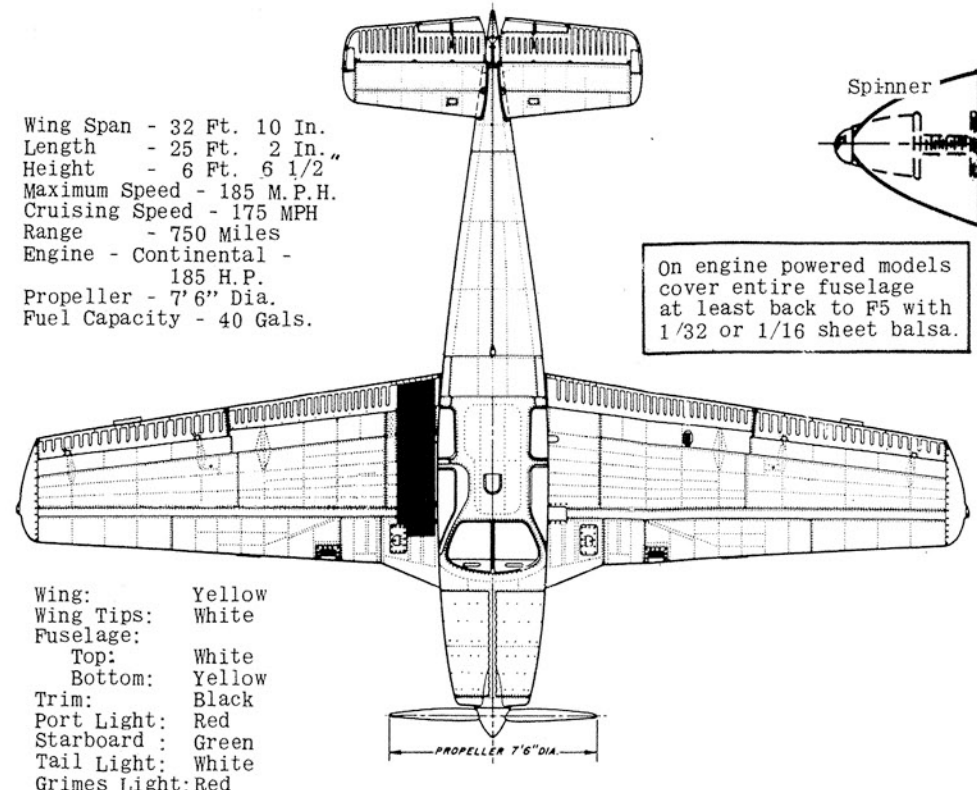


### OPERATIONAL LANDING GEAR INSTALLATION

Landing gears are operational in flight, on rubber powered models only. Installation is simple and action is positive, if directions are followed carefully. Assemble landing-gear-release Tee slide track for main landing gear and nose gear as shown and described in detail note. Cut out center keel L3 between F3 and F5, and at the same time cut off bottom of F4 leaving sides of F4 intact. Also cut out top rear 1/16 square spar in center section. Make hole and cement eyelet in center of both bulkheads F3 and F5, directly above keel. Track (with landing gear release inserted) is now cemented securely to top of center ribs W1, front in line with notch of removed spar. Use two heavy coats on this installation and allow to dry thoroughly, making sure release Tee slides freely inside track. Rear thread is inserted through eyelets, pulled snug, and tied securely to rear hook while it is in vertical position as shown. Make sure line is snug, then coat knot with cement. Tie

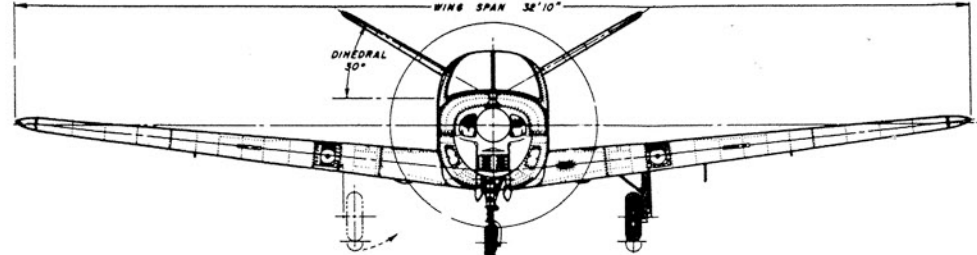
front thread to end of wire cemented in nose release block. Pull line up snug and coat knot with cement. Install wheels as described in Final Assembly. This completes mechanism. To operate, wind rubber motor. This will pull rear hook forward from a vertical position to a horizontal position, loosening threads. With tension released, wheels are then retracted manually (by hand) by bending up into place in wing and slipping strut under 1/32 wire main landing gear retainers, BEING CERTAIN THAT WHEEL AXLES ARE BEHIND LANDING GEAR RELEASE TEE. Nose gear is bent up in same manner engaged beneath horizontal U cemented to bulkhead F2. Landing gear is now locked in place. As motor unwinds, rear hook pulls back to a vertical position, tightening lines. This pulls main landing gear release Tee which in turn pulls landing gear release block moving landing gears past retaining wires. Landing gears now snap down into position for landing.

