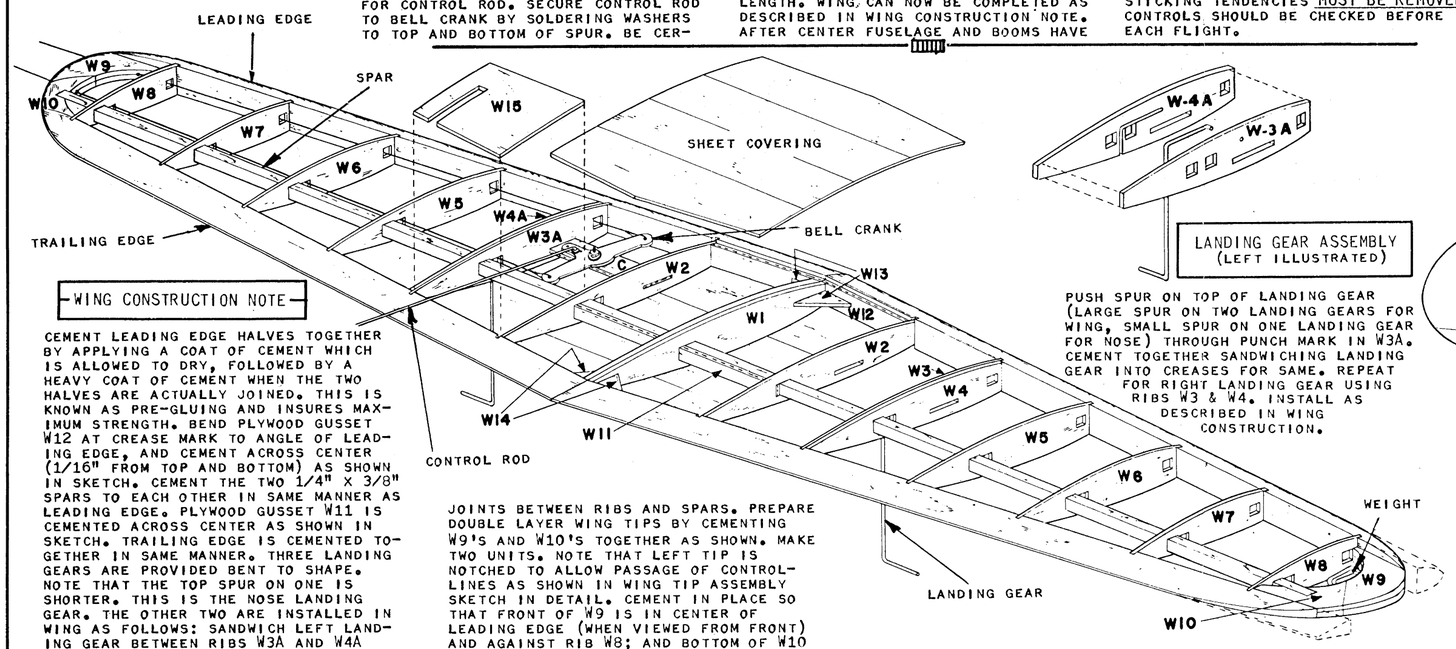
SPUR

CONTROL SYSTEM NOTE

EQUIPMENT FOR CONTROL SYSTEM IS NOT PROVIDED WITH KIT, BUT MUST BE PURCHASED SEPARATELY BY THE MODEL BUILDER. ALL DEALERS STOCK THE NECESSARY PARTS. WE RECOMMEND THE USE OF A VECO LARGE BELL CRANK WHICH IS INSTALLED (ACCORDING TO MANUFACTURERS INSTRUCTIONS) AT HOLE DRILLED FOR SAME IN PLYWOOD PLATFORM C IN WING. PURCHASE A LENGTH OF 3/32" MUSIC WIRE AND BEND TO SHAPE SHOWN FOR CONTROL ROD. SECURE CONTROL ROD TO BELL CRANK BY SOLDERING WASHERS TO TOP AND BOTTOM OF SPUR. BE CERTAIN THERE IS SPACE BETWEEN WASHERS AND BELL CRANK TO ALLOW FOR FREEDOM OF MOVEMENT. CUT TWO 24" LENGTHS OF LEAD-OUT WIRE. ATTACH TO HOLES IN BELL CRANK AS SHOWN IN SKETCH. SLIP LINES THROUGH HOLES IN RIBS AND WING-TIP AS SHOWN IN WING SKETCH AND SECURE BELL CRANK ASSEMBLY ON C ALLOWING CONTROL ROD TO REST PAST REAR OF WING. MAKE LOOPS ON ENDS OF LINES 3" PAST WING TIP. LINES ARE SAME LENGTH. WING CAN NOW BE COMPLETED AS DESCRIBED IN WING CONSTRUCTION NOTE. AFTER CENTER FUSELAGE AND BOOMS HAVE BEEN INSTALLED ON WING, ATTACH REAR OF ROD TO CONTROL HORN AND SECURE IT WITH WASHERS ON EITHER SIDE OF SPUR IN SAME MANNER AS FRONT SPUR WAS SECURED TO BELL CRANK. BE CERTAIN THAT ELEVATOR IS IN NEUTRAL POSITION AS SHOWN IN SIDE VIEW DRAWING WHEN BELL CRANK IS IN NEUTRAL POSITION AS SHOWN IN TOP VIEW DRAWING. MOVEMENT OF BELL CRANK SHOULD MOVE ELEVATOR UP AND DOWN FREELY AND EASILY. ANY STICKING TENDENCIES MUST BE REMOVED; CONTROLS SHOULD BE CHECKED BEFORE EACH FLIGHT.

