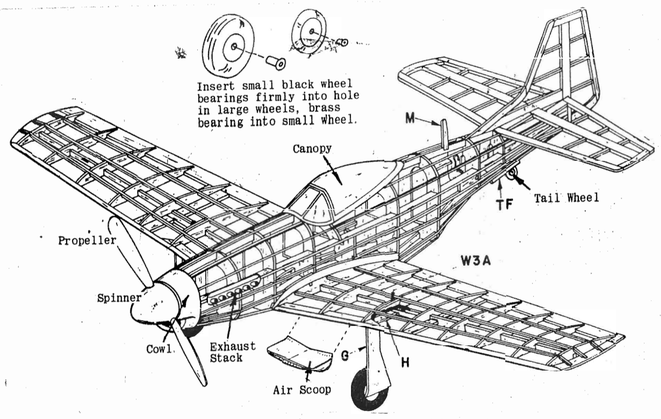
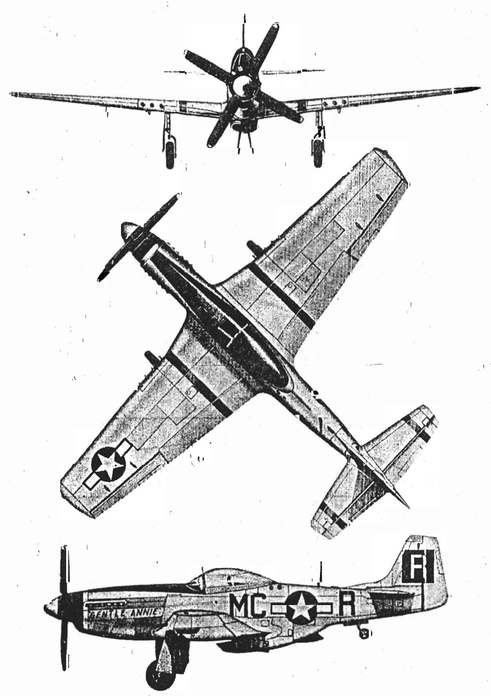
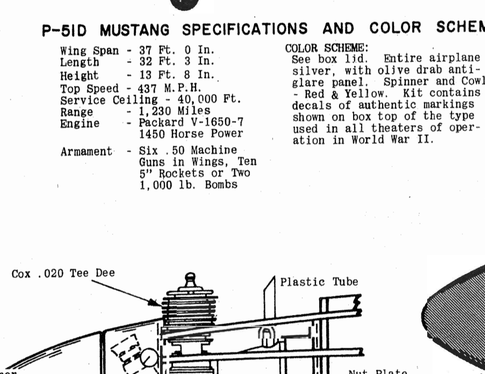


FINAL ASSEMBLY

On R/C models wing is removable as described in R/C Note. For other models cement wing securely in fuselage between bulkheads F3 and F8, lining up ribs W1's under side keels L7's. Press wing tightly against L7's to insure proper incidence, otherwise model may not fly! Hold in place with pins until dry. It is necessary to have access to rear hook to replace rubber motor. Cut out stringer immediately above side keel L6 on right side, between F9 and F10. Fit a piece of 1/16 balsa into space. Cement cloth tape to top (half over door and half over fuselage) to act as hinge. Cement a strip of 1/16 sq balsa to top of side keel L6 to act as stop to keep the door flush with surface. Hold bottom with Scotch Tape. Cement stabilizer horizontally against F11 at rear of fuselage. Cement rudder to top of stabilizer and against rear of fuselage, in line with center keel L2. Using patterns provided, cut out wing fairings from stiff paper. Cement between wing and fuselage as shown in 3-Views, side point at trailing edge. Small pieces fit below large fairing and against trailing edge. Hold in place with pins until dry. Assemble and trim all plastic parts, see detail note. Cement cowl to F1. Use cement sparingly or it may deform the plastic. Cement LG's to outside of wire landing gear struts in position shown on side view. Cement tail wheel doors TF to either side of tail wheel gear as shown. Round off and cement mast M into notch in L2. Add plastic parts as described in Plastic Part Note. Model is now painted. If it is to be painted scale colors, see 3-View drawings or box top. For best flight performance, use a minimum of color dope. Apply decals by dipping in water and sliding off into position shown. Cut instrument panel from plan and cement to F5 in cockpit. Outlines of scale control surfaces can be drawn on with India Ink. Insert the bearings into wheels and place wheels on axles. Secure by bending up end of axles, or with drop of cement or solder. Insert straight end of propeller shaft thru rear of nose bearing. Slip on two washers provided and insert shaft thru back of propeller. Bend front of shaft to U shape as shown on side view. Tie ends of rubber together securely, using square knot. Wet with water first to prevent fraying. Double up to make 2 loops. Insert rubber thru trap door and engage on rear hook. Slip remainder of rubber into fuselage and shake down towards nose. Make hook on end of a piece of wire. Slip wire thru nose bearing hole in cowl and capture rubber on hook. Pull thru cowl and attach rubber on prop shaft. Nose bearing fits into center hole in cowl. Your North American P-51D Mustang is now complete. See Flight instructions before flying. GOOD LUCK AND HAPPY LANDINGS!!!

