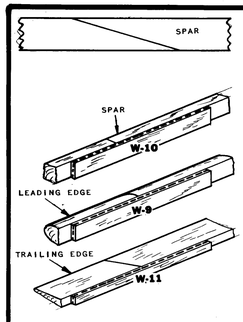
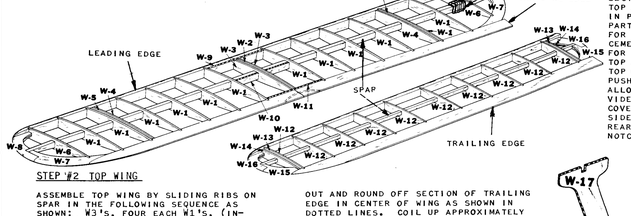



FOR MAXIMUM STRENGTH, ALL JOINTS SHOULD BE PRE-GLUED. PRE-GLUING IS DONE BY APPLYING A COAT OF CEMENT TO THE SURFACES TO BE JOINED. WHEN DRY, A SECOND COAT IS APPLIED AND PARTS ARE JOINED TOGETHER. BE CERTAIN TO CHECK THAT ALL SURFACES ARE FREE FROM WARPS WHEN ALLOWING STRUCTURE TO DRY.

WING CONSTRUCTION STEP #1

PRE-GLUE AND BUTT JOINT BOTH HALVES OF UPPER WING LEADING EDGE AS SHOWN. CEMENT PLYWOOD GUSSETT W9 TO REAR OF SAME. REPEAT PROCEDURE ON UPPER WING TRAILING EDGES AND PLYWOOD GUSSETT W11. USING PATTERN PROVIDED CUT ANGLE ON END OF 1/4 x 7/16 MAIN SPAR TO FORM SPLICE AND CEMENT SECURELY TO EACH OTHER. CEMENT W10 TO REAR. (CHECK FOR STRAIGHTNESS AND ALLOW TO DRY THOROUGHLY ON FLAT SURFACE) WHEN DRY, CUT SO THAT EACH HALF IS 14-5/8" FROM THE OUTER EDGE OF PLYWOOD GUSSETT, FOR A TOTAL LENGTH OF 33-1/4". CEMENT TWO EACH W8'S AND W7'S TOGETHER TO FORM WING TIPS AS SHOWN ON SKETCH. DO LIKEWISE WITH W16'S AND W15'S. PARTS MAY BE HELD TOGETHER WITH PINS UNTIL DRY.

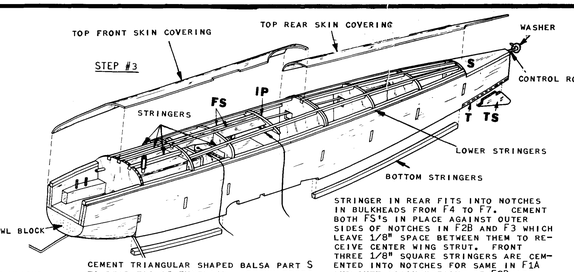



STEP #2 TOP WING

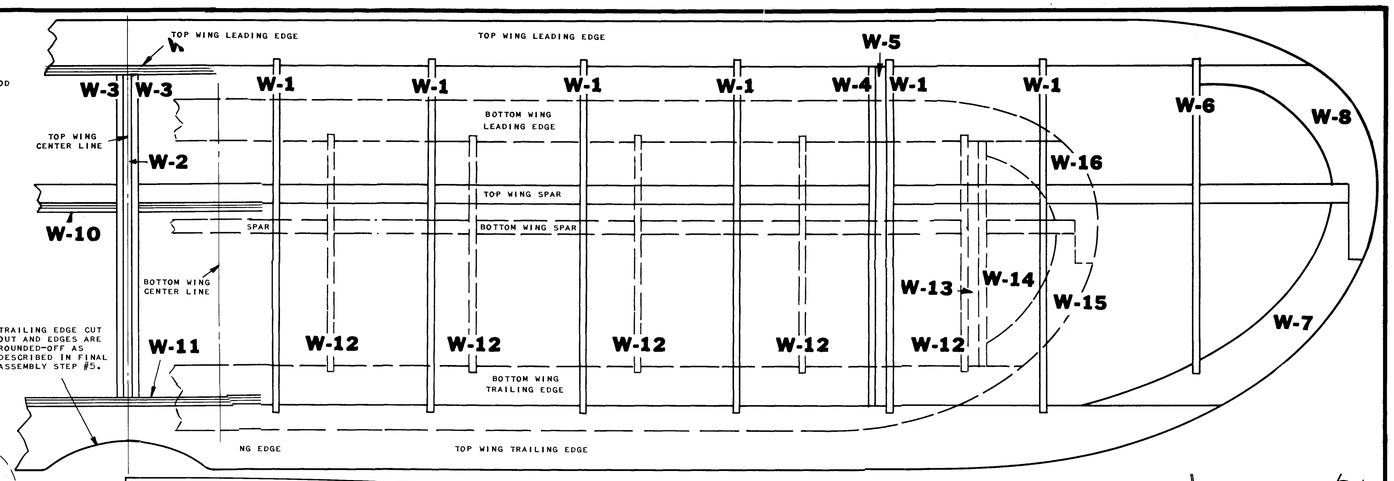
ASSEMBLE TOP WING BY SLIDING RIBS ON SPAR IN THE FOLLOWING SEQUENCE AS SHOWN: W3'S, FOUR EACH W1'S, (INBOARD W1'S ARE CEMENTED AGAINST OUTER EDGES OF PLYWOOD GUSSETTS W9, W10, AND W11) W4'S, TWO EACH W1, W6. DO NOT CEMENT RIBS TO SPAR UNTIL RIBS ARE INSERTED INTO NOTCHES FOR SAME IN ASSEMBLED LEADING AND TRAILING EDGES AS SHOWN. RIB W2 IS CEMENTED BETWEEN W3'S IN CENTER OF WING. POCKET FORMED WILL RECEIVE PLYWOOD WING STRUT IN LATER ASSEMBLY. BE CERTAIN OUTER EDGES OF RIBS ARE FLUSH WITH EACH OTHER. ADD W5'S BETWEEN W4 AND W1 ON EITHER SIDE OF WING IN SAME MANNER. CEMENT ASSEMBLED W8'S AND W7'S TO EACH OTHER, LEADING EDGE, TRAILING EDGE, (SPAR INTO NOTCH) AS SHOWN. TIP SHOULD BE IN CENTER OF LEADING EDGE AND FLUSH WITH TRAILING EDGE AS SHOWN. REAR OF W6'S ARE NOW SECURELY CEMENTED IN PLACE. CHECK WING FOR SQUARENESS AND FRECENESS FROM WARPS AND SET ASIDE TO DRY THOROUGHLY. WHEN DRY, SPARS ARE TRIMMED FROM RIB W6 FLUSH TO TOP AND BOTTOM OF WING TIP AS SHOWN. TRIM LEADING AND TRAILING EDGES TO OUTLINE SHAPE AS SHOWN ON DRAWINGS. TAPER LEADING EDGE AND ROUND OFF WING TIP TO FLOW SMOOTHLY INTO LEADING AND TRAILING EDGES AS SHOWN. USING PATTERN PROVIDED, CUT OUT AND ROUND OFF SECTION OF TRAILING EDGE IN CENTER OF WING AS SHOWN IN DOTTED LINES. COIL UP APPROXIMATELY ONE OUNCE OF SOLDER (OR LARGE EMPTY TUBE FROM CEMENT) AND CEMENT TO OUTER SPAR AND RIB AS SHOWN, TO COUNTERBALANCE WEIGHT OF LINES. USE THREE COATS OF CEMENT TO PREVENT FROM BREAKING LOOSE. CHECK AND SAND ENTIRE WING FOR SMOOTHNESS, THEN COVER WITH GAS MODEL SILKSPAN PROVIDED IN KIT, GRAIN RUNNING SPANWISE. SPRAY WITH WATER TO SHRINK TISSUE, AND APPLY TWO COATS OF CLEAR DOPE.

