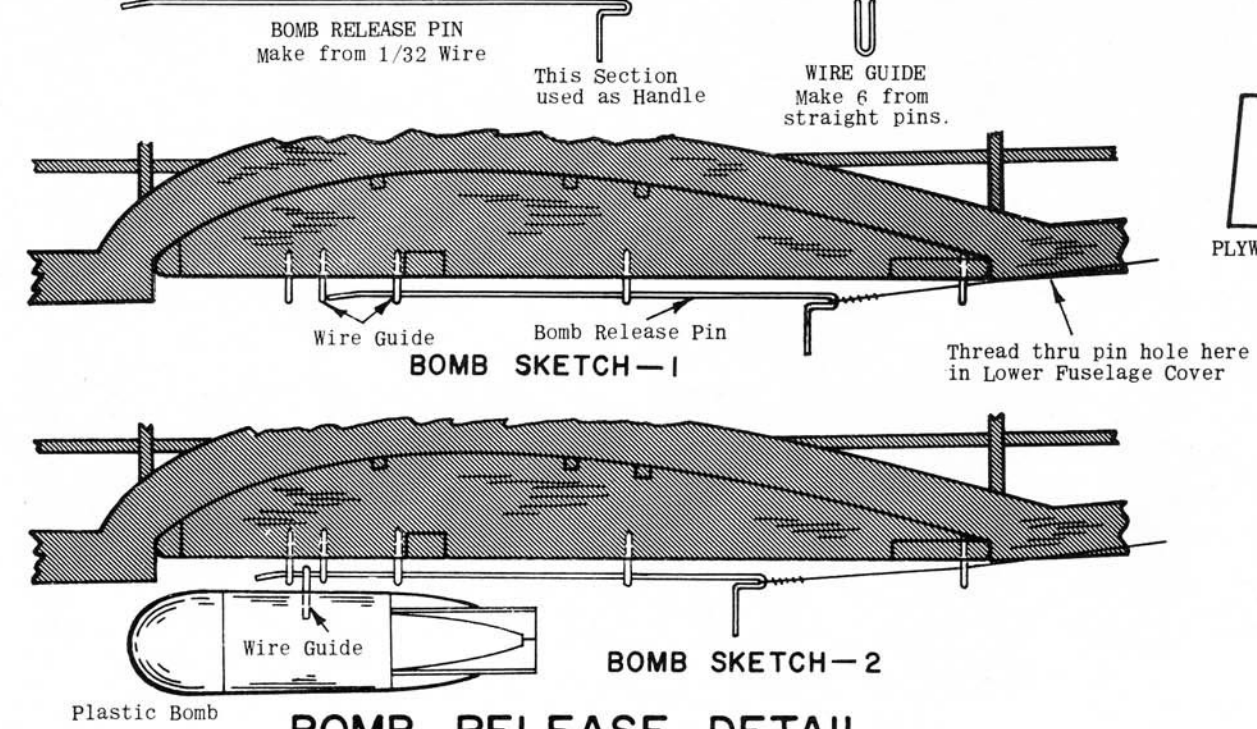


OPERATIONAL BOMB RELEASE INSTALLATION

Bomb dropping is operational in flight, on rubber powered models only. Installation is simple and action is positive, if directions are followed carefully. Make hole and cement eyelet in center of bulkhead F7, directly over keel. Bend six "U" shaped guides from straight pins, using pattern provided. Make bomb release pin from 1/32 wire, using full size pattern. Cement five guides in place to center bottom of wing, see Bomb Release Detail Sketch 1. Assemble bomb as described in Plastic Parts Detail and cement guide in place to bomb as shown. Insert a length of strong thread through eyelet and tie securely to rear hook in position shown in Sketch 1, hook in vertical position as shown on side view. Coat knot with cement. Insert thread through hole in stiff paper lower fuselage cover and through guide at trailing edge. Insert bomb release pin

through guides and securely tie thread to hook. Front of release pin is in line with second guide as shown. Thread should be snug when release pin is in this position. Coat knot on release pin with cement. This completes mechanism. To operate, wind rubber motor. This will pull rear hook forward from a vertical to a horizontal position, loosening thread. This now permits release pin to go forward past front guide to position shown in Sketch 2. Hold bomb in place between first two guides and insert pin, past front guide, engaging bomb at same time. Push pin forward until line is snug. Bomb is now loaded. Model is now released and towards the end of the flight when motor unwinds, rear hook pulls back into a vertical position, tightening line. This pulls release pin past second guide, releasing and dropping bomb. GOOD HUNTING!