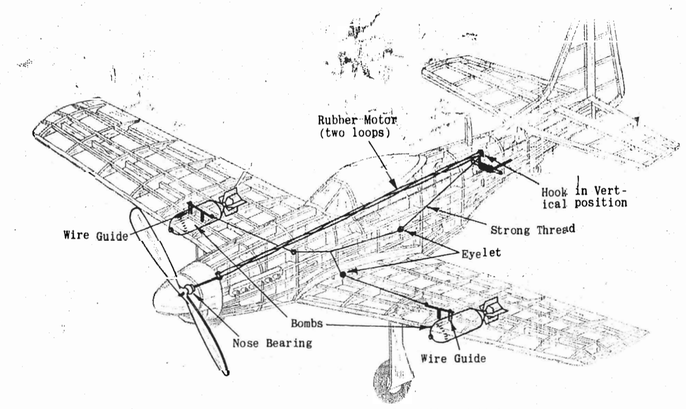




P-51D MUSTANG SPECIFICATIONS AND COLOR SCHEME

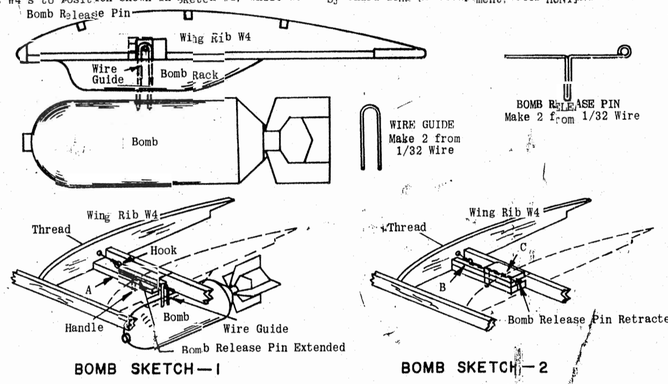
Wing Span - 37 Ft. 0 In.
Length - 32 Ft. 3 In.
Height - 13 Ft. 8 In.
Top Speed - 437 M.P.H.
Service Ceiling - 40,000 Ft.
Range - 1,230 Miles
Engine - Packard V-1650-7 1450 Horse Power
Armament - Six .50 Machine Guns in Wings, Ten 5" Rockets or Two 1,000 lb. Bombs

COLOR SCHEME:
See box lid. Entire airplane silver, with olive drab anti-glare panel. Spinner and Cowl - Red & Yellow. Kit contains decals of authentic markings shown on box top of the type used in all theaters of operation in World War II.



BOMB RELEASE OPERATION

Automatic bomb dropping in flight operates on rubber powered models only. Installation is simple & action is positive, if directions are followed carefully. Install mechanism as described in Bomb Release Detail. To operate: Wind rubber motor. This will pull rear hook forward to a horizontal position, loosening thread. This now permits release pins to be slid outward towards tips through ribs W4's to position shown in Sketch #1, while at the same time engaging bombs thru its wire mounting clips. Mechanism should now look exactly as drawn in Bomb Sketch #1. Bombs are now loaded. Model is now released, and towards the end of flight when motor unwinds, rear hook pulls back into vertical position. This tightens the lines, pulling release pins back past W4's which releases and drops bombs, which also can be triggered by third line or escapement. GOOD HUNTING!!!

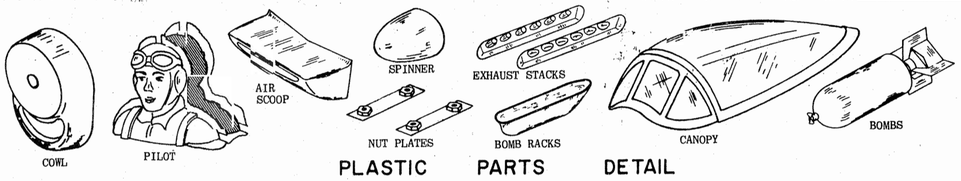


BOMB SKETCH—1

BOMB SKETCH—2

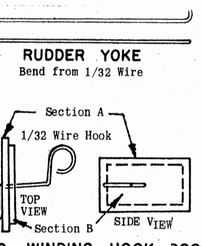
BOMB RELEASE INSTALLATION

Bend 2 bomb release pins and 2 bomb mount clips using full size patterns. Make 1/8 holes in ribs W2 & W3 at punch mark. Make smaller hole in outer ribs W1 and cement eyelet in hole. Insert a length of thread thru hole in W3. Insert thru hole in W2 and eyelet in W1. Thread then goes over center rib W1, continues thru eyelet etc. on opposite side. Bomb release pins fit into slot in A, with handle extending down thru slot, hook towards fuselage. Thread going thru wing is tied to hook on each side so that thread is snug when handle against outer edge of slot in A, facing wing tips. Straight end of pin now extends past rib W4 as shown in Step 1. Tie knots tight & cement to hook. Make slide track for bomb release pin by cementing B to top of A, flush with front. Cement C to top of B, flush with front and against rib W4 as shown on full size wing plan. When dry, check that pins & thread move freely. Wing is now covered as described in Silkspan Tissue Note. Leave top center section between outer ribs W1's uncovered so that thread can move. Make hole 1/16 above L3 in center of bulkhead F8 and cement eyelet in place. Insert thread tied to rear hook thru eyelet. Cut out L3 between F4 and F6 and cement wing in place as described in final assembly note. Thread from rear hook passes over F6 and is tied to center of thread in wing directly over center ribs W1's. Thread going to release pins and rear hook must now be snug. Thread now holds release pins against side of slot in A towards fuselage; rear spring hook is in vertical position.



