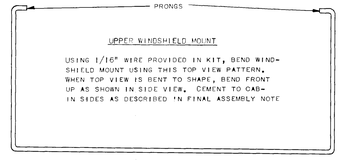
INSTRUMENT PANEL

CUT FROM PLANS AND CEMENT TO REAR OF BULKHEAD 1P.

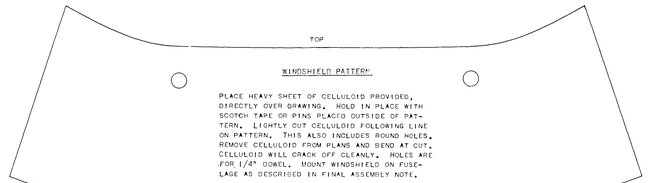
INTERIOR DETAILS OF REAL PIPER TRI-PACER.



UPPER WINDSHIELD MOUNT

USING 1/16" WIRE PROVIDED IN KIT, BEND WINDSHIELD MOUNT USING THIS TOP VIEW PATTERN. WHEN TOP VIEW IS BENT TO SHAPE, BEND FRONT UP AS SHOWN IN SIDE VIEW. CEMENT TO CABIN SIDES AS DESCRIBED IN FINAL ASSEMBLY NOTE

DRILL FOR UPPER WINDSHIELD MOUNT PRONGS

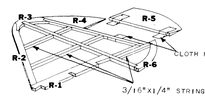


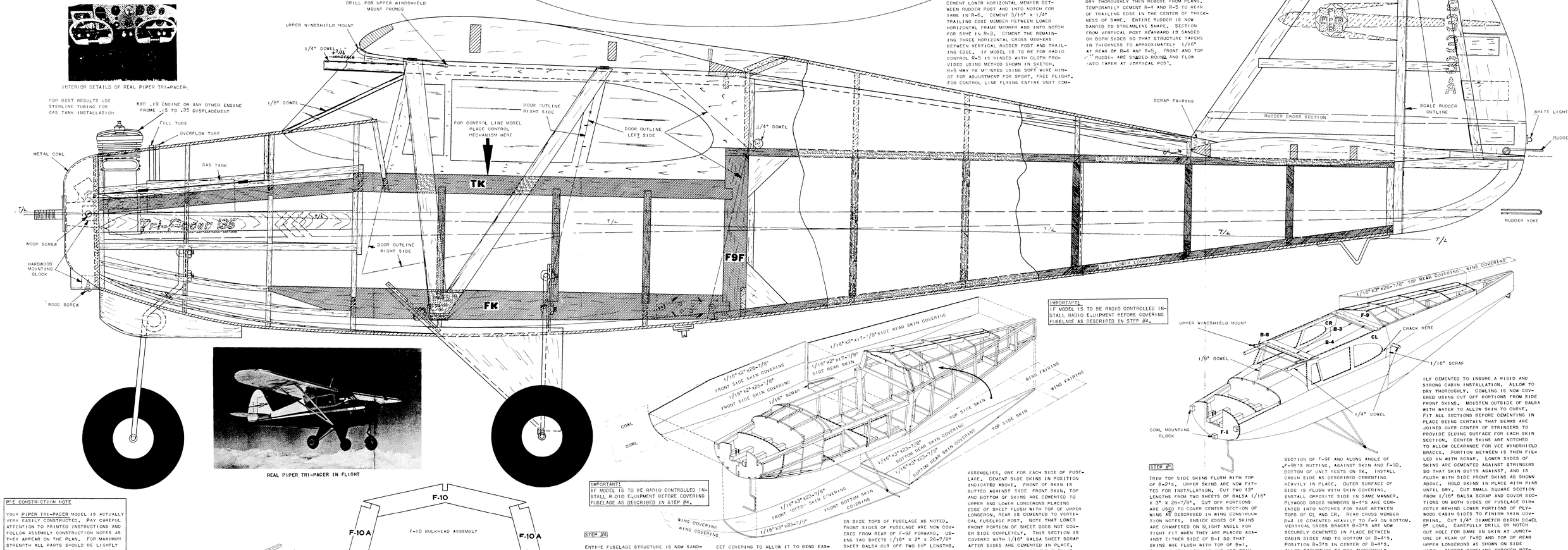
WINDSHIELD PATTERN

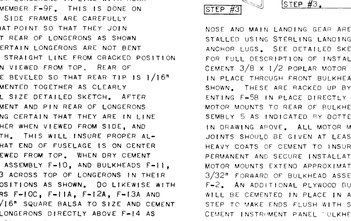
PLACE HEAVY SHEET OF CELLULOID PROVIDED, DIRECTLY OVER DRAWING. HOLD IN PLACE WITH SCOTCH TAPE OR PINS PLACED OUTSIDE OF PATTERN. LIGHTLY CUT CELLULOID FOLLOWING LINE ON PATTERN. THIS ALSO INCLUDES ROUND HOLES. REMOVE CELLULOID FROM PLANS AND BEND AT CUT. CELLULOID WILL CRACK OFF CLEANLY. HOLES ARE FOR 1/4" DOWEL. MOUNT WINDSHIELD ON FUSELAGE AS DESCRIBED IN FINAL ASSEMBLY NOTE.

RUDDER CONSTRUCTION DETAIL

RUDDER IS CONSTRUCTED DIRECTLY OVER DRAWINGS FOR SAME ON SIDE VIEW. USE WAX PAPER TO PREVENT ASSEMBLY FROM STICKING TO PLANS. ASSEMBLE RUDDER BY PINNING R-2 IN PLACE. CEMENT AND PIN R-1 AND R-3 IN PLACE. BALSA STRIPS USED IN THE CONSTRUCTION OF THE RUDDER ARE 3/16" x 1/4" LAID FLAT. CUT LONG VERTICAL POST TO SIZE AND CEMENT INTO NOTCH IN R-3 AND PIN ON PLANS. CEMENT 10TH HORIZONTAL 3/16" X 1/4" MEMBERS BETWEEN VERTICAL POST AND INTO NOTCHES FOR SAME IN R-2. CEMENT R-6 TO BOTTOM OF VERTICAL POST AND PIN INTO POSITION. CEMENT LOWER HORIZONTAL MEMBER BETWEEN RUDDER POST AND INTO NOTCH FOR SAME IN R-6. CEMENT 3/16" X 1/4" TRAILING EDGE MEMBER BETWEEN LOWER HORIZONTAL FRAME MEMBER AND INTO NOTCH FOR SAME IN R-3. CEMENT THE REMAINING THREE HORIZONTAL CROSS MEMBERS BETWEEN VERTICAL RUDDER POST AND TRAILING EDGE. IF MODEL IS TO BE FOR RADIO CONTROL R-5 IS HINGED WITH CLOTH PROVIDED USING METHOD SHOWN IN SKETCH. R-5 MAY BE MOUNTED USING SOFT WIRE HINGE FOR ADJUSTMENT FOR SPORT, FREE FLIGHT. FOR CONTROL LINE FLYING ENTIRE UNIT COMPRISED OF R-4 AND R-5 IS OFFSET 3/4" TO OUTSIDE OF CIRCLE FLOWN. COVER WITH SILKSPAN. RUDDER IS CEMENTED TO STABILIZER IN FINAL NOTE. ALLOW ASSEMBLY TO DRY THOROUGHLY THEN REMOVE FROM PLANS. TEMPORARILY CEMENT R-4 AND R-5 TO REAR OF TRAILING EDGE IN THE CENTER OF THICKNESS OF SAME. ENTIRE RUDDER IS NOW SANDED TO STREAMLINE SHAPE. SECTION FROM VERTICAL POST REARWARD IS SANDED ON BOTH SIDES SO THAT STRUCTURE TAPERS IN THICKNESS TO APPROXIMATELY 1/16" AT REAR OF R-4 AND R-5. FRONT AND TOP RUDDER ARE SANDED ROUND AND FLOW INTO TAPER AT VERTICAL POST.

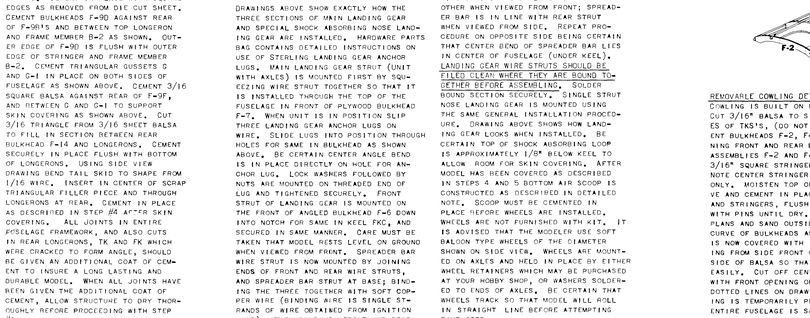






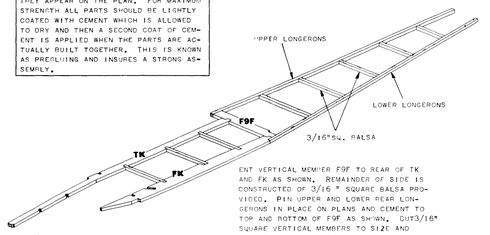
REAL PIPER TRI-PACER IN FLIGHT

IMPORTANT!
IF MODEL IS TO BE RADIO CONTROLLED INSTALL RADIO EQUIPMENT BEFORE COVERING FUSELAGE AS DESCRIBED IN STEP #4.