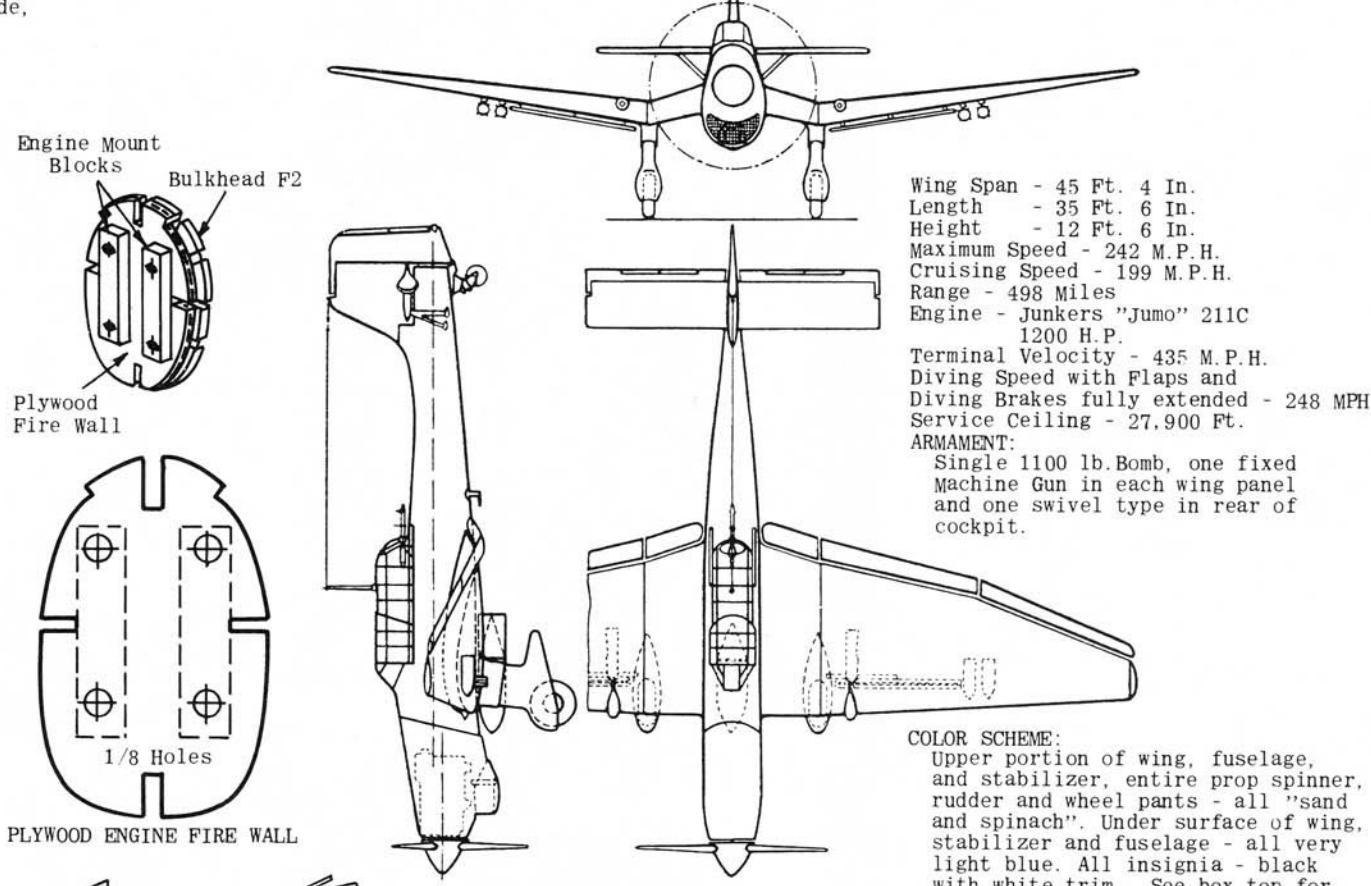


BOMB RELEASE DETAIL

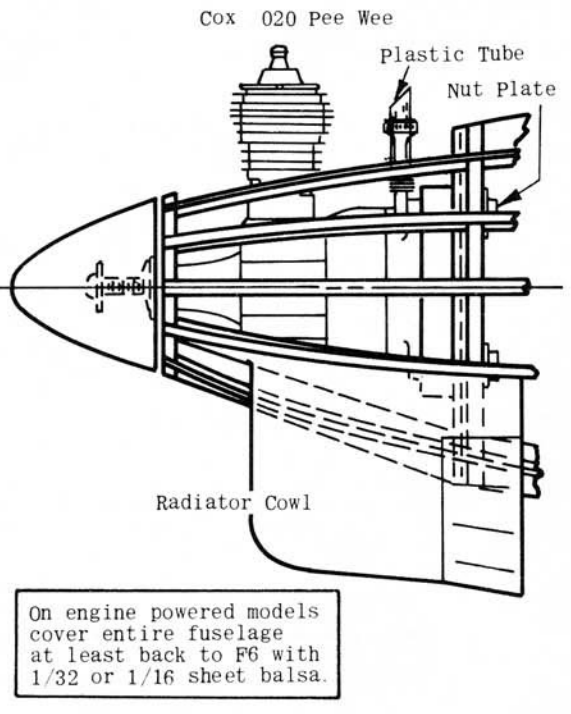
Prepare installation by bending six wire guides from pins, and bomb release pin from 1/32 wire, using full size patterns above. Cement five guides in exact position shown on Sketch #1, centering over joint between center wing ribs in place. Sketch #2 is also used for location of guide in bomb, as described in Plastic Parts Detail. When motor unwinds, hook pulls back to vertical position, pulling release pin out of front two guides, releasing bomb.

shows position of bomb release pin when motor is wound, and rear hook is in horizontal position. Thread is now loose permitting front of release pin to be inserted through guide on bomb and front guide on wing rib, securing bomb in place. Sketch #2 is also used for location of guide in bomb, as described in Plastic Parts Detail. When motor unwinds, hook pulls back to vertical position, pulling release pin out of front two guides, releasing bomb.

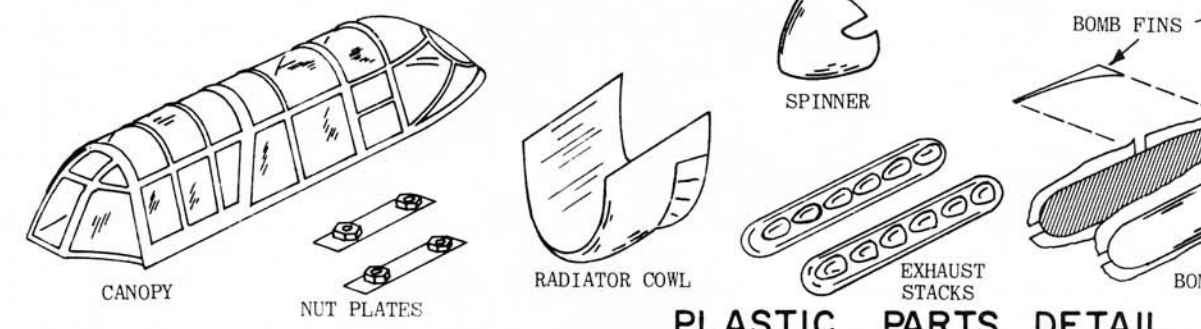
JUNKERS JU-87B STUKA SPECIFICATIONS AND COLOR SCHEME



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 Pee Wee engine, however any other similar engine may be used. It is recommended that fuselage at least back to F3 be covered with 1/32 or 1/16 sheet. Top is cut out for engine clearance. Obtain a piece of 1/16 plywood and cut engine fire wall, using full size drawing, drilling holes indicated. Cut two engine mount blocks 3/16 x 5/16 x 1-1/8 from hardwood. Cement them securely to plywood fire wall in position shown. When dry, drill 1/8 holes through 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 unscrewing bolts. When dry, remove engine. Securely cement fire wall to front of F2. Engine is then installed after model has been painted. Add a 3/8 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.

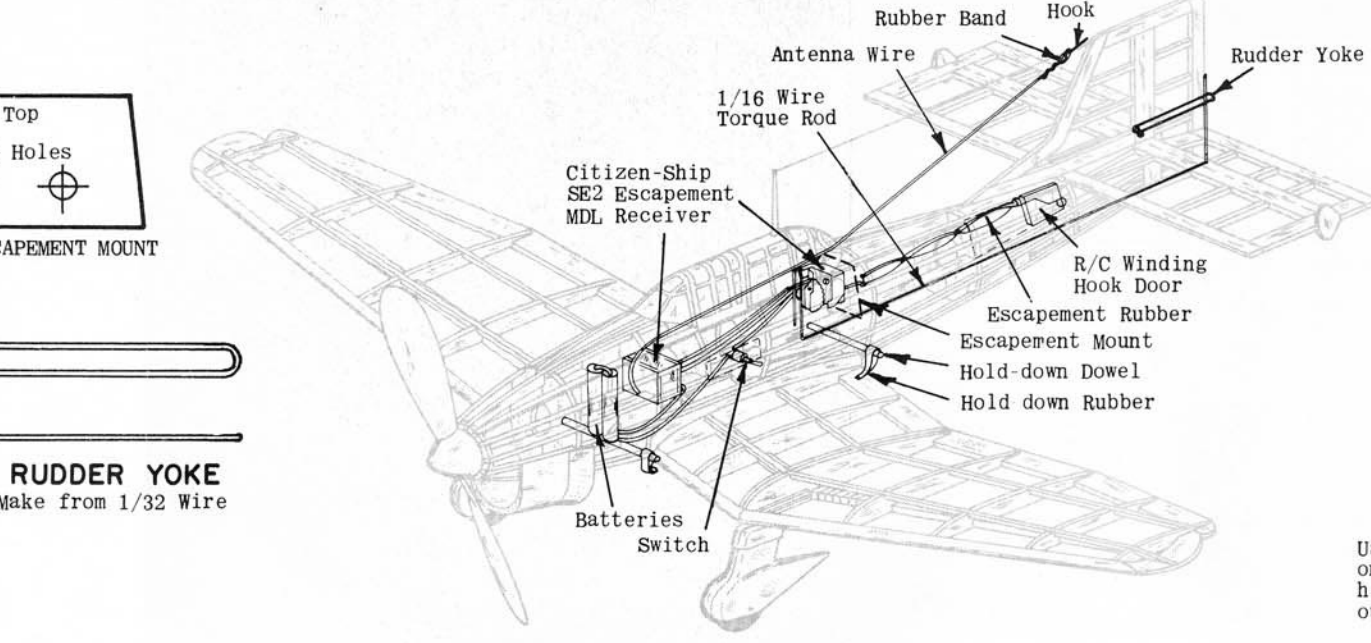


PLASTIC PARTS DETAIL

For best results follow instructions carefully. CANOPY Cut from sheet and trim edges smooth, then fit in place on fuselage. Paint remaining portion of canopy (frame) same color as fuselage, after reading Paint Instructions at end of this note. Install antenna as described in Final Assembly. NUT PLATES Cut from sheet right along trim line and install as described in Engine Installation. RADIATOR COWL Cut from sheet, leaving 1/16" material for trim. Sand and trim off excess material carefully. Fit on fuselage in position shown on side view. EXHAUST STACKS Cut from sheet right along trim line and install in position shown on side view. SPINNER Carefully sand and trim off excess material in same manner as Radiator Cowl. Cut out spinner at scribe lines and cement over propeller after propeller is installed as described in Final Assembly. BOMB Cut out of sheet, leaving about 1/16" excess material. Carefully trim out slots about 1/8 wide on top,