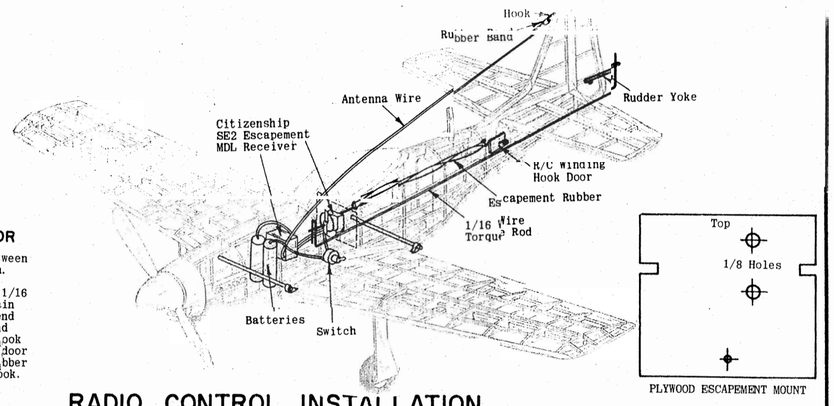
PLASTIC PARTS DETAIL

For best results, follow instructions carefully. CANOPY: Trim edges, then fit in place on fuselage. Paint raised portions (frame) of canopy same color as fuselage; after reading paint instructions at end of this note. NUT PLATES: Cut from sheet on trim lines and install as described in Engine Installation. EXHAUST STACKS: Cut from sheet on trim lines and install in position shown on side view. SPINNER: Cut from sheet, leaving 1/16" excess material for trim. Sand and trim off excess material carefully. Cut out for prop at scribe lines, then cement over propeller, after propeller is installed. BOMBS: Cut out of sheet, leaving about 1/16" excess material. Carefully trim out slots on excess material (about 1/8" wide) on top, bottom and ends; right to the edge of bomb itself as shown. This permits accurate assembly of halves. Cement halves together, lining up carefully at slots. Plastic or model airplane cement is used in assembling and attaching plastic parts in place. Use sparingly however, since excessive use of cement may distort the plastic. After assembly, allow to dry THOROUGHLY, trim and sand off smooth. Cut out the bomb fins and bomb fin supports, scribed on plastic sheet. Assemble as shown on sketch and full size bomb fin assembly drawing, then cement assembly to rear of bombs as shown. Make two pin holes and cement "U" shaped wire guide in place as shown and described in Step 2 Sketch of Bomb Release Detail. PILOT: Cut halves from plastic sheet, leaving about 1/8" material. Make 1/8 slots on all four sides in same manner as bombs, then cement halves carefully together. When dry, trim and sand smooth. Cement in cockpit, see side view. AIR SCOOP: Cut from sheet along trim line and cement to front of F7 as shown on side view. BOMB RACKS: Cut from sheet along trim line. Cut out notch scribed on bottom surface. Cement to bottom of wing on gussets around rib W4, notch directly under notch in W4. PAINTING: Use regular plastic model paint or enamel. Model airplane dope can be used only if applied in LIGHT SPRAY COATS, allowing paint to dry thoroughly between coats. Excessive use of dope may deform plastic. Parts may be used red, or if painting a lighter color than red, apply a light coat of silver, followed by a light coat of white; before painting final color. Darker colors are applied directly to red plastic. When cementing parts in place on model, use light coats of cement, applied sparingly. If necessary, use more than one coat, but DO NOT APPLY A THICK COAT AT ANY TIME.



R.C. WINDING HOOK DOOR

Cut out stringer above side keel between F10 and F11 and inset 1/16 balsa flush. Cut out section to shape of A (see sketch) and cement it to a piece of 1/16 balsa cut to shape of section B, grain running crosswise, to form door. Bend half of hook shown from 1/32 wire and push straight end thru door. Bend hook in other end and cement securely to door in position shown. Place loop of rubber between escapement and inner door hook.

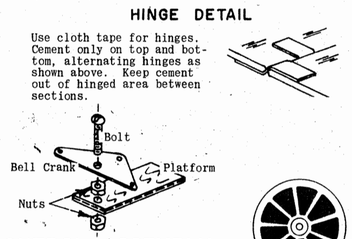


RADIO CONTROL INSTALLATION

Test models used, and drawing shows, Citizen-Ship MDL Receiver, SE2 Escapement, used with SPX Transmitter. This equipment and other material necessary is not provided in kit. On radio models wing is removed. Pin, BUT DO NOT CEMENT, wing into position as described in Final Assembly. Cement a 3" length of 1/8 dowel across top of F3's and rear of F8 on top of 2nd stringer below L6 as shown. Remove entire keel L3 between F3 and F8. Front half of fuselage should be covered with 1/32 or 1/16 sheet balsa. Balsa is also covered with silkspan as described in note. Cut rudder apart at location shown by dotted lines, then assemble together with cloth hinges. Bend wire yoke from 1/32 wire and install on rudder with 2/56 nut and bolt. Cut escapement base from 1/16 plywood and cement to front of F6. When dry, install escapement with 2/56 nuts and bolts. Insert an 18" length of 1/16 wire through slot made in rear of L5 for torque rod. Bend U in front of rod according to R/C manufacturer's instructions and shown above, then pull back and engage in escapement as shown. Bend rear as shown. Cut off excess wire, then engage in yoke. Raising and lowering yoke will increase or decrease the amount of rudder movement. Batteries are stored vertically in section between F3 and F4. Receiver is located between F3 and F4 above batteries. Wire radio equipment in accordance with manufacturer's instructions. After unit is wired, line compartment with foam rubber and insert receiver followed by batteries which are also surrounded in foam rubber. Insert into compartment, being careful not to break any wire connections. Bend small hook for antenna and cement to front of rudder. Bring antenna out of cockpit and fasten to hook with rubber band. When model has been completely finished, it must balance as shown on side view. If necessary, add weight but DO NOT ATTEMPT TO FLY UNTIL BALANCE HAS BEEN ACHIEVED. Check wings and tail for warps, if any have developed, remove with steam method as described in Covering Instructions. Wait for calm weather for test flights. Field test R/C equipment before flying, as described in manufacturer's instructions. Start engine and THROTTLE DOWN TO LOW SPEED, then launch model with nose pointed slightly down at a point 50 or 60 feet in front of you and release at approximate flying speed. Model should fly in a straight line and either maintain or slightly lose altitude. If model turns to either side, rudder or engine may be off set to opposite side to achieve a straight flight, which is how it should glide and fly. If model glides well but stalls under power, point front of engine down (down thrust) by placing wedge behind top of tank. Increase engine RPM as adjustments are made, checking R/C controls before each flight. GOOD LUCK AND GOOD FLYING!!!

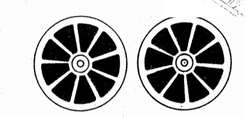
HINGE DETAIL

Use cloth tape for hinges. Cement only on top and bottom, alternating hinges as shown above. Keep cement out of hinged area between sections.



