFACE AND BRING LEFT PANEL INTO POSITION AT PROPER DIHEDRAL ANGLE AS SHOWN IN ABOVE DRAWING. THE PROPER DIHEDRAL ANGLE IS ACHIEVED WHEN BOTTOM OF WING TIP RIB IS 5" ABOVE FLAT SURFACE WITH OPPOSITE PANEL LYING ON FLAT SURFACE. THIS ANGLE IS ALSO PREDETERMINED BY ANGLE CUT INTO PLYWOOD GUSSET W9. TRIM LEADING AND TRAILING EDGES ON ANGLE UNTIL A CLOSE-FITTING BUTT JOINT IS ACHIEVED. WHEN FITTING IS COMPLETE, SLIP WING RIB W1'S IN PLACE OVER SPARS IN EACH WING PANEL. LEADING EDGES, WING SPARS, AND TRAILING EDGES ARE NOW PRE-GLUED AS DESCRIBED IN GENERAL CONSTRUCTION INFORMATION AND WING PANELS ARE JOINED BY SLIDING SPARS TOGETHER SO THAT LEADING AND TRAILING EDGES BUTT AS FITTED AND AS SHOWN ON FULL SIZE WING DRAWING. CENTER RIBS W1'S ARE CEMENTED TO EACH OTHER AND LEADING EDGE, WING SPARS, AND TRAILING EDGES, AND SHOULD BE AT CENTER OF WING AS SHOWN ON WING DRAWING. W9 IS SECURELY CEMENTED TO OPPOSITE WING PANEL AND WING IS PROPPED UP ON FLAT SURFACE SO THAT 5" DIHEDRAL IS OBTAINED AS DESCRIBED. APPLY A HEAVY COAT OF CEMENT TO ALL JOINTS THAT CAN BE REACHED WHILE ON FLAT SURFACE AND ALLOW TO DRY THOROUGHLY BEFORE REMOVING FROM FLAT SURFACE. WHEN DRY, REMOVE WING FROM FLAT SURFACE AND CEMENT PLYWOOD GUSSET W8 INTO NOTCHES FOR SAME IN RIBS UNDER LEADING EDGE AS INDICATED BY DOTTED LINES ON FULL SIZE DRAWING. TOP OF W8 SHOULD NOW BE SEATED FIRMLY AGAINST BOTTOM OF LEADING EDGES. NOTE THAT RIBS W1'S ARE UNDERSIZED SIMILAR TO RIBS W2 AND W4 AND ARE CEMENTED IN PLACE IN SAME MANNER TO ALLOW FOR SKIN COVERING. ALL CENTER SECTION DIHEDRAL JOINTS, ESPECIALLY BUTT JOINTS, SHOULD BE GIVEN AN ADDITIONAL HEAVY COAT OF CEMENT TO INSURE MAXIMUM STRENGTH AND WING SET ASIDE TO DRY THOROUGHLY. WING SHOULD BE CHECKED AGAIN FOR ANY WARPAGE. COVER TOP AND BOTTOM OF CENTER SECTION BETWEEN W2 AND W1,AND W1 AND W4 WITH 1/16" SHEET BALSA PROVIDED, GRAIN RUNNING SPANWISE, AS SHOWN ABOVE. COVERING COVERS RIBS MENTIONED AND IS FLUSH WITH TOP AND BOTTOM OF LEADING AND TRAILING EDGES. SEAMS ARE BUTT JOINED OVER W1'S AS SHOWN. TRIM TRAILING EDGES TO SMOOTHLY BLEND INTO CURVE OF WING TIPS AS SHOWN IN WING DRAWING. ENTIRE WING IS NOW SANDED SMOOTH TO PREPARE FOR SILKSPAN COVERING. COVER WING PANELS WITH SILKSPAN (APPLIED WET) GRAIN RUNNING SPANWISE. ONCE AGAIN CHECK WING THROUGHOUT COVERING OPERATION TO PREVENT ANY WARPS FROM DEVELOPING. WHEN SILKSPAN IS DRY, APPLY 3 COATS OF CLEAR DOPE.

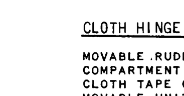






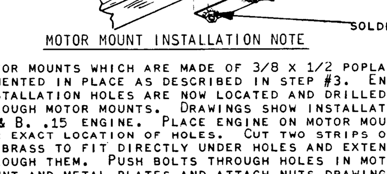
TOP REAR CABIN DETAIL

DRAWING ABOVE SHOWS REAR CABIN BULKHEAD ASSEMBLY AS VIEWED FROM REAR. IT CLEARLY ILLUSTRATES THE LOCATION OF CABIN BRACES F5B AND F5C. NOTE HOW 3/16 DOWEL IS CEMENTED ACROSS F5B'S DIRECTLY UNDER F5C WITH DOWEL PROTRUDING 1/2" FROM FUSELAGE SIDE SKINS. THIS IS DESCRIBED IN DETAIL IN STEP #3.