PRE CONSTRUCTION NOTE

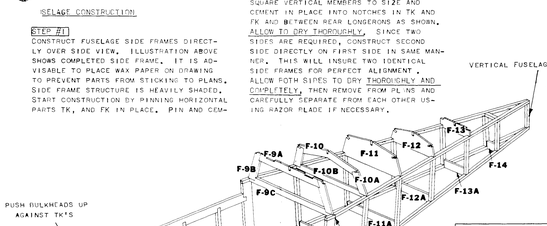
YOUR PIPER TRI-PACER MODEL IS ACTUALLY VERY EASILY CONSTRUCTED. PAY CAREFUL ATTENTION TO PRINTED INSTRUCTIONS AND FOLLOW ASSEMBLY CONSTRUCTION NOTES AS THEY APPEAR ON THE PLAN. FOR MAXIMUM STRENGTH ALL PARTS SHOULD BE LIGHTLY COATED WITH CEMENT WHICH IS ALLOWED TO DRY AND THEN A SECOND COAT OF CEMENT IS APPLIED WHEN THE PARTS ARE ACTUALLY BUILT TOGETHER. THIS IS KNOWN AS PRESLIVING AND INSURES A STRONG ASSEMBLY.



FUSELAGE CONSTRUCTION

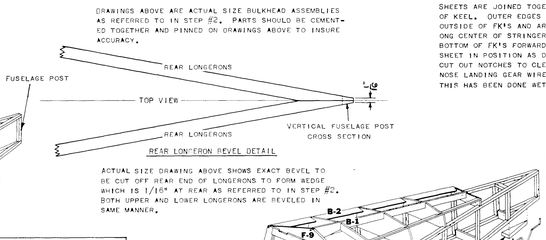
STEP #1

CONSTRUCT FUSELAGE SIDE FRAMES DIRECTLY OVER SIDE VIEW. ILLUSTRATION ABOVE SHOWS COMPLETED SIDE FRAME. IT IS ADVISABLE TO PLACE WAX PAPER ON DRAWING TO PREVENT PARTS FROM STICKING TO PLANS. SIDE FRAME STRUCTURE IS HEAVILY SHADED. START CONSTRUCTION BY PINNING HORIZONTAL PARTS TK, AND FK IN PLACE. PIN AND CEMENT VERTICAL MEMBER F9F TO REAR OF TK AND FK AS SHOWN. REMAINDER OF SIDE IS CONSTRUCTED OF 3/16 " SQUARE BALSA PROVIDED. PIN UPPER AND LOWER REAR LONGERONS IN PLACE FIT AND CEMENT TO TOP AND BOTTOM OF F9F AS SHWN. CUT3/16" SQUARE VERTICAL MEMBERS TO SIZE AND CEMENT IN PLACE INTO NOTCHES IN TK AND FK AND BETWEEN REAR LONGERONS AS SHOWN. ALLOW TO DRY THOROUGHLY. SINCE TWO SIDES ARE REQUIRED, CONSTRUCT SECOND SIDE DIRECTLY ON TOP OF FIRST SIDE IN SAME MANNER. THIS WILL INSURE TWO IDENTICAL SIDE FRAMES FOR PERFECT ALIGNMENT. ALLOW BOTH SIDES TO DRY THOROUGHLY AND COMPLETELY, THEN REMOVE FROM PLANS AND CAREFULLY SEPARATE FROM EACH OTHER USING RAZOR BLADE IF NECESSARY.



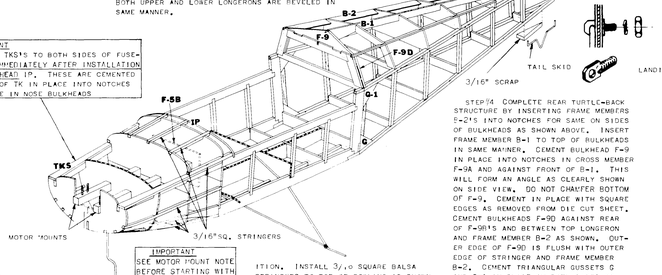
STEP #2

THE SIZE OF THIS MODEL DOES NOT PERMIT ONE PIECE BALSA BULKHEADS. ASSEMBLE BULKHEAD HALVES F-2A AND F-2B, F-4A AND F-4B, F-5 AND F-5A BY CEMENTING HALVES TO EACH OTHER SECURELY. THESE SHOULD BE PINNED TOGETHER ON FLAT SURFACE AND ALLOWED TO DRY THOROUGHLY. ASSEMBLE TOP REAR BULKHEADS COMPRISING OF F-9A, F-9B'S AND F-9C AND ALSO F-10, F-10A'S AND F-10 B ON FULL SIZE DRAWING ON PLAN. PARTS SHOULD BE CEMENTED FIRMLY TO EACH OTHER AND PINNED ON FLAT SURFACE AND ALLOWED TO DRY. DRILL HOLES FOR LANDING GEAR ANCHOR LUGS AS INDICATED BY PUNCH MARKS IN PLYWOOD BULKHEADS F-6, F-7, F-3A, AND KEEL FKC. LANDING GEAR IS ATTACHED AFTER PARTS HAVE BEEN ASSEMBLED AS FOLLOWS: ASSEMBLE FUSELAGE BY CEMENTING SIDE FRAMES INTO NOTCHES IN F-5 BULKHEAD ASSEMBLY. CEMENT INTO THEIR RESPECTIVE POSITIONS BETWEEN BOTTOM SIDE FRAME, BULKHEADS F-7, F-6A AND F-9, DO NOT INSTALL BULKHEAD F-6 AT THIS TIME. CEMENT F-9 TOP BULKHEAD ASSEMBLY IN PLACE BETWEEN TOP LONGERONS, REAR OF BULKHEAD IS IN LINE (SIDE VIEW) WITH REAR OF VERTICAL F-9F. NOSE BULKHEADS ARE TEMPORARILY CEMENTED IN PLACE AS FOLLOWS: CUT TK AND FK 1/3 THROUGH IN LINE WITH FRONT OF ASSEMBLED BULKHEAD F-5. THIS IS DONE ON BOTH SIDES. CAREFULLY CRACK PORTIONS OF TK AND FK FORWARD OF CUT TOWARDS CENTER OF FUSELAGE TO FORM SLIGHT ANGLE. CEMENT F-4 BULKHEAD ASSEMBLY INTO NOTCHES IN TK. NOTE THAT FORWARD TIP OF FK, WHICH IS CEMENTED INTO NOTCH FOR SAME IN F-4A, EXTENDS ONLY HALF WAY THROUGH THICKNESS OF BULKHEAD, REMAINING THICKNESS IS USED TO SEAT FRONT STRINGER AS SHOWN ON SIDE VIEW. LIGHTLY CEMENT F-3A AND F-2 BULKHEAD ASSEMBLY INTO NOTCHES FOR SAME IN TK AS SHOWN, WHEN DRY CEMENT PLYWOOD KEEL FKC INTO NOTCHES OF ALL LOWER BULKHEADS FROM F-9E FORWARD AS SHOWN ABOVE. INSTALL BULKHEAD F-6 FROM TOP INTO NOTCHES IN FKC AND SIDE FRAMES. CHECK ASSEMBLY FOR SQUARE ALIGNMENT (FROM TOP VIEW) AND ALLOW TO DRY. REAR OF FUSELAGE IS COMPLETED AS FOLLOWS: WITH RAZOR BLADE, CUT ABOUT 1/3 THROUGH TOP AND BOTTOM LONGERONS IN LINE WITH REAR OF VERTICAL MEMBER F-9F. THIS IS DONE ON BOTH SIDES. SIDE FRAMES ARE CAREFULLY CRACKED AT THAT POINT SO THAT THEY JOIN EACH OTHER AT REAR OF LONGERONS AS SHOWN ABOVE. BE CERTAIN LONGERONS ARE NOT BENT BUT ASSUME A STRAIGHT LINE FROM CRACKED POSITION REARWARD AS VIEWED FROM TOP. REAR OF LONGERONS ARE BEVELED SO THAT REAR TIP IS 1/16" WIDE WHEN CEMENTED TOGETHER AS CLEARLY SHOWN IN FULL SIZE DETAILED SKETCH. AFTER BEVELING, CEMENT AND PIN REAR OF LONGERONS TOGETHER BEING CERTAIN THAT THEY ARE IN LINE WITH EACH OTHER WHEN VIEWED FROM SIDE, AND ALSO IN LENGTH. THIS WILL INSURE PROPER ALIGNMENT SO THAT END OF FUSELAGE IS ON CENTER LINE WHEN VIEWED FROM TOP. WHEN DRY CEMENT TOP BULKHEAD ASSEMBLY F-10, AND BULKHEADS F-11, F-12 AND F-13 ACROSS TOP OF LONGERONS IN THEIR RESPECTIVE POSITIONS AS SHOWN. DO LIKEWISE WITH BOTTOM MEMBERS F-10C, F-11A, F-12A, F-13A AND F-14. CUT 3/16" SQUARE BALSA TO SIZE AND CEMENT BETWEEN TOP LONGERONS DIRECTLY ABOVE F-14 AS SHOWN. CUT VERTICAL FUSELAGE POST TO SIZE FROM 3/16 SQUARE BALSA AND CEMENT FIRMLY IN PLACE AT REAR OF FUSELAGE BETWEEN UPPER AND LOWER LONGERONS.



REAR LONGERON BEVEL DETAIL

ACTUAL SIZE DRAWING ABOVE SHOWS EXACT BEVEL TO BE CUT OFF UPPER AND LOWER LONGERONS TO FORM STEP #2, WHICH IS 1/16" AT REAR AS REFERRED TO IN STEP #2. BOTH UPPER AND LOWER LONGERONS ARE BEVELED IN SAME MANNER.



IMPORTANT
SEE MOTOR MOUNT NOTE BEFORE STARTING WITH STEP #3.