### BEECHCRAFT BONANZA SPECIFICATIONS AND COLOR SCHEME

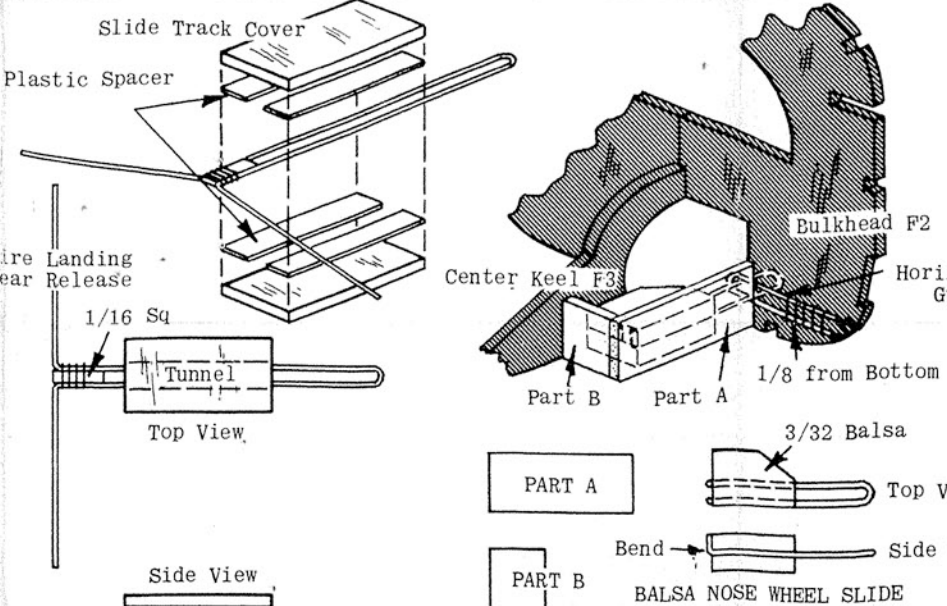


On engine powered models cover entire fuselage at least back to F5 with 1/32 or 1/16 sheet balsa.

Wing: Yellow  
Wing Tips: White  
Fuselage: White  
Top: White  
Bottom: Yellow  
Trim: Black  
Port Light: Red  
Starboard: Green  
Tail Light: White  
Grimes Light: Red

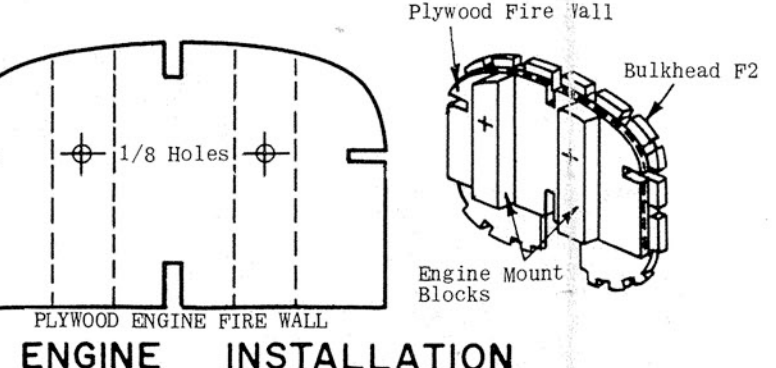


Follow instructions carefully. COWL: Cut from sheet, leaving 1/16 material for trim. Sand and trim off excess material carefully. Cowl may be placed on bulkhead F1 for support while sanding. Clear hole for nose bearing. SPINNER: Carefully sand and trim off excess material in same manner as cowl. Cut out spinner at scribble lines and cement over propeller. GRIMES LIGHT & NAVIGATION LIGHTS: Cut from sheet and trim in same manner, being careful not to lose small parts. NUT PLATES: Cut from sheet right along trim line and install as described in Engine Installation. CABIN: Cut from sheet and trim. Install red fit in place on fuselage. Install permanently as described in Final Assembly or hinge as described in R/C Note. PAINTING: Regular plastic