STEP #3 BOTTOM WING

CONSTRUCT BOTTOM WING IN SAME MANNER AS TOP WING. CUT 3/16" x 1/4" BOTTOM WING SPAR TO 23-3/8" LONG. SLIP ALL W12 RIBS IN PLACE ON SPAR, FOLLOWED BY W13'S AND W14'S. SLIP RIBS INTO NOTCHES FOR SAME IN LEADING AND TRAILING EDGES AND CEMENT ALL JOINTS LIBERALLY. ADD W13'S BETWEEN W12'S AND W14'S. CEMENT W15 AND W16 WING TIPS IN PLACE AS SHOWN. CHECK FOR SQUARENESS AND WARPS, AND SET ASIDE TO DRY THOROUGHLY. TRIM AND SAND TIPS, ENTIRE WING STRUCTURE, THEN APPLY SILKSPAN AND DOPE AS DESCRIBED IN TOP WING ASSEMBLY.




CEMENT TRIANGULAR SHAPED BALSA PART S TO REAR TOP OF FUSELAGE. OUTER EDGES OF S ARE FLUSH WITH SIDES OF FUSELAGE. INSERT PLYWOOD TS (TAIL SKID) INTO NOTCH FOR SAME IN TRIANGULAR PLYWOOD SECTION T. CEMENT SECURELY BOTH ON TOP AND BOTTOM. UNIT IS THEN CEMENTED IN PLACE ON BOTTOM REAR OF FUSELAGE. PARTS ARE SHOWN SEPARATED ON DRAWING FOR CLARITY. USING 1/8" SQUARE STRIPS, CEMENT STRINGERS IN PLACE INTO NOTCHES FOR SAME IN BULKHEADS ALONG FUSELAGE TOP AS SHOWN. LOWER STRINGERS ARE ON TOP OF FUSELAGE SIDES. BE CERTAIN TO PUSH TIGHTLY INTO NOTCHES SO AS TO ALLOW SIDES S2 TO EXTEND OUT TO PROVIDE SHOULDER FOR TOP SHEET BALSA COVERING AS SHOWN. NOTE THAT OTHER SIDE STRINGERS ARE BUTTED AGAINST REAR OF F2B AND INSIDE OF F7 AND INTO NOTCHES IN OTHER BULKHEADS. CENTER STRINGER IN REAR FITS INTO NOTCHES IN BULKHEADS FROM F4 TO F7. CEMENT BOTH FS'S IN PLACE AGAINST OUTER SIDES OF NOTCHES IN F2B AND F3 WHICH LEAVE 1/8" SPACE BETWEEN THEM TO RECEIVE CENTER WING STRUT. FRONT THREE 1/8" SQUARE STRINGERS ARE CEMENTED INTO NOTCHES FOR SAME IN F1A AND BUTT AGAINST FRONT OF F2B AS SHOWN. PREPARE CARVED LOWER COWL BLOCK BY NOTCHING REAR OF BLOCK AROUND LANDING GEAR AND LUGS SO THAT IT MAY BE SECURELY CEMENTED FLUSH AGAINST F1 AND TO BOTTOM OF F AS SHOWN. USE CEMENT LIBERALLY ON THIS INSTALLATION AND HOLD IN PLACE WITH PINS OR RUBBER BANDS UNTIL THOROUGHLY DRY. CEMENT 3/16" SQUARE STRIP STRINGERS INTO NOTCHES FOR SAME ON EITHER SIDE OF FUSELAGE ON BOTTOM BETWEEN F1 AND F3; AND ALSO BETWEEN F4 AND F7. SLIP BULKHEAD IP BETWEEN STRINGERS AND CEMENT IN PLACE IN ANGLED POSITION AS SHOWN AGAINST END OF FS AND TO STRINGERS. TOP SKIN COVERING IS SHOWN IN POSITION IN THIS SKETCH FOR CLARITY. THEY ARE INSTALLED IN STEP #4.

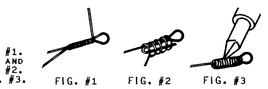



(FULL SIZE) TOP-REAR SKIN COVERING PATTERN

MAKE TWO. USE ONE SHEET OF 1/16" x 2" x 11-7/8" BALSA TO MAKE BOTH PIECES. TRANSFER PATTERN USING CARBON PAPER. CHAMFER ALL EDGES SLIGHTLY SO THAT SEAMS FIT TIGHTLY AGAINST EACH OTHER. WET OUTSIDE OF SKIN, THEN CEMENT IN PLACE ON TOP-REAR OF FUSELAGE AS DESCRIBED IN STEP #4.

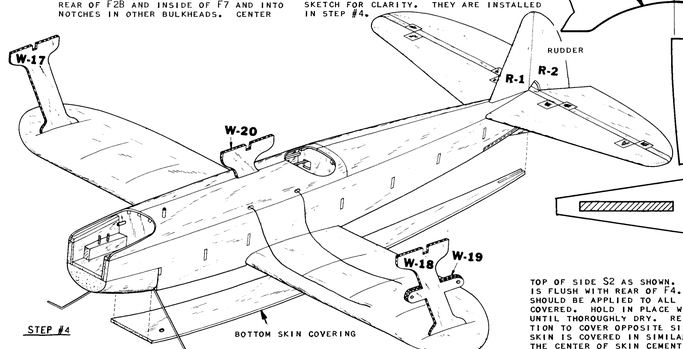
LEAD-OUT CABLE LOOP DETAIL

FORM LOOP IN END OF CABLE. WRAP WITH SOFT WIRE AS SHOWN IN FIG. #1. ALLOW ENOUGH CABLE TO FOLD BACK AND WRAP WITH WIRE AS SHOWN IN FIG. #2. SOLDER SECURELY AS SHOWN IN FIG. #3.




(FULL SIZE) TOP-FRONT SKIN COVERING PATTERN

MAKE TWO. USE TWO SHEETS 1/16" x 2" x 11-7/8" BALSA. TRANSFER PATTERN USING CARBON PAPER. MAKE ONE WITH SHADED AREAS CUT OUT FOR LEFT SIDE, OMIT SHADED CUT-OUTS FOR OTHER SKIN. CHAMFER ALL EDGES SLIGHTLY SO THAT SEAMS FIT TIGHTLY AGAINST EACH OTHER. WET OUTSIDE OF SKIN, THEN CEMENT IN PLACE ON TOP-FRONT OF FUSELAGE AS DESCRIBED IN STEP #4.

