

**FUSELAGE CONSTRUCTION**

**STEP 1**

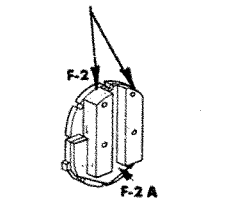
CEMENT REAR OF D'S TOGETHER. CEMENT BOTH F1'S TO EACH OTHER AND TO FRONT OF F1A SO THAT HORIZONTAL SLOTS FOR D'S MATCH. CEMENT F7A TO F7 IN SAME MANNER. FOR .020 ENGINES (RECOMMENDED FOR FREE-FLIGHT) ASSEMBLE MOTOR MOUNT BULKHEAD AS SHOWN IN .020 SKETCH; F2A AND MOTOR MOUNTS CEMENTED ON REAR OF F2. FOR .049 INSTALLATION (SEE SKETCH) CEMENT F3A AND MOTOR MOUNTS ON FRONT OF F3. TRIM TOP OF MOTOR MOUNTS TO MATCH CURVE OF BULKHEAD, DRILL SMALL HOLES AT PUNCH MARKS IN BULKHEADS, THROUGH MOTOR MOUNTS, TO RECEIVE TINY WOOD SCREWS FOR ENGINE INSTALLATION. SLIP BULKHEADS INTO NOTCHES BETWEEN D'S. DO NOT CEMENT UNTIL SIDES ARE INSTALLED IN STEP 2. FOR CONTROL-LINE OR AUTO-MAGIC (SEE NOTE) FLYING, CEMENT CP TO TOP OF CP1 GRAIN OPPOSITE. DRILL HOLE FOR 2-56 BOLT (SEE CONTROL LINE NOTE) AND CEMENT BETWEEN D'S. THROUGH FRONT OF F5.

SAND BACK OF SHEET FOR EASY REMOVAL OF PARTS THAT STICK

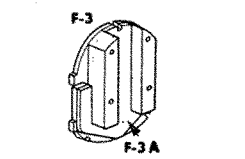
**STEP 2**

CEMENT SIDES FS TO BOTH SIDES OF FUSELAGE. MOISTEN BALSA WITH WATER TO MAKE BENDING EASY. CEMENT TS'S TOGETHER AND INTO NOTCH IN D AGAINST F10A. CEMENT T AGAINST REAR OF F10. FOR FREE-FLIGHT MODEL, CEMENT S1 TO S AND R1 TO R. SAND SMOOTH, ROUNDING OUTER EDGES. CEMENT TO REAR OF FUSELAGE AGAINST F10. FOR C/L OR A/M MODEL, CEMENT S2 TO BOTTOM OF S1. WHEN DRY, TAPER EDGES. DRILL SMALL HOLE THROUGH PLYWOOD CONTROL-HORN, AND CEMENT INTO NOTCH IN S1. ASSEMBLE S1 TO S WITH ADHESIVE TAPE, LEAVING 1/16" SPACE BETWEEN UNITS. CEMENT TO FUSELAGE, LINING UP NOTCHES IN S AND T. CUT OUT SLOT IN RIGHT REAR SIDE FOR CONTROL ROD. MAKE AND INSTALL CONTROL SYSTEM (SEE NOTE). CEMENT R1 AT ANGLE TO R, 3/8" TOWARDS RIGHT. CEMENT AGAINST REAR OF FUSELAGE AND INTO NOTCH IN S. SELECT 1/16" X 3/32" STRIP FROM 1/16" STRIP-SHEET AND CEMENT INTO NOTCHES ON TOP FROM F7 TO F10. STRINGERS ARE ABOVE LEVEL OF BULKHEAD FOR SMOOTH COVERING. SELECT 1/16" SQUARE STRIPS FROM 1/16" STRIP-SHEET AND CEMENT STRINGERS FROM F1 TO F7. CENTER STRINGER IS OMITTED