SAND BACK OF SHEETS FOR EASY REMOVAL OF PARTS THAT STICK.

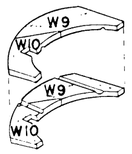


LANDING GEAR ASSEMBLY (LEFT ILLUSTRATED)

PUSH SPUR ON TOP OF LANDING GEAR (LARGE SPUR ON TWO LANDING GEARS FOR WING, SMALL SPUR ON ONE LANDING GEAR FOR NOSE) THROUGH PUNCH MARK IN W3A. CEMENT TOGETHER SANDWICHING LANDING GEAR INTO CREASES FOR SAME. REPEAT FOR RIGHT LANDING GEAR USING RIBS W3 & W4. INSTALL AS DESCRIBED IN WING CONSTRUCTION.

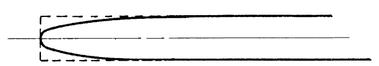
WING CONSTRUCTION NOTE

CEMENT LEADING EDGE HALVES TOGETHER BY APPLYING A COAT OF CEMENT WHICH IS ALLOWED TO DRY, FOLLOWED BY A HEAVY COAT OF CEMENT WHEN THE TWO HALVES ARE ACTUALLY JOINED. THIS IS KNOWN AS PRE-GLUING AND INSURES MAXIMUM STRENGTH. BEND PLYWOOD GUSSET W12 AT CREASE MARK TO ANGLE OF LEADING EDGE, AND CEMENT ACROSS CENTER (1/16" FROM TOP AND BOTTOM) AS SHOWN IN SKETCH. CEMENT THE TWO 1/4" X 3/8" SPARS TO EACH OTHER IN SAME MANNER AS LEADING EDGE. PLYWOOD GUSSET W11 IS CEMENTED ACROSS CENTER AS SHOWN IN SKETCH. TRAILING EDGE IS CEMENTED TOGETHER IN SAME MANNER. THREE LANDING GEARS ARE PROVIDED BENT TO SHAPE. NOTE THAT THE TOP SPUR ON ONE IS SHORTER. THIS IS THE NOSE LANDING GEAR. THE OTHER TWO ARE INSTALLED IN WING AS FOLLOWS: SANDWICH LEFT LANDING GEAR BETWEEN RIBS W3A AND W4A USING CEMENT GENEROUSLY. SEE DETAIL AND SKETCH. REPEAT FOR RIGHT HAND LANDING GEAR USING RIBS W3 AND W4. WHEN ALL CEMENTED PARTS ARE DRY, SLIP WING RIBS ON 1/4 X 3/8 SPAR IN NUMERICAL ORDER SHOWN; DO NOT CEMENT RIBS TO SPAR AT THIS TIME! SECURELY CEMENT C INTO NOTCHES BETWEEN W2 AND W3A & W4A. USE CEMENT GENEROUSLY. CEMENT RIBS INTO NOTCHES IN LEADING AND TRAILING EDGES. NOTE THAT RIBS W1'S AND W2'S ARE CEMENTED IN CENTER OF LEADING AND TRAILING EDGES TO ALLOW 1/16" ON TOP AND BOTTOM FOR SHEET COVERING. CEMENT TRIANGULAR GUSSETS W13 AGAINST LEADING EDGE AND TO BOTH SIDES OF RIB W1 AS SHOWN. DO LIKEWISE WITH W14 AT REAR OF RIBS AND TRAILING EDGE. CEMENT MAY NOW BE APPLIED TO JOINTS BETWEEN RIBS AND SPARS. PREPARE DOUBLE LAYER WING TIPS BY CEMENTING W9'S AND W10'S TOGETHER AS SHOWN. MAKE TWO UNITS. NOTE THAT LEFT TIP