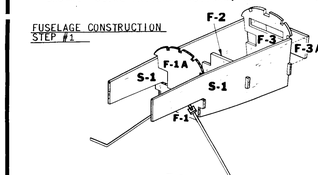



CUT OUT TISSUE FROM BETWEEN THE CENTER RIBS OF THE BOTTOM WING. CEMENT BOTTOM WING IN PLACE MAKING SURE THAT LEADING EDGE, SPAR AND TRAILING EDGE REST FIRMLY UP AGAINST THEIR RESPECTIVE NOTCHES IN FUSELAGE SIDES (SEEN IN STEP #3 DWG.) HOLD IN PLACE WITH PINS UNTIL SECOND HEAVY COAT OF CEMENT IS DRY. CEMENT PLYWOOD WING GUIDE W19 TO WING OUTSIDE SECTION IN W18 AS SHOWN AND ALLOW TO DRY THOROUGHLY. WHEN DRY ROUND OFF ALL EDGES EXCEPT TOP AND BOTTOM OF STRUTS WHERE THEY FIT INTO WING. W17 AND W20 SHOULD BE ROUNDED OFF AND SANDED SMOOTH IN A LIKE MANNER. CEMENT CENTER PLYWOOD WING STRUT W20 IN PLACE BETWEEN FS'S SO THAT CUT OUT IN BOTTOM-FRONT OF W20 FITS AGAINST F3. APPLY SECOND COAT OF CEMENT. FILL IN SPACE BETWEEN FS'S WITH 1/8" SQUARE FROM REAR OF W20 TO IP AND IN FRONT OF F2B. ASSEMBLE STABILIZER AND RUDDER AS DESCRIBED IN DETAIL NOTE, THEN CEMENT STABILIZER IN PLACE ON TOP OF S AND AGAINST REAR OF F7. CHECK THAT ELEVATOR IS HORIZONTAL AND IN LINE WITH BOTTOM WING WHEN VIEWED FROM FRONT. AT THE TIME OF INSTALLATION ENGAGE CONTROL ROD SPUR INTO HORN. HOLD IN PLACE WITH PINS UNTIL TWO HEAVY COATS OF CEMENT ARE THOROUGHLY DRY. CEMENT ASSEMBLED RUDDER BY INSERTING PROTRUSION IN R1 INTO NOTCH FOR SAME IN E1 OF ELEVATOR. CHECK THAT RUDDER IS VERTICAL TO STABILIZER AND ALLOW TO DRY THOROUGHLY. AFTER ELEVATOR IS THOROUGHLY DRY, CHECK CONTROLS AGAIN FOR FREENESS OF OPERATION. USING FULL SIZE PATTERNS PROVIDED, CUT TWO EACH TOP-FRONT AND TOP-REAR SKINS. ALL EDGES OF SKINS CAN BE CHAMFERED SLIGHTLY SO THAT THE SEAMS WILL FIT TIGHTLY AGAINST EACH OTHER. WET THE OUTSIDE OF THE SKIN TO ALLOW THE BALSA SHEET TO BEND EASILY. CEMENT IN PLACE ALONG CENTER STRINGER (HALF THE WIDTH ONLY, SO AS TO PROVIDE CEMENTING SURFACE FOR OPPOSITE SKIN) AND DOWN TO TOP OF SIDE S2 AS SHOWN. REAR OF SKIN IS FLUSH WITH REAR OF F4. CEMENT SHOULD BE APPLIED TO ALL SURFACES COVERED. HOLD IN PLACE WITH PINS UNTIL THOROUGHLY DRY. REPEAT OPERATION TO COVER OPPOSITE SIDE. REAR SKIN IS COVERED IN SIMILAR MANNER WITH THE CENTER OF SKIN CEMENTED TO CENTER STRINGER AND EXTENDING DOWN TO SIDE SKIN. FRONT BUTTS AGAINST REAR OF FRONT-SKIN AND RESTS ON F4A. REAR FITS ALONG SIDE OF R1 AND TOP OF E1 AS SHOWN. HOLD IN PLACE WITH PINS AND ALLOW TO DRY. OPPOSITE SIDE IS COVERED IN SAME MANNER. USING FULL SIZE PATTERN PROVIDED CUT BOTTOM SKIN FROM 1/8" SHEET BALSA. MOISTEN OUTSIDE IN SAME MANNER AS TOP SKINS CEMENT TO BOTTOM OF FUSELAGE. SIDES ARE FLUSH WITH OUTSIDE OF S2'S. FRONT BUTTS AGAINST LOWER COWL BLOCK. SKIN FITS IN BETWEEN THE TWO CENTER WING RIBS AND SLOT IN REAR ALLOWS CLEARANCE AROUND TAIL SKID. HOLD IN PLACE WITH PINS UNTIL THOROUGHLY DRY. WHEN ALL SKIN COVERING IS DRY REMOVE PINS AND SAND FUSELAGE TO SMOOTH FINISH WITH FINE SANDPAPER. CUT OUT TISSUE OVER POCKET FORMED BY W13'S AND CEMENT PLYWOOD STRUTS W17 AND W18 IN PLACE AS SHOWN.

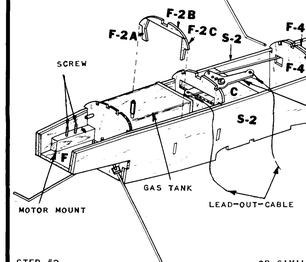
(FULL SIZE) BOTTOM SKIN COVERING PATTERN

MAKE ONE USING 1/8" x 3" x 19-7/8" SHEET BALSA. TRANSFER PATTERN USING CARBON PAPER. CUT OUT SHADED AREAS. WET OUTSIDE OF SKIN AND CEMENT IN PLACE ON BOTTOM OF FUSELAGE AS DESCRIBED IN STEP 4.

FUSELAGE CONSTRUCTION STEP #1




MOUNT LANDING GEAR ON PLYWOOD BULKHEAD F1 AS SHOWN IN DETAILED SKETCH. CEMENT F1A TO FRONT OF F1 SO THAT CUTOUTS ARE FLUSH, AND TOP OF F1 IS LEVEL WITH TOP OF CUT OUTS IN F1A AS SHOWN. ASSEMBLE FRONT FUSELAGE SECTION BY CEMENTING ASSEMBLED LANDING GEAR BULKHEAD F1A AND F1, F2 AND F3 INTO NOTCHES FOR SAME IN SIDES S1 AS SHOWN. HOLD IN PLACE WITH PINS OR RUBBER BANDS UNTIL CEMENT IS DRY. CEMENT F3A TO REAR OF F3 FLUSH WITH BOTTOM OF WIDE HORIZONTAL CUT OUT AS SHOWN.

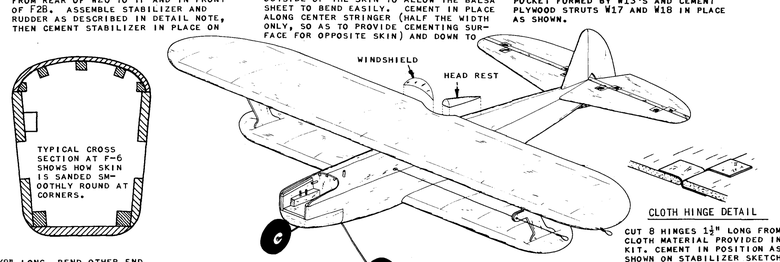



LANDING GEAR INSTALLATION DETAIL

DRILL 1/8" DIA. HOLES AT PUNCH MARKS ON F1. SLIP LANDING GEAR LUGS OVER LANDING GEAR AND INSERT LUGS INTO HOLES THROUGH F1. ADD LOCKWASHERS AND TIGHTEN SECURELY WITH NUTS PROVIDED. BE CERTAIN THAT APEX (POINT) OF LANDING GEAR IS UNDER TOP LUG SO THAT MODEL WILL REST HORIZONTALLY ON GROUND. INSTALL AS DESCRIBED IN FUSELAGE STEP #1.