STEP #3

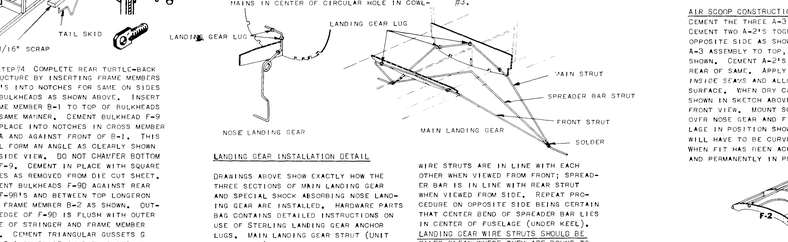
NOSE AND MAIN LANDING GEAR ARE INSTALLED USING STERLING LANDING GEAR ANCHOR LUGS, SEE DETAILED SKETCH FOR FULL DESCRIPTION OF INSTALLATION. CEMENT 3/8 X 1/2 POPLAR MOTOR MOUNTS IN PLACE THROUGH FRONT BULKHEADS AS SHOWN. THESE ARE RACKED UP BY CEMENTING F-5B IN PLACE DIRECTLY BEHIND MOTOR MOUNTS TO REAR OF BULKHEAD ASSEMBLY 5 AS INDICATED BY DOTTED LINES IN DRAWING ABOVE. ALL MOTOR MOUNT JOINTS SHOULD BE GIVEN AT LEAST TWO HEAVY COATS OF CEMENT TO INSURE A PERMANENT AND SECURE INSTALLATION. MOTOR MOUNTS EXTEND APPROXIMATELY 3/32" FORWARD OF BULKHEAD ASSEMBLY F-2. AN ADDITIONAL PLYWOOD BULKHEAD WILL BE CEMENTED IN PLACE IN A LATER STEP TO MAKE ENDS FLUSH WITH SAME. CEMENT INSTRUMENT PANEL 'ULKHEAD 1P IN PLACE ACROSS FUSELAGE INTO NOTCHES IS FOR SAME IN TK'S. THIS PROVIDES MOUNTS FOR SKEN COVERING AS DESCRIBED IN STEP #4, IN WHICH FUSELAGE IS COVERED.

STEP #4

ENTIRE FUSELAGE STRUCTURE IS NOW SANDED SMOOTH SO THAT IT PRESENTS A FLAT SURFACE UPON WHICH THE SHEET BALSA SKIN IS CEMENTED. IMPORTANT! CUT OUT SLOT POSITIONS OF FUSELAGE AND WING ARE COVERED WITH CUT OFF SECTIONS OF SHEET BALSA PROVIDED. IT IS THEREFORE IMPERATIVE THAT CLOSE ATTENTION BE GIVEN TO SIZES OF SHEET BALSA FOR EACH SPECIFIC USE IN INSTRUCTIONS AND AS SHOWN IN ABOVE DRAWINGS. BOTTOM OF FUSELAGE IS COVERED FIRST. CUT TWO 18" LENGTHS FROM 1/16" x 3" x 23-7/8" SHEET BALSA. CUT OFFS ARE USED TO COVER CENTER SECTION OF WING IN A LATER STEP. THE TWO 18" LENGTHS ARE USED TO COVER THE FRONT BOTTOM OF THE FUSELAGE. THEY ARE POSITIONED AS FOLLOWS: (DO NOT CEMENT IN PLACE UNTIL SHEETS ARE FITTED) 18" FORWARD SECTION RUNS FROM F-9E FORWARD TO FRONT OF BULKHEAD ASSEMBLY F-2. SHEETS ARE JOINED TOGETHER ON CENTER OF KEEL. OUTER EDGES ARE FLUSH WITH OUTSIDE OF FK'S AND ARE TRIMMED ALONG CENTER OF STRINGER RUNNING FROM BOTTOM OF FK'S FORWARD TO NOSE. LAY SHEET IN POSITION AS DESCRIBED AND CUT FOR CLEARANCE OF MAIN AND NOSE LANDING GEAR WIRE STRUTS. WHEN THIS HAS BEEN DONE WET OUTSIDE OF SHEET COVERING TO ALLOW IT TO BEND EASILY AND CEMENT IN POSITION DESCRIBED, USING PINS TO HOLD IN PLACE UNTIL DRY. A COAT OF CEMENT IS GIVEN TO ALL FRAME WORK CONTACTING SKIN. BOTH HALVES OF BOTTOM ARE COVERED IN THIS MANNER. PIN SHEETS TOGETHER TIGHTLY WHERE THEY FORM SEAM AT CENTER OF FUSELAGE. TRIM REAR OF SKINS TO CENTER OF F-9E TO PROVIDE CEMENTING SURFACE FOR REAR COVERING. PREPARE END TO COVER BOTTOM REAR OF FUSELAGE BY CUTTING 17-7/8" LENGTHS FROM TWO PIECES OF 1/16" x 3" x 23-7/8" SHEET BALSA. CUT OFFS ARE USED TO COVER WING FAIRING AS DESCRIBED IN A LATER STEP. CEMENT THE TWO SHEETS TOGETHER ON A FLAT SURFACE USING PINS TO HOLD TOGETHER UNTIL DRY. THIS WILL RESULT IN A SHEET 6" WIDE. TRIM END OF SHEET FOR CLOSE FIT AND CEMENT IN PLACE AGAINST FRONT SKIN WHERE THEY JOIN OVER F-9E, BE CERTAIN CENTER SEAMS LINE UP WITH EACH OTHER. REMAINDER OF SKIN IS CEMENTED TO ALL CONTACTING FRAME WORK ON BOTTOM OF FUSELAGE, HOLD IN PLACE WITH PINS UNTIL DRY. WITH SIDES OF FUSELAGE. REMAINING "TRIANGULAR PORTIONS ARE USED TO COVER SIDE TOPS OF FUSELAGE AS NOTED. FRONT SIDES OF FUSELAGE ARE NOW COVERED FROM REAR OF F-9F FORWARD. USING TWO SHEETS 1/16" x 2" x 26-7/8" SHEET BALSA CUT OFF TWO 18" LENGTHS. THE REMAINDER IS USED TO COVER COWL IN A LATER STEP. CEMENT THE TWO SHEETS TOGETHER ON A FLAT SURFACE USING PINS TO HOLD TOGETHER UNTIL DRY. THIS WILL RESULT IN A SHEET 4" WIDE X 18" LONG. THIS WILL COVER ONE FRONT SIDE OF FUSELAGE. REPEAT PROCEDURE FOR SECOND 4" SHEET FOR OPPOSITE SIDE. THE AREA TO BE COVERED IS FROM THE REAR OF F-9F TO THE FRONT OF BULKHEAD ASSEMBLY F-2, TOP OF TK AND TKS AND BOTTOM OF FK AND CONTINUING ALONG FRONT STRINGER WHERE BOTTOM SKIN HAS BEEN TRIMMED. MOISTEN BALSA ON OUTSIDE OF SHEET AND APPLY TO SIDE OF FUSELAGE AS DESCRIBED. TRIM FRONT BOTTOM SECTION OF SKIN SO THAT IT WILL BUTT AGAINST BOTTOM SKIN OVER STRINGER. REMOVE SKIN FROM FUSELAGE AND APPLY A COAT OF CEMENT OVER ALL CONTACTING FRAMEWORK. PLACE SKIN IN POSITION ON SIDE OF FUSELAGE HOLDING IN PLACE WITH PINS UNTIL DRY. REPEAT PROCEDURE TO COVER OPPOSITE SIDE. THE REAR LOWER SIDES OF THE FUSELAGE ARE COVERED NEXT. CEMENT TWO SHEETS OF 1/16" x 2" x 17-7/8" TOGETHER ON FLAT SURFACE TO OBTAIN A 4" SHEET IN METHOD DESCRIBED ABOVE. MAKE TWO ASSEMBLIES, ONE FOR EACH SIDE OF FUSELAGE. CEMENT SIDE SKINS IN POSITION INDICATED ABOVE. FRONT OF SKIN IS BUTTED AGAINST SIDE FRONT SKIN, TOP AND BOTTOM OF SKINS ARE CEMENTED TO UPPER AND LOWER LONGERONS PLACING EDGE OF SHEET FLUSH WITH TOP OF UPPER LONGERON, REAR IS CEMENTED TO VERTICAL FUSELAGE POST. NOTE THAT LOWER FRONT PORTION OF SHEET DOES NOT COVER SIDE COMPLETELY. THIS SECTION IS COVERED WITH 1/16" BALSA SHEET SCRAP AFTER SIDES ARE CEMENTED IN PLACE. COAT ALL AREAS WITH CEMENT THEN APPLY SKIN AS DESCRIBED, HOLD IN PLACE WITH PINS UNTIL DRY. REPEAT PROCEDURE TO COVER OPPOSITE SIDE. WHEN REAR SIDE SKINS ARE DRY THEY SHOULD BE TRIMMED FLUSH WITH BOTTOM REAR SKIN AND FLUSH WITH REAR OF VERTICAL RUDDER POST. TOP SIDE SKINS ARE NOW APPLIED USING CUT-OFFS FROM BOTTOM REAR SKINS AS NOTED ABOVE. SKINS ARE FITTED BEFORE CEMENTING IN PLACE AS FOLLOWS: FRONT OF SKIN IS FLUSH WITH FRONT OF F-9G, REAR OF SKIN IS FLUSH WITH REAR OF F-13. BOTTOM OF SKIN IS CHAMFERED AT SLIGHT ANGLE SO THAT IT RESTS FLUSH ON TOP OF SIDE SKIN ALONG UPPER LONGERON. TOP OF SKIN EXTENDS PAST B-2'S, WHEN SKINS HAVE BEEN FITTED AS DESCRIBED APPLY A COAT OF CEMENT TO ALL STRUCTURE COVERED BY SAME AND PLACE IN POSITION HOLDING WITH PINS UNTIL DRY. OPPOSITE SIDE IS COVERED IN SAME MANNER. WHEREVER POSSIBLE APPLY A SECOND COAT OF CEMENT AT ALL POINTS OF CONTACT WITH FUSELAGE STRUCTURE. THIS WILL INSURE STRENGTH. ALLOW FUSELAGE TO DRY COMPLETELY BEFORE REMOVING PINS AND PROCEEDING WITH STEP #5.