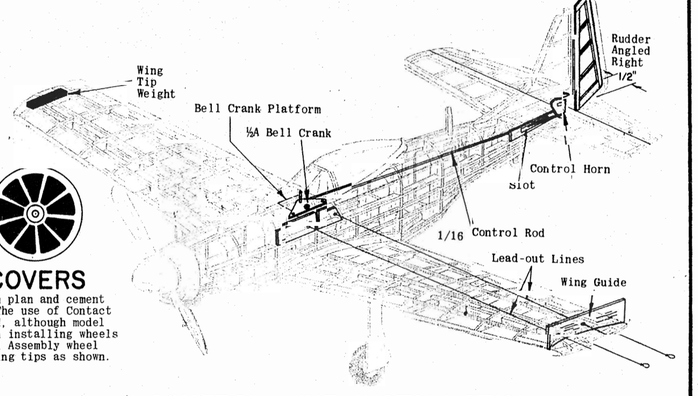
CONTROL ASSEMBLY

Drill 1/8 hole thru plywood platform. Insert bolt thru bell crank and run nut up bolt till bell crank has just enough room to swing freely, closed face of nut down. Insert thru platform and install bottom nut, closed face up. Tighten nut towards each other leaving bell crank to pivot freely. Secure nuts with solder or glue.



WHEEL COVERS

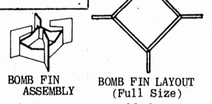
Cut wheel covers from plan and cement one to each wheel. The use of Contact Cement is recommended, although model cement will do. When installing wheels as described in Final Assembly wheel covers should face wing tips as shown.