bottom and ends; right to the edge of the bomb as shown. This will permit accurate assembly. Cement halves together, lining up carefully at slots. Plastic is Polystyrene. Plastic or metal airplane cement can be used. Use sparingly however since excessive use of cement may distort the plastic. After assembly, allow to dry thoroughly, then trim and sand off smooth. Cut out the 4 Bomb Fins scribed on plastic sheet. Cement fins to end of bomb at right angles along top and bottom seams, and scribe lines on sides of bomb. Make two pin holes for U shaped guide as shown in Step 2 Sketch of Bomb Release Detail, then cement guide securely in place. WHEEL PANTS Cut halves from plastic sheet in same manner as bomb, leaving excess material. Cut slots as shown for alignment. Insert bearings in wheels, then place wheel on landing gear axle. Cement wheel pants together over landing gear, carefully lining up halves. Wheel pants are also cemented to wire strut on inside at the same time

and end of axle fits into dimple in plastic. Landing gear should be in position shown on side view. When assembling, use cement sparingly, however a second or third coat can be applied if necessary, but also sparingly. PAINTING: Regular plastic model paint or enamel can be used. 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 as provided or if painting parts a lighter color than red, apply a light coat of silver, followed by a light coat of white before painting final color. Darker paints may be 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. All plastic parts are installed, as described, after both model and parts have been painted. See side view and picture for locations.

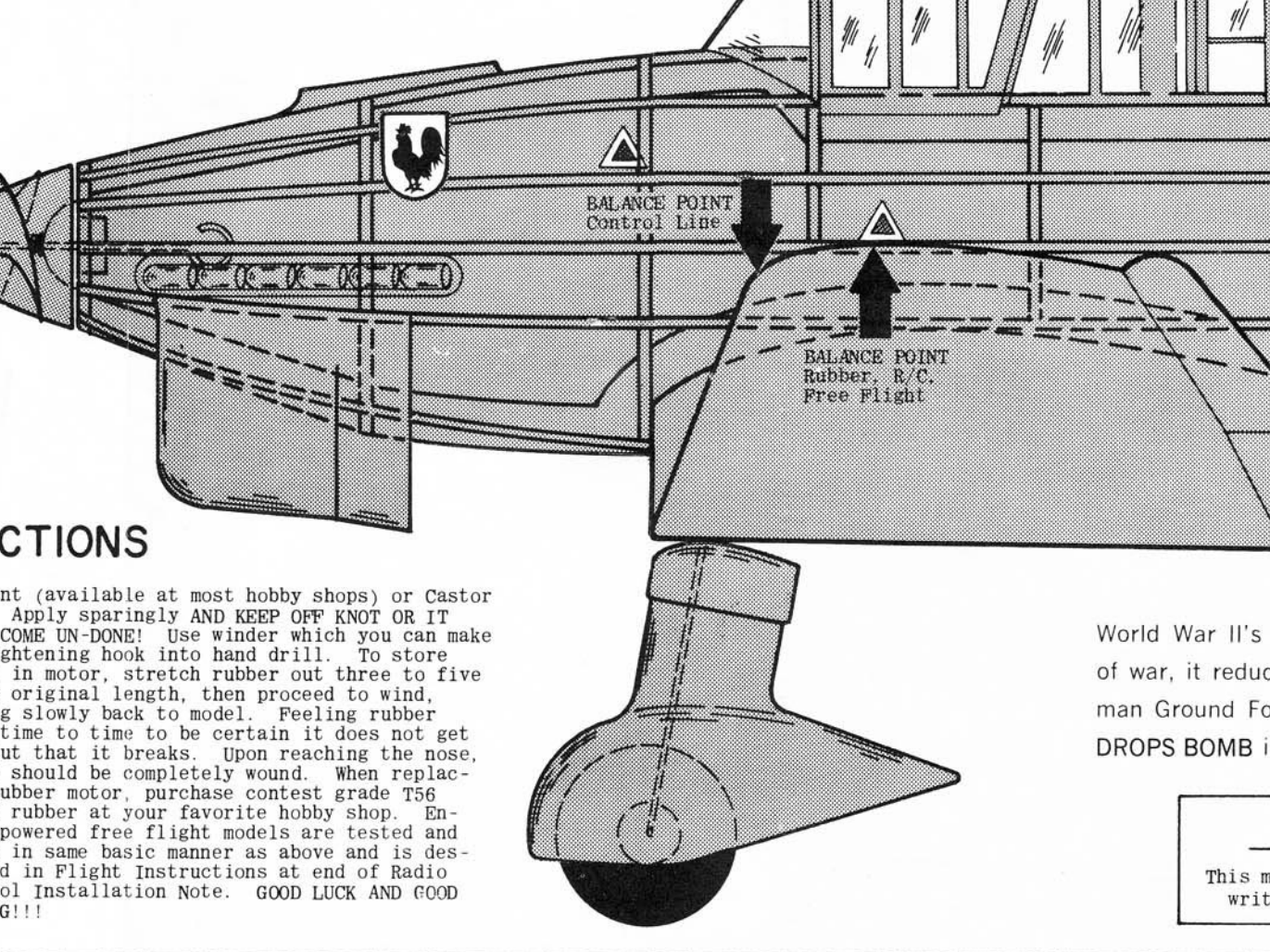
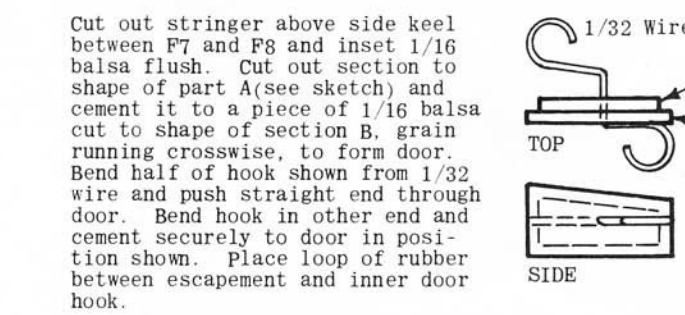


RADIO CONTROL INSTALLATION

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 2" length of 1/8 dowel across front of F3 and rear of F6 on top of center keel. Dowels protrude evenly from fuselage on both sides. Remove center keel L2 between F3 and F6. For strength and durability, it is recommended that front half of entire fuselage be covered with 1/32 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 a long length of 1/16 wire through slot made in rear of L2 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 F2 and F3. Receiver is located between F3 and F4. Wire radio equipment in accordance with manufacturer's instructions. After unit is

wired, line front compartment with foam rubber and insert batteries, followed by receiver which is 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 3" from wing leading edge at rib W6 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. 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 washers under top mounting bolts. Increase engine RPM as adjustments are made, checking R/C controls before each flight. GOOD LUCK AND GOOD FLYING!!!