IS NOTCHED TO ALLOW PASSAGE OF CONTROL-LINES AS SHOWN IN WING TIP ASSEMBLY SKETCH IN DETAIL. CEMENT IN PLACE SO THAT FRONT OF W9 IS IN CENTER OF LEADING EDGE (WHEN VIEWED FROM FRONT) AND AGAINST RIB W8; AND BOTTOM OF W10 IS FLUSH WITH BOTTOM OF TRAILING EDGE AND AGAINST REAR OF RIB W8. SPAR IS CUT TO PROPER LENGTH SO THAT IT ENTERS NOTCH W10 AS SHOWN. BOTH WING TIPS ARE INSTALLED IN SAME MANNER. SECURELY CEMENT ABOUT 1 OZ. OF WEIGHT (COILED SOLDER OR LARGE EMPTY CEMENT TUBE) BETWEEN W8 AND RIGHT WING TIP. THIS WILL BALANCE CONTROL LINES AND INSURE FLIGHT STABILITY. INSTALL CONTROLS IN WING AS DESCRIBED IN CONTROL INSTALLATION DETAIL NOTE. USING 1/16" X 2" SHEET PROVIDED, COVER CENTER OF WING BETWEEN RIBS W2 AS SHOWN IN SKETCH. NOTE THAT FRONT AND REAR PIECES ARE TRIMMED AT ANGLE TO MATCH LEADING AND TRAILING EDGE. OUTER EDGES ARE TRIMMED FLUSH WITH OUTER EDGES OF RIBS W2'S. TOP AND BOTTOM ARE COVERED IN SAME MANNER. CEMENT W15 BETWEEN RIBS W2 AND W3A, AGAINST TRAILING EDGE. TOP OF W15 IS FLUSH WITH TOP OF RIBS, TRAILING EDGE, AND CENTER SECTION SHEET COVERING. CONTROL ROD PROTRUDES THROUGH SLOT. TRIM LEADING AND TRAILING EDGES AT TIP TO CURVE SHOWN ON FULL SIZE WING DRAWING, AND ROUND OUTER EDGES OF SAME AND WING TIP SO THAT THEY BLEND SMOOTHLY INTO ONE ANOTHER. SAND ENTIRE WING STRUCTURE SMOOTH, THEN COVER WITH SILKSPAN TISSUE APPLIED WET. APPLY TWO COATS OF CLEAR DOPE CHECKING STRUCTURE CONSTANTLY AGAINST WARPS. IF WARP OCCURS, APPLY CLEAR DOPE AND TWIST IN OPPOSITE DIRECTION, HOLDING UNTIL DRY.



WING TIP ASSEMBLY (LEFT TIP SHOWN)

CEMENT DOUBLE LAYER OF W9 AND W10 TOGETHER TO FORM WING TIPS. NOTCHES ARE MADE IN LEFT TIP ONLY AS SHOWN, BEFORE CEMENTING TOGETHER, TO ALLOW PASSAGE OF CONTROL LINES. REINFORCE OUTER EDGE WITH TUBING, EYELETS OR WASHERS TO PREVENT WEAR. CEMENT AGAINST OUTER RIB W8 BETWEEN LEADING AND TRAILING EDGES AS DESCRIBED IN WING NOTE.



REAR BOOM DETAIL

FULL SIZE DRAWING SHOWS HOW REAR OF BOOMS ARE TAPERED TO THICKNESS OF RUDDER WHERE THEY JOIN, AS DESCRIBED IN GENERAL ASSEMBLY PROCEDURE.

HINGE DETAIL
CUT 8 HINGES 1½" LONG FROM MATERIAL PROVIDED IN KIT.