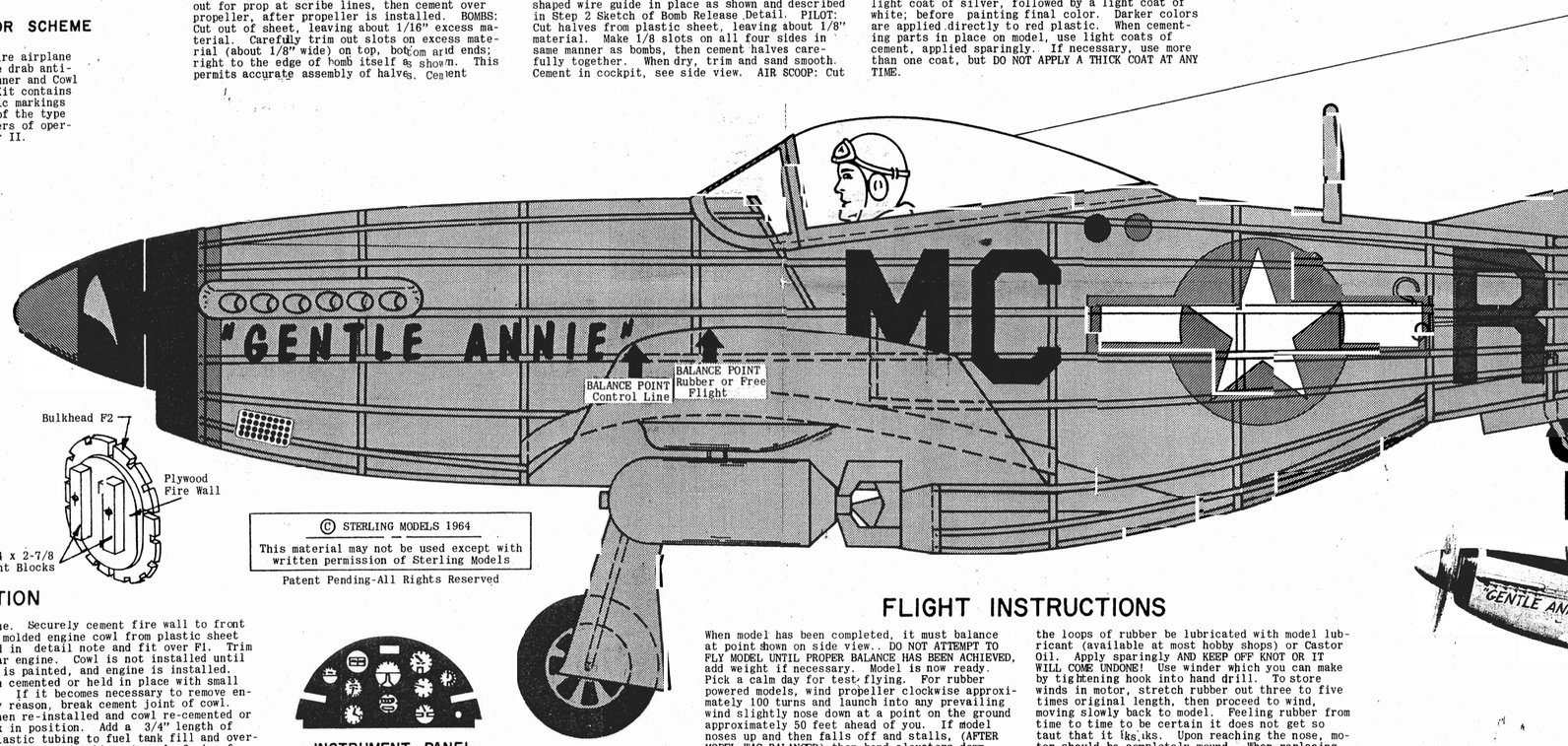
CONTROL LINE INSTALLATION

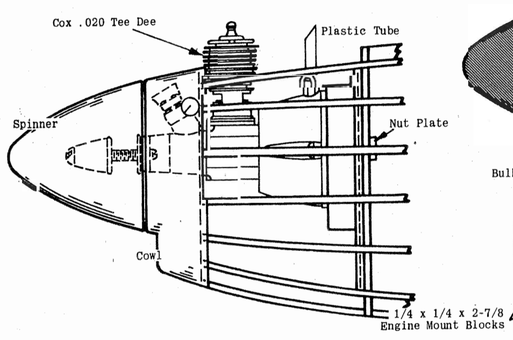
Install controls after Fuselage Step 4 has been completed. Fill in area between F3 and F5, from side keel L6 to stringer above it, with scrap 1/16 sheet balsa, flush with outside of frame; also area from F11 to rear, between L6 and stringer above, in same manner. Cut 1/8 slot in rear for control rod as shown. Cut two 18" lengths of lead-out lines (not provided in kit) and fasten them to bell crank. Mount bell crank on plywood platform as shown in Detail Sketch. Lead-out lines come thru fuselage at holes drilled for them as shown. Cover fuselage with tissue as described in detail note. Cut stabilizer thru wide main spars, as indicated by dotted lines on full size drawings. Round edges and install control horn at location shown on drawing, then join together with cloth hinges shown. Cement stabilizer to fuselage as described in Final Assembly Note. Tape elevators in neutral position (in line with stabilizer, neither up or down). Bend 1/4" of one end of 1/16 wire for control rod at right angle. Loosen bell crank and insert rod from bottom with spur vertical, then secure bell crank. Control rod should be in line with elevator horn, if not, bend accordingly so that rod slips thru slot freely. Make a right angle bend at rear end of rod at precisely the location of hole in elevator horn, with bell crank in neutral position as shown. Clip off excess and insert into horn. Solder washer on end to prevent rod from coming off. Controls are now in neutral position and must work freely and easily. Cut rudder apart on dotted lines, cement fin in place. Cement rudder to fin and rear of fuselage, angled 1/2" to outside of circle flown as shown. Assemble wing to fuselage as described in Final Assembly Detail. Make wing guide from 3/32 balsa scrap, drilling holes indicated. Cement securely to wing over rib W8 as shown. Reinforce fuselage and wing guide holes with washers or eyelets. Thread lines thru holes in wing guide and tie loops in end of lines at least 2" past wing tip. Lines must be of equal length when elevator is in neutral position. Control system must operate freely and easily. CAUTION: Model must balance (or slightly nose down) at point where front control line comes out of the fuselage. If necessary, add weight. Use regular 1/2A control lines when flying your North American P-51D Mustang. GOOD LUCK AND GOOD FLYING!

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



Fins are pre assembled on full size layout as per sketch above. When assembly is thoroughly dry, cement to end of bomb. Make two, one for each bomb.





ENGINE INSTALLATION

Engine is used if model is being built for control line, free flight or radio. Engine and installation material not provided in kit. Drawing shows installation of Cox .020 Tee Dee Engine, however, any other similar engine may be used. Front of model should be covered with 1/32 or 1/16 sheet balsa back to F8. Top is cut out for engine clearance. Cut 1/4 x 1/4 x 2-7/8 hardwood in half, for engine mounts. Cement them securely to plywood fire wall in position shown over punch marks. When dry, drill 1/8 holes at punch marks thru blocks and fire wall. Mount engine to fire wall with #2 nuts and bolts, tightening nuts securely. Cut plastic nut plates from molded sheet and securely cement to back of fire wall over nuts, drilling hole through so that bolts can protrude. Use cement generously. Nut plate keeps nuts from turning so that engine can be removed by just uncrewing bolts. When dry, remove engine. Securely cement fire wall to front of F2. Cut molded engine cowl from plastic sheet as described in detail note and fit over F1. Trim cowl to clear engine. Cowl is not installed until after model is painted, and engine is installed. Cowl is then cemented or held in place with small wood screws. If it becomes necessary to remove engine for any reason, break cement joint of cowl. Engine is then re-installed and cowl re-cemented or screwed back in position. Add a 3/4" length of 1/16 I.D. plastic tubing to fuel tank fill and overflow tubes. Cut top of tubing at angle facing forward for easy admission of air stream. Make needle valve extension by forcing a length of 1/8 I.D. plastic tubing over head of needle valve. Force a length of 1/8 dowel into end of tubing. Dowel should protrude at least 1/2" past cowl.

INSTRUMENT PANEL
Cut from Plans and Cement to F5

FLIGHT INSTRUCTIONS

When model has been completed, it must balance at point shown on side view. DO NOT ATTEMPT TO FLY MODEL UNTIL PROPER BALANCE HAS BEEN ACHIEVED, add weight if necessary. Model is now ready. Pick a calm day for test flying. For rubber powered models, wind propeller clockwise approximately 100 turns and launch into any prevailing wind slightly nose down at a point on the ground approximately 50 feet ahead of you. If model noses up and then falls off and stalls, (AFTER MODEL WAS BALANCED) then bend elevators down slightly using hot breath in same manner as steam. If model dives, bend elevators up. If model veers too much to one side, bend rudder to opposite side. Take-offs require more power and therefore more turns in rubber motor. For longer flights and competition, it is recommended that the loops of rubber be lubricated with model lubricant (available at most hobby shops) or Castor Oil. Apply sparingly AND KEEP OFF KNOT OR IT WILL COME UNDONE! Use winder which you can make by tightening hook into hand drill. To store winds in motor, stretch rubber out three to five times original length, then proceed to wind, moving slowly back to model. Feeling rubber from time to time to be certain it does not get so taut that it breaks. Upon reaching the nose, motor should be completely wound. When replacing rubber motor, purchase contest grade T56 brown rubber at your favorite hobby shop. Engine powered free flight models are tested and flown in same basic manner as above and is described in Flight Instructions at end of Radio Control Installation Note. GOOD LUCK AND GOOD FLYING!!!

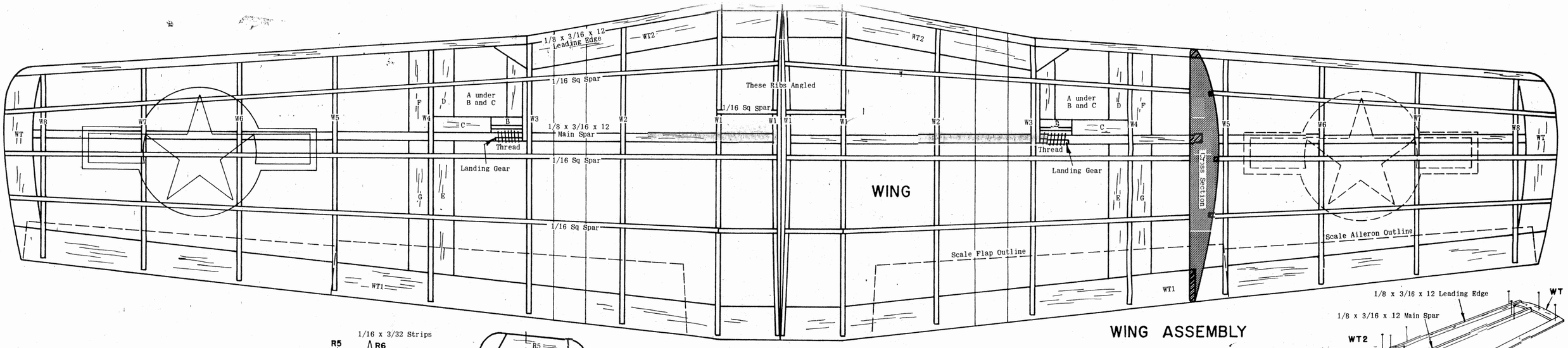
P-51D MUSTANG

Sterling MODELS (PHILA. PA. USA)

Tough, fast and highly maneuverable, the Mustang was one of the greatest allied fighter-bombers of World War II, DROPS TWO BOMBS—simultaneously, in flight.