STEP #5

STEP #4 COMPLETE REAR TURTLE-BACK STRUCTURE BY INSERTING FRAME MEMBERS F-2'S INTO NOTCHES FOR SAME ON SIDES OF BULKHEADS AS SHOWN ABOVE. INSERT FRAME MEMBER B-1 TO TOP OF BULKHEADS IN SAME MANNER. CEMENT BULKHEAD F-9 IN PLACE INTO NOTCHES IN CROSS MEMBER F-9A AND AGAINST FRONT OF B-1. THIS WILL FORM AN ANGLE AS CLEARLY SHOWN ON SIDE VIEW. DO NOT CHAMFER BOTTOM OF F-9. CEMENT IN PLACE WITH SQUARE EDGES AS REMOVED FROM DIE CUT SHEET. CEMENT BULKHEAD F-9D AGAINST REAR OF F-9B'S AND BETWEEN TOP LONGERON AND FRAME MEMBER B-2 AS SHOWN. OUTER EDGE OF F-9D IS FLUSH WITH OUTER EDGE OF STRINGER AND FRAME MEMBER B-2. CEMENT TRIANGULAR GUSSETS G AND G-1 IN PLACE ON BOTH SIDES OF FUSELAGE AS SHOWN ABOVE. CEMENT 3/16 SQUARE BALSA AGAINST REAR OF F-9F, AND NETWEEN G AND G-1 TO SUPPORT SKIN COVERING AS DESCRIBED ABOVE. CUT STRINGERS IMMEDIATELY BELOW ARE CEMENTED INTO NOTCHES IN HULKHEAD F-6A AGAINST FK AND IS TRIMMED FLUSH WITH BULKHEAD ASSEMBLY F-2. THE TWO BOTTOM STRINGERS WHICH RUN THE ENTIRE LENGTH OF THE BOTTOM OF THE FUSELAGE FROM BULKHEAD F-9E FORWARD TO BULKHEAD ASSEMBLY F-2 ARE NOW INSTALLED. THESE ARE CEMENTED SECURELY INTO NOTCHES FOR SAME IN ALL RESPECTIVE BULKHEADS. THE TWO REMAINING SIDE STRINGERS ARE CEMENTED INTO SQUARE CUT-OUT FOR SAME ON BOTTOM OF FK'S, IN NOTCH FOR SAME IN F-4A AND F-3A. NOTE THAT FRONT OF STRINGERS ARE CUT OFF ON ANGLE AND ARE CEMENTED AGAINST BOTTOM STRINGER AS SHOWN ON SIDE VIEW. THERE IS NO NOTCH IN FULKHEAD ASSEMBLY F-2 FOR THIS STRINGER. STRENGTH IS OBTAINED FROM STRIP FOR SKIN COVERING AS DESCRIBED IN STEP #4, IN WHICH FUSELAGE IS COVERED.

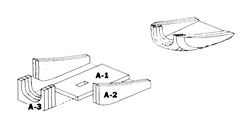


LANDING GEAR INSTALLATION DETAIL

DRAWINGS ABOVE SHOW EXACTLY HOW THE THREE SECTIONS OF MAIN LANDING GEAR AND SPECIAL SHOCK ABSORBING NOSE LANDING GEAR ARE INSTALLED. HARDWARE PARTS BAG CONTAINS DETAILED INSTRUCTIONS ON USE OF STERLING LANDING GEAR ANCHOR LUGS. MAIN LANDING GEAR STRUT (UNIT WITH AXLES) IS MOUNTED FIRST BY SQUEZING WIRE STRUT TOGETHER SO THAT IT IS INSTALLED THROUGH THE TOP OF THE FUSELAGE IN FRONT OF PLYWOOD BULKHEAD F-7. WHEN STRUT IS IN POSITION SLIP THREE LANDING GEAR ANCHOR LUGS ON WIRE. SLIDE LUGS INTO POSITION THROUGH HOLES FOR SAME IN BULKHEAD AS SHOWN ABOVE. BE CERTAIN CENTER ANGLE BEND IS IN PLACE DIRECTLY ON HOLE FOR ANCHOR LUG, LOCK WASHERS FOLLOWED BY NUTS ARE MOUNTED ON THREADED END OF LUG AND TIGHTENED SECURELY. FRONT STRUT OF LANDING GEAR IS MOUNTED ON THE FRONT OF ANGLED BULKHEAD F-6 DOWN INTO NOTCH FOR SAME IN KEEL FKC, AND SECURED IN SAME MANNER. CARE MUST BE TAKEN THAT ANGLE RESTS LEVEL ON GROUND WHEN VIEWED FROM FRONT. SPREADER BAR WIRE STRUT IS NOW MOUNTED BY JOINING ENDS OF FRONT AND REAR WIRE STRUTS, AND SPREADER BAR STRUT AT BASE; BINDING THE THREE TOGETHER WITH SOFT COPPER WIRE (BINDING WIRE IS SINGLE STRAND OF WIRE OBTAINED FROM IGNITION WIRE). WHEN BINDING, FRONT AND REAR WIRE STRUTS ARE IN LINE WITH EACH OTHER WHEN VIEWED FROM FRONT; SPREADER BAR IS IN LINE WITH REAR STRUT WHEN VIEWED FROM SIDE. REPEAT PROCEDURE ON OPPOSITE SIDE BEING CERTAIN THAT CENTER BEND OF SPREADER BAR LIES IN CENTER OF FUSELAGE (UNDER KEEL). LANDING GEAR WIRE STRUTS SHOULD BE FILED CLEAN WHERE THEY ARE BOUND TOGETHER BEFORE ASSEMBLING. SOLDER BOUND SECTION SECURELY. SINGLE STRUT NOSE LANDING GEAR IS MOUNTED USING THE SAME GENERAL INSTALLATION PROCEDURE. DRAWING ABOVE SHOWS HOW LANDING GEAR LOOKS WHEN INSTALLED. BE CERTAIN TOP OF SHOCK ABSORBING LOOP IS APPROXIMATELY 1/8" BELOW KEEL TO ALLOW ROOM FOR SKIN COVERING. AFTER MODEL HAS BEEN COVERED AS DESCRIBED IN STEPS 4 AND 5 BOTTOM AIR SCOOP IS CONSTRUCTED AS DESCRIBED IN DETAILED NOTE. SCOOP MUST BE CEMENTED IN PLACE BEFORE WHEELS ARE INSTALLED. WHEELS ARE NOT FURNISHED WITH KIT. IT IS ADVISED THAT THE MODELER USE SOFT BALOON TYPE WHEELS OF THE DIAMETER SHOWN ON SIDE VIEW. WHEELS ARE MOUNTED ON AXLES AND HELD IN PLACE BY EITHER WHEEL RETAINERS WHICH MAY BE PURCHASED AT YOUR HOBBY SHOP, OR WASHERS SOLDERED TO ENDS OF AXLES. BE CERTAIN THAT WHEELS TRACK SO THAT MODEL WILL ROLL IN STRAIGHT LINE BEFORE ATTEMPTING TAKE-OFFS.

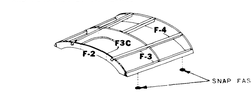
MOTOR MOUNT INSTALLATION NOTE

MOTOR MOUNTS ARE BUILT IN MODEL TO FIT K & B .19, F .23 ENGINES. IT MAY BE NECESSARY TO ADJUST THE DISTANCE BETWEEN MOTOR MOUNTS INWARD OR OUTWARD TO FIT ANY OTHER ENGINE USED. CENTER LINE OF SHAFT (WHEN VIEWED FROM SIDE) OF K & B ENGINE IS IN LINE WITH TOP OF MOTOR MOUNTS. THIS PLACES CENTER OF SHAFT IN CENTER OF CIRCULAR HOLE FOR ENGINE WASHER IN METAL COWLING. WHEN INSTALLING OTHER ENGINES IT MAY BE NECESSARY TO RAISE THE ENGINE SO THAT ENGINE SHAFT REMAINS IN CENTER OF CIRCULAR HOLE IN COWLING. THIS MAY BE ACCOMPLISHED WITH HARDWOOD SHIM BLOCKS. WHEN ADJUSTMENTS HAVE BEEN MADE (IF NECESSARY) TEMPORARILY PLACE MOTOR MOUNTS IN FUSELAGE. PLACE ENGINE IN POSITION ON MOTOR MOUNTS AND MARK HOLES FOR ENGINE MOUNTING BOLTS. REMOVE MOTOR MOUNTS AND DRILL HOLES FOR SAME. INSERT MOUNTING BOLTS THROUGH BOTTOM OF MOTOR MOUNTS AND SOLDER STRAIGHT PIN ACROSS SLOTS IN HEAD OF BOLTS. SECURE WITH HEAVY COAT OF CEMENT. MOTOR MOUNTS MAY NOW BE INSTALLED PERMANENTLY AS DESCRIBED IN STEP #5.