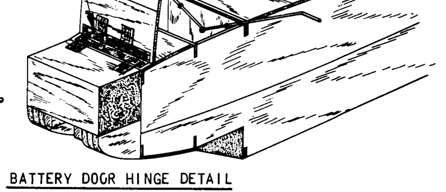
CLOTH HINGE DETAIL

MOVABLE RUDDER SECTION R5 AND BATTERY COMPARTMENT DOOR ARE HINGED USING HEAVY CLOTH TAPE CEMENTED IN PLACE BETWEEN MOVABLE UNITS AS SHOWN IN ABOVE SKETCH. CUT FOUR LENGTHS OF CLOTH TAPE PROVIDED IN KIT 1-1/8" LONG FOR MOVABLE RUDDER SECTION. HINGES ARE CEMENTED TO TOP OF ONE UNIT AND BOTTOM OF OTHER UNIT ONLY. AS SHOWN ABOVE. BE CERTAIN NO CEMENT REACHES INTO VERTICAL PORTION OF JOINT BETWEEN UNITS. LOCATION OF HINGES IS SHOWN ON FULL SIZE RUDDER DRAWING. BATTERY COMPARTMENT DOOR IS HINGED IN SAME MANNER AS MOVABLE RUDDER SECTION. FOR ADDITIONAL STRENGTH A SECTION OF TAPE IS CEMENTED ACROSS SEAM OVER HINGES AS SHOWN IN BATTERY DOOR HINGE DETAIL.



MOTOR MOUNT INSTALLATION NOTE

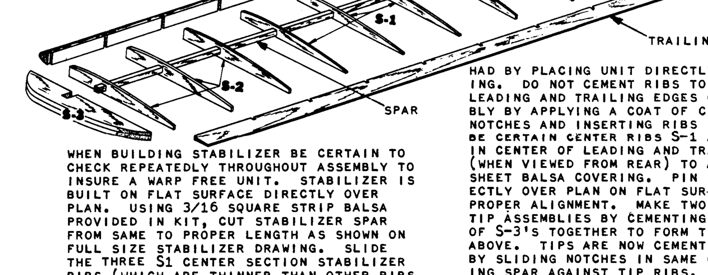
MOTOR MOUNTS WHICH ARE MADE OF 3/8 X 1/2 POPLAR ARE CEMENTED IN PLACE AS DESCRIBED IN STEP #3. ENGINE INSTALLATION HOLES ARE NOW LOCATED AND DRILLED THROUGH MOTOR MOUNTS. DRAWINGS SHOW INSTALLATION OF K.& B. .15 ENGINE. PLACE ENGINE ON MOTOR MOUNTS FOR EXACT LOCATION OF HOLES. CUT TWO STRIPS OF TIN OR BRASS TO FIT DIRECTLY UNDER HOLES AND EXTEND HOLES THROUGH THEM. PUSH BOLTS THROUGH HOLES IN MOTOR MOUNT AND METAL PLATES AND ATTACH NUTS DRAWING THEM UP TIGHT AGAINST METAL PLATE. SOLDER NUTS TO METAL PLATE. LOOSEN BOLTS AND LOWER NUT PLATE ENOUGH TO GET CEMENT BETWEEN PLATE AND MOTOR MOUNT. TIGHTEN BOLTS AND ALLOW INSTALLATION TO DRY THOROUGHLY, USING AT LEAST TWO COATS OF CEMENT.



BATTERY DOOR HINGE DETAIL

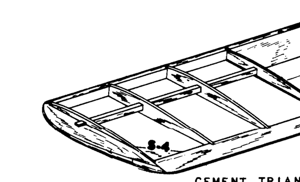
DRAWING ABOVE SHOWS HOW FORWARD SECTION OF BOTTOM SKIN IS CONSTRUCTED SO AS TO PROVIDE A HINGED DOOR FOR BATTERY COMPARTMENT. USING 1/8 SHEET BALSA PROVIDED, CUT STRIP 1/2" WIDE AND CEMENT AGAINST REAR OF BOTTOM COWL BLOCK ACROSS FUSELAGE SIDES AS SHOWN ABOVE TO PROVIDE MOUNTING SURFACE FOR HINGE MATERIAL. CEMENT SECTIONS OF 1/8 SHEET BALSA TOGETHER TO FORM COMPARTMENT DOOR. BALSA SHOULD RUN ACROSS FUSELAGE AND SIDES SHOULD BE TRIMMED TO WIDTH OF FUSELAGE. NOTE THAT REAR CORNERS ARE NOTCHED TO CLEAR LANDING GEAR. ATTACH DOOR TO 1/2" STRIP WITH HINGES AS DESCRIBED IN HINGE DETAIL. CHECK THAT DOOR OPENS FREELY. DOOR IS HELD IN PLACE WITH RUBBER BAND STRETCHED BETWEEN LANDING GEAR STRUTS.