STEP #2

CEMENT F4A TO REAR AND FLUSH WITH TOP OF F4. SECURELY CEMENT OUTER FULL LENGTH FUSELAGE SIDES S2 FLUSH WITH TOP AND FRONT OF INNER SIDES S1. NOTE PROTRUSIONS ON SIDE OF F1, F2 AND F3 FIT INTO NOTCHES FOR SAME TO ALIGN ASSEMBLY. CEMENT BULKHEADS F4 (WITH F4A), F5, F6 AND F7 INTO THEIR RESPECTIVE NOTCHES. REAR ENDS OF SPACES S2 ARE CEMENTED TOGETHER AS SHOWN. SECURELY CEMENT PLYWOOD CONTROL PLATE C ACROSS FUSELAGE. PROTRUSION IN C IS INSERTED AND RESTS ON BOTTOM OF HORIZONTAL CUT-OUT OF F3 AS SHOWN, AND IS FLUSH WITH TOP OF FUSELAGE SIDES. USE THREE COATS OF CEMENT ON THIS INSTALLATION TO ACHIEVE MAXIMUM STRENGTH. INSTALL BOLTS IN MOTOR MOUNTS AS DESCRIBED IN DETAIL. CEMENT HARDWOOD MOTOR MOUNTS SECURELY IN PLACE BY INSERTING THEM THROUGH NOTCHES IN BULKHEADS, UNTIL THEY ARE FIRMLY SEATED AGAINST BACK-UP BULKHEAD F3A. BE CERTAIN MOTOR MOUNTS REST AGAINST INSIDE OF NOTCH FOR SAME (TOWARDS EACH OTHER) THEN APPLY THREE HEAVY COATS OF CEMENT AROUND ALL JOINTS. CEMENT F BETWEEN, AND FLUSH WITH BOTTOM OF SIDES AS SHOWN. IT MAY BE NECESSARY TO NOTCH OUT CLEARANCE FOR HEADS OF MOTOR BOLTS SO THAT IT CAN BE CEMENTED AGAINST BOTTOM OF MOTOR MOUNTS. HOLD SIDES IN PLACE WITH PINS OR RUBBER BANDS UNTIL DRY. INSTALL A FROOM 21C OR SIMILAR GAS TANK (FEED LINE OF TANK MUST BE ON SAME LEVEL AS ENGINE NEEDLE VALVE WHEN VIEWED FROM SIDE) DIRECTLY BEHIND F1A RESTING ON MOTOR MOUNTS. DRILL 1/8" HOLE THROUGH F1A TO ALLOW FEED TUBE IN FRONT OF GAS TANK TO PROTRUDE THROUGH BULKHEAD AS SHOWN. BULKHEAD SECTIONS F2A, F2B AND F2C ARE NOW CEMENTED IN PLACE AROUND SIDES AND TOP OF TANK AS SHOWN, IN LINE WITH BULKHEAD F2. IN THE EVENT DIFFERENT TANK IS USED, ANY GAPS BETWEEN BULKHEAD SECTIONS AND GAS TANK MAY BE FILLED WITH SCRAP. APPLY HEAVY COAT OF FUEL PROOF CEMENT ALONG BULKHEAD ASSEMBLY AND AT ALL POINTS WHERE TANK CONTACTS WOOD FRAMEWORK. CUT A 3/4" LENGTH OF REGULAR STEEL OR STERL-X FUEL TUBING AND PUSH OVER FILL TUBE (VERTICAL) ON TOP OF TANK. CUT A 2" LENGTH OF TUBING AND PUSH OVER OVERFLOW TUBE ON BOTTOM OF TANK. BOTH SECTIONS OF TUBING PROTRUDE THROUGH SKIN COVERING AS APPLIED IN LATER STEP. EQUIPMENT REQUIRED FOR CONTROL INSTALLATION, WHICH IS NOW INSTALLED IN NOT PROVIDED IN KIT, BUT MUST BE PURCHASED SEPARATELY AT YOUR FAVORITE HOBBY DEALER. PURCHASE EITHER A "PERFECT" OR "VECO" BRAND (OR SIMILAR TYPE) 3" BELL-CRANK, AN 18" LENGTH OF 3/32" DIA. MUSIC WIRE, AND A LEAD-OUT-CABLE. DRILL 1/8" HOLE IN PLYWOOD MOUNT C AT LOCATION INDICATED BY PUNCH MARK TO INSTALL BELL-CRANK MOUNTING BOLT. MAKE A RIGHT-ANGLE (L SHAPE) BEND IN 3/32" DIA. WIRE (VERTICAL) SPUR BEING 3/8" LONG. BEND OTHER END OF WIRE (HORIZONTAL) IN SIMILAR MANNER LEAVING SPUR 1/2" LONG. ADJUST LENGTH OF ROD BETWEEN CENTERS OF SPURS (L SHAPE RIGHT-ANGLE BENDS) MUST BE EXACTLY 13-13/16", AS SHOWN ON TOP VIEW OF FINISHED MODEL. CUT TWO 18" LENGTHS OF LEAD-OUT-CABLE. IF LEAD-OUT-CABLE IS USED WITH PRE-FORMED ENDS, IT WILL BE NECESSARY TO ASSEMBLE LEFT PLYWOOD WING STRUT AS DESCRIBED IN STEP 4, AND INSERT THROUGH WING SIDE PREFORMED ENDS ARE TOO LARGE TO GO THROUGH HOLES IN WING GUIDE; OTHERWISE LOOPS IN ENDS OF LINES ARE MADE AFTER MODEL HAS BEEN ASSEMBLED AS DESCRIBED IN FINAL ASSEMBLY NOTE. LOOP END OF WIRE THROUGH HOLES FOR SAME ON EITHER SIDE OF BELL-CRANK AS SHOWN. SECURE AS DESCRIBED AND SHOWN IN DETAIL. BE CERTAIN BOTH CABLES ARE EXACTLY THE SAME LENGTH. DRILL OUT HOLE IN BELL-CRANK FURTHEREST AWAY FROM MOUNTING BOLT TO 3/32" DIA. TO RECEIVE CONTROL ROD. SLIP ROD THROUGH BOTTOM OF CONTROL HORN AND MOUNT UNIT ON PLYWOOD MOUNT C ACCORDING TO MANUFACTURERS DIRECTI CONTROL ROD IS SLIPPED THROUGH HOLES IN BULKHEAD AND EMERGES THROUGH SLOT ON RIGHT SIDE OF FUSELAGE BETWEEN BULKHEAD F6 AND F7 AS SHOWN IN FULL SIZE CONTROL ROD SLOT DETAIL. PULL ENDS OF CABLE TO CHECK BELL-CRANK INSTALLATION FOR FREENESS OF OPERATION. SOLDER WASHER ON SPUR AGAINST END OF CONTROL ROD AS SHOWN, FOR BEARING SURFACE.