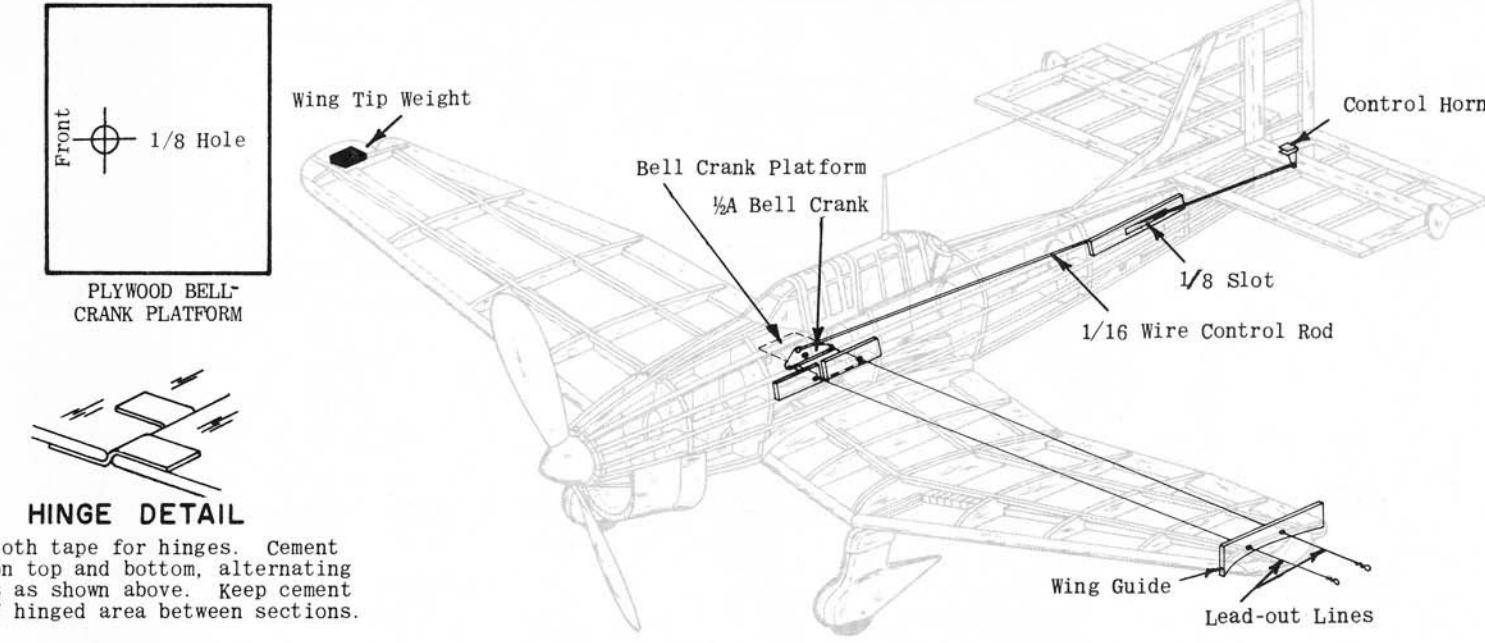
R.C. WINDING HOOK DOOR



FLIGHT INSTRUCTIONS

When model has been completed, it must balance 3/8" from front of wing at wing tip ribs W6 as shown on side view. DO NOT ATTEMPT TO FLY MODEL UNTIL BALANCE HAS BEEN ACHIEVED, add weight if necessary. Model is now ready. Pick a calm day for test flying. 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 lu-

bricant (available at most hobby shops) or Castor Oil. Apply sparingly AND KEEP OFF KNOT OR IT WILL COME IN-DONE! 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 manner as above and is described in Flight Instructions at end of Radio Control Installation Note. GOOD LUCK AND GOOD FLYING!!!



CONTROL LINE INSTALLATION

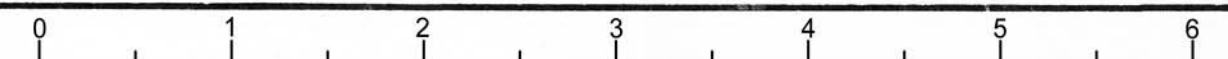
Materials required are not provided in kit. Install controls after Fuselage Step 4 has been completed. Obtain 1/16 plywood and cut out bell crank platform, using drawing provided, drilling hole indicated. Fill in area between F3 to F5 from side keel L4 to stringer above it, with scrap 1/16 sheet balsa, flush with outside of frame; also area from F7 to F8, between L4 and stringer above, in same manner. Cut 1/8 slot in rear for control rod as shown. Mount 1/2 bell crank to plywood platform as described in installations that come with bell crank. Cut two 15" lengths of lead-out lines and fasten them to bell crank. Cement platform securely in fuselage against rear of F4, and top of L4's. Lead-out lines come through fuselage at holes drilled for them as shown. Use cement generously, applying at least two coats on installation. Cover fuselage with tissue as described in detail note. Cut stabilizer in half through wide main spar, as indicated by dotted lines. Round edges and install control horn at location shown on drawing, then join together with cloth hinges shown. Cement stabilizer horizontally to top rear of fuselage. Tape elevators in neutral position (in line with stabilizer, neither up or down). Obtain a piece of 1/16 music wire at least 12" long for control rod, and bend 1/4" of one end at right angle. Loosen

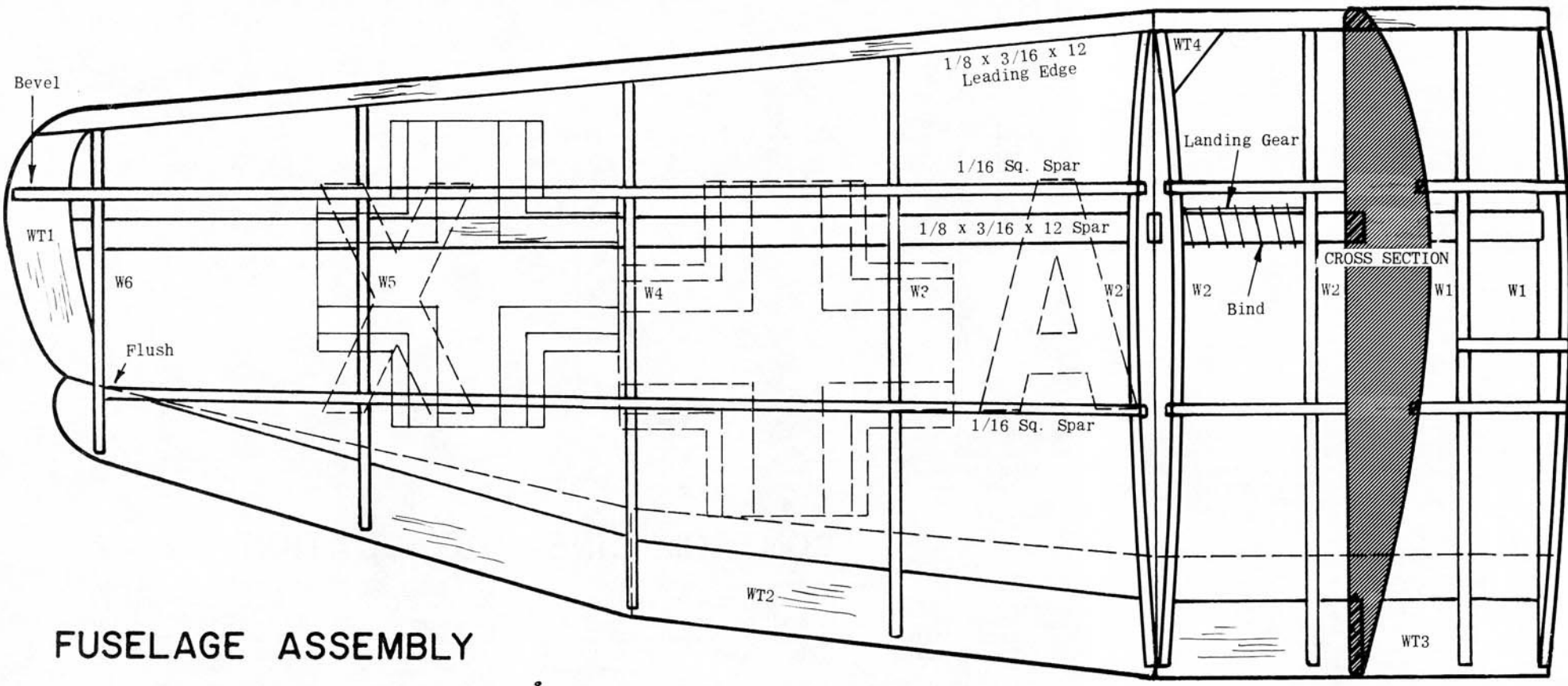
bell crank and insert rod from bottom with spur vertical, then secure bell crank. Control rod should be in line with elevator horn, if not, bend accordingly so that rod slips through slot freely. Make a right angle bend at rear end of rod at precisely the location of hole in elevator horn, with bell 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. Cement rudder to top of stabilizer, against rear of fuselage, at angle so that rear of rudder is off-set 1/2" towards outside of circle flow. Assemble wing to fuselage as described in Final Assembly Detail. Make wing guide from 3/32 balsa, drilling holes indicated. Cement securely to wing over rib W6 as shown. Reinforce fuselage and wing guide holes with washers or eyelets. Thread lines through 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 1/2 control lines and handle when flying your JU-87B Stuka Dive Bomber. GOOD LUCK AND GOOD FLYING!!!