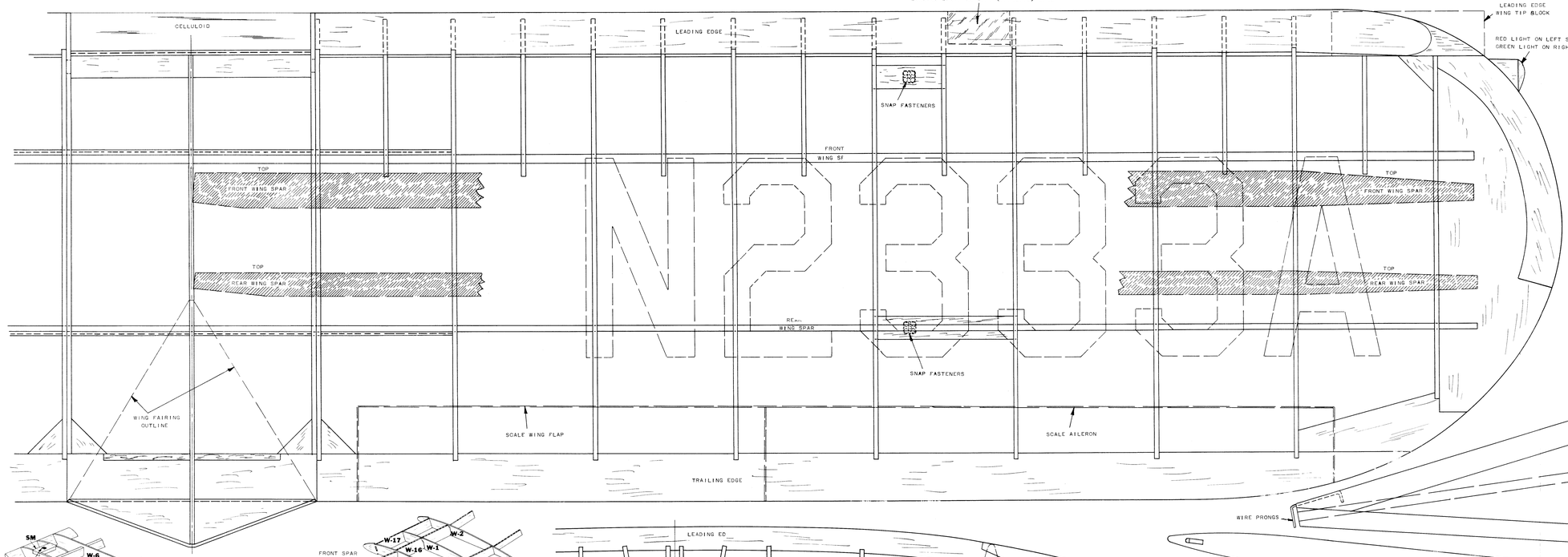
AIR SCOOP CONSTRUCTION DETAIL

CEMENT THE THREE A-3'S TOGETHER AS SHOWN ABOVE CEMENT TWO A-2'S TOGETHER AND REPEAT SAME FOR OPPOSITE SIDE AS SHOWN ABOVE. SECURELY CEMENT A-3 ASSEMBLY TO TOP, FLUSH WITH FRONT OF A-1 AS SHOWN. CEMENT A-2'S TO SIDES OF A-1 FLUSH WITH REAR OF SAME. APPLY HEAVY COAT OF CEMENT ALONG INSIDE SEAMS AND ALLOW TO DRY THOROUGHLY ON FLAT SURFACE, WHEN DRY CARVE AND SAND TO SHAPE AS SHOWN IN SKETCH ABOVE AND ALSO ON SIDE VIEW AND FRONT VIEW. MOUNT SCOOP THROUGH HOLE IN SAME OVER NOSE GEAR AND FIT TO BOTTOM CENTER OF FUSELAGE IN POSITION SHOWN ON SIDE VIEW (TOP EDGES WILL HAVE TO BE CURVED TO FIT BOTTOM OF FUSELAGE.) WHEN FIT HAS BEEN ACHIEVED CEMENT SCOOP SECURELY AND PERMANENTLY IN PLACE.



REMOVABLE COWLING DETAIL

COWLING IS BUILT ON FUSELAGE FOR PERFECT FIT. CUT 3/16" BALSA TO SIZE AND PIN TO OUTER EDGES OF TK'S'S, (DO NOT PLACE OVER SKIN). CEMENT BULKHEADS F-2, F-3 AND F-4 IN PLACE, PINNING FRONT AND REAR EDGES AGAINST BULKHEAD ASSEMBLIES F-2 AND F-4B RESPECTIVELY. CEMENT 3/16" SQUARE STRINGERS INTO NOTCHES FOR SAME. NOTE CENTER STRINGER RUNS FROM F-4 TO F-3 ONLY. MOISTEN TOP OF F-3C TO ALLOW IT TO CURVE AND CEMENT IN PLACE BETWEEN F-2 AND F-3 AND STRINGERS, FLUSH WITH TOP OF SAME. HOLD WITH PINS UNTIL DRY. CUT STRUCTURE FROM PLANS AND SAND OUTSIDE STRINGERS TO MATCH CURVE OF BULKHEADS AS SHOWN ABO

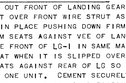


WING STRUT CONSTRUCTION DETAIL

MAKE TWO VEE WING STRUT ASSEMBLIES DIRECTLY OVER FULL SIZE DRAWING. FRONT STRUT IS 3/16" X 1/2" POPLAR, REAR STRUT IS 3/16" X 3/8" POPLAR. SHAPE STRUTS TO STREAMLINE CROSS SECTION SHOWN. CUT TOP OF STRUTS ON ANGLE SHOWN ON FRONT VIEW DRAWING WHERE THEY ARE INSTALLED AGAINST BOTTOM OF WING. STRUTS ARE JOINED AT BASE AS SHOWN, WITH FRONT BEING CUT AT ANGLE TO FORM VEE. CEMENT TOGETHER OVER PLAN AND ALLOW TO DRY THOROUGHLY. TWO HEAVY COATS OF CEMENT ARE APPLIED AROUND ENTIRE JOINT. BE CERTAIN VEE IS KEPT ACCURATE SO THAT IT WILL FIT TO WING. WHEN DRY BEND 1/16" WIRE PRONGS TO SHAPE SHOWN. DRILL UNDER-SIZE HOLE AT LOCATION SHOWN ON FRONT STRUT AND TRIM STRUT SO THAT WIRE IS FLUSH WITH FRONT OF SAME. INSERT PRONG AND CEMENT SECURELY. CLOTH FOR REINFORCEMENT IS WRAPPED AROUND ENTIRE BASE FOR STRENGTH. WHEN UNIT IS DRY CEMENT MALE PORTIONS OF SNAP FASTENERS IN PLACE SECURELY. WHEN DRY CHECK ASSEMBLY BY SNAPPING STRUTS IN PLACE TO BOTTOM OF WING. BE CERTAIN TO MAKE ONE EACH LEFT AND RIGHT STRUTS (RIGHT HAND STRUT SHOWN).

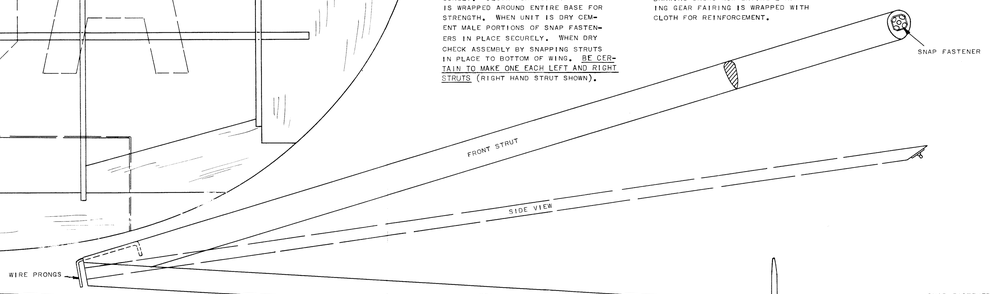
LANDING GEAR FAIRING DETAIL

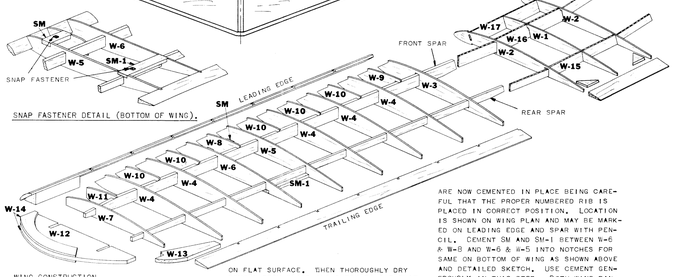
NOTCH OUT FRONT OF LANDING GEAR FAIRING LG TO FIT OVER FRONT WIRE STRUT AS SHOWN. CEMENT IN PLACE PUSHING DOWN FIRMLY UNTIL BOTTOM SEATS AGAINST VEE OF LANDING GEAR. GROOVE FRONT OF LG-1 IN SAME MANNER AS LG SO THAT WHEN IT IS SLIPPED OVER WIRE STRUT IT SEATS AGAINST REAR OF LG SO AS TO APPEAR AS ONE UNIT. CEMENT SECURELY IN PLACE. WHEN THOROUGHLY DRY SAND FAIRING TO STREAMLINE SHAPE ROUNDING SAME INTO FRONT WIRE STRUT. CLOTH FOR REINFORCEMENT IS WRAPPED AROUND ENTIRE FAIRING ASSEMBLY. RUB CEMENT INTO PORES OF CLOTH FOR MAXIMUM STRENGTH.



DRAWING SHOWS METHOD OF GROOVING AND INSTALLATION OF FAIRING PIECES.

DRAWING SHOWS HOW ENTIRE LANDING GEAR FAIRING IS WRAPPED WITH CLOTH FOR REINFORCEMENT.