STABILIZER CONSTRUCTION



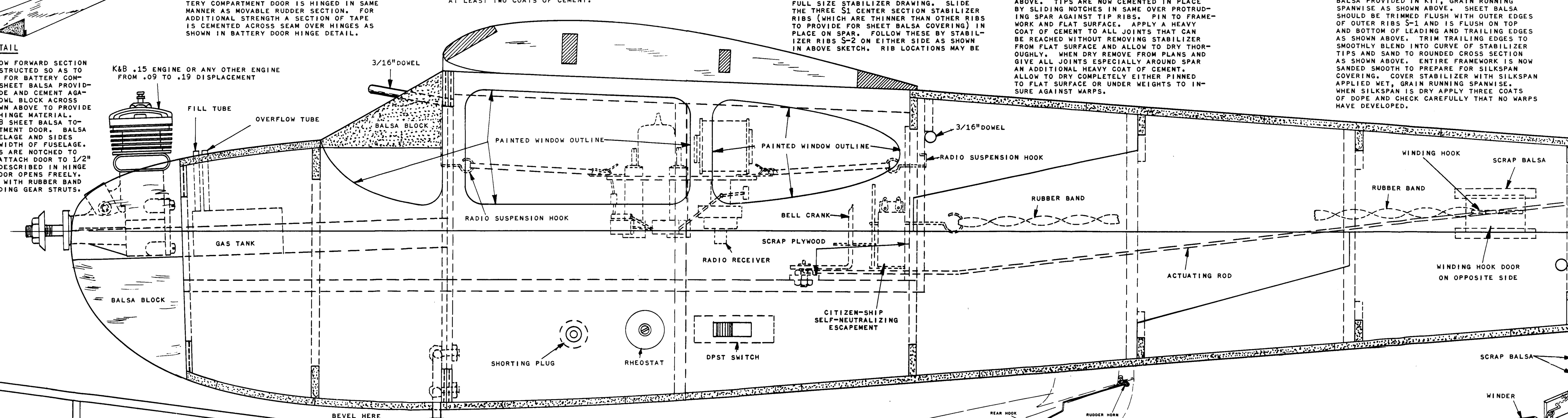
STEP #1

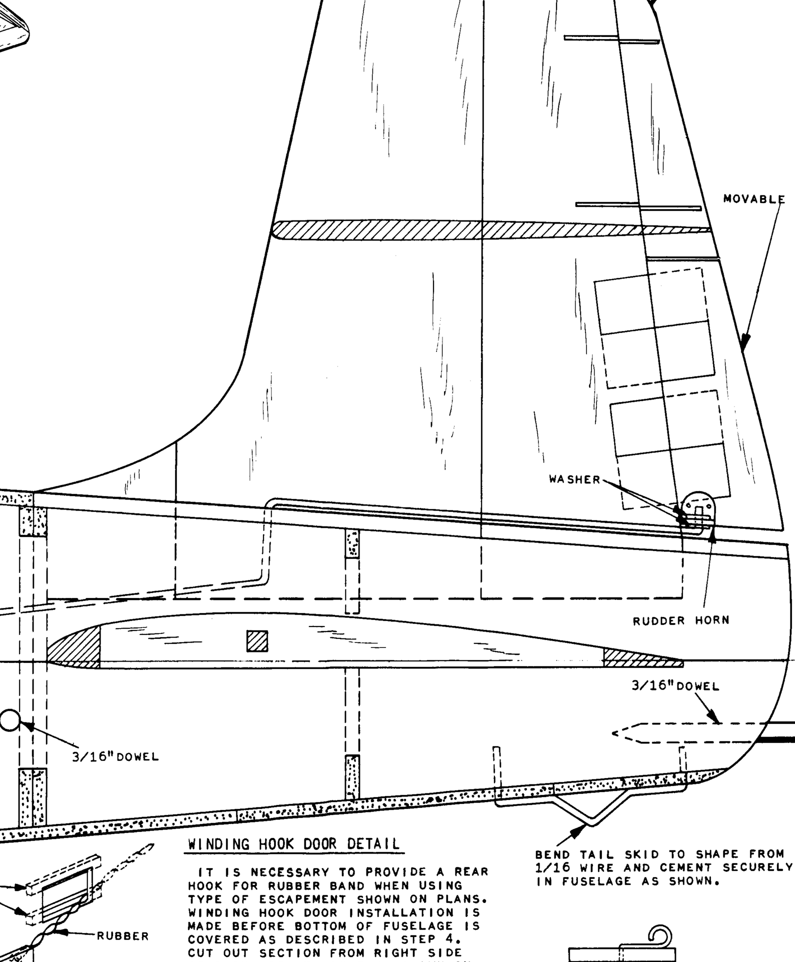
WHEN BUILDING STABILIZER BE CERTAIN TO CHECK REPEATEDLY THROUGHOUT ASSEMBLY TO INSURE A WARP FREE UNIT. STABILIZER IS BUILT ON FLAT SURFACE DIRECTLY OVER PLAN. USING 3/16 SQUARE STRIP BALSA PROVIDED IN KIT, CUT STABILIZER SPAR FROM SAME TO PROPER LENGTH AS SHOWN ON FULL SIZE STABILIZER DRAWING. SLIDE THE THREE S1 CENTER SECTION STABILIZER RIBS (WHICH ARE THINNER THAN OTHER RIBS TO PROVIDE FOR SHEET BALSA COVERING) IN PLACE ON SPAR. FOLLOW THESE BY STABILIZER RIBS S-2 ON EITHER SIDE AS SHOWN IN ABOVE SKETCH. RIB LOCATIONS MAY BE HAD BY PLACING UNIT DIRECTLY OVER DRAWING. DO NOT CEMENT RIBS TO SPAR. MOUNT LEADING AND TRAILING EDGES ON TO ASSEMBLY BY APPLYING A COAT OF CEMENT INTO NOTCHES AND INSERTING RIBS INTO SAME. BE CERTAIN CENTER RIBS S-1 ARE MOUNTED IN CENTER OF LEADING AND TRAILING EDGE (WHEN VIEWED FROM REAR) TO ALLOW FOR 1/16 SHEET BALSA COVERING. PIN FRAMEWORK DIRECTLY OVER PLAN ON FLAT SURFACE TO INSURE PROPER ALIGNMENT. MAKE TWO STABILIZER TIP ASSEMBLIES BY CEMENTING TWO UNITS OF S-3'S TOGETHER TO FORM TIPS AS SHOWN ABOVE. TIPS ARE NOW CEMENTED IN PLACE BY SLIDING NOTCHES IN SAME OVER PROTRUDING SPAR AGAINST TIP RIBS. PIN TO FRAMEWORK AND FLAT SURFACE. APPLY A HEAVY COAT OF CEMENT TO ALL JOINTS THAT CAN BE REACHED WITHOUT REMOVING STABILIZER FROM FLAT SURFACE AND ALLOW TO DRY THOROUGHLY. WHEN DRY REMOVE FROM PLANS AND GIVE ALL JOINTS ESPECIALLY AROUND SPAR AN ADDITIONAL HEAVY COAT OF CEMENT. ALLOW TO DRY COMPLETELY EITHER PINNED TO FLAT SURFACE OR UNDER WEIGHTS TO INSURE AGAINST WARPS.