**MOTOR MOUNT**

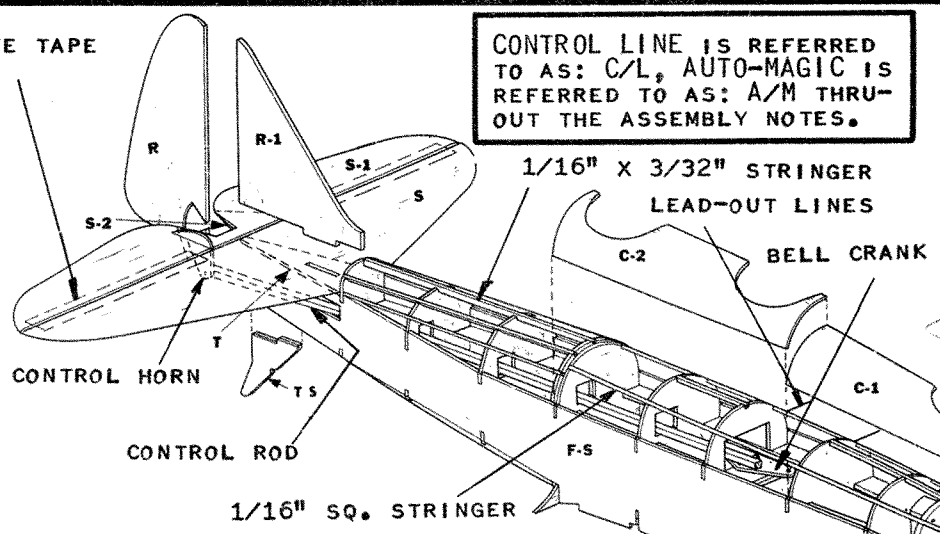


.020 ENGINE MOUNT ASSEMBLY (REAR SHOWN)

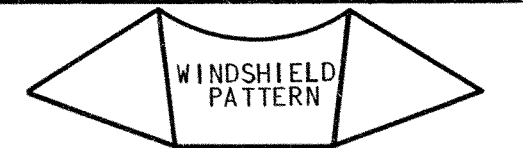


.049 ENGINE MOUNT ASSEMBLY (FRONT SHOWN)

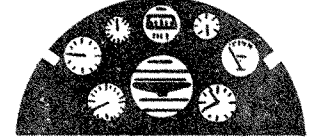
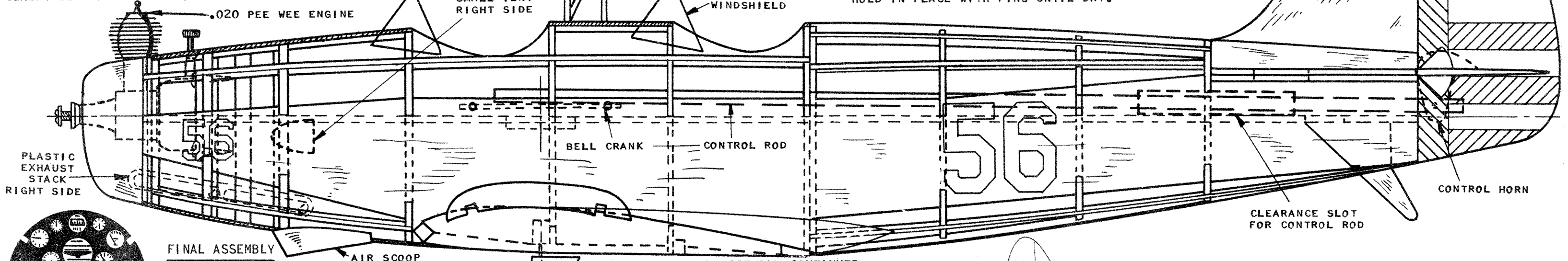
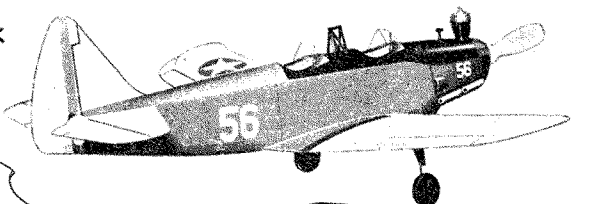
**ADHESIVE TAPE**



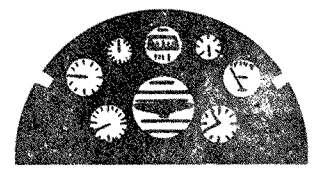
CONTROL LINE IS REFERRED TO AS: C/L, AUTO-MAGIC IS REFERRED TO AS: A/M THROUGHOUT THE ASSEMBLY NOTES.