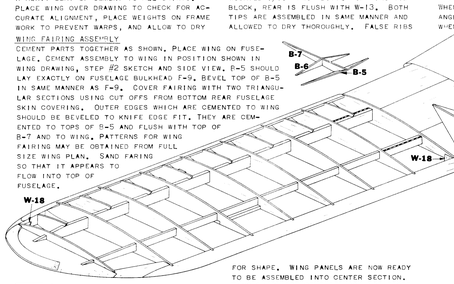
WING CONSTRUCTION

STEP #1

PREPARE FRONT WING SPAR (3/16" X 3/4" X 28-7/8") BY TRIMMING BOTH ENDS TO LENGTH AND SHAPE AS SHOWN ON HEAVILY SHADED AREA. 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 FOR DIHEDRAL. PREPARE REAR SPAR (1/8" X 1/2" X 28-7/8") IN SAME MANNER. SLIDE WING RIBS INTO LOCATION ON BOTH SPARS USING TOP VIEW FOR POSITIONING. BE CERTAIN THAT THE RIB NUMBERS ARE CORRECT AS SHOWN IN THE ABOVE DRAWING. RIBS MUST BE VERTICAL. THIS IS ESPECIALLY TRUE OF INBOARD RIBS W-3'S. ANY CHANGE FROM A VIRTICAL POSITION WILL AFFECT THE DIHEDRAL ANGLE WHEN WING PANELS ARE JOINED TO CENTER SECTION. MOUNT LEADING AND TRAILING EDGES ON TO ASSEMBLY BY INSERTING RIBS INTO NOTCHES FOR SAME. APPLY A HEAVY COAT OF CEMENT TO ALL JOINTS. PLACE WING OVER DRAWING TO CHECK FOR ACCURATE ALIGNMENT, PLACE WEIGHTS ON FRAME WORK TO PREVENT WARPS, AND ALLOW TO DRY

WING FAIRING ASSEMBLY

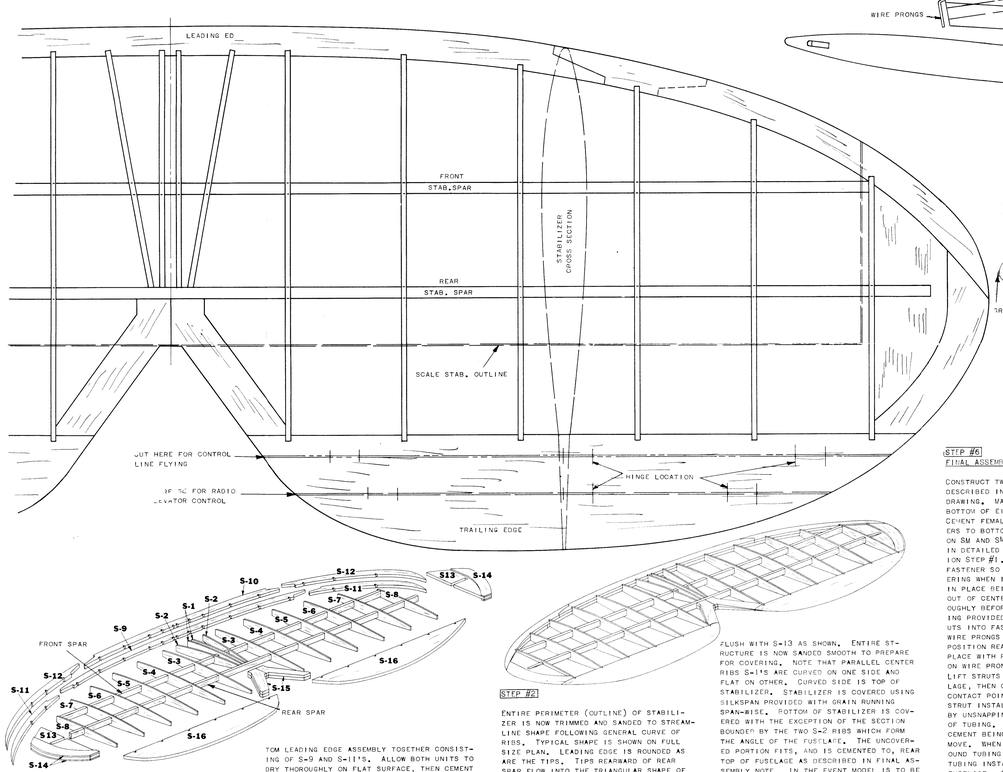
CEMENT PARTS TOGETHER AS SHOWN. PLACE WING ON FUSELAGE. CEMENT ASSEMBLY TO WING IN POSITION SHOWN IN WING DRAWING, SIZE #2 SKETCH AND SIDE VIEW, F-5 SHOULD LAY EXACTLY ON FUSELAGE BULKHEAD F-9. BEVEL TOP OF B-5 IN SAME MANNER AS F-9. COVER FAIRING WITH TWO TRIANGULAR SECTIONS USING CUT OFFS FROM BOTTOM REAR FUSELAGE SKIN COVERING. OUTER EDGES WHICH ARE CEMENTED TO WING SHOULD BE BEVELED TO KNIFE EDGE FIT. THEY ARE CEMENTED TO TOPS OF B-5 AND FLUSH WITH TOP OF B-7 AND TO WING. PATTERNS FOR WING FAIRING MAY BE OBTAINED FROM FULL SIZE WING PLAN. SAND FAIRING SO THAT IT APPEARS TO FLOW INTO TOP OF FUSELAGE.



STEP #2

WING TIPS ON BOTH WING PANELS ARE NOW TRIMMED AND SANDED TO SHAPE. FIRST MARK CONTINUATION OF WING TIP CURVE AROUND LEADING AND TRAILING EDGES AND TRIM OFF EXCESS. TIPS ARE NOW TAPERED AS SHOWN ON FRONT VIEW. W-14'S FADE AWAY GRADUALLY INTO W-12. LEADING EDGE IS TRIMMED TOP AND BOTTOM AS SHOWN ON TOP VIEW UNTIL IT FAIRS SMOOTHLY INTO WING TIP ASSEMBLY. OUTER EDGE OF WING TIP ASSEMBLY IS ROUNDED AND GRADUALLY FLOWS INTO THE TRAILING EDGE TRIANGULAR SECTION. CHECK DRAWING ABOVE, PLAN OF WING AND FRONT VIEW OF MODEL.

ON FLAT SURFACE, THEN THOROUGHLY DRY REMOVE FROM PLANS AND CHECK TO SEE THAT WING FRAME IS FREE FROM WARPS. OPPOSITE WING PANEL IS CONSTRUCTED IN SAME MANNER, ONLY HALF OF WING IS SHOWN ON PLANS. DRAWING IS USED ONLY TO INSURE SQUARENESS OF FRAME WORK WHILE FRAME IS DRYING ON FLAT SURFACE. COMPLETE WING PANELS BY CEMENTING RIB W-7 IN PLACE. W-13 IS NOW CEMENTED INTO POSITION RAISING THE OUTER EDGE TO BE FLUSH WITH REAR OF W-7. LOCATE POSITION OF ANGLED LEADING EDGE WING TIP BLOCKS AS SHOWN ON WING PLAN AND CEMENT SECURELY IN PLACE TO BOTTOM OF LEADING EDGE AND AGAINST W-7 AS SHOWN AND ALLOW TO DRY THOROUGHLY. PREPARE BOTH WING TIPS BY CEMENTING W-14'S TO TOP AND BOTTOM OF OUTER EDGE OF W-12 AS SHOWN ABOVE, AND ALLOW TO DRY. WING TIPS ARE NOW CEMENTED IN PLACE BY SLIDING NOTCHES IN SAME OVER PROTRUDING WING SPARS AND BETWEEN WING TIP BLOCK AND NOTCH IN W-13. FRONT BOTTOM OF TIP ASSEMBLY IS MOUNTED 1/16" FROM BOTTOM OF WING TIP BLOCK, REAR IS FLUSH WITH W-13. BOTH TIPS ARE ASSEMBLED IN SAME MANNER AND ALLOWED TO DRY THOROUGHLY. FALSE RIBS



ARE NOW CEMENTED IN PLACE BEING CAREFUL THAT THE PROPER NUMBERED RIB IS PLACED IN CORRECT POSITION. LOCATION IS SHOWN ON WING PLAN AND MAY BE MARKED ON LEADING EDGE AND SPAR WITH PENCIL. CEMENT SM AND SM-1 BETWEEN W-6 & W-5 AND W-6 & W-5 INTO NOTCHES FOR SAME ON BOTTOM OF WING AS SHOWN ABOVE AND DETAILED SKETCH. USE CEMENT GENEROUSLY IN THIS STEP. BOTH WING PANELS SHOULD BE CHECKED FOR WARPS AND SET ASIDE TO DRY. CONSTRUCT CENTER SECTION DIRECTLY ON PLAN TO INSURE SQUARENESS OF ASSEMBLY. PIN CENTER SECTION TRAILING EDGE OVER PLANS. INSERT W-15'S INTO NOTCHES FOR SAME IN RIBS W-2'S. DO LIKEWISE WITH W-16 AND W-17. LAY UNIT ON PLANS AND CEMENT TRAILING EDGE OF RIBS SECURELY TO TRAILING EDGE. W-15 IS CEMENTED TO REAR OF NOTCH, W-16 TO FRONT OF NOTCH. APPLY CEMENT TO OPPOSITE SIDES LEAVING NOTCHES CLEAR FOR LATER INSERTION OF WING SPAR. W-17 MAY BE CEMENTED FRONT AND REAR OF JOINT. BE CERTAIN RIBS W-2'S ARE AGAINST ANGLE OF W-15, W-16, & W-17. THIS WILL FORM PROPER DIHEDRAL ANGLE WHEN WING PANELS ARE ASSEMBLED. CEMENT CENTER RIB W-1 IN PLACE FROM TOP. CEMENT TRIANGULAR CORNER GUSSETS TO INSIDES OF W-2'S AND TRAILING EDGE. HOLD UNIT IN EXACT POSITION OVER PLANS AND ALLOW AT LEAST TWO HEAVY COATS OF CEMENT TO DRY THOROUGHLY. WHEN DRY REMOVE FROM PLANS, AND SAND RIB ANGLE INTO OUTER EDGES OF TRAILING EDGE WHEN VIEWED FROM REAR

UNTIL DRY. TOPS SHOULD BE FLUSH WITH EACH OTHER TO INSURE DIHEDRAL MEASUREMENT. APPLY SECOND HEAVY COAT OF CEMENT TO ALL JOINTS. CHECK THAT WING IS FREE FROM WARPS, THAN SET ASIDE TO DRY COMPLETELY. CEMENT WING GUSSETS W-18'S IN PLACE AS SHOWN. COVER CENTER SECTION, REAR RUNNING SPAR AND TOP OF W-3 SHORT BALSA REMAINING FROM BOTTOM FRONT AND TOP REAR FUSELAGE SHEET COVERING. COVERING EXTENDS FROM W-2 TO W-2 AND IS FLUSH WITH TOP OF W-3'S. SEAMS ARE BUTT JOINED AS SHOWN. COVERING IS TRIMMED FLUSH WITH W-17 AND EXTENDS TO REAR FLUSH WITH TOP OF TRAILING EDGE. COVER BOTTOM OF CENTER SECTION IN SAME MANNER. HOLD COVERING IN PLACE WITH PINS UNTIL DRY. ADD WING FAIRING AS DESCRIBED IN DETAILED SKETCH. ENTIRE WING SHOULD BE SANDED SMOOTH TO PREPARE FOR SILKSPAN COVERING. WHEN THIS HAS BEEN ACCOMPLISHED, COVER WING PANELS WITH SILKSPAN (APPLIED WET) GRAIN RUNNING SPAN-WISE. CHECK WING THROUGHOUT COVERING TO PREVENT ANY WARPS FROM DEVELOPING. APPLY THREE COATS OF DOPE.