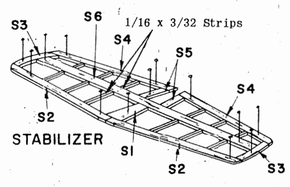
L24UJ4

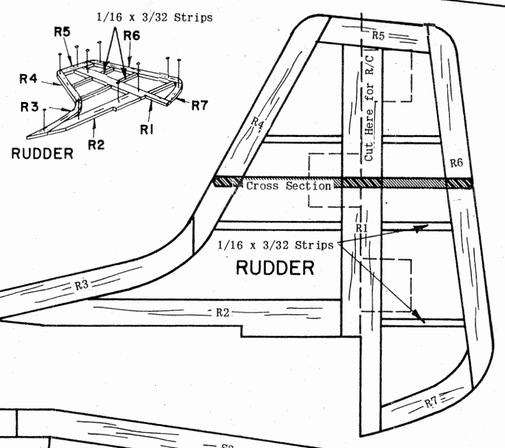
KIT A13
WING SPAN 24"

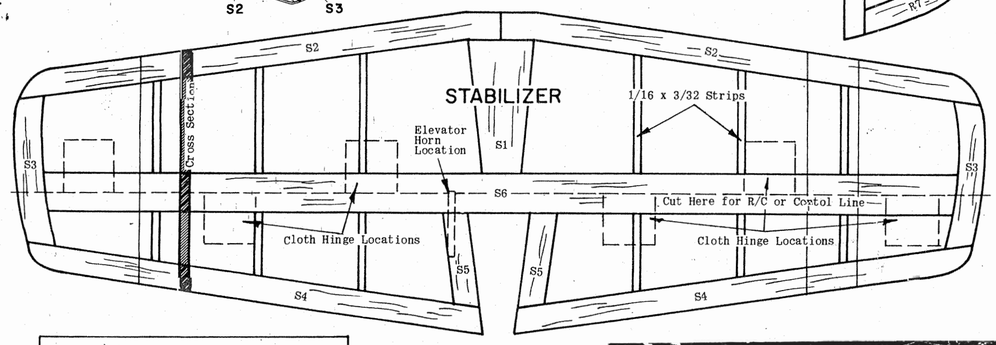


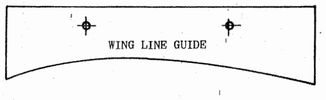
TAIL SURFACE ASSEMBLY

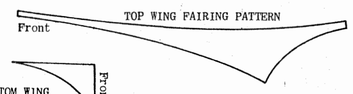
Assemble stabilizer by pinning all S parts shown to plan on flat surface, and cementing to each other where they join. Cut 1/16 x 3/32 strips to fit and cement in place upright. Rudder is built in same manner, pinning all R parts to plan and cementing to each other; then adding 1/16 x 3/32 strips. Allow assemblies to dry thoroughly on flat surface, then sand smooth, rounding edges (except bottom of R1, R2 & R3) as shown on cross-section. If model is being constructed for control line or radio, see respective detail notes BEFORE covering with tissue.

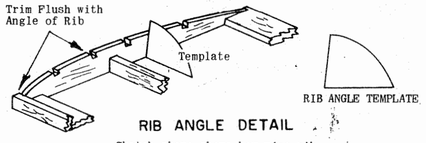










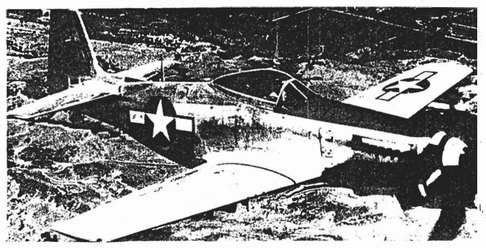


RIB ANGLE DETAIL

Sketch above shows how wing rib angle template is used as described in Wing Step 2.

SILKSPAN TISSUE COVERING

The finest grade wet strength silkspan tissue provided in this kit permits covering of compound curves without wrinkling, when moistened with water before applying to frame. Tissue shrinks when dry to tight smooth surface. Use clear dope to attach tissue as follows: Apply a light coat to the outside edges of area to be covered. When dry, cut tissue to shape needed, about 1/4" over size. Place tissue on flat surface and dampen with moistened cloth by dabbing. Apply a second coat of clear dope to outer edges, then place moistened tissue on frame. Pull tissue gently with fingers, working out all wrinkles. WHEN COVERING WING AND TAIL SURFACES, PIN FRAMEWORK TO FLAT SURFACE TO PREVENT WARPS AS TISSUE DRIES. Cut out any wrinkled areas (bounded by nearest framework) and recover. Apply two or three coats of clear dope, thinned 50-50 with thinner, on wing and tail surfaces before assembling to model. COVER WING FIRST: On control line models, add about 1/2 ounce of weight to wing tip on outside of circle flown. On bomb dropping rubber models, mechanism is installed as described in Bomb Release Detail Note before covering the wing as follows. Cover bottom of wing on both sides from center to tips, with one piece for each section. Cover top of wing from center to W8 with one piece each. On bomb dropping rubber models, top center of wing between the outer W1's are left uncovered. Tips are covered with separate small pieces. COVER TAIL SURFACES NEXT: Cover both sides of rudder and stabilizer with one piece each. COVER FUSELAGE NEXT: Cover fuselage sides from stringer above L6, down to stringer at bottom of L7, with one piece for each side, from front to back. Cover top front with one piece for each side, from front to F5, joining over L1. Cover top rear in same manner joining over L2. Cover bottom front same way, joining over L3. Cover each section from F7 to F8, F8 to F9, F9 to F10; with one piece each. Cover from F10 to rear with one piece, making pin hole to slip tissue over tail wheel gear. Apply four coats of thinned dope to tissue. When last coat is dry, trim around cockpit and trim out for notch in L2 for antennae. Check wings and tail surfaces for warps before assembly. Warps can be removed by holding over steam (from boiling kettle) and twisting gently in opposite direction. Check again when cool.