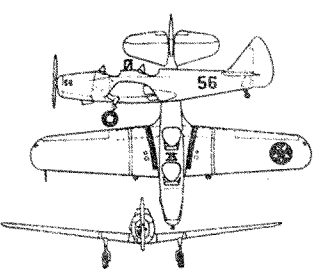
CUT TWO FROM CELLULOID USING PATTERN. CEMENT TO FRONT OF COCKPITS



CUT OUT INSTRUMENT PANEL. CEMENT TO F4.

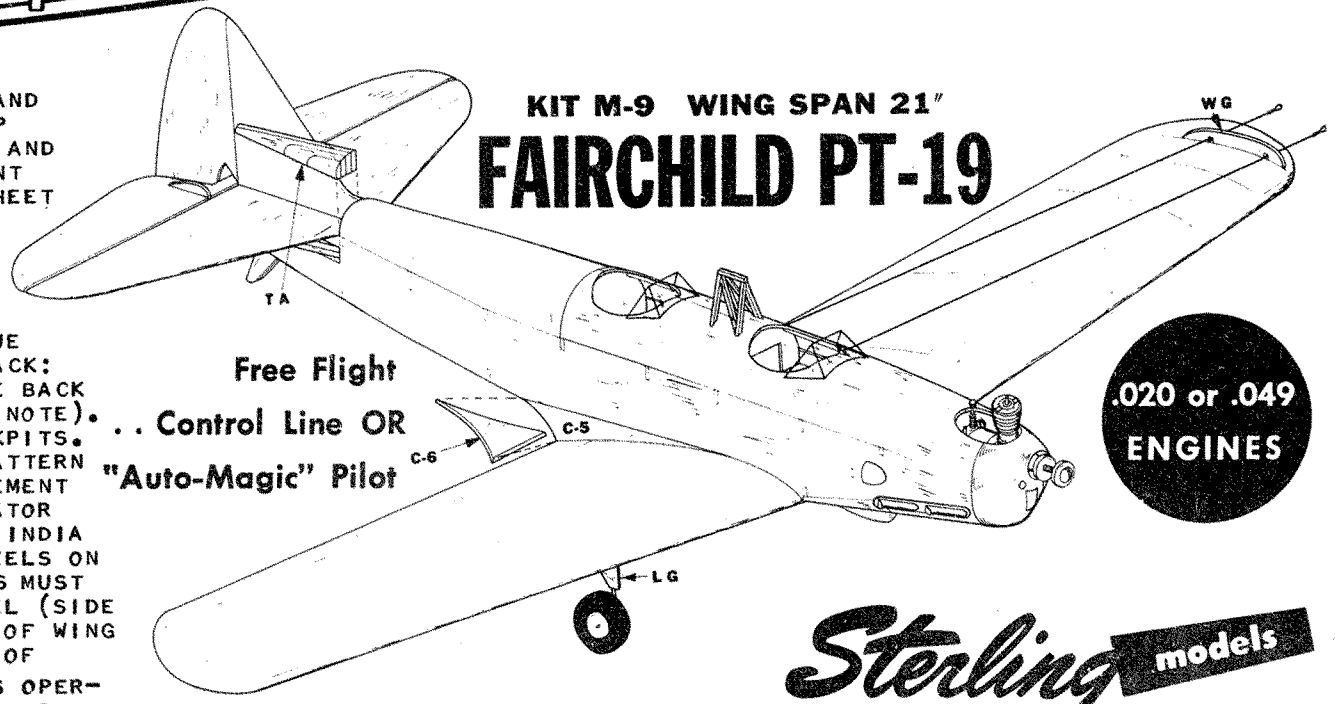


CUT OUT INSTRUMENT PANEL. CEMENT TO F6.