STABILIZER CONSTRUCTION NOTE

STEP #1

STABILIZER CONSTRUCTION WHILE CONTAINING MANY PARTS TO INSURE A WARP FREE CONSTRUCTION, IS REALLY VERY SIMPLE. CONSTRUCTION IS SIMILAR TO WING. CUT FRONT AND REAR STABILIZER SPARS TO LENGTH. FULL SIZE STABILIZER PLAN SHOWS ONLY HALF OF UNIT. DOUBLE MEASUREMENT FROM CENTER LINE TO TIP FOR ACTUAL SIZE OF ONE PIECE SPARS. SLIDE STABILIZER RIBS INTO LOCATION ON BOTH SPARS USING FULL SIZE PLAN FOR POSITIONING. BE CERTAIN THAT THE RIB NUMBERS ARE CORRECT AS SHOWN ON ABOVE DRAWING. CEMENT TOP LEADING EDGE ASSEMBLY TOGETHER ON FLAT SURFACE. THIS CONSISTS OF S-10 AND S-12'S. CEMENT BOTTOM LEADING EDGE ASSEMBLY TOGETHER CONSISTING OF S-9 AND S-11'S. ALLOW BOTH UNITS TO DRY THOROUGHLY ON FLAT SURFACE, THEN CEMENT ONE ON TOP THE OTHER BEING CERTAIN THAT NOTCHES COINCIDE EXACTLY. CEMENT ASSEMBLED LEADING EDGE TO FRONT OF UNIT BY INSERTING RIBS INTO NOTCHES FOR SAME. PREPARE BOTH STABILIZER TIPS BY CEMENTING S-14'S TO TOP AND BOTTOM OF OUTER EDGE OF S-13. PREPARE CENTER SECTION TRAILING EDGE BY CEMENTING THE TWO S-15'S TOGETHER. WHEN DRY CEMENT BOTH STABILIZER TIP ASSEMBLIES IN PLACE BY SLIDING NOTCH IN SAME OVER PROTRUDING SPAR AGAINST REAR OF LEADING EDGE. CEMENT BOTH TRAILING EDGE SECTIONS S-16 TO RIBS BY INSERTING REAR OF RIBS INTO NOTCHES FOR SAME. CEMENT CENTER SECTION TRAILING EDGE ASSEMBLY S-15 IN PLACE BETWEEN REAR SPAR AND TRAILING EDGE AS SHOWN IN FULL SIZE PLAN. CHECK FRAME WORK TO BE CERTAIN IT IS FREE FROM WARPS. APPLY A SECOND COAT OF CEMENT TO ALL JOINTS AND ALLOW TO DRY THOROUGHLY.

STEP #2

ENTIRE PERIMETER (OUTLINE) OF STABILIZER IS NOW TRIMMED AND SANDED TO STREAMLINE SHAPE FOLLOWING GENERAL CURVE OF RIBS. TYPICAL SHAPE IS SHOWN ON FULL SIZE PLAN. LEADING EDGE IS ROUNDED AS ARE THE TIPS. TIPS REARWARD OF REAR SPAR FLOW INTO THE TRIANGULAR SHAPE OF S-16'S. REAR EDGES OF S-16'S ARE SANDED TO APPROXIMATELY 1/16" THICKNESS. CENTER TRAILING SECTION S-15 ARE ROUNDED OFF ON OUTER EDGES FLOWING INTO TRIANGULAR SHAPE OF S-16 AS SHOWN ABOVE. SECTIONS OF SPARS WHICH HAVE BEEN INSERTED INTO STABILIZER TIPS ARE TRIMMED ON ANGLE SO THAT OUTER ENDS ARE FLUSH WITH S-13 AS SHOWN. ENTIRE STRUCTURE IS NOW SANDED SMOOTH TO PREPARE FOR COVERING. NOTE THAT PARALLEL CENTER RIBS S-15'S ARE CURVED ON ONE SIDE AND FLAT ON OTHER. CURVED SIDE IS TOP OF STABILIZER. STABILIZER IS COVERED USING SILKSPAN PROVIDED WITH GRAIN RUNNING SPAN-WISE. BOTTOM OF STABILIZER IS COVERED WITH THE EXCEPTION OF THE SECTION BOUNDED BY THE TWO S-2 RIBS WHICH FORM THE ANGLE OF THE FUSELAGE. THE UNCOVERED PORTION FITS, AND IS CEMENTED TO, REAR TOP OF FUSELAGE AS DESCRIBED IN FINAL ASSEMBLY NOTE. IN THE EVENT MODEL IS TO BE USED AS CONTROL-LINE "COAT". OUTER TRAILING EDGE SECTION S-16 IS CUT AND HINGED ALONG LINE SHOWN ON FULL SIZE DRAWING. IF ELEVATOR CONTROL IS TO BE USED FOR RADIO FLYING, TRAILING EDGE SECTION S-16 IS HINGED ALONG OTHER LINE SHOWN ON FULL SIZE PLAN. USE THREE COATS OF DOPE ON SILKSPAN COVERING.

STEP #6

FINAL ASSEMBLY NOTE

CONSTRUCT TWO SETS OF WING STRUTS AS DESCRIBED IN SKETCH AND FULL SIZE DRAWING. MARK POSITION OF STRUTS ON BOTTOM OF EITHER SIDE OF FUSELAGE. CEMENT FEMALE PORTION OF SNAP FASTENERS TO BOTTOM OF BOTH SIDES OF WING ON SM AND SM-1 RESPECTIVELY AS SHOWN IN DETAILED SKETCH AT WING CONSTRUCTION STEP #1. NOTCH OUT BALSA FOR SNAP FASTENER SO THAT IT IS FLUSH WITH COVERING WHEN INSTALLED. CEMENT HEAVILY IN PLACE BEING CAREFUL TO KEEP CEMENT OUT OF CENTER HOLE. ALLOW TO DRY THOROUGHLY BEFORE PROCEEDING. CUT 1/64" TUBING PROVIDED WITH KIT IN HALF. SNAP TOP OF STRUTS INTO FASTENERS ON WING MAKING SURE WIRE PRONGS ON BOTTOM, FACE IN PROPER POSITION REARWARD. HOLD SECURELY IN PLACE WITH RUBBER BANDS. SLIDE TUBING ON WIRE PRONGS AT BOTTOM OF STRUTS. LIFT STRUTS UNTIL TUBING CONTACTS FUSELAGE, THEN CEMENT TUBING TO FUSELAGE AT CONTACT POINT. THIS WILL INSURE ACCURATE STRUT INSTALLATION. SNAP OFF REMOVE PARTS BY UNSNAPPING TOP AND SLIDING PRONTS OUT OF TUBING. APPLY ANOTHER HEAVY COAT OF CEMENT BEING CERTAIN THAT TUBING DOES NOT MOVE, WHEN DRY PIECE OF CLOTH AROUND TUBING AND TO FUSELAGE TO REINFORCE TUBING INSTALLATION. REMOVE WING FROM FUSELAGE. ATTACH MAIN LANDING GEAR BY INSTALLING BALSA FAIRINGS AS DESCRIBED IN DETAILED SKETCH AND NOTE. BOLT ENGINE IN PLACE. MOUNT TOP AND SIDE FAIRINGS IN PLACE ON REMOVABLE COWLING AT LOCATION SHOWN ON SIDE VIEW AND DETAIL NOTE. FUSELAGE IS NOTCHED OUT SO THAT FEMALE SNAP FASTENERS ARE FLUSH, CEMENT SECURELY BEING CAREFUL TO KEEP CEMENT OUT OF HOLE. MALE PORTIONS ARE MOUNTED IN COWL IN SAME MANNER SO THAT PROTRUDING PORTIONS ONLY ARE ABOVE SURFACE OF COWLING. IT IS IMPERATIVE THAT MALE AND FEMALE SNAP FASTENERS ARE MOUNTED DIRECTLY IN LINE WITH EACH OTHER, OTHERWISE, COWL WILL NOT SNAP EASILY IN PLACE. ALLOW SNAP FASTENERS TO DRY THOROUGHLY THEN CHECK SAME BY SNAPPING COWL ON FUSELAGE. SIDE OF COWL THAT FACES ENGINE EXHAUST SHOULD BE BEVELED FOR ESCAPING EXHAUST GASES. MOUNT METAL COWLING ON NOSE OF AIRPLANE. IT MAY BE NECESSARY TO CUT OUT SMALL PORTION AT TOP FOR ENGINE CLEARANCE. COWL SHOULD THEN SEAT AGAINST FRONT OF SKIN COVERING AT NOSE. LOCATE AND DRILL HOLES FOR WOOD SCREWS THROUGH COWLING AT CENTER OF MOUNTING BLOCKS AS DESCRIBED IN FUSELAGE STEP #5. DRILL UNDER-SIZE HOLE FOR WOODSCREW IN BLOCKS TO PREVENT SCREWS FROM SPLITTING BLOCKS. NEEDLE VALVE MUST BE EITHER OF THE EXTENSION TYPE OR MUSIC WIRE EXTENSION SOLDERED TO SAME SO THAT IT EXTENDS PAST COWLING AS SHOWN ABOVE. LOCATE AND DRILL HOLE FOR SAME IN COWLING.