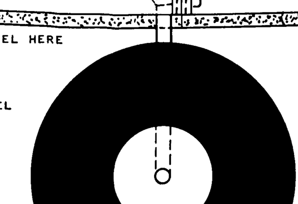


STEP #2

CEMENT TRIANGULAR GUSSETS S-4 IN PLACE AT REAR CORNERS OF STABILIZER. COVER TOP AND BOTTOM OF STABILIZER BETWEEN THE THREE CENTER RIBS S-1 WITH 1/16 SHEET BALSA PROVIDED IN KIT, GRAIN RUNNING SPANWISE AS SHOWN ABOVE. SHEET BALSA SHOULD BE TRIMMED FLUSH WITH OUTER EDGES OF OUTER RIBS S-1 AND IS FLUSH ON TOP AND BOTTOM OF LEADING AND TRAILING EDGES AS SHOWN ABOVE. TRIM TRAILING EDGES TO SMOOTHLY BLEND INTO CURVE OF STABILIZER TIPS AND SAND TO ROUNDED CROSS SECTION AS SHOWN ABOVE. ENTIRE FRAMEWORK IS NOW SANDED SMOOTH TO PREPARE FOR SILKSPAN COVERING. COVER STABILIZER WITH SILKSPAN APPLIED WET, GRAIN RUNNING SPANWISE. WHEN SILKSPAN IS DRY APPLY THREE COATS OF DOPE AND CHECK CAREFULLY THAT NO WARPS HAVE DEVELOPED.

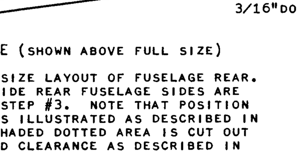






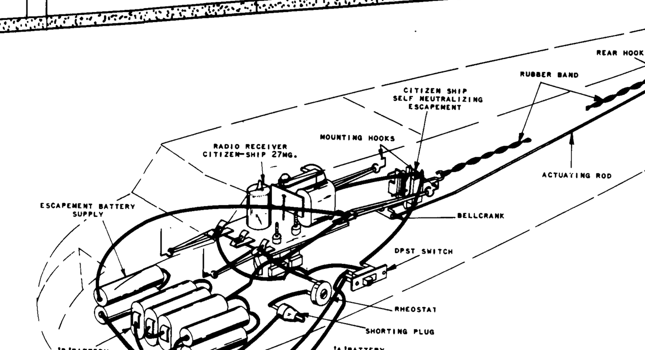
TOP VIEW REAR OF FUSELAGE (SHOWN ABOVE FULL SIZE)

ABOVE DRAWING IS A FULL SIZE LAYOUT OF FUSELAGE REAR. IT CLEARLY SHOWS HOW INSIDE REAR FUSELAGE SIDES ARE BEVELED AS DESCRIBED IN STEP #3. NOTE THAT POSITION OF REAR 3/16 DOWEL PIN IS ILLUSTRATED AS DESCRIBED IN STEP #4 INSTALLATION. SHADED DOTTED AREA IS CUT OUT SECTION FOR ACTUATING ROD CLEARANCE AS DESCRIBED IN STEP #5.



TRIM TAB HINGE DETAIL

TRIM TAB SECTION R4 IS HINGED TO RUDDER WITH SOFT IRON OR COPPER WIRE. BE CERTAIN THAT WIRE IS THIN ENOUGH SO THAT TAB MAY BE ADJUSTED WITHOUT CRUSHING WOOD. IT SHOULD ALSO BE STIFF ENOUGH TO MAINTAIN IT'S POSITION. DRAWING ABOVE SHOWS HOW WIRE IS INSTALLED. TWO HINGES ARE NECESSARY AT LOCATION SHOWN ON SIDE VIEW. SECURE HINGES WITH HEAVY COAT OF CEMENT.