**FINAL ASSEMBLY CONTINUED**

SHEET. PLASTIC MAY BE TRIMMED SMOOTH WITH SAND PAPER. CUT OUT ALL HOLES IN COWLING. CUT TOP AWAY TO FIT AROUND ENGINE (1/16" CLEARANCE) AND CEMENT IN PLACE. EXHAUST STACK AND SMALL VENT ARE ON RIGHT SIDE ONLY. TRIM FROM PLASTIC SHEET AND CEMENT TO RIGHT SIDE OF FUSELAGE SHOWN. TRIM BOTTOM AIR SCOOP AND CEMENT TO CENTER OF FUSELAGE IN POSITION SHOWN ON SIDE VIEW. MODEL IS NOW PAINTED AS FOLLOWS: COLOR SCHEME IS OPTIONAL. GENERALLY THE PT-19 TRAINER HAD YELLOW WINGS AND STABILIZER, BLUE FUSELAGE AND RUDDER. PAINT THE FOLLOWING BLACK: WHEELS, LANDING GEAR STRUTS, TOP OF FUSELAGE BACK TO REAR COCKPIT. BUILD CRASH PROTECTOR (SEE NOTE). PAINT BLACK AND CEMENT IN PLACE BETWEEN COCKPITS. CEMENT INSTRUMENT PANELS TO F4 AND F6. USING PATTERN PROVIDED, CUT TWO WINDSHIELDS FROM CELLULOID AND CEMENT TO FRONT OF BOTH COCKPITS. ADD SCALE AILERON, ELEVATOR AND RUDDER MARKINGS; WINDSHIELD OUTLINE, ETC. WITH INDIA INK OR NARROW STRIPS OF BLACK SCOTCH TAPE. SLIP WHEELS ON LANDING GEAR AND SECURE WITH DROP OF SOLDER. WHEELS MUST ROLL FREELY. FREE-FLIGHT MODELS SHOULD BALANCE LEVEL (SIDE VIEW) WHEN BALANCED ON FINGER TIPS 1" BEHIND FRONT OF WING AT TIPS. IF NECESSARY, ADD WEIGHT TO FRONT OR REAR OF FUSELAGE. FOR C/L OR A/M FLYER, CHECK THAT CONTROLS OPERATE FREELY. DRAW LEAD-OUT LINES THROUGH WG TIEING LOOPS FOR FLYING LINES. **GOOD LUCK!!! GOOD FLYING!!!**