STUKA DIVE BOMBER

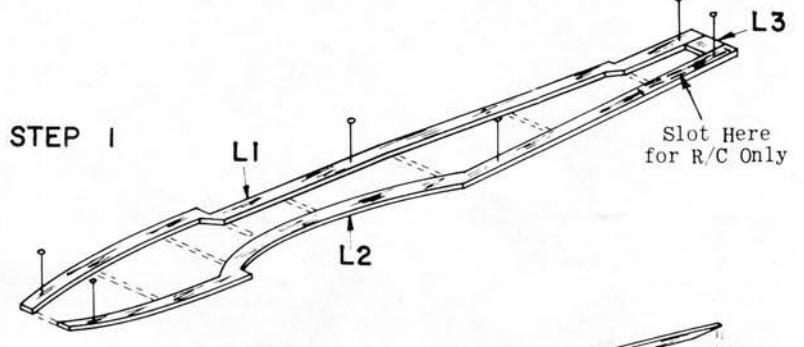


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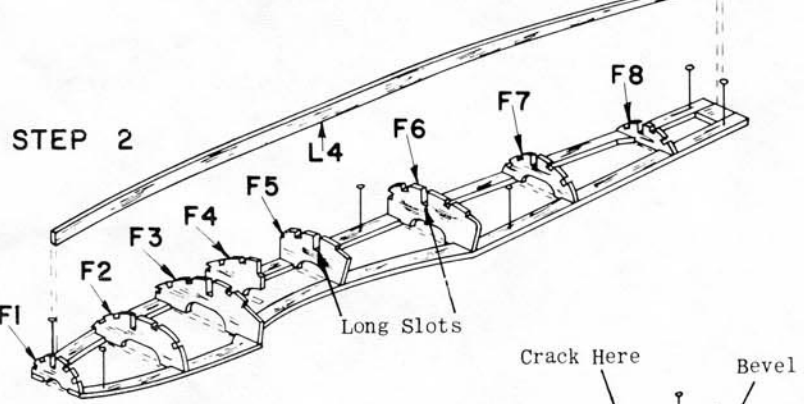




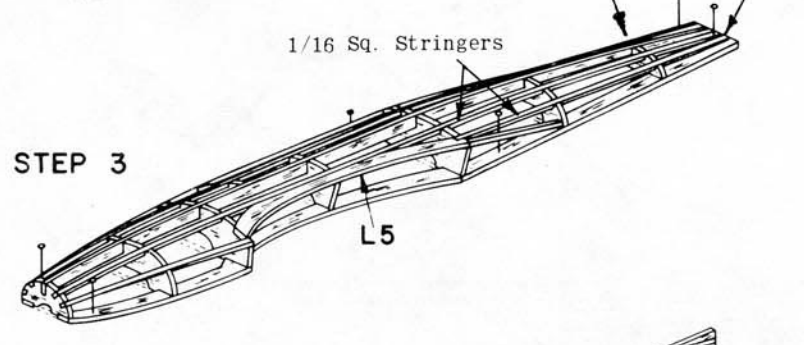
FUSELAGE ASSEMBLY



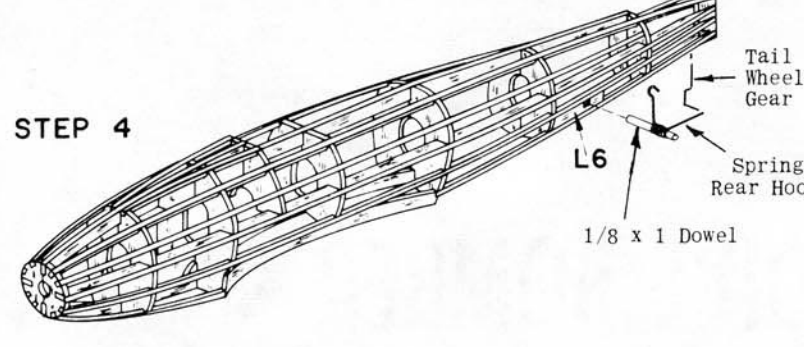
STEP 1
Fuselage construction is started on flat surface directly over plan. Pin all L parts in place as shown. If model is to be R/C, cut out slot in L2 (at rear) as shown in dotted lines. Cement 1/16 (scrap) doubler over slot, ends shown in dotted lines. Slot is for torque rod.