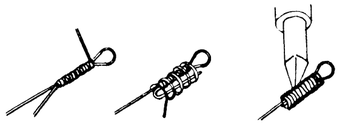
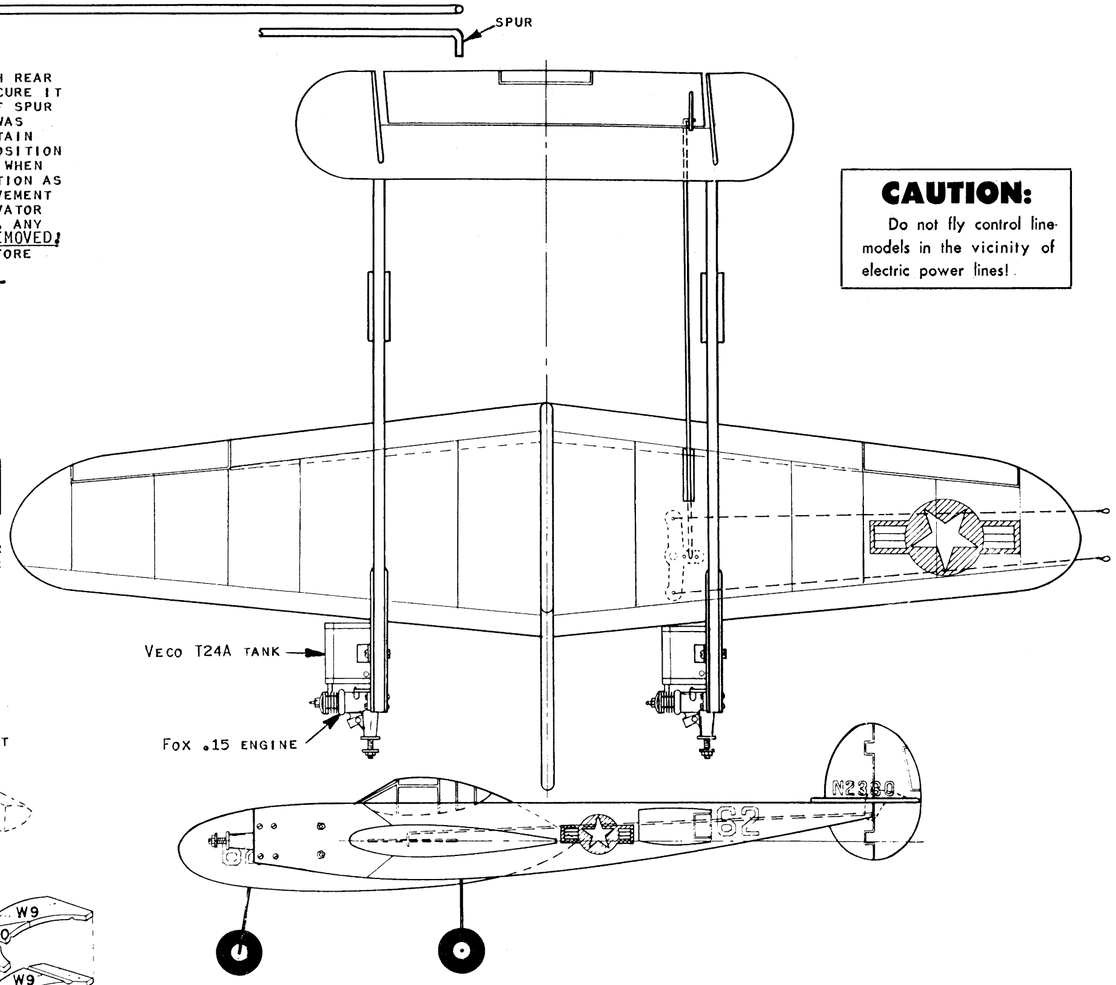


FIG. #1 FIG. #2 FIG. #3

LEAD-OUT CABLE LOOP DETAIL

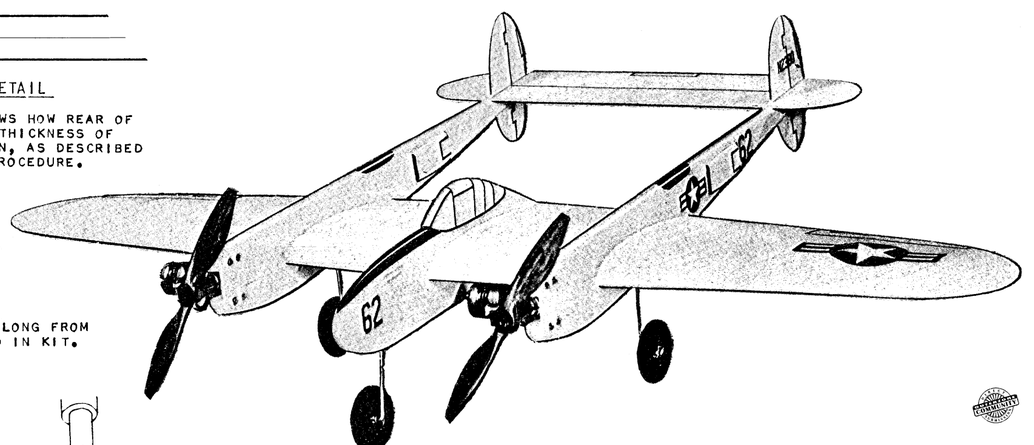
FORM LOOP IN END OF CABLE AND WRAP WITH SOFT COPPER WIRE AS SHOWN IN FIGURE 1. ALLOW ENOUGH CABLE TO FOLD BACK AND WRAP WITH WIRE AS SHOWN IN FIGURE 2. SOLDER SECURELY AS SHOWN IN FIGURE 3.