**KIT M-9 WING SPAN 21" FAIRCHILD PT-19**

Free Flight  
Control Line OR  
"Auto-Magic" Pilot

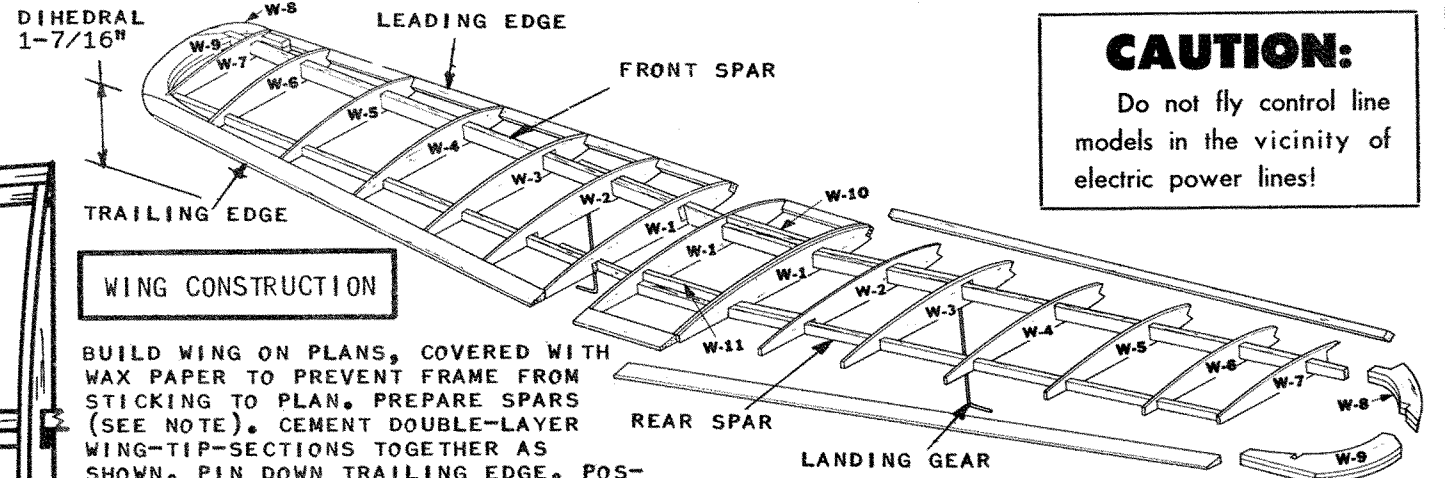