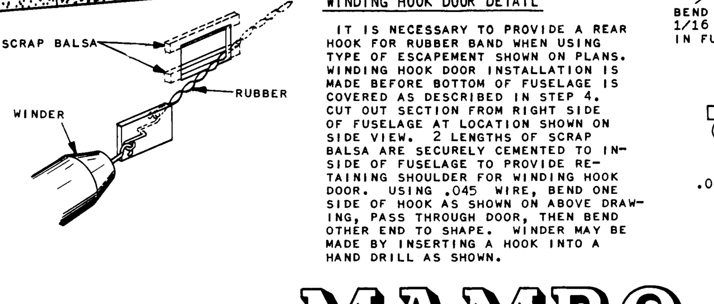


FINAL ASSEMBLY AND PAINT NOTE

FOR MAXIMUM STRENGTH AND DURABILITY MAMBO WING AND TAIL MAY BE COVERED WITH TWO LAYERS OF SILKSPAN, GRAIN RUNNING OPPOSITE TO EACH OTHER. THE SAME APPLIES TO FUSELAGE AND RUDDER. MAMBO MAY ALSO BE COVERED WITH SILK OR NYLON TO OBTAIN A MAXIMUM DURABILITY AND LONG LIFE. KIT CONTAINS ENOUGH SILKSPAN TO COVER WING AND STABILIZER ONCE, WHICH IS SUITABLE UNDER MOST CONDITIONS. MODEL IS NOW READY TO BE PAINTED. ALL RADIO EQUIPMENT SHOULD BE COVERED TO PROTECT SAME FROM PAINT. SINCE MOST ENGINES ARE OPERATED WITH GLO-PLUG, FOR BEST RESULTS A HOT FUEL PROOF PAINT SHOULD BE USED. IN THE EVENT PAINT OF THIS TYPE IS NOT USED THEN FINAL COAT SHOULD BE CLEAR HOT FUEL PROOFER. ORIGINAL MAMBO WAS COLORED AS FOLLOWS: RED WING AND STABILIZER WITH YELLOW TRIM, YELLOW FUSELAGE AND RUDDER WITH RED TRIM. WINDOWS AS NOTED IN SIDE VIEW WERE PAINTED SILVER. SINCE MAMBO IS AN ORIGINAL DESIGN IT MAY BE PAINTED TO SUIT THE INDIVIDUAL MODEL BUILDER. INSTALL ENGINE IN FUSELAGE. ENGINE SHOWN IS K & B .15. ANY OTHER ENGINE FROM .09 TO .19 DISPLACEMENT MAY BE USED. STABILIZER IS MOUNTED ON REAR OF FUSELAGE BY SLIPPING SAME THROUGH HOLE IN FUSELAGE SIDES. IT IS SECURED BY WRAPPING RUBBER BANDS FROM 3/16 DOWEL PIN IN FRONT OF STABILIZER, ACROSS TOP OF STABILIZER AND UNDER DOWEL PIN AT REAR OF FUSELAGE. WING IS SECURED IN SAME MANNER WRAPPING RUBBER BANDS FROM 3/16 DOWEL PINS ON EITHER SIDE OF FUSELAGE AT REAR OF WING, OVER WING, AND UNDER SINGLE DOWEL PIN WHICH PROTRUDES FROM FRONT OF CABIN.