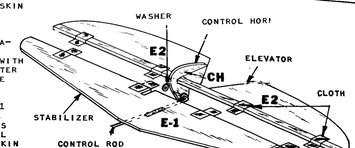



STEP #5 FINAL ASSEMBLY

CUT OUT TISSUE OVER POCKET FORMED BY RECESS IN RIBS W5'S AND W3 ON BOTTOM OF TOP WING. APPLY COAT OF CEMENT INTO RECESS, THEN SLIP WING OVER STRUTS WHICH ARE INSERTED INTO THEIR RESPECTIVE POCKETS. PRESS WING DOWN FIRMLY TO BE SURE IT IS SEATED SQUARELY TO TOP OF STRUTS TO GIVE THE PROPER ALIGNMENT. NOTCHES IN STRUTS FIT AROUND SPARS. CHECK THAT W20 IS VERTICAL AND THAT THE TOP OF W17 AND W18 LEAN SLIGHTLY OUTWARDS. SET ASIDE TO DRY. THEN APPLY A SECOND HEAVY COAT OF CEMENT AROUND TOP AND BOTTOM OF ALL STRUTS AND ALLOW TO DRY THOROUGHLY. CARVE HEAD REST AS SHOWN AND DESCRIBED IN DETAIL. CEMENT IN PLACE ON TOP OF FUSELAGE IMMEDIATELY BEHIND COCKPIT. ALLOW ALL CONSTRUCTION TO DRY THOROUGHLY. CHECK AND INSPECT MODEL TO SEE THAT ALL PARTS ARE SANDED SMOOTH. MODEL IS NOW READY TO BE PAINTED. YOUR "FLYING FOOL" MAY BE PAINTED AS YOU PREFER. ORIGINAL WAS PAINTED WHITE AND ORANGE WITH BLACK TRIM. TRIM IS BLACK SCOTCH TAPE CUT 1/16" WIDE. ALL SURFACES SHOULD BE GIVEN TWO OR THREE COATS OF CLEAR DOPE BEFORE APPLYING COLORS. IT IS ADVISABLE TO USE FUEL PROOF PAINT. IF NOT, BE CERTAIN TO APPLY ONE OR TWO COATS OF CLEAR FUEL PROOFER OVER FINISHED PAINT JOB. BE CERTAIN THAT ENGINE COMPARTMENT HAS AT LEAST THREE COATS OF FUEL PROOF PAINT. DECALS ARE NOW APPLIED IN POSITIONS SHOWN ON PHOTOGRAPH. SOAK DECAL IN WATER UNTIL IT STARTS TO MOVE OFF BACKING. MOISTEN SURFACE WHERE DECAL IS TO BE APPLIED, AND THEN SLIDE DECAL IN PLACE. MOISTURE WILL ALLOW DECAL TO BE MOVED UNTIL IT IS IN THE DESIRED POSITION. CAREFULLY BLOT ALL EXCESS MOISTURE. USING PATTERN PROVIDED CUT OUT WINDSHIELD FROM CELLULOID AND CEMENT IN PLACE TO FRONT OF COCKPIT AS SHOWN ON SIDE VIEW DRAWING. USE FUEL PROOF CEMENT IN THIS INSTALLATION AND HOLD IN PLACE WITH PINS UNTIL DRY. IF LOOPS HAVE NOT BEEN MADE IN THE ENDS OF LEAD-OUT-CABLES, THREAD CABLE THROUGH HOLES IN WING GUIDE. MAKE LOOPS AS DESCRIBED IN DETAIL NOTE. CABLES SHOULD BE SMOOTH. IF DESIRED, BRASS EYELETS MAY BE CEMENTED INTO HOLES IN WING GUIDE TO PROVIDE BEARING SURFACE FOR CABLES. PULL CABLES TO BE CERTAIN THAT CONTROLS OPERATE EASILY AND FREELY. CUT OUT INSTRUMENT PANEL FROM PLANS AND CEMENT TO BULKHEAD IP IN FRONT OF COCKPIT. WHEELS ARE NOT PROVIDED IN KIT. THEY MUST BE PURCHASED SEPARATELY BY THE MODEL BUILDER. PURCHASE A PAIR OF 2" DIA. RUBBER TIRE WHEELS AND MOUNT ON LANDING GEAR AXLES. THESE MAY BE SECURED EITHER WITH WHEEL RETAINERS, OR A WASHER OR SOFT COPPER WIRE MAY BE WRAPPED AROUND AND SOLDERED TO ENDS OF AXLE. AILERON AND FLAP MARKINGS ON WINGS AS WELL AS RUDDER MARKINGS MAY BE SIMULATED WITH INDIA INK OR 1/16" WIDE BLACK SCOTCH TAPE. THESE ADD CONSIDERABLE REALISM TO YOUR "FLYING FOOL". ENGINE AND PROPELLER ARE NOW INSTALLED OVER MOTOR BOLTS AND MOUNTING NUTS SECURELY IN PLACE WITH LOCKWASHERS AND NUTS SUPPLIED IN KIT. IT IS RECOMMENDED THAT A .19 SIZE USE DRY BEARINGS SINCE PERFORMANCE WILL BE ON THE SLOW SIDE. MORE EXPERIENCED MODEL BUILDERS WILL WANT TO USE EITHER A .29 OR .35 ENGINE WHICH WILL POWER YOUR "FLYING FOOL" AT THE CORRECT SPEED FOR MORE ENJOYABLE FLIGHT PLEASURE. USE PROPELLER SIZE RECOMMENDED BY THE ENGINE OR PROPELLER MANUFACTURER. DEPENDING ON ENGINE USED, MODEL MUST BALANCE ON FRONT LEAD-OUT-CABLE. AT BALANCE POINT MODEL SHOULD EITHER BALANCE LEVEL OR MOSE-DOWN. IF MODEL BALANCES TAIL DOWN, WEIGHT MUST BE ADDED TO FRONT OF FUSELAGE TO ACHIEVE PROPER BALANCE. YOUR "FLYING FOOL" IS NOW READY TO TAKE TO THE AIR! WE WISH YOU MANY PLEASANT HOURS OF PURE PLEASURE. GOOD LUCK....GOOD FLYING!!

CLOTH HINGE DETAIL

CUT 8 HINGES 1½" LONG FROM CLOTH MATERIAL PROVIDED IN KIT. CEMENT IN POSITION AS SHOWN ON STABILIZER SKETCH USING METHOD SHOWN ABOVE AND DESCRIBED IN STAB NOTE.




TAIL SURFACES ASSEMBLY NOTE

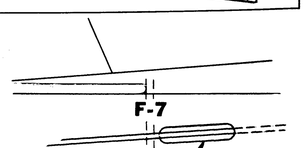
CEMENT ELEVATOR SECTIONS E2'S (ELEVATORS) TO HARDWOOD STRIP SO THAT SHAPE OF TIPS MATCH TIPS OF ELEVATOR E1 (STABILIZER) AS SHOWN. ALLOW TO DRY THOROUGHLY ON FLAT SURFACE. SAND E1 AND ASSEMBLED E2'S TO SMOOTH STREAMLINE SHAPE BY ROUNDING OFF FRONT OF STABILIZER AND LIGHTLY TAPERING ELEVATORS AS SHOWN ON SIDE VIEW. PREPARE CH (CONTROL HORN) BY ROUNDING OFF EDGES WITH SANDPAPER. LAY ELEVATORS ALONG SIDE OF STABILIZER AND MARK OFF POSITION OF SLOT IN E1, ON BOTTOM REAR. CONTROL HORN IS SECURELY CEMENTED IN PLACE ON ELEVATORS AT EXACT LOCATION OF SLOT IN E1 SO THAT IT MAY FREELY PASS THROUGH SLOT. USE TWO HEAVY COATS OF CEMENT ON THIS INSTALLATION. ASSEMBLE STABILIZER AND ELEVATOR WITH CLOTH HINGES USING METHOD SHOWN IN DETAILED SKETCH. NOTE THAT EACH HINGE IS CEMENTED ON ONE SURFACE THEN FOLDS UNDER AND IS CEMENTED TO OPPOSITE SURFACE AS SHOWN. BE CERTAIN CEMENT DOES NOT GET INTO SEAM BETWEEN UNITS. ALLOW TO DRY THOROUGHLY. ASSEMBLY IS NOW READY TO BE INSTALLED AS DESCRIBED IN STEP #4. RUDDER, (WHICH IS SHOWN IN STEP #4) IS SANDED TO STREAMLINE SHAPE IN SAME MANNER. NOTE THAT R2 MUST BE OFFSET 5/8" TOWARDS OUTSIDE OF CIRCLE FLOWN AS SHOWN ON TOP VIEW DRAWING. THIS MAY BE DONE BY BEVELING THE FRONT OF R2. ALLOW TO DRY THOROUGHLY BEFORE INSTALLING AS DESCRIBED IN STEP #4.

(FULL SIZE) WINDSHIELD PATTERN

CUT OUT OF CELLULOID USING PATTERN ABOVE. INSTALL IN FRONT OF COCKPIT AS DESCRIBED IN FUSELAGE STEP 5.