### SLIDE RELEASE DETAIL

Make main landing gear slide release by cutting two slide track covers 1/16 x 3/8 x 3/4 from scrap balsa, grain running as shown. Cut a strip of plastic (from plastic parts sheet) 1/8 wide, and cement a double layer to each side and between track covers to form tunnel as shown. Long U section of Tee shaped wire-landing-gear-release should slide snugly yet freely in tunnel between plastic spacers. Allow to dry thoroughly. Cement a 1/4" length of 1/16 square balsa between wire on open end of wire-landing-gear release as shown. Allow to dry thoroughly, then trim flush on top and bottom. Wrap two or three turns of thread around very end and keep it together, coating knot with cement. When dry, insert into slide, and tie a 12" length of thread, both to front and rear. Cement assembly into fuselage as described in Operational Landing Gear Installation. Use good grade of strong thread (not supplied in kit). Make nose wheel slide unit by cutting two pieces to shape shown from 3/32 scrap balsa. Make a right angle bend in straight end of U shaped wire part and cement in place sandwiched between the two 3/32 balsa blocks as shown, spur on wide end. Allow to dry thoroughly. Cut two slide retainers from 1/16 balsa to shape shown. Cement part A vertically against front of F2 and part B between part A and center keel L3; both flush with bottom of bulkhead and center keel as shown in sketch. This forms a guide housing for nose wheel slide. Place slide in housing as shown, inserting wire through horizontal guide and cementing to bulkhead F2. Installation of system is now completed as described in Operational Landing Gear Installation.

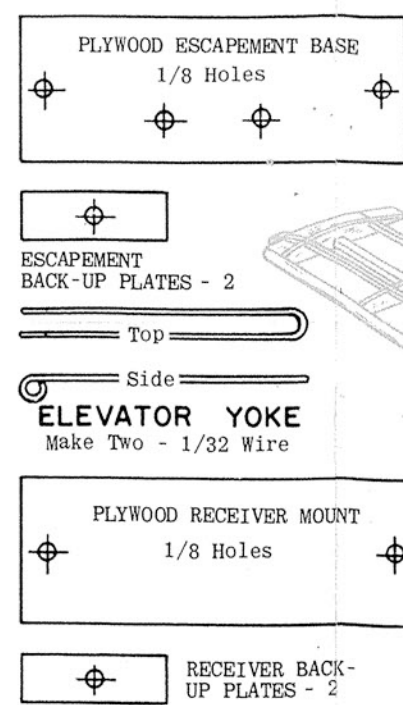


### ENGINE INSTALLATION

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. Cover entire fuselage, at least back to F5 with 1/32 or 1/16 sheet balsa. The top is cut out now 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 1-3/8 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 keep 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. 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 in place. If it becomes necessary to remove engine for any reason, break cement joint of cowl. Engine is then re-installed and cowl re-cemented back in position. Add a 1/2" 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

model paint or enamel can be used on red parts and clear cabin. Model airplane dope can be used on red plastic only, but must be applied in light spray coat. Excessive use of dope may deform plastic. If red parts are to be painted lighter color, apply a light coat of silver, then white; otherwise lighter color will not take well. This is not required on darker colors. 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. Install red Grimes and Navigation lights. See 3-views for color and location. Installation of other parts are described in text.



### 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. Install radio after fuselage frame is completed in Step 4. Stabilizer is cut apart at location shown by dotted lines, then assembled together with cloth hinges, see detail. Bend two wire yokes from 1/32 wire using pattern above, and install on elevators as shown on sketch and full size stab drawing. Mount both with 2/56 nut and bolt. Cut escapement base from 1/16 plywood and mount escapement. Cut back-up plates from 1/16 plywood, install blind nuts on rear, then cement to back of bulkhead F5, on each side, in location shown. Install escapement with 2/56 bolts screwed through F5 into blind nuts. Cut receiver mount and two receiver back-up plates from 1/16 plywood. Cement back-up plates, to front, on either side of bulkhead F3 as shown. Receiver is installed on mount according to R/C manufacturer's instructions, and unit is installed with 2/56 bolts screwed through bulkhead F3 into blind nuts. Remove receiver and escapement from fuselage and wire radio equipment in accordance with manufacturer's instructions. Line bottom and front of compartment between bulkhead F2 and F3 with foam rubber. Batteries are then inserted and remainder of space filled