TAIL STOCK ASSEMBLY

INSTALL STABILIZER AS SHOWN IN SIDE VIEW DRAWING. CUT SLOT IN TOP OF FUSELAGE AT REAR AND INSTALL FIN AS SHOWN. CEMENT IN PLACE AND BRACE WITH TRIANGULAR PIECES OF SCRAP BALSA. COVER TAIL SURFACES WITH SILKSPAN AND DOPE AS DESCRIBED FOR WING. HINGE RUDDER AND ELEVATOR AS SHOWN IN DETAIL. CUT SLOTS IN TRAILING EDGE OF STABILIZER AND FIN AND INSERT HINGES. CEMENT IN PLACE. HINGE RUDDER AND ELEVATOR TO STABILIZER AND FIN. CEMENT HINGES IN PLACE. CUT SLOTS IN TRAILING EDGE OF RUDDER AND ELEVATOR AND INSERT OTHER HALF OF HINGES. CEMENT IN PLACE. CUT CONTROL HORN FROM SCRAP BALSA AS SHOWN IN DETAIL. SAND SMOOTH AND CEMENT IN PLACE ON BOTTOM OF RUDDER. CUT SLOT IN TOP OF FUSELAGE AT REAR AND INSERT RUDDER. CEMENT IN PLACE. CUT SLOT IN TOP OF STABILIZER AND INSERT ELEVATOR. CEMENT IN PLACE. CUT SLOT IN FUSELAGE AT REAR AND INSERT CONTROL HORN. CEMENT IN PLACE. CUT SLOT IN BOTTOM OF FUSELAGE AT REAR AND INSERT CONTROL HORN. CEMENT IN PLACE. CUT SLOT IN BOTTOM OF FUSELAGE AT REAR AND INSERT CONTROL HORN. CEMENT IN PLACE.

FINAL ASSEMBLY

CEMENT WING TO FUSELAGE AS SHOWN IN SIDE VIEW DRAWING. CEMENT WING STRUTS IN PLACE AS SHOWN IN SIDE VIEW DRAWING. CEMENT LANDING GEAR IN PLACE AS SHOWN IN SIDE VIEW DRAWING. CEMENT LANDING GEAR FAIRING IN PLACE AS SHOWN IN SIDE VIEW DRAWING. CEMENT WING FAIRING IN PLACE AS SHOWN IN SIDE VIEW DRAWING. CEMENT WING TIP FAIRING IN PLACE AS SHOWN IN SIDE VIEW DRAWING. CEMENT WING TIP FAIRING IN PLACE AS SHOWN IN SIDE VIEW DRAWING. CEMENT WING TIP FAIRING IN PLACE AS SHOWN IN SIDE VIEW DRAWING.

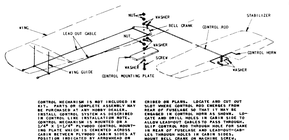
CAUTION:
Do not fly control line models in the vicinity of electric power lines!

CONTROL MECHANISM FOR CONTROL LINE FLYING

INSTALL THE CONTROL MECHANISM AT LOCATION SHOWN BY ARROW ON SIDE VIEW.

MECHANISM IS SECURED ON 1/4" PLYWOOD BASE WHICH IS CEMENTED ACROSS CABIN BETWEEN PLYWOOD CABIN SIDES. APPLY 3 HEAVY COATS OF CEMENT TO INSURE THAT CONTROL PLATFORM IS PERMANENTLY INSTALLED AND WILL NOT TEAR LOOSE UNDER STRESS OF FLYING. ELEVATORS SHOULD HAVE BEEN PREPARED AS DESCRIBED IN STABILIZER CONSTRUCTION NOTE FOR CONTROL LINE FLYING. MAKE ELEVATOR HORN SO THAT HOLE FOR CONTROL ROD IS 1/2" BELOW LEVEL OF ELEVATOR. SECURE PERMANENTLY IN PLACE TO FRONT OF ELEVATOR AS CLOSE TO FUSELAGE AS POSSIBLE AS SHOWN ON FULL SIZE STABILIZER DRAWING. IT IS IMPERATIVE THAT MODEL BALANCES NO FURTHER BACK THAN 2" BEHIND THE LEADING EDGE OF THE WING WHEN MODEL IS COMPLETELY ASSEMBLED AND READY FOR FLIGHT. IT IS ALSO SATISFACTORY IF MODEL BALANCES ON FRONT OF LEADING EDGE. IT MAY BE NECESSARY TO ADD WEIGHTS IN NOSE OF MODEL AS FAR FORWARD AS POSSIBLE TO ACHIEVE THIS BALANCE. IN THIS EVENT, BE CERTAIN TO ADD THE NECESSARY WEIGHT. LEAD FISHING SINKERS MAY BE USED FOR WEIGHT. BE CERTAIN THEY ARE SECURED IN NOSE SO THAT THEY WILL NOT TEAR LOOSE IN ROUGH LANDINGS. GOOD LUCK!!

CONTROL LINE INSTALLATION DETAIL



FREE FLIGHT AND RADIO CONTROL FLYING

BASIC ADJUSTMENTS ARE THE SAME IN TEST FLYING YOUR PIPER TRI-PACER FOR BOTH FREE FLIGHT AND RADIO CONTROLLED FLIGHT. MODEL SHOULD BALANCE APPROXIMATELY 1/3RD BACK OF LEADING EDGE OF WING. IF NECESSARY WEIGHT SHOULD BE ADDED TO ENTIRE NOSE OR TAIL TO ACHIEVE THIS BALANCE. CHECK ALIGNMENT OF WING AND TAIL IN RELATION TO EACH OTHER AND FUSELAGE, AS SHOWN ON FRONT VIEW. BE CERTAIN THERE ARE NO WARPS IN EITHER THE WING OR TAIL SURFACES. MODEL SHOULD BE TEST GLIDED, IN HIGH GRASS, ON A CALM DAY. IF MODELFR IS INEXPERIENCED IN FREE FLIGHT, AN ATTEMPT SHOULD BE MADE TO SECURE AN EXPERIENCED FLIER FOR TEST GLIDING. IF RADIO IS USED BE CERTAIN RUDDER IS IN NEUTRAL POSITION. AIM NOSE OF MODEL AT A POINT ON GROUND ABOUT 50' AWAY (NOSE SLIGHTLY DOWN) THEN HOLDING MODEL IN THIS POSITION RUN TO ACHIEVE FLYING SPEED OF MODEL AND LAUNCH AT POINT BEING CERTAIN TO KEEP NOSE DOWN. MODEL SHOULD EXECUTE S SMOOTH STRAIGHT DOWNWARD GLIDE. CORRECT ANY TURNING TENDENCIES BY OFFSETTING RUDDER TRIM TAB (R-4), SLIGHTLY, OPPOSITE TO TURN. IF MODEL DIVES CORRECT SAME BY PLACING 1/16" THICK SHIM UNDER WING ON FRONT R-4. IF MODEL STALLS ADD SHIM TO REAR R-4. MODEL IS NOW READY FOR ACTUAL POWERED FLIGHT. BE CERTAIN TO PICK A CALM DAY FOR TESTING. WITH RADIO CONTROL, BE ABSOLUTELY CERTAIN THAT SYSTEM IS OPERATING. SET ENGINE FOR 30 TO 40 SECOND RUN AT ABOUT HALF SPEED AND LAUNCH INTO PREVAILING WING (IF ANY) AT ABOUT FLYING SPEED KEEPING NOSE POINTED SLIGHTLY DOWN AS IN GLIDE. MODEL SHOULD EXECUTE A SMOOTH FLIGHT PATH CLIMBING SLIGHTLY AND POSSIBLY EXHIBITING A GENTLE TURN. ANY VIOLENT MANEUVERING SHOULD BE COUNTERACTED AS DESCRIBED IN GLIDING INSTRUCTIONS.

INEXPERIENCED RADIO OPERATORS MAY CAUSE MODEL TO CRASH WITHOUT "SUFFICIENT ALTITUDE. MODEL IS INHERENTLY STABLE, AND WILL RECOVER IF LEFT ALONE. ON FIRST FLIGHT USE CONTROL ONLY TO GIVE MODEL OPPOSITE RUDDER IF MODEL SPINS. FOR RADIO CONTROL TRIM RUDDER TAB (R-4) SO THAT MODEL FLIES IN STRAIGHT LINE. FOR FREE FLIGHT ADJUST MODEL SO THAT IT FLIES IN GENTLE CIRCLES. IN THE EVENT ELEVATOR CONTROL IS DESIRED BY RADIO CONTROL MODELER, USE PORTION OF STABILIZER TRAILING EDGE S-16 AS SHOWN ON FULL SIZE DRAWING. EXPERIENCE IN CONTROLLING YOUR PIPER TRI-PACER WILL ENABLE YOU TO DO MANY MANEUVERS INCLUDING SPOT LANDINGS. IF YOU WILL RITE DIRECTLY TO THE FACTORY WE WILL PROVIDE FREE OF CHARGE DECALS SHOWING THE FREQUENCY BAND ON WHICH YOUR RADIO UNIT OPERATES. GOOD LUCK!