An instrument of Victory in World War-2, the P-51D Mustang of which 7956 were built

WING ASSEMBLY

STEP 1

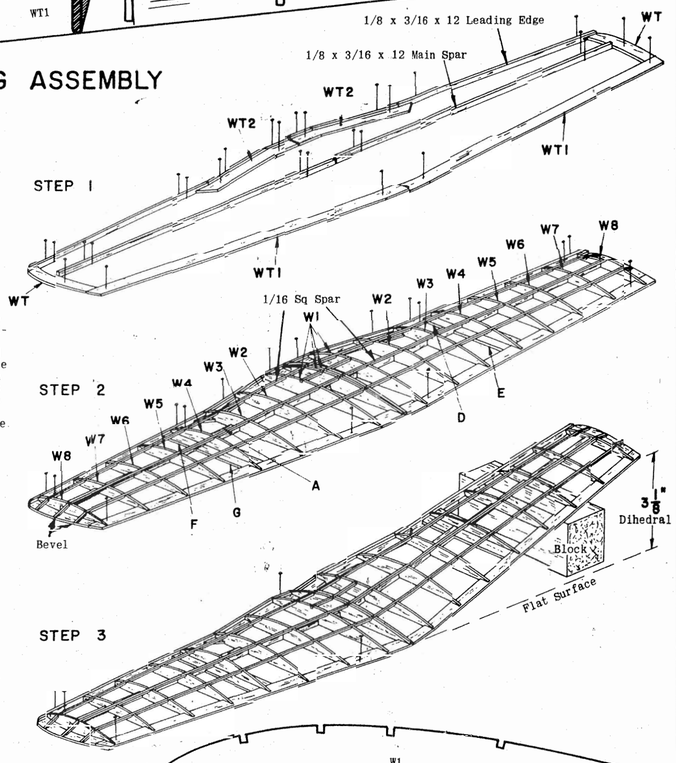
Build wing on flat surface directly on plan. Pin all WT parts in place, cementing to each other where they join, except at center joints. Cut 1/8 x 3/16 x 12 main spars and leading edges to proper length. Pin in place in upright position, joining directly over center, and cement to WT's. Leading edge sections around WT2's are cut to length and bevelled, then cemented to WT2's and each other except at center joint. Trim leading edge to curve of tips.

STEP 2

Ribs W1's to W8's are now cemented in place. Center ribs W1's are angled, using rib angle template as shown in detail sketch. This insures proper dihedral angle. All other ribs are vertical. On both sides of wing cement gussett A between W3 and W4 against spar. Cement gussets D & F on each side of W4 between leading edge and spar; likewise with E & G between spar and trailing edge. Cement 1/16 sq spars into notches along top of ribs. Spar tips are beveled to fit on WT's as shown. Allow frame to dry thoroughly before removing from flat surface.

STEP 3

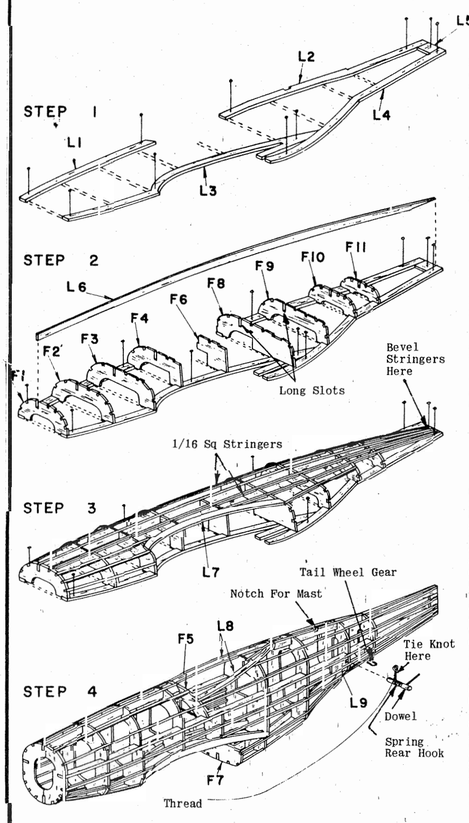
Trim and sand leading edge to shape shown on wing cross section, then round off tips and trailing edge to blend smoothly into each other. Leading edge, spars and trailing edge are trimmed flush with angle of ribs W1. Cement halves together on flat surface, blocking up one side 3-1/8 as shown. Measurement must be the same at leading and trailing edge so that wing is not warped. Other panel is weighted or pinned to keep flat on surface. Use cement generously and allow to dry thoroughly. Completed wing frame is now removed from flat surface and landing gear installation as shown on final assembly sketch is now made. Cement landing gear support ribs W3A to outer side of ribs W3, FLUSH WITH TOP. Landing gears are now cemented securely in place as shown. Top of gear rests against bottom of W3A which is angled providing forward angle to landing gear. Rear is tied securely to spar with threadas shown on sketch and wing plan. Axles face inward towards each other. It is now cemented to bottom of W3A flush with bottom of rib W3. When installation is complete, apply a second heavy coat of cement and allow to dry thoroughly. Wing frame is now sanded smooth to prepare for tissue covering.



DIE CUT PART NOTE

All die cut parts used in construction are given full size either on full size plan or individual layout. This will enable you to duplicate any part should it become necessary for any reason. Die cut parts contained in sheet as furnished in kit are also available from the factory as replacements.