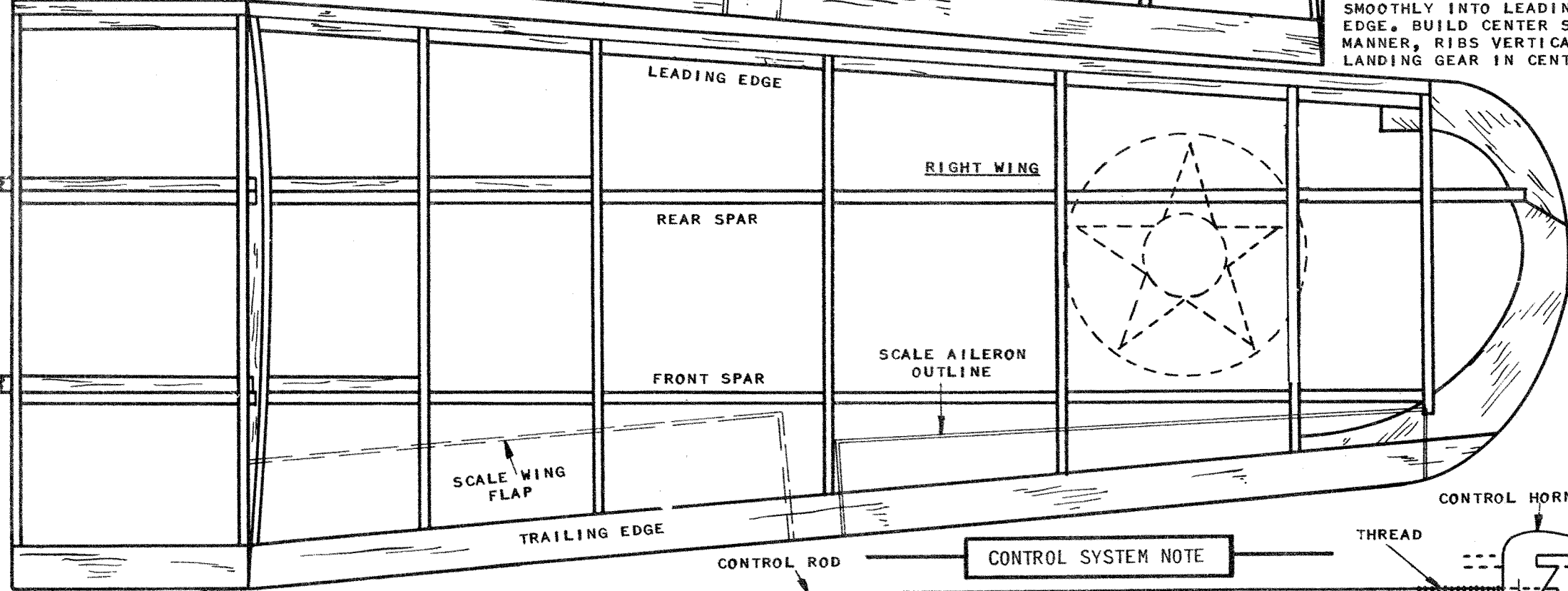
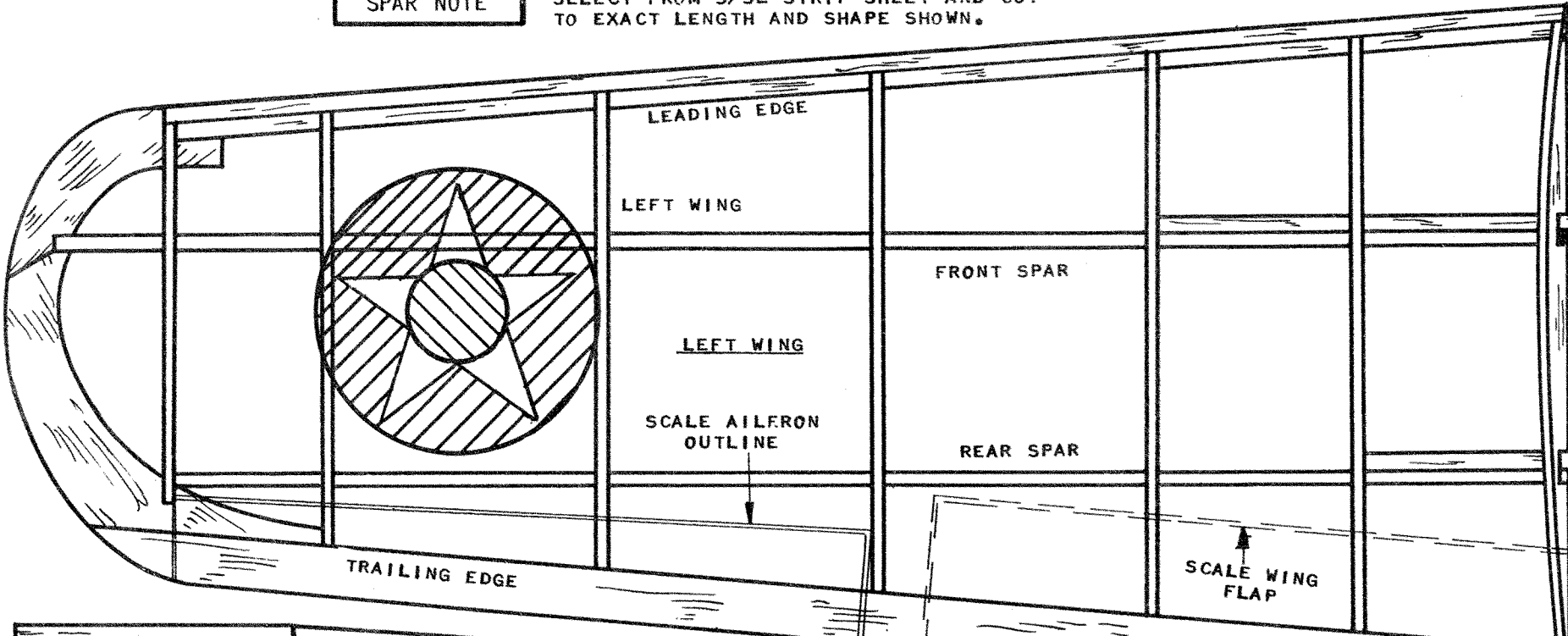
.020 or .049 ENGINES