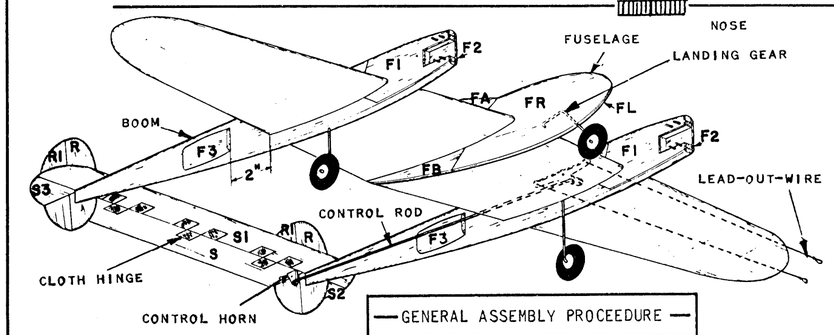
CAUTION:
Do not fly control line models in the vicinity of electric power lines!

A 36" SEMI-SCALE PROFILE CONTROL LINE MODEL FOR .09 TO .15 ENGINES

KIT S-17 **LOCKHEED P-38 LIGHTNING**



A spectacular yet simple model of one of the most famous World War 2 Fighters. Easy to build, fully prefabricated. Finest model engineering insures rugged-long lasting model with Top Flying Performance . . .



GENERAL ASSEMBLY PROCEEDURE

CEMENT THE FOLLOWING PARTS TOGETHER AND ALLOW TO DRY: FL & FR WITH LANDING GEAR (SHORT TOP SPUR) SANDWICHED INTO CREASES BETWEEN THEM AS SHOWN, TWO FA'S, TWO FB'S. CEMENT DOUBLE THICKNESS FA TO TOP OF ASSEMBLED FL AND FR TO FORM CANOPY. CEMENT HARDWOOD MOTOR MOUNTS TO TOP AND BOTTOM OF CUT OUT IN FRONT OF BOTH BOOMS. USE CEMENT GENEROUSLY. CEMENT PLYWOOD SIDE F2 TO LEFT SIDE OF BOOMS, AND PLYWOOD SIDE F1 TO RIGHT SIDE OF BOOMS AS SHOWN IN SKETCH ABOVE. USE CEMENT GENEROUSLY TO INSURE STRONG PERMANENT ASSEMBLY. WHEN DRY DRILL HOLES AT PUNCH MARKS INDICATED FOR MOTOR MOUNT BOLTS. NOTE THAT PUNCH MARKS ARE FOR FOX .15 ENGINES ONLY. IF ANY OTHER ENGINES ARE USED, CHANGES MAY BE NECESSARY. TAPER REAR OF BOOMS AS SHOWN IN REAR BOOM DETAIL. ROUND OFF TOP AND BOTTOM EDGES OF F3'S AND CEMENT TO BOTH SIDES OF BOTH BOOMS. FRONT OF AIR SCOOP IS LOCATED 2" FROM REAR OF CUT OUT SECTION FOR WING. FUSELAGE IS NOW FINISHED BY ROUNDING OFF OUTER EDGES, AND SANDING ENTIRE UNIT SMOOTH. CEMENT SECURELY TO WING OVER CENTER RIBS W1. BE CERTAIN FUSELAGE IS VERTICAL TO WING. USE THREE HEAVY COATS ON THIS INSTALLATION AND ALLOW TO DRY THOROUGHLY. ROUND OFF LOWER MATCHING EDGE OF ASSEMBLED FB'S AND CEMENT AGAINST REAR OF FUSELAGE ON BOTTOM OF WING AS SHOWN. WHEN DRY, SAND SO THAT FUSELAGE APPEARS AS ONE SMOOTH UNBROKEN PIECE. INSERT WING THROUGH BOOMS UNTIL STOPPED BY LANDING GEAR. MARK LANDING GEAR LOCATION, THEN NOTCH OUT BOOM FOR SAME, SO THAT LANDING GEAR IS FLUSH WITH SURFACE OF BOOM. BOOMS ARE NOW PERMANENTLY INSTALLED ON WING USING CEMENT GENEROUSLY. NOTE THAT INNER EDGES OF BOOMS ARE FLUSH WITH INNER EDGES OF RIBS W3 AND W3A RESPECTIVELY. BOOMS MUST BE PERFECTLY IN LINE WITH RIBS TO INSURE THAT THEY ARE PARALLEL TO EACH OTHER. CEMENT STABILIZER TIPS S2 AND S3 AGAINST REAR OF S1 SO THAT TIPS FORM A SMOOTH UNBROKEN CURVE. ALLOW TO DRY ON FLAT SURFACE THEN ROUND OFF OUTER EDGES. SECURELY CEMENT TO TOP OF BOOMS. OUTER EDGES OF BOOMS ARE FLUSH WITH EDGES OF S2 AND S3. REAR OF BOOMS IS DIRECTLY UNDER SEAM.