FUSELAGE ASSEMBLY



STEP 1

Fuselage construction is started on flat surface directly over plan. Pin all L parts in place as shown, cementing together where they join.

STEP 2

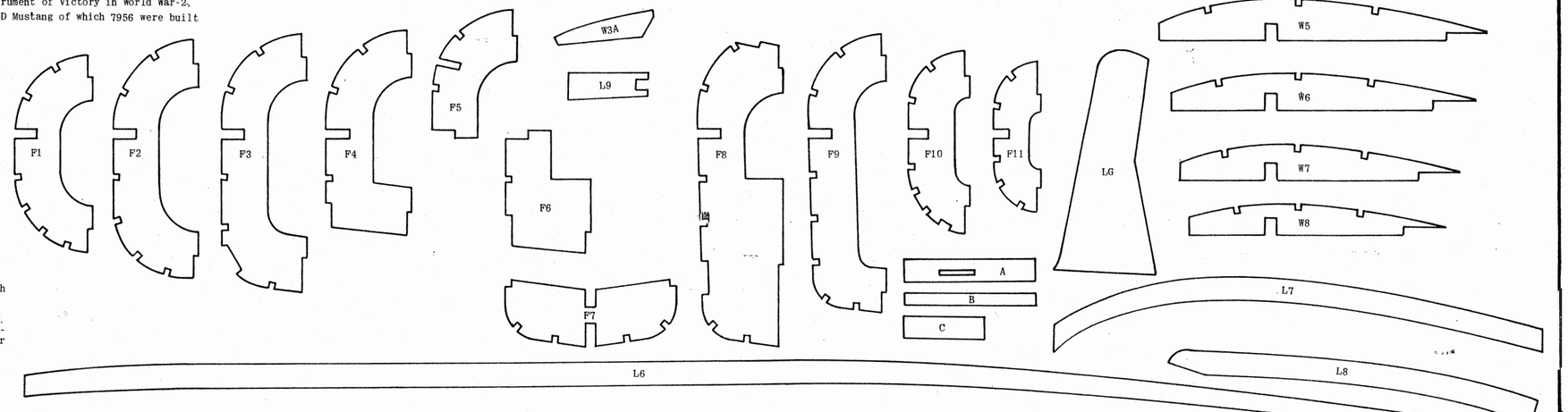
Cement all bulkhead halves from F1 to F11 vertically to frame as shown (except F5 and F7 which are installed in Step 4), then add L6 which is inserted into long slots in center of bulkheads.

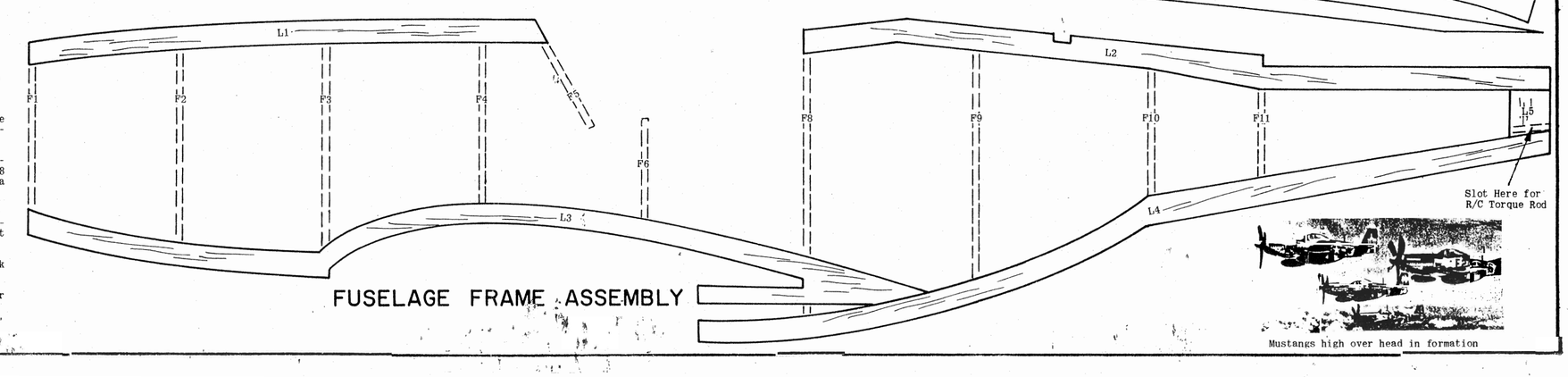
STEP 3

Pin and cement side keel L7 into notches in corners from F3 to F8. L7 fits against top of notch in F3 and F8 to provide 1/16 space for stringer below it. Install only stringers shown, which are 1/16 sq strips into their respective notches. Bevel ends at rear of fuselage to knife edge. Allow frame to dry thoroughly to prevent warping or twisting. Over night is recommended. Assembly of wing or tail surfaces can be started in the meantime.

STEP 4

Carefully pull out pins and remove frame from flat surface, then cement opposite halves of bulkheads in place, followed by L6. Cement F5 across L6's, on angle as shown on side view, top flush with end of L1. Cement L8's into notches on each side of F5, and flush with top of L2 as shown. Cement F7 to front of L3 & L4. When additions are dry, add remaining stringers, be sure F7 is straight after stringers are installed. Cement L9's against each side of F10 between L6 & stringer below, flush with outside of frame as shown. Install spring rear hook (omit on gas powered models) by inserting a 1-1/4" length of 1/8 dowel through coils of rear hook. Tie & cement a 10" length of thread to hook at location shown. Insert and cement ends of dowel between L9's, while at the same time push straight end of rear hook thru F10 against bottom of L6. Securely cement straight end of hook in place. Only straight end of hook is fastened, leaving coil free for spring movement. Straighten top of tail wheel gear and bend 1/8 spur as shown on side view. Sink spur into rear of F11 and cement securely in place. Allow fuselage frame to dry thoroughly, then sand lightly to present a smooth surface for tissue covering, described in detail note. If model is constructed other than for rubber power, see respective notes (Control Line, Radio, etc.) before covering fuselage.





FUSELAGE FRAME ASSEMBLY

Mustangs high over head in formation