RADIO CONTROL INSTALLATION

FOR ALL INSTALLATIONS REQUIRING A WOOD SCREW MOUNTING SURFACE, CEMENT PLYWOOD(SCRAP FROM KIT MAY BE USED) TO SURFACE OF BALSA SO THAT WOOD SCREWS CAN BE TIGHTENED. FULL SIZE SIDE VIEW DRAWING AND ISOMETRIC SKETCH SHOW SPECIFIC LOCATIONS FOR THE VARIOUS UNITS. THIS SHOULD BE FOLLOWED CLOSELY DURING THE INSTALLATION OF RADIO EQUIPMENT. DRAWINGS SHOW THE INSTALLATION OF THE CITIZENSHIP(MAC NABB) 27 MC RADIO RECEIVER, SELF NEUTRALIZING ESCAPEMENT, BELL CRANK, AND CONTROL HORN. ALL EQUIPMENT SHOWN IS AVAILABLE AT YOUR DEALER. IN THE EVENT THAT A DIFFERENT RADIO RECEIVER IS INSTALLED AND/OR IT BECOMES NECESSARY TO CHANGE THE TYPE AND LOCATION OF BATTERIES, THEN UNIT SHOULD BE PLACED IN MODEL AND MODEL COMPLETELY ASSEMBLED INCLUDING WING, ENGINE, ETC.; AND MODEL CHECKED FOR BALANCE. BE CERTAIN THAT YOUR MAMBO READY TO FLY BALANCES APPROXIMATELY 1/3 BACK OF LEADING EDGE OF WING. THIS IS EXTREMELY IMPORTANT!! MOUNT CONTROL HORN SECURELY ON RUDDER IN POSITION SHOWN ON SIDE VIEW AND SKETCH, USING SMALL MACHINE SCREWS AND 2 COATS OF CEMENT. THE ESCAPEMENT IS MOUNTED IN REAR OF THE CABIN AS SHOWN ON SIDE VIEW. THE BASE FOR THE ESCAPEMENT IS MADE OF SCRAP PLYWOOD TO MOUNT ESCAPEMENT IN PLACE ON BULKHEAD F5. BE CERTAIN THAT BELL CRANK IS MOUNTED IN FUSELAGE IN PROPER POSITION SO THAT IT ENGAGES THE ACTUATING MECHANISM OF THE ESCAPEMENT AND CLEARS FUSELAGE SIDE. BEND ACTUATING ROD FROM 1/16" WIRE TO EXACT SHAPE AS SHOWN ON SIDE VIEW DRAWING. NOTE THAT FORWARD END OF ACTUATING ROD IS ENGAGED IN HORIZONTAL PORTION OF BELL CRANK. REAR PORTION OF ACTUATING ROD IS BENT SO THAT IT COMES OUT OF THE TOP OF THE FUSELAGE BETWEEN BULKHEAD F8A AND F9 AS SHOWN ON SIDE VIEW. IT THEN CONTINUES BACK TO WHERE IT IS ENGAGED INTO HOLE FOR SAME IN RUDDER HORN. ROD IS SECURED ON HORN AND BELL CRANK BY SOLDERING WASHER IN PLACE AS SHOWN. BE CERTAIN TO LEAVE SPACE BETWEEN WASHER AND UNITS TO ALLOW ROD TO ACTUATE FREELY. CHECK UNIT FOR FREENESS OF OPERATION. SINCE A RUBBER BAND IS TO BE USED FOR POWER TO ACTUATE ESCAPEMENT, A SECTION OF THE FUSELAGE IS CAREFULLY CUT OUT AS INDICATED BY DOTTED LINES ON SIDE VIEW, AND FULLY DESCRIBED IN DETAIL ON WINDING HOOK DOOR NOTE. BE CERTAIN DOOR IS INSTALLED ON RIGHT SIDE OF FUSELAGE. THE RUBBER BAND IS NOW SUSPENDED BETWEEN HOOK IN ESCAPEMENT AND INSIDE HOOK ON WINDING HOOK DOOR. BATTERIES ARE NOW INSTALLED. EXPERIENCE HAS SHOWN THE VALUE OF SOLDERING ALL LEADS(WIRES) DIRECTLY TO THE BATTERIES AS SHOWN IN ISOMETRIC SKETCH. THE FINISHED WIRED BATTERY UNITS ARE NOW INSTALLED IN BATTERY COMPARTMENTS