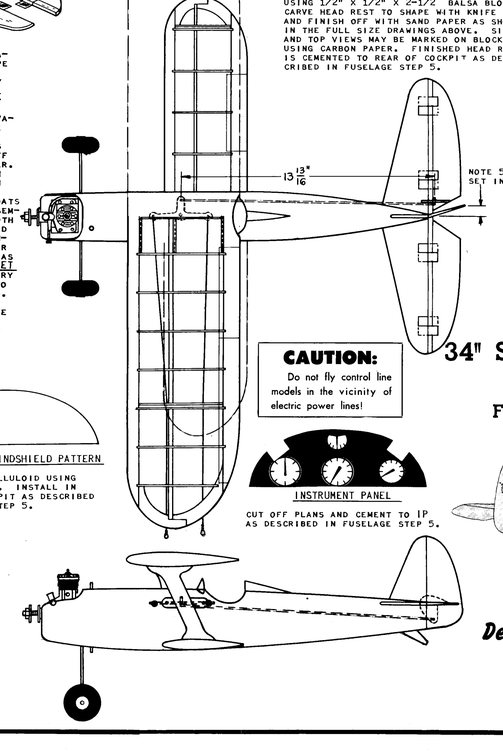
HEAD REST DETAIL

USING 1/2" x 1/2" x 2-1/2 BALSA BLOCK, CARVE HEAD REST TO SHAPE WITH KNIFE AND FINISH OFF WITH SAND PAPER AS SHOWN IN THE FULL SIZE DRAWINGS ABOVE. SIDE AND TOP VIEWS MAY BE MARKED ON BLOCK USING CARBON PAPER. FINISHED HEAD REST IS CEMENTED TO REAR OF COCKPIT AS DESCRIBED IN FUSELAGE STEP 5.




(FULL SIZE) CONTROL ROD SLOT DETAIL

CUT OUT SLOT IN RIGHT SIDE OF FUSELAGE BETWEEN BULKHEADS F6 AND F7 (AS SHOWN ABOVE) WHERE CONTROL ROD COMES THROUGH AS DESCRIBED IN FUSELAGE STEP 5.




# THE FLYING FOOL

## 34" STUNT CONTROL LINE MODEL

WING SPAN 34" KIT S-12

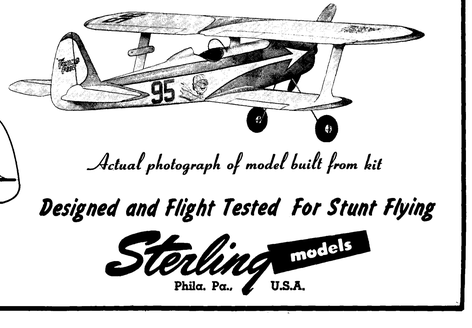
FOR ENGINES .19 TO .35 DISPLACEMENT

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



INSTRUMENT PANEL

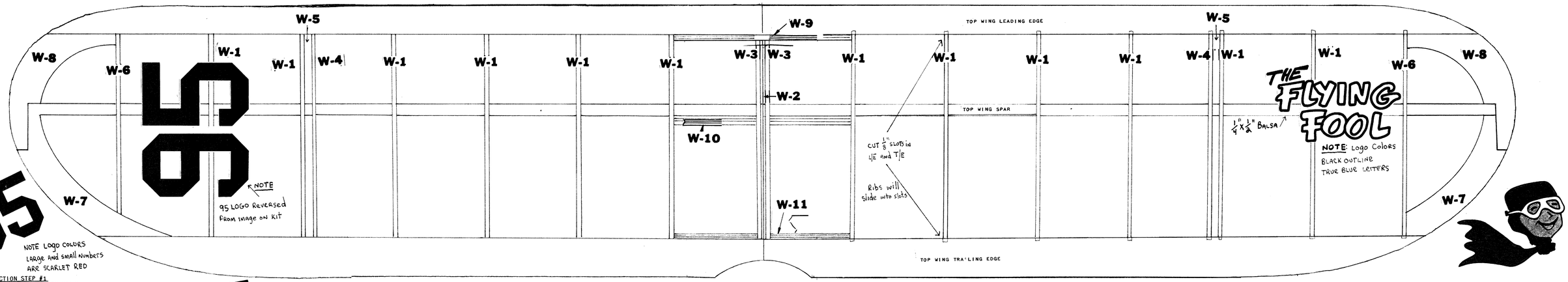
CUT OFF PLANS AND CEMENT TO IP AS DESCRIBED IN FUSELAGE STEP 5.



*Actual photograph of model built from kit*

**Designed and Flight Tested For Stunt Flying**

Sterling models
Phila. Pa., U.S.A.



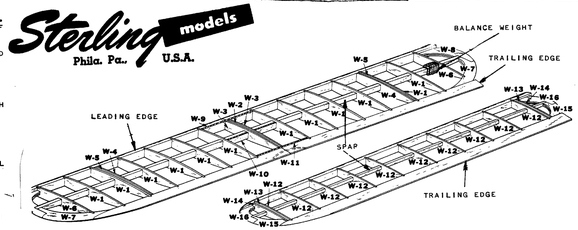

WING CONSTRUCTION STEP #1

PRE-GLUE AND BUTT JOINT BOTH HALVES OF UPPER WING LEADING EDGE AS SHOWN. CEMENT PLYWOOD GUSSETT W9 TO REAR OF SAME. REPEAT PROCEDURE ON UPPER WING TRAILING EDGES AND PLYWOOD GUSSETT W11. USING PATTERN PROVIDED CUT ANGLE ON END OF 1/4 X 7/16 MAIN SPAR TO FORM SPLICE AND CEMENT SECURELY TO EACH OTHER. CEMENT W10 TO REAR. (CHECK FOR STRAIGHTNESS AND ALLOW TO DRY THOROUGHLY ON FLAT SURFACE) WHEN DRY, CUT SO THAT EACH HALF IS 14-5/8" FROM THE OUTER EDGE OF PLYWOOD GUSSETT, FOR A TOTAL LENGTH OF 33-1/4". CEMENT TWO EACH W8'S AND W7'S TOGETHER TO FORM WING TIPS AS SHOWN ON SKETCH. DO LIKEWISE WITH W16'S AND W15'S. PARTS MAY BE HELD TOGETHER WITH PINS UNTIL DRY.

STEP #2 TOP WING

ASSEMBLE TOP WING BY SLIDING RIBS ON SPAR IN THE FOLLOWING SEQUENCE AS SHOWN: W3'S, FOUR EACH W1'S, (INBOARD W1'S ARE CEMENTED AGAINST OUTER EDGES OF PLYWOOD GUSSETTS W9, W10, AND W11) W4'S, TWO EACH W1, W6. DO NOT CEMENT RIBS TO SPAR UNTIL RIBS ARE INSERTED INTO NOTCHES TOP SKIN IN ASSEMBLED LEADING AND TRAILING EDGES AS SHOWN. RIB W2 IS CEMENTED BETWEEN W3'S IN CENTER OF WING. POCKET FORMED WILL RECEIVE PLYWOOD WING STRUT IN LATER ASSEMBLY. BE CERTAIN OUTER EDGES OF RIBS ARE FLUSH WITH EACH OTHER. ADD W5'S BETWEEN W4 AND W1 ON EITHER SIDE OF WING IN SAME MANNER. CEMENT ASSEMBLED W8'S AND W7'S TO EACH OTHER, LEADING EDGE, TRAILING EDGE, (SPAR INTO NOTCH) AS SHOWN. TIP SHOULD BE IN CENTER OF LEADING EDGE AND FLUSH WITH TRAILING EDGE AS SHOWN. REAR OF W6'S ARE NOW SECURELY CEMENTED IN PLACE. CHECK WING FOR SQUARENESS AND FREENESS FROM WARPS AND SET ASIDE TO DRY THOROUGHLY. WHEN DRY, SPARS ARE TRIMMED FROM RIB W6 FLUSH TO TOP AND BOTTOM OF WING TIP AS SHOWN. TRIM LEADING AND TRAILING EDGES TO OUTLINE SHAPE AS SHOWN ON DRAWINGS. TAPER LEADING EDGE AND ROUND OFF WING TIP TO FLOW SMOOTHLY INTO LEADING AND TRAILING EDGES AS SHOWN. USING PATTERN PROVIDED, CUT OUT AND ROUND OFF SECTION OF TRAILING EDGE IN CENTER OF WING AS SHOWN IN DOTTED LINES. COIL UP APPROXIMATELY ONE OUNCE OF SOLDER (OR LARGE EMPTY TUBE FROM CEMENT) AND CEMENT TO OUTER SPAR AND RIB AS SHOWN, TO COUNTER-BALANCE WEIGHT OF LINES. USE THREE COATS OF CEMENT TO PREVENT FROM BREAKING LOOSE. CHECK AND SAND ENTIRE WING FOR SMOOTHNESS, THEN COVER WITH GAS MODEL SILKSPAN PROVIDED IN KIT, GRAIN RUNNING SPANWISE. SPRAY WITH WATER TO SHRINK TISSUE, AND APPLY TWO COATS OF CLEAR DOPE.