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

WING TIP 2 REQUIRED FRONT SPAR 3/32" X 1/4"  
 WING TIP 2 REQUIRED REAR SPAR 3/32" X 5/32"

**SPAR NOTE**

DRAWING OF SPARS ABOVE IS FULL SIZE. SELECT FROM 3/32 STRIP-SHEET AND CUT TO EXACT LENGTH AND SHAPE SHOWN.



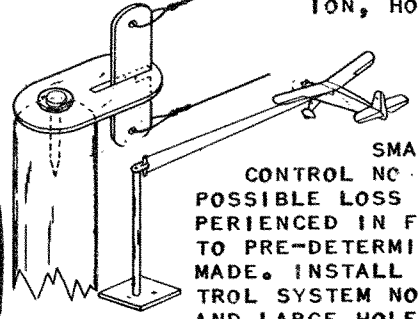
**WING CONSTRUCTION**

BUILD WING ON PLANS, COVERED WITH WAX PAPER TO PREVENT FRAME FROM STICKING TO PLAN. PREPARE SPARS (SEE NOTE). CEMENT DOUBLE-LAYER WING-TIP-SECTIONS TOGETHER AS SHOWN. PIN DOWN TRAILING EDGE. POSITION RIBS ON SPARS IN NUMERICAL ORDER SHOWN WITHOUT CEMENT! (RIBS ARE CEMENTED TO SPARS AFTER FRAME IS COMPLETED) AND CEMENT TO TRAILING EDGE. TIP RIB W7 IS CEMENTED IN PLACE AFTER WING TIP SECTIONS HAVE BEEN INSTALLED. END RIB W1 IS BENT OVER ON ANGLE MATCHING ANGLE ON END OF SPARS. OTHER RIBS ARE VERTICAL. CEMENT LEADING EDGE TO FRONT OF RIBS ENDING FLUSH WITH W7. CEMENT WING TIP SECTIONS IN PLACE, RAISING SO THAT IT IS FLUSH WITH SPAR. BUILD OPPOSITE WING PANEL IN SAME MANNER. ALLOW TO DRY THOROUGHLY THEN REMOVE FROM PLANS AND SAND WING TIPS ROUND TO BLEND SMOOTHLY INTO LEADING AND TRAILING EDGE. BUILD CENTER SECTION IN SAME MANNER, RIBS VERTICAL. INSTALL LANDING GEAR IN CENTER SECTION BY

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

PLACING IT IN CREASE ON W10. ADD A GENEROUS COAT OF CEMENT, AND INSERT INTO NOTCHES IN RIBS W1 AGAINST FRONT SPAR, SANDWICHING LANDING GEAR BETWEEN THE TWO. CEMENT W11 IN RIB NOTCHES AGAINST REAR CENTER SECTION SPAR. WHEN DRY, ASSEMBLE WING BY SLIPPING OUTER WING PANELS ON TO PROTRUDING W10 & W11. SPARS SHOULD BE FLUSH WITH TOP OF W10 AND W11 SO THAT MEASUREMENT UNDER EACH TIP IS 1-7/16" FOR PROPER DIHEDRAL ANGLE. ADD A SECOND HEAVY COAT OF CEMENT AND ALLOW TO DRY THOROUGHLY. SAND ENTIRE FRAME SMOOTH, THEN COVER EACH PANEL WITH TISSUE MOISTENED WITH WATER. WHEN DRY, TRIM TISSUE AND 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.

**AUTO-MAGIC PILOT FLYING**



NEW METHOD OF CAPTIVE FLYING FOR SMALL AREAS. HAND CONTROLLING AS IN U-CONTROL NOT NECESSARY. PREVENTS CHASING AND POSSIBLE LOSS OF MODEL, OR COLLISION DAMAGE, AS EXPERIENCED IN FREE-FLYING. MODEL AUTOMATICALLY FLIES TO PRE-DETERMINED HEIGHT UNTIL GRACEFUL LANDING IS MADE. INSTALL CONTROLS IN MODEL AS DESCRIBED IN CONTROL SYSTEM NOTE. DRILL OUT SMALL HOLE (IN VERTICAL) AND LARGE HOLE (IN HORIZONTAL) PLYWOOD A/M UNITS AND SECURELY CEMENT TOGETHER. SECURE A POST (BROOMSTICK) APPROXIMATELY 4 FT. HIGH. DRIVE POST INTO GROUND OR NAIL BOARD TO BOTTOM AND WEIGHT SAME TO PREVENT POST FROM SHIFTING. FASTEN A/M PILOT UNIT TO TOP OF POST WITH NAIL. USE WASHERS ABOVE AND BELOW UNIT. BE CERTAIN HOLE IS LARGE ENOUGH SO THAT IT SWINGS FREELY AND EASILY. TIE 12 FT. TO 15 FT. NYLON (OR STRONG THREAD) LINES FROM A/M UNIT TO LINES COMING FROM MODEL. BE CERTAIN LINES ARE SAME LENGTH. WHEN LINES ARE TAUT, AND MODEL IS HELD AT SAME LEVEL AS A/M UNIT, ELEVATOR IS NEUTRAL. WHEN MODEL IS LOWERED ELEVATOR GOES UP; WHEN RAISED, ELEVATOR GOES DOWN. RUDDER "R" MUST BE ANGLED 3/8" TOWARDS OUTSIDE OF CIRCLE. TO FLY MODEL, START ENGINE, PULL MODEL AWAY FROM POST UNTIL LINES ARE TAUT, THEN RELEASE FOR TAKE-OFF.