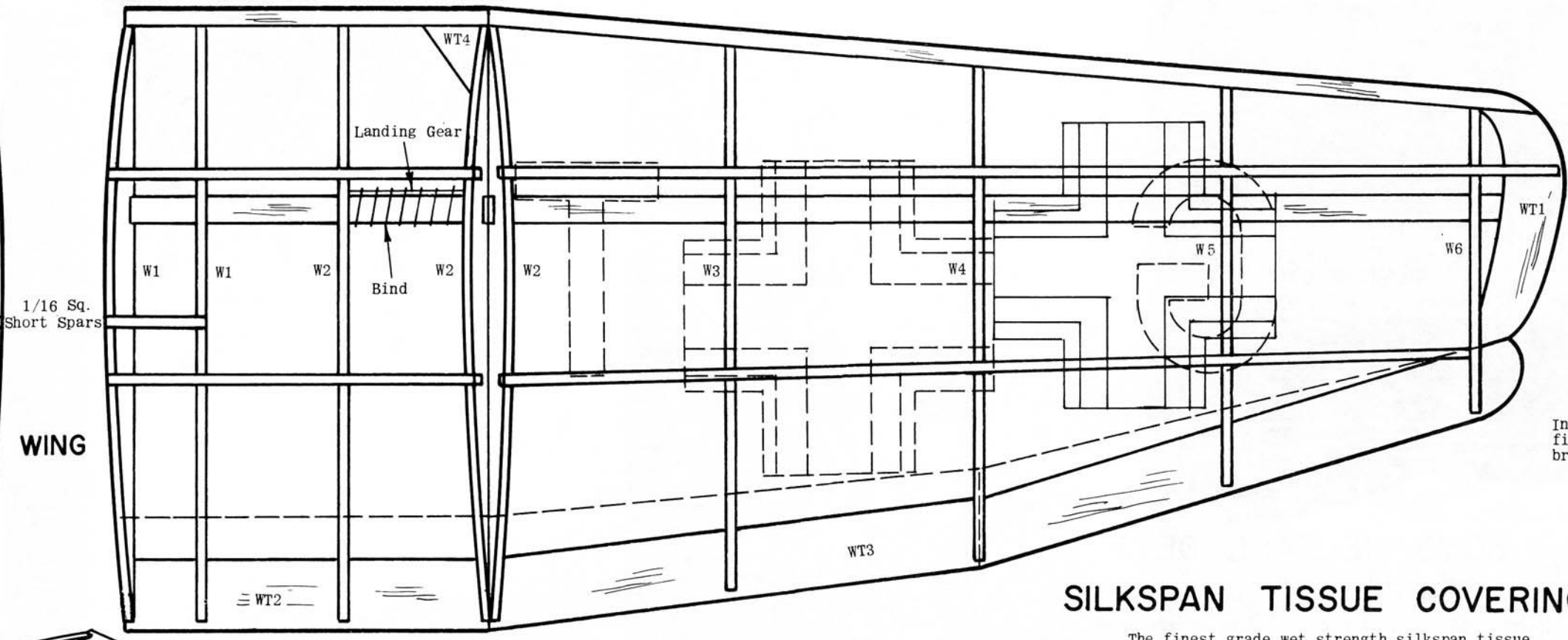
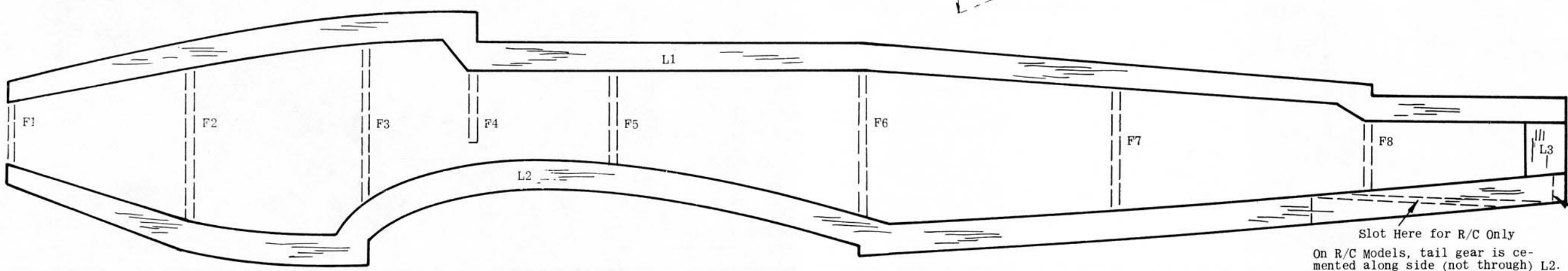
STEP 2
Cement all bulkhead halves from F1 to F8 vertically to frame as shown, then add L4, which is inserted into long slots in center of bulkheads.



STEP 3
Pin and cement side keel L5 into notches in corners from F3 to F6. Note that front of L5 fits against top of notch in F3 to provide 1/16 space for stringer below it. Install all stringers, which are 1/16 square, into their respective notches. Top stringers, which are not visible, can be seen in next sketch. Bevel ends to fit at rear. Top stringers adjoining L1 are cracked at F8 so that stringers are flush with top rear of L1 when viewed from side. 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.

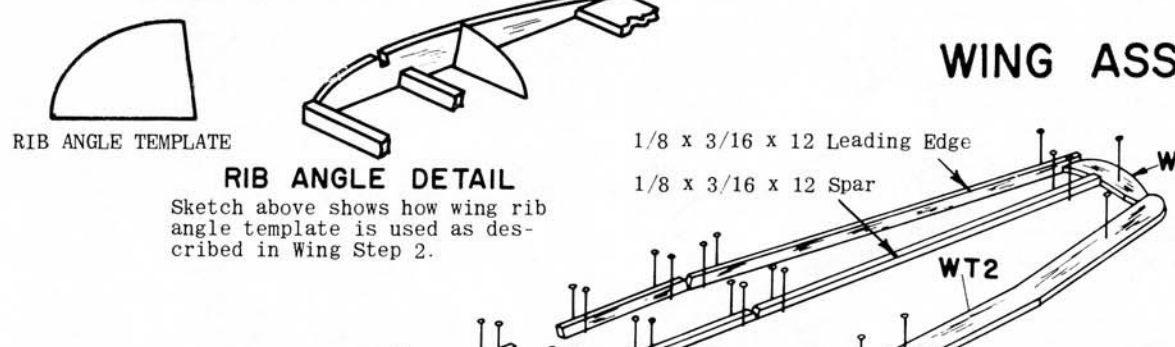


STEP 4
Carefully pull out pins and remove from flat surface, then cement opposite halves of bulkheads in place, followed by L4. Cement 1/16 (scrap) over open side of slot. If used, cement both L6's in place. Install spring rear hook (omit on gas powered models) by inserting a 1" length of 1/8 dowel through coils of rear hook. Insert and cement ends of dowel between L6's. Securely cement straight end of hook to bottom of side keel L4, see side view. Bind with light thread. 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 front of L3 and cement securely in place. Remainder of 1/16 square stringers are now cemented into their respective notches as shown. 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.