Sterling models
Phila. Pa. U.S.A.

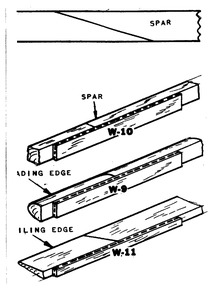



**Designed and Flight Tested For Stunt Flying**

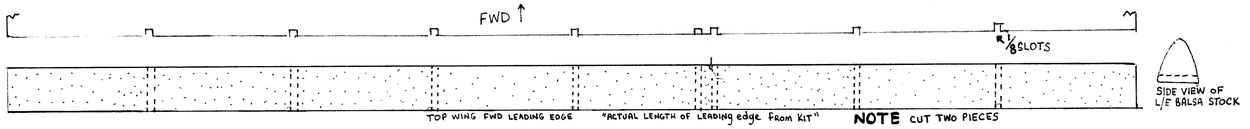
KIT S12 - FLYING FOOL -- WING INSTALLATION MEMO

For maximum strength in wing strut installation it is recommended that top of top wing and bottom of bottom wing be left uncovered until after wings are installed. In step 4, spread cement liberally around bottom of W20 before adding bottom skin covering. Do likewise on bottom of wing struts W17 and W18. When dry, install top wing; liberally spreading cement around top joint of W17, W18 and W20. When dry, apply additional coat of cement which is allowed to dry thoroughly. Top and bottom wing can now be covered and model completed as described on plan.

STERLING MODELS -- Philadelphia, Pennsylvania, 19144 -- U.S.A.



NOTE: LOGO COLORS
Helmet and Scarf TRUE BLUE
Goggles WHITE
Skin Flesh or peach




W-9

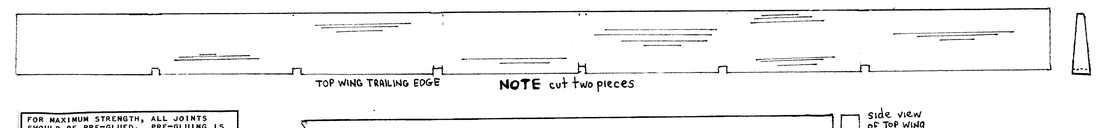
W9,10,11 MAKE FROM 1/8" PLYWOOD

W-10

W-11

W-19

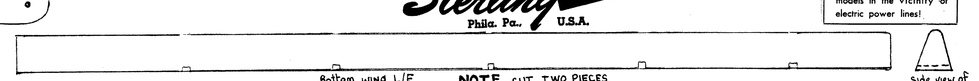
1/8" Plywood




FOR MAXIMUM STRENGTH, ALL JOINTS SHOULD BE PRE-GLUED. PRE-GLUING IS DONE BY APPLYING A COAT OF CEMENT TO THE SURFACES TO BE JOINED. WHEN DRY, A SECOND COAT IS APPLIED AND PARTS ARE JOINED TOGETHER. BE CERTAIN TO CHECK THAT ALL SURFACES ARE FREE FROM WARPS WHEN ALLOWING STRUCTURE TO DRY.

Sterling models
Phila. Pa. U.S.A.

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

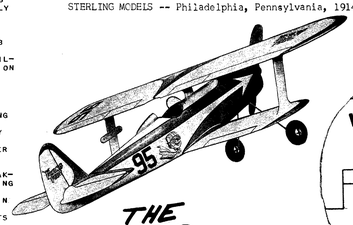



STEP #3 BOTTOM WING

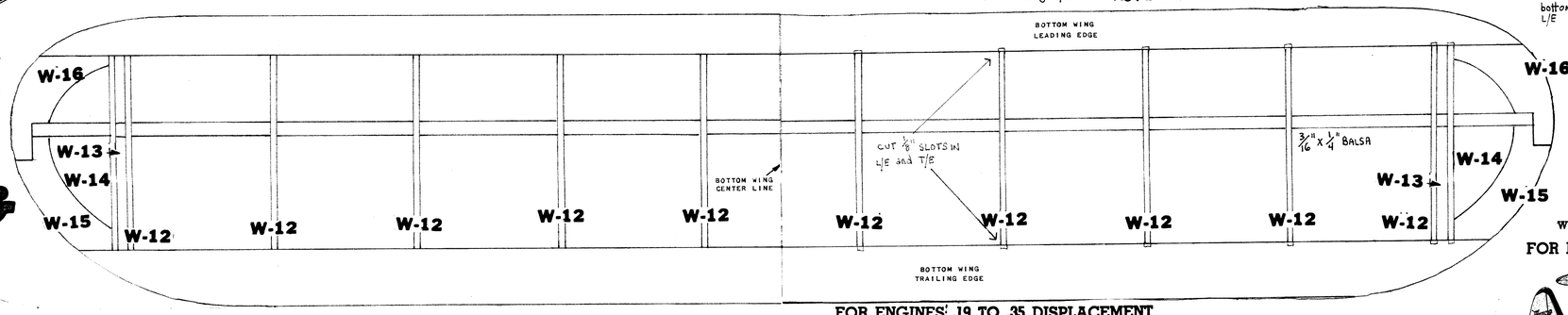
CONSTRUCT BOTTOM WING IN SAME MANNER AS TOP WING. CUT 3/16" X 1/4" BOTTOM WING SPAR TO 23-3/8" LONG. SLIP ALL W12 RIBS IN PLACE ON SPAR, FOLLOWED BY W13'S AND W14'S. SLIP RIBS INTO NOTCHES FOR SAME IN LEADING AND TRAILING EDGES AND CEMENT ALL JOINTS LIBERALLY. ADD W13'S BETWEEN W12'S AND W14'S. CEMENT W15 AND W16 WING TIPS IN PLACE AS SHOWN. CHECK FOR SQUARENESS AND WARPS, AND SET ASIDE TO DRY THOROUGHLY. TRIM AND SAND TIPS, ENTIRE WING STRUCTURE, THEN APPLY SILKSPAN AND DOPE AS DESCRIBED IN TOP WING ASSEMBLY.

MOUNT LANDING GEAR ON PLYWOOD BULKHEAD F1A AS SHOWN IN DETAILED SKETCH. CEMENT F1A TO FRONT OF F1 SO THAT CUT OUTS ARE FLUSH, AND TOP OF F1 IS LEVEL WITH TOP OF CUT OUTS IN F1A AS SHOWN. ASSEMBLE FRONT FUSELAGE SECTION BY CEMENTING ASSEMBLED LANDING GEAR BULKHEAD F1A AND F1, F2 AND F3 INTO NOTCHES FOR SAME IN SIDES S1 AS SHOWN. HOLD IN PLACE WITH PINS OR RUBBER BANDS UNTIL CEMENT IS DRY. CEMENT F3A TO REAR OF F3 FLUSH WITH BOTTOM OF WIDE HORIZONTAL CUT OUT AS SHOWN.