AS DESCRIBED IN STEP 4. BOTH COMPARTMENTS BETWEEN F1 AND F3 MAY BE USED. LEADS(WIRES) FROM BATTERIES ARE RUN THROUGH SMALL HOLES DRILLED INTO BULKHEADS FOR SAME WHERE NECESSARY. AFTER BATTERIES HAVE BEEN PLACED IN POSITION, THE REST OF THE BATTERY COMPARTMENT IS COMPLETELY FILLED WITH SOFT SPONGE RUBBER TO PREVENT BATTERIES FROM SHIFTING AND TO ABSORB SHOCK OF HARD LANDINGS. NOTE THAT THERE ARE B TYPE BATTERIES AND A TYPE BATTERIES WHICH PERFORM THE FUNCTIONS OF THE VARIOUS UNITS. FOR EXACT TYPE OF BATTERY, REFER TO THE MANUAL THAT COMES WITH THE RADIO EQUIPMENT THAT YOU PURCHASED TO INSTALL IN YOUR MODEL. A FINAL WORD OF CAUTION. BE CERTAIN ALL SOLDER CONNECTIONS ARE TIGHT. RADIO RECEIVER IS SUSPENDED WITH RUBBER BANDS ON WIRE HOOKS WHICH ARE MOUNTED SECURELY IN FUSELAGE. HOOKS ARE BENT USING .045 WIRE PROVIDED IN KIT. NOTE THAT FRONT RADIO SUSPENSION HOOKS ARE PLACED THROUGH PLYWOOD BULKHEADS F3 AND F4 AND THAT TOP SPUR IS BENT UP SO THAT IT IS SECURELY HELD IN PLACE BY FRONT WINDSHIELD BLOCK AS DESCRIBED IN STEP 4. THIS WILL PREVENT HOOKS FROM TWISTING OR TEARING LOOSE. HOOKS ARE PLACED NEAR SIDES OF FUSELAGE AT POSITIONS SHOWN ON SIDE VIEW. REAR RADIO SUSPENSION HOOKS ARE INSTALLED IN SAME MANNER ON BOTH SIDES OF BULKHEAD F5. THESE ARE SECURED BY BENDING A REVERSE HOOK ON SPUR AND PULLING BACK INTO BULKHEAD BRACES F5B AS SHOWN ON SIDE VIEW. ALL HOOKS SHOULD BE SECURED WITH 2 HEAVY COATS OF CEMENT. CEMENT A SECTION OF SOFT FOAM RUBBER ON DECK DIRECTLY BELOW LOCATION OF RADIO RECEIVER. A DOUBLE THICKNESS OF FOAM RUBBER IS CEMENTED ON BULKHEAD F4 IN FRONT OF RADIO RECEIVER. RUBBER FOAM WILL PROVIDE A SHOCK CUSHION TO PROTECT YOUR RADIO RECEIVER. A SECTION OF FOAM RUBBER IS ALSO CEMENTED TO BOTTOM OF CENTER SECTION OF WING DIRECTLY OVER RADIO RECEIVER FOR THE SAME PURPOSE. RHEOSTAT(POTENTIOMETER) IS MOUNTED ON LEFT SIDE OF FUSELAGE AS IS THE SHORTING PLUG AND DOUBLE POLE SINGLE THROW SWITCH AS SHOWN ON SIDE VIEW. HOLES ARE MADE IN FUSELAGE TO PERMIT ACCESS TO SHORTING PLUG AND ADJUSTING SCREW ON RHEOSTAT. THESE INSTALLATIONS ARE MADE BEFORE COVERING BOTTOM OF FUSELAGE AS DESCRIBED IN STEP 4. WIRE UP RADIO EQUIPMENT AS FULLY COVERED IN RADIO CONTROL MANUAL OF THE EQUIPMENT YOU ARE USING. AFTER ALL WIRING IS COMPLETED, THE RADIO EQUIPMENT SHOULD BE CHECKED OUT FOR OPERATION WITH TRANSMITTER. BE CERTAIN THAT ACTUATING ROD AND ESCAPEMENT MECHANISM WORK FREELY AND EASILY. BE CERTAIN TO READ FLIGHT INSTRUCTIONS DETAIL BEFORE ATTEMPTING TO FLY MODEL. RADIO EQUIPMENT SHOULD BE CHECKED OUT CAREFULLY BEFORE EACH FLIGHT.