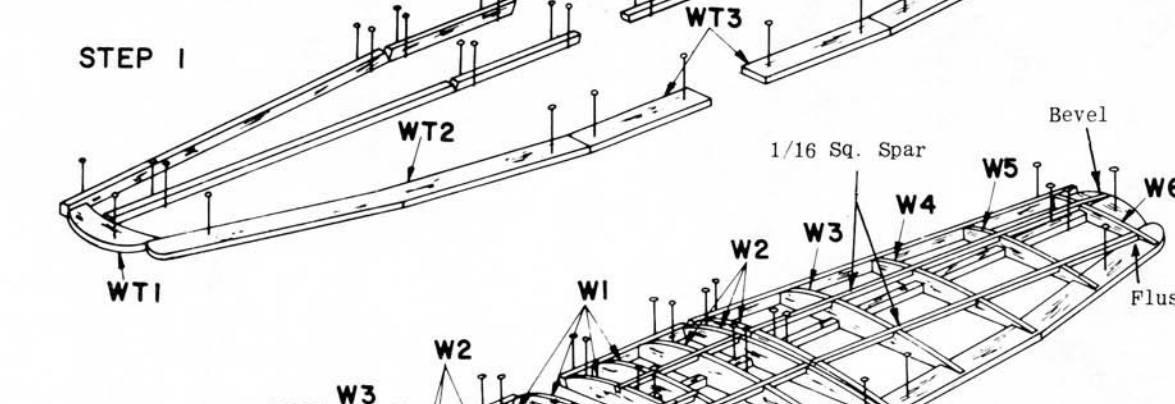


WING

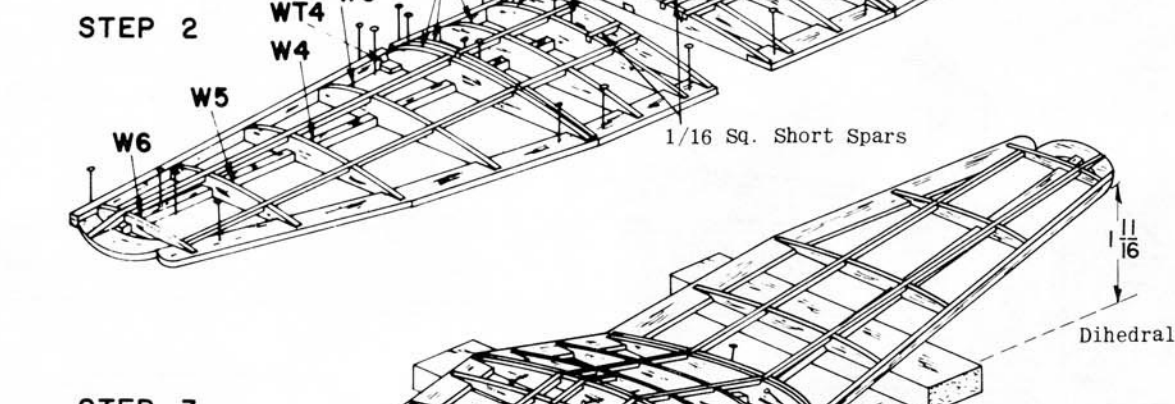
WING ASSEMBLY



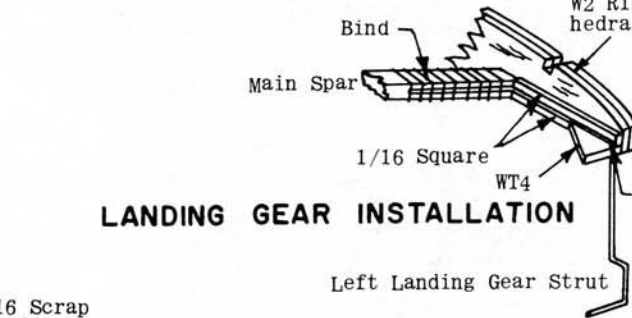
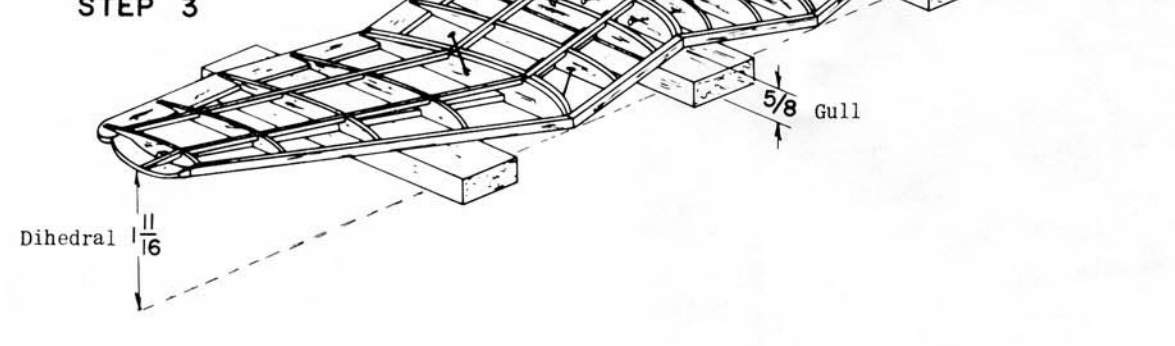
STEP 1
Build wing on flat surface directly on plan. Pin all WT parts in place, cementing to each other where they join. Cut 1/8 x 3/16 x 12 main spars to proper length. Pin in place flat, cementing where they join, and also cemented to WT1's. 1/8 x 3/16 x 12 is also used for leading edge. Pin in place in upright position, cementing where they join and to front of WT1's.



STEP 2
Ribs W1's to W6's are now cemented in place. Center ribs W1's are angled, using rib angle template, tops facing in as shown on Wing Plan. This insures proper angle for gull. Ribs W2's are also angled, however opposite, tops facing out as shown on Wing Plan. Use same template. All other ribs are vertical. Cement 1/16 square spars into notches along top of ribs. Front spar tips are beveled to fit on WT1 as shown. Rear spar tips are cut off and cemented flush with top of W6 as shown. Cement 1/16 square short spars across W1's between 1/16 square spars. Trim leading edge to curve of tip. WT4 shown for position only, it is installed after landing gears in next step. Allow frame to dry thoroughly before removing from flat surface.



STEP 3
Pull pins out carefully and remove from flat surface. Separate wing panels and trim & sand leading edge to shape shown on wing cross-section. Round off tips and trailing edge as shown to blend smoothly into each other. Trim off leading edge, spars and trailing edge; flush to angled ribs. Cement center panels together on flat surface. Blocking up center 5/8" as shown. Cement outer panels in place, blocking up tips, on both sides, 1-11/16 for proper dihedral angle. Use cement generously and allow to dry thoroughly. When dry, install main landing gears. In the event that model is to be gas powered, it is recommended that you obtain 1/16 diameter music wire and bend new landing gear struts to exact shape of ones provided in kit. Detail sketch shows installation of left strut, axle facing inward. Cement & bind rear spur of landing gear to main spar, 1/16 from bottom. Triangular gusset WT4 is notched for wire thickness and cemented against leading edge and rib W2, flush with bottom. Cement 1/16 square strip above and below landing gear wire on rib as shown. Use cement generously and allow to dry thoroughly. When dry, check that struts are vertical. When dry, sand frame smooth to prepare for tissue covering.

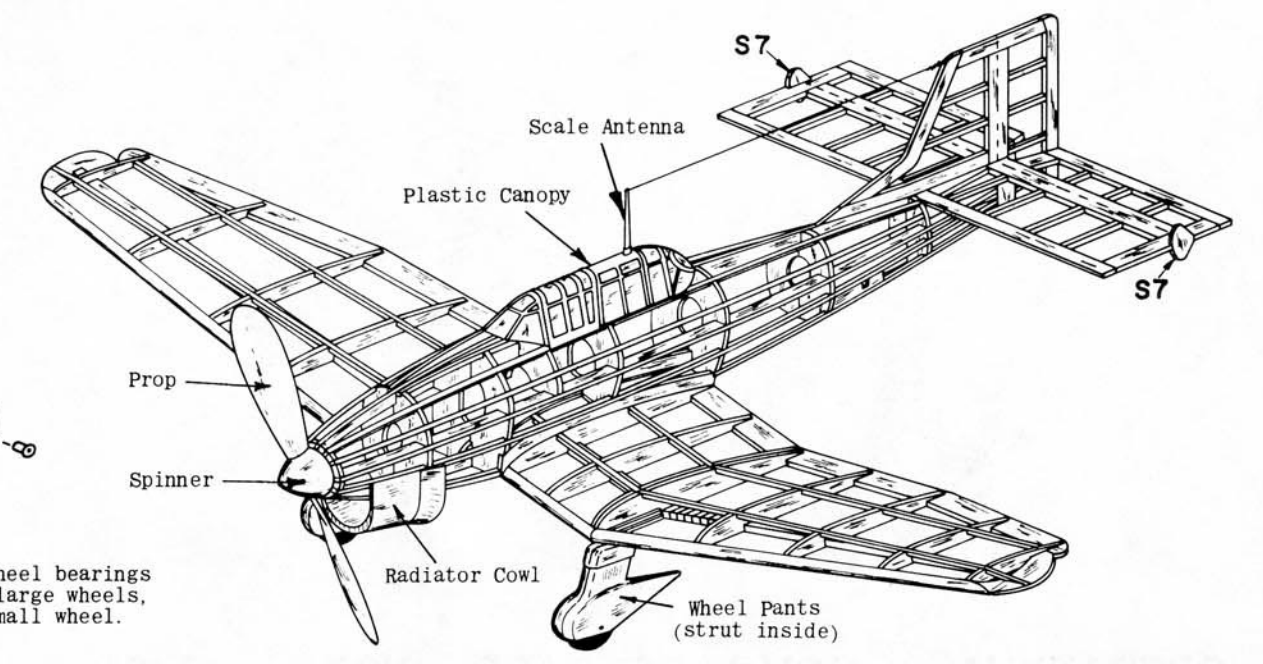


LANDING GEAR INSTALLATION

Slot Here for R/C Only
On R/C Models, tail gear is cemented along side (not through) L2.