NOTE: AIRPLANE COLORS
FUSELAGE and Vertical Fin True Blue
Wings and STABILIZER Scarlet Red

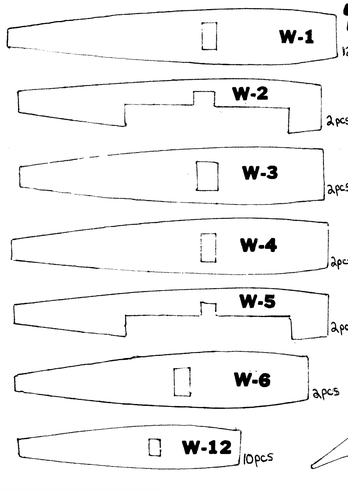


THE FLYING FOOL




WING SPAN 34" KIT S-12

FOR ENGINES .19 TO .35 DISPLACEMENT



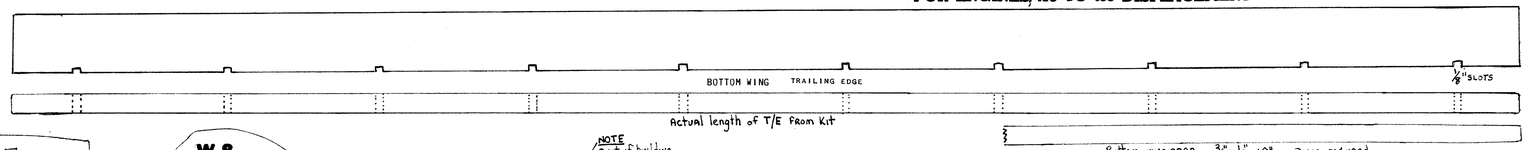

THE FLYING FOOL

W-S

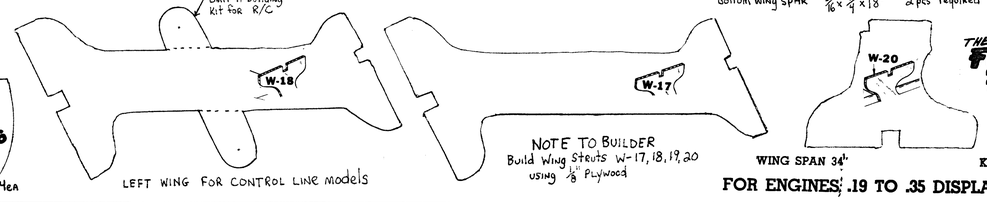
W-13 2pcs

W-14 2pcs

FOR ENGINES .19 TO .35 DISPLACEMENT




Bottom wing SPAR 3/16" x 1/4" x 18" 2 pcs required



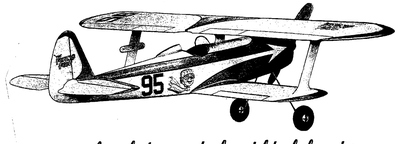

LEFT WING FOR CONTROL LINE models

NOTE TO BUILDER
Build Wing Struts W-17, 18, 19, 20 using 1/8" Plywood

THE FLYING FOOL

WING SPAN 34" KIT S-12

FOR ENGINES .19 TO .35 DISPLACEMENT



*Actual photograph of model built from kit*

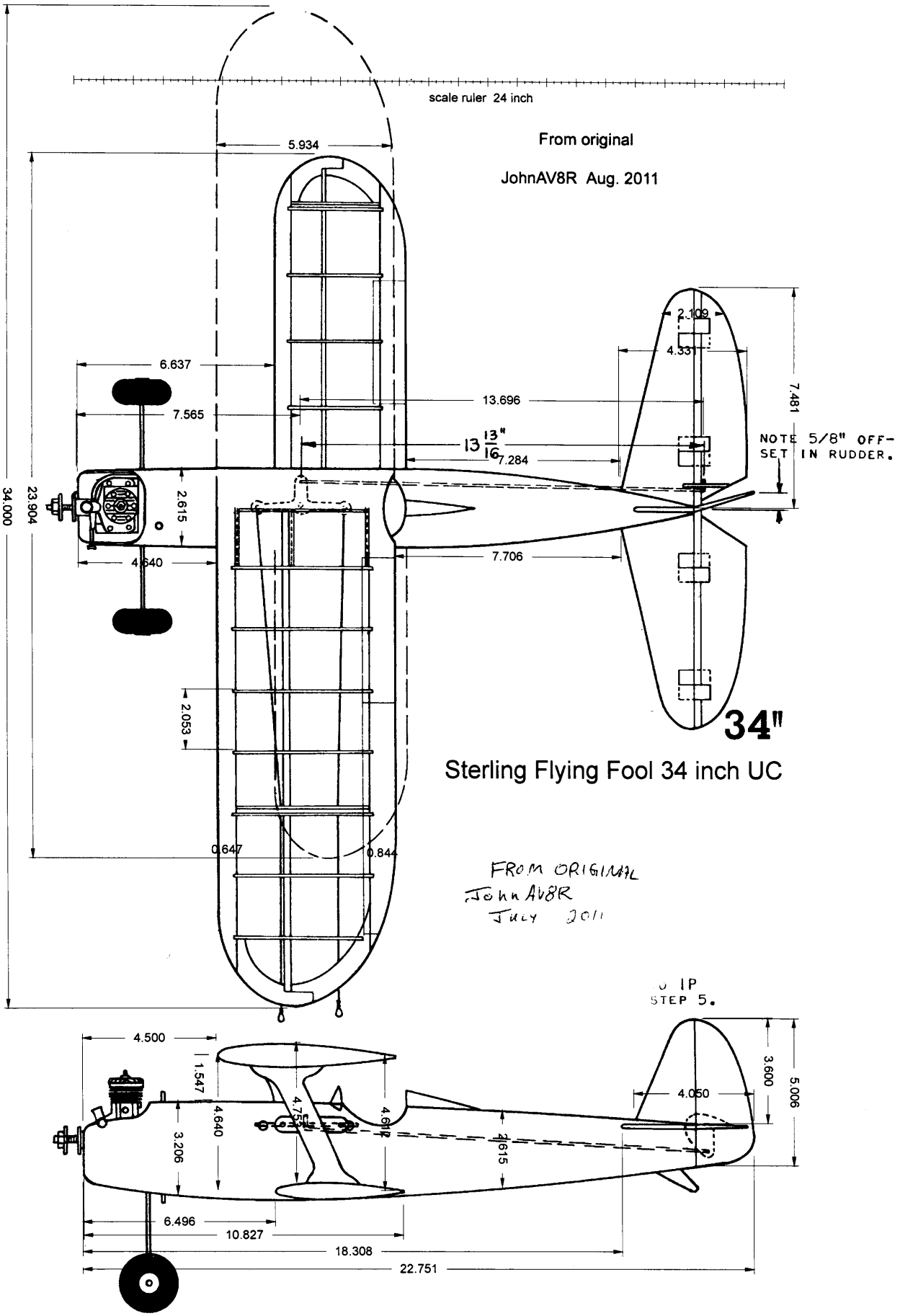
**Designed and Flight Tested For Stunt Flying**

drawn by: FRANK BALKUS | date: JUNE 22, 2010

Plans drawn from ORIGINAL Sterling S-12 kit.

THE FLYING FOOL

Sterling models
Phila. Pa. U.S.A.


scale ruler 24 inch
From original
JohnAV8R Aug. 2011
5.934
6.637
7.565
13.696
13 13/16"
7.284
2.109
4.331
7.481
NOTE 5/8" OFF-SET IN RUDDER.
34.000
23.904
2.615
4.640
7.706
2.053
0.647
0.844
34"
Sterling Flying Fool 34 inch UC
FROM ORIGINAL
JohnAV8R
JULY 2011
STEP 5.
4.500
1.547
4.640
3.206
4.750
4.612
2.615
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3.600
5.006
6.496
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18.308
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