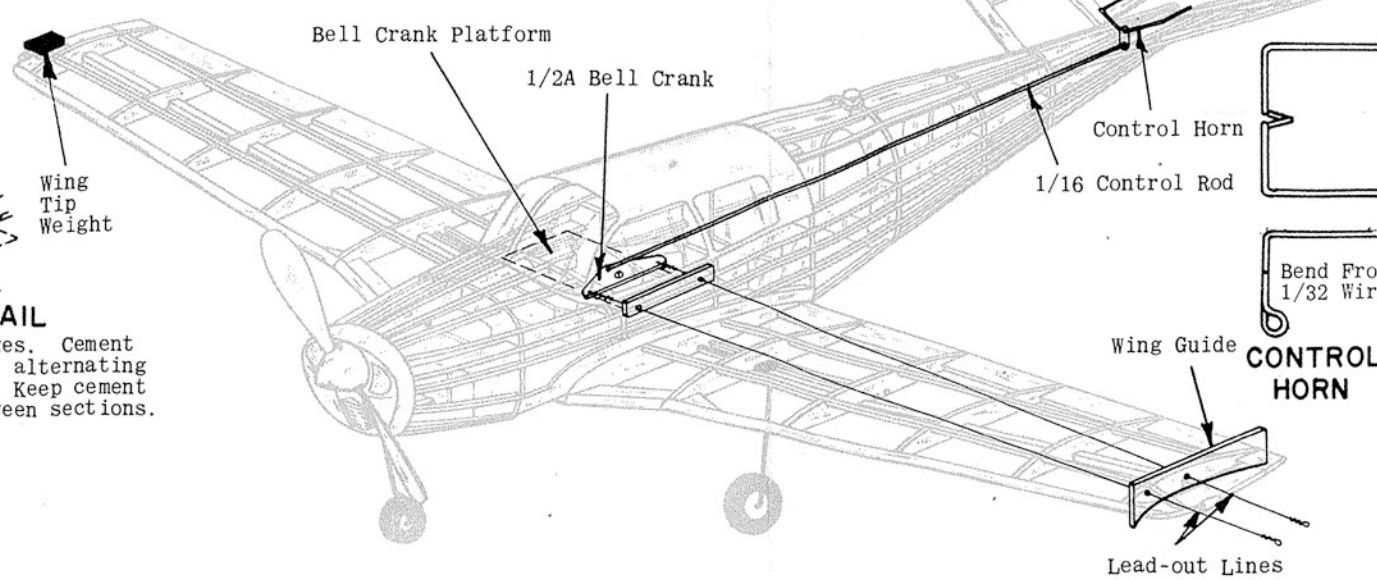
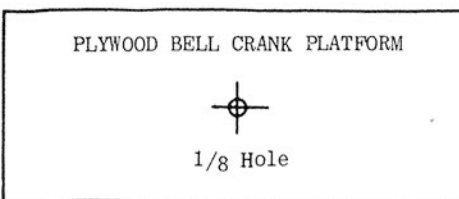
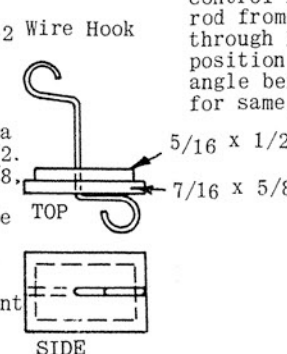
### FLIGHT INSTRUCTIONS

When model has been completed, it must balance 7/8 from front of wing at tip ribs W6 as shown on side view. DO NOT ATTEMPT TO FLY MODEL UNTIL BALANCE HAS BEEN ACHIEVED. Add weight, if necessary. Check wing and tail. If warps have developed, remove using steam method described in Covering Step. Model is now ready for flight testing. Pick a calm day for testing. 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 both elevators down slightly using hot breath in same manner as steam. If model dives, Bend both elevators up. If model veers too much to one side, bend elevator down on the side that model turned, BENDING OPPOSITE ELEVATOR UP AN EQUAL AMOUNT. If model now dives, increase bend in up elevator and if necessary, decrease bend in down elevator. 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 with Castor Oil. Apply sparingly and KEEP OFF KNOT OR IT WILL BECOME 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. Feel 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!!!