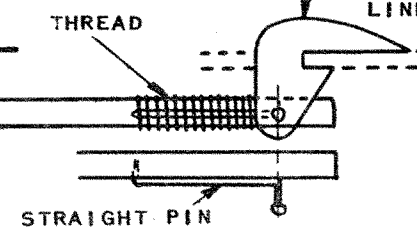
**CONTROL SYSTEM NOTE**



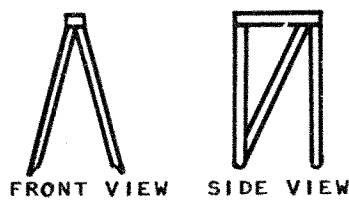
CONTROL SYSTEM SHOWN FULL SIZE. CUT 1/8 SQ. Balsa CONTROL-ROD TO LENGTH. DRILL SMALL HOLES THROUGH PUNCH MARKS IN PLYWOOD BELL-CRANK. DRILL CENTER HOLE FOR 2-56 MACHINE SCREW (NOT PROVIDED IN KIT), WHICH ALLOWS BELL-CRANK TO PIVOT FREELY. BEND TWO STRAIGHT PINS TO SHAPE SHOWN. INSERT THROUGH HOLE IN BELL-CRANK OPPOSITE MACHINE SCREW. PUSH SPUR

INTO 1/8 SQ. CONTROL-ROD. WRAP WITH THREAD AND CEMENT SECURELY. THERE MUST BE CLEARANCE BETWEEN ROD AND BELL-CRANK TO ALLOW FREE MOVEMENT. PLACE ROD IN FUSELAGE INSERTING THROUGH HOLES IN BULKHEADS. DRILL HOLE THROUGH PUNCH MARK IN CP AND CP1 FOR MACHINE SCREW. PLACE WASHER BETWEEN BELL CRANK AND CP. SLIP WASHER AND TWO NUTS ON MACHINE SCREW. RUN-UP NUTS CLOSE TO CP1 (SO THAT

BELL CRANK STILL PIVOTS FREELY) AND TIGHTEN TOWARDS EACH OTHER. A COAT OF CEMENT OR DROP OF SOLDER WILL PREVENT NUTS FROM LOOSENING. ATTACH REAR OF ROD TO CONTROL HORN BY INSERTING BENT PIN THROUGH HORN AND CEMENTING TO REAR OF ROD IN SAME MANNER AS FRONT. CONTROLS SHOULD BE NEUTRAL SO THAT WHEN ASSEMBLY IS COMPLETE STRAIGHT SIDE OF BELL CRANK SHOULD BE PARALLEL WITH FUSELAGE



SIDE (TOP VIEW) AND ELEVATOR IS FLAT (SIDE VIEW). MOVEMENT OF BELL CRANK SHOULD MOVE ELEVATOR UP AND DOWN FREELY AND EASILY. ANY STICKING TENDENCIES MUST BE REMOVED. TIE A LENGTH OF NYLON (OR STRONG THREAD) LINES TO HOLES ON BOTH SIDES OF BELL CRANK.



**CRASH PROTECTOR DETAIL**

USING 1/16" SQ. Balsa STRIPS, MAKE TWO "N'S" ON FULL SIZE PLAN. CEMENT TOGETHER AT ANGLE SHOWN. GLUE 1/16" X 3/32" STRIP TO TOP. PAINT BLACK THEN CEMENT BETWEEN COCKPITS.

CUT OUT SMALL HOLES IN SIDE OF CABIN SHOWN ON FULL SIZE SIDE VIEW. LINES COME THROUGH FUSELAGE SIDE AND NOTCHES IN (WG) WING GUIDE. TIE SECURE LOOPS IN END OF LINES 3" PAST WING TIP. BOTH LINES SHOULD BE THE SAME LENGTH.