WINDING HOOK DOOR DETAIL

IT IS NECESSARY TO PROVIDE A REAR HOOK FOR RUBBER BAND WHEN USING TYPE OF ESCAPEMENT SHOWN ON PLANS. WINDING HOOK DOOR INSTALLATION IS MADE BEFORE BOTTOM OF FUSELAGE IS COVERED AS DESCRIBED IN STEP 4. CUT OUT SECTION FROM RIGHT SIDE OF FUSELAGE AT LOCATION SHOWN ON SIDE VIEW. 2 LENGTHS OF SCRAP BALSA ARE SECURELY CEMENTED TO INSIDE OF FUSELAGE TO PROVIDE RETAINING SHOULDER FOR WINDING HOOK DOOR. USING .045 WIRE, BEND ONE SIDE OF HOOK AS SHOWN ON ABOVE DRAWING, PASS THROUGH DOOR, THEN BEND OTHER END TO SHAPE. WINDER MAY BE MADE BY INSERTING A HOOK INTO A HAND DRILL AS SHOWN.

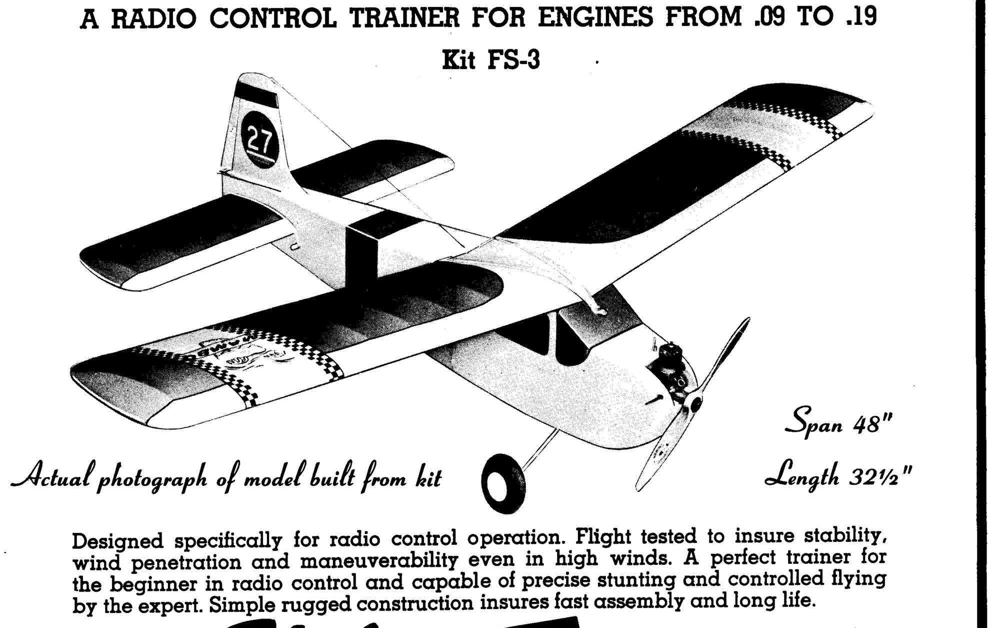
FLYING INSTRUCTIONS

BEFORE ANY FLYING IS ATTEMPTED, THERE ARE BASIC CHECKS WHICH SHOULD BE MADE. MODEL SHOULD BALANCE WITH NOSE SLIGHTLY DOWN WHEN BALANCED ON WING TIPS APPROXIMATELY 2-1/2 TO 3" BEHIND FRONT OF WING. ALL SURFACES SHOULD BE CHECKED OUT FOR PROPER ALIGNMENT. CHECK WING AND STABILIZER TO BE SURE THAT NO WARPS HAVE DEVELOPED. THIS IS IMPORTANT, SINCE A WARPED SURFACE MAY CAUSE YOUR MAMBO TO FLY ERRATICALLY. WARPS MAY BE TAKEN OUT OF A SURFACE BY REDOPING, TWISTING SURFACE OPPOSITE TO WARP AND ALLOWING SAME TO DRY. ALL FLIGHT TESTING SHOULD BE DONE IN CALM WEATHER. THE MAMBO MAY BE TEST GLIDED IN HIGH GRASS BEFORE POWERED FLIGHT IS ATTEMPTED. IF MODEL BUILDER IS INEXPERIENCED, ATTEMPTS SHOULD BE MADE TO SECURE AN EXPERIENCED FLYER FOR TEST OPERATIONS. SET RUDDER IN NEUTRAL POSITION, RUN TO ACHIEVE FLYING SPEED OF MODEL, AND RELEASE INTO WIND(IF ANY). MODEL SHOULD EXECUTE SMOOTH STRAIGHT DOWNWARD GLIDE. ANY TURNING TENDENCIES SHOULD BE CORRECTED BY OFFSETTING TRIM TAB R4 IN SLIGHTLY OPPOSITE DIRECTION TO TURN. THE MAMBO IS NOW READY FOR TESTING UNDER POWER. BE CERTAIN THERE IS ONLY ENOUGH FUEL IN TANK FOR APPROXIMATELY 30 TO 40 SECONDS OF ENGINE RUN. START ENGINE. WITH ENGINE THROTTLED DOWN, LAUNCH IN SAME MANNER AS DESCRIBED IN TEST GLIDING PROCEDURE. MODEL SHOULD MAINTAIN OR INCREASE ALTITUDE SLIGHTLY, AND SHOULD FLY IN STRAIGHT LINE. IN THE EVENT MODEL SHOULD TEND TO STALL OR DIVE, CHECK BALANCE. STALLING TENDENCIES CAN BE OVERCOME BY TILTING FRONT OF ENGINE DOWN(DOWNTHRUST) OR PLACING 1/16" LAYER OF BALSA(SHIM) BETWEEN THE BOTTOM OF THE TRAILING EDGE OF WING AND TOP OF FUSELAGE. IN THE EVENT MODEL DIVES, A 1/16" SHIM CAN BE PLACED UNDER FRONT OF WING. THE MAMBO IS NOW READY FOR POWER RADIO CONTROLLED FLIGHT. AT THIS POINT IT IS ABSOLUTELY IMPERATIVE THAT RADIO BE CHECKED OUT WITH TRANSMITTER AT A DISTANCE OF 800 TO 1000 FEET. DO NOT ATTEMPT TO FLY MODEL WITHOUT THIS RADIO CHECK. ENGINE IS STARTED AND MODEL IS LAUNCHED INTO WIND AS DESCRIBED IN TEST PROCEDURE. MODEL SHOULD FLY IN STRAIGHT LINE UNDER POWER AND ALSO WHEN POWER IS OFF FOR PERFECT CONTROL. IF MODEL EXHIBITS TURNING TENDENCIES UNDER POWER, ENGINE MAY BE OFFSET(WHEN VIEWED FROM TOP) OPPOSITE TO TURN. DO NOT ATTEMPT TO CONTROL MODEL WITH RADIO UNTIL AN ALTITUDE OF AT LEAST 100 FEET HAS BEEN ACHIEVED. INEXPERIENCED RADIO OPERATORS MAY CAUSE MODEL TO CRASH WITHOUT SUFFICIENT ALTITUDE. MODEL IS INHERENTLY STABLE AND WILL RECOVER ITS FLIGHT PATH IF LEFT ALONE. A NOTE OF CAUTION: REACTION OF MODEL UNDER POWER IS QUICK AND DEFINITE. ALL IMPULSES SHOULD BE FAST BEEPS. HOWEVER, WHEN MODEL IS GLIDING WITH ENGINE NOT RUNNING, IT REQUIRES A MUCH LONGER INTERVAL FOR MODEL TO REACT TO RUDDER OPERATION. EXPERIENCE IN CONTROLING YOUR MAMBO WILL ENABLE YOU TO DO MANY MANEUVERS. IF YOU WILL WRITE DIRECTLY TO THE FACTORY(CHECK ADDRESS IN ANY MODEL MAGAZINE) WE WILL SEND YOU, FREE OF EXTRA CHARGE, A SET OF DECALS SHOWING THE FREQUENCY ON WHICH YOUR RADIO UNIT OPERATES. GOOD LUCK!!!

MAMBO

A RADIO CONTROL TRAINER FOR ENGINES FROM .09 TO .19

Kit FS-3



Actual photograph of model built from kit

Span 48"

Length 32½"

Designed specifically for radio control operation. Flight tested to insure stability, wind penetration and maneuverability even in high winds. A perfect trainer for the beginner in radio control and capable of precise stunting and controlled flying by the expert. Simple rugged construction insures fast assembly and long life.

Sterling models PHILA., PA., U.S.A.