NOTE THAT ANGLE IN S2 AND S3 IS AS SHOWN ON TOP VIEW DRAWING. USE THREE HEAVY COATS OF CEMENT TO SECURE THIS INSTALLATION AND ALLOW TO DRY THOROUGHLY, HOLDING WITH PINS UNTIL DRY. ASSEMBLE BOTH RUDDERS BY CEMENTING R1'S TO R'S. ROUND OFF OUTER EDGES AND CEMENT SECURELY IN PLACE AGAINST INSIDE OF S2 AND S3, OVER S1 AND BOTTOM OF BOOMS AS SHOWN. BE CERTAIN RUDDERS ARE VERTICAL. USE CEMENT GENEROUSLY ON THIS INSTALLATION. ROUND OFF REAR OF S AND CEMENT CONTROL HORN INTO NOTCH USING TWO HEAVY COATS OF CEMENT. ASSEMBLE S TO S1 USING CLOTH HINGES, AS SHOWN IN HINGE DETAIL. CONNECT HORN WITH CONTROL ROD AS DESCRIBED IN CONTROL SYSTEM NOTE. MAKE SURE SYSTEM WORKS FREELY AND EASILY; WHEN ALL GLUE JOINTS ARE THOROUGHLY DRY, REMOVE PINS. ENTIRE MODEL IS NOW SANDED SMOOTH AND PREPARED FOR PAINTING. APPLY TWO COATS OF CLEAR DOPE. THE LOCKHEED P38 LIGHTNING IS PAINTED SILVER OR WHITE AND TRIMMED WITH BLACK AS SHOWN IN PHOTO. AILERON, RUDDER, ELEVATOR, CANOPY MARKINGS, ETC. IS DONE WITH BLACK INDIA INK OR BLACK SCOTCH TAPE CUT INTO 1/32" STRIPS. SOAK DECALS IN WARM WATER AND APPLY TO MODEL AS SHOWN IN PHOTOGRAPHS AND PLANS. BOLT ENGINES TO RIGHT SIDE OF BOTH BOOMS. USE OF VECO T24A TANK IS RECOMMENDED FOR THIS MODEL. MOUNT ON RIGHT SIDE OF BOOM IMMEDIATELY BEHIND ENGINE ACCORDING TO MANUFACTURERS INSTRUCTIONS. LEADING EDGE MAY BE NOTCHED OUT TO ACCOMODATE GAS TANK. BE CERTAIN FUEL LINE IS ON SAME LEVEL AS ENGINE PROPELLER SHAFT WHEN VIEWED FROM SIDE. USE STERLINE FUEL TUBING BETWEEN GAS TANK AND ENGINE AS WELL AS FOR FILL AND OVERFLOW EXTENSIONS ON GAS TANK. WHEELS ARE NOT PROVIDED IN KIT. THEY MUST BE PURCHASED SEPARATELY AT MODEL SHOP. USE VECO 2" DIA. WHEELS. SECURE IN PLACE WITH SOFT WIRE TWISTED AROUND END OF AXLE AND SOLDER OR WHEEL RETAINERS MAY BE PURCHASED AT YOUR DEALERS. GOOD LUCK!!! GOOD FLYING!!!

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