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: Landing gear must be installed in wing before covering, see Wing Step 3. On control line models, add about 1/2 ounce of weight to wing tip on outside of circle flown. Cover top and bottom of wing by sections, from dihedral and gull joints. COVER TAIL SURFACES NEXT: Cover both sides of rudder and stabilizer in one piece each. COVER FUSELAGE NEXT: Bomb release mechanism must be installed before fuselage is covered. See Detail Note. Cover narrow strips of fuselage sides first with one piece from stringer above side keel to next stringer above it. Cover fuselage sides from bottom stringer at L5 up. Cover rear from F5 back in one piece. Cover front in two pieces back to F4, joining in center on L1. Cover bottom in one piece back to F3. Cut out bottom fuselage cover from stiff paper using pattern provided. Apply four coats of thinned dope to tissue covering on fuselage. 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.

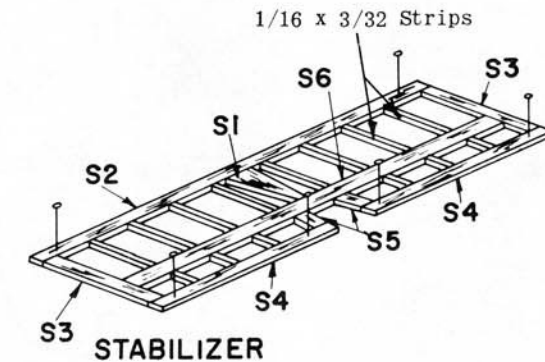


FINAL ASSEMBLY

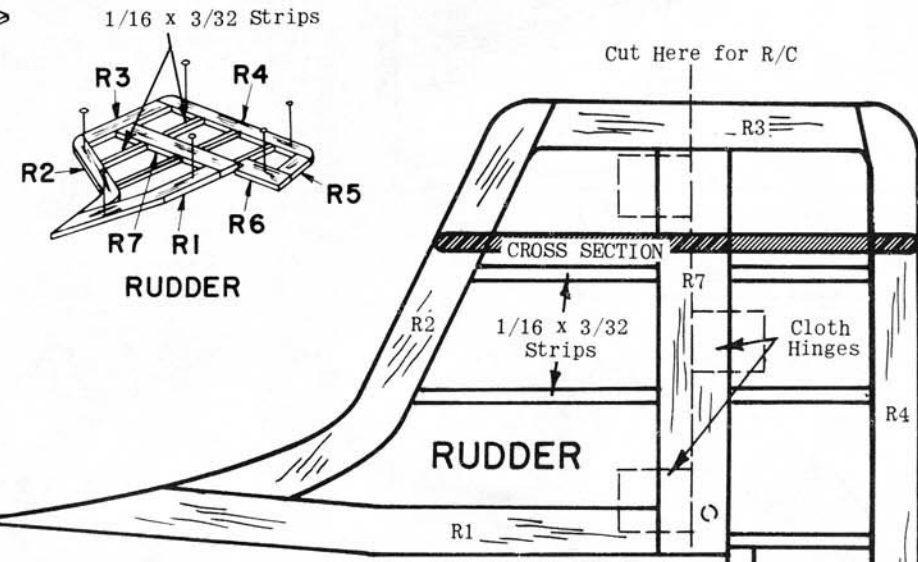
On R/C models wing is removable as described in R/C Note. For other models cement wing securely in fuselage between bulkheads F3 and F6, lining up ribs W1's under side keels F5. Press wing tightly against L5's to insure proper incidence, otherwise model may not fly! Hold in place with pins until dry. It is necessary to have access to rear hook to replace rubber motor. Cut out stringer immediately above side keel L4, on right side, between F7 and F8. 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 square to side keel L4 to act as stop to keep door flush with surface. Hold bottom with Scotch Tape. Cement stabilizer horizontally against F8 at rear of fuselage. Cement rudder to top of stabilizer and against rear of fuselage, in line with center keel L1. Trim out center keel L1 between F4 and F5 for cockpit. Assemble and trim all plastic parts, see detail note. Round off, sand smooth, then cement hinge nearest S7, vertically to each side of stab as shown. 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 rear of F4 in cockpit. Cement all plastic parts in place as described in detail note. Round off die-cut scale antenna and paint. Trim out slot in canopy and cement antenna in place as shown on side view. Outlines of scale control surfaces can be drawn on with India Ink. Insert bearings into wheels and install as described in Plastic Parts Detail. Insert straight end of propeller shaft to rear of nose bearing. Slip on two washers provided, and insert shaft through back of propeller. Bend front of shaft to U shape as shown on side view and cement securely to propeller. Make two loops of rubber. Insert rubber through 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 through nose bearing hole in F1 and capture rubber on hook. Pull through F1 and attach rubber on prop shaft. Nose bearing fits into center hole in F1. Your Stuka JU-87B Dive Bomber is now complete. See Flight Instructions before flying. GOOD LUCK AND HAPPY LANDINGS!!!

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



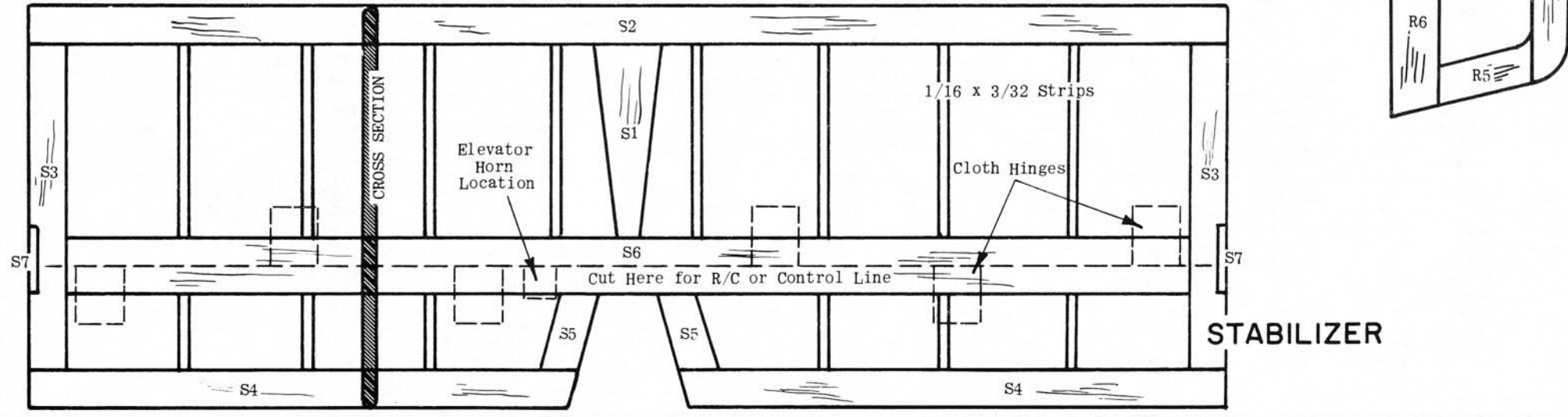
STABILIZER



RUDDER

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 R1 and bottom of R7 & R6) as shown on cross-section. If model is being constructed for control line or radio, see respective detail notes BEFORE covering with tissue.



STABILIZER