### R.C. WINDING HOOK DOOR

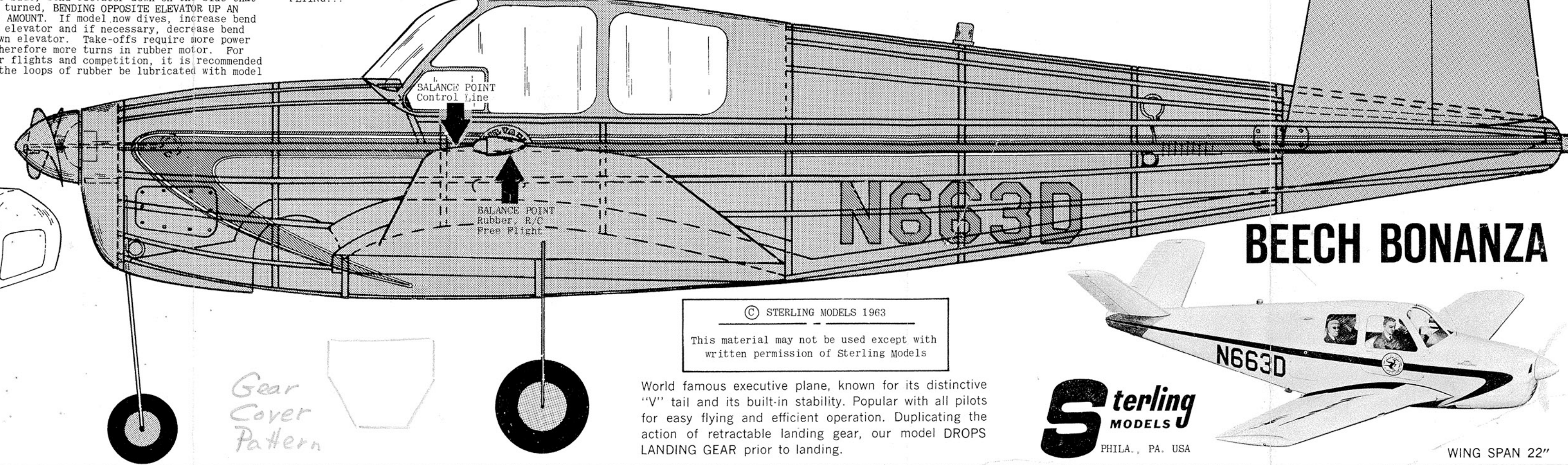
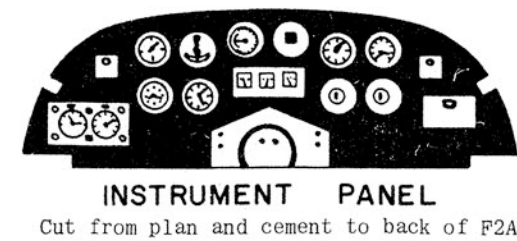
Cut out stringer above side keel between F7 and F8 and inset 1/16 balsa flush. Cut out square hole 5/16 x 1/2. Cement it to a piece 1/16 x 7/16 x 5/8, grain running crosswise to form door. Bend half of hook shown from 1/32 wire and push straight end through door. Bend hook in other end and cement securely to door in position shown. Place loop of rubber between escapement and inner door hook.



### 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, then cement it securely in fuselage against front of bulkhead F4, resting on side keels L5's. Cut two 15" lengths of lead-out lines and fasten them to 1/2A bell crank. Mount to plywood platform as described in instructions that come with bell crank. Fill in area between F3 and F4, from side keel L5 to stringer above it, with 1/16 balsa, flush with outside of frame. Drill two holes through balsa sheet in position shown for lead-out lines. Make special control horn as shown and described in detail note, then cut elevators apart at dotted line shown on drawing. Hinge together with cloth hinges as shown in detail sketch, then cement control horn securely in place. Tape elevators in neutral position (in line with stabilizer, neither up or down). Obtain a piece of 1/16 music wire at least 15" long for control rod, and bend 1/4" of one end at right angle. Insert bent end into control horn and solder washer on end to prevent rod from coming off. Insert rod into fuselage through F8, temporarily holding stabilizer in position with pins. Locate and make a right angle bend in front of rod at hole in bell crank for same, with bell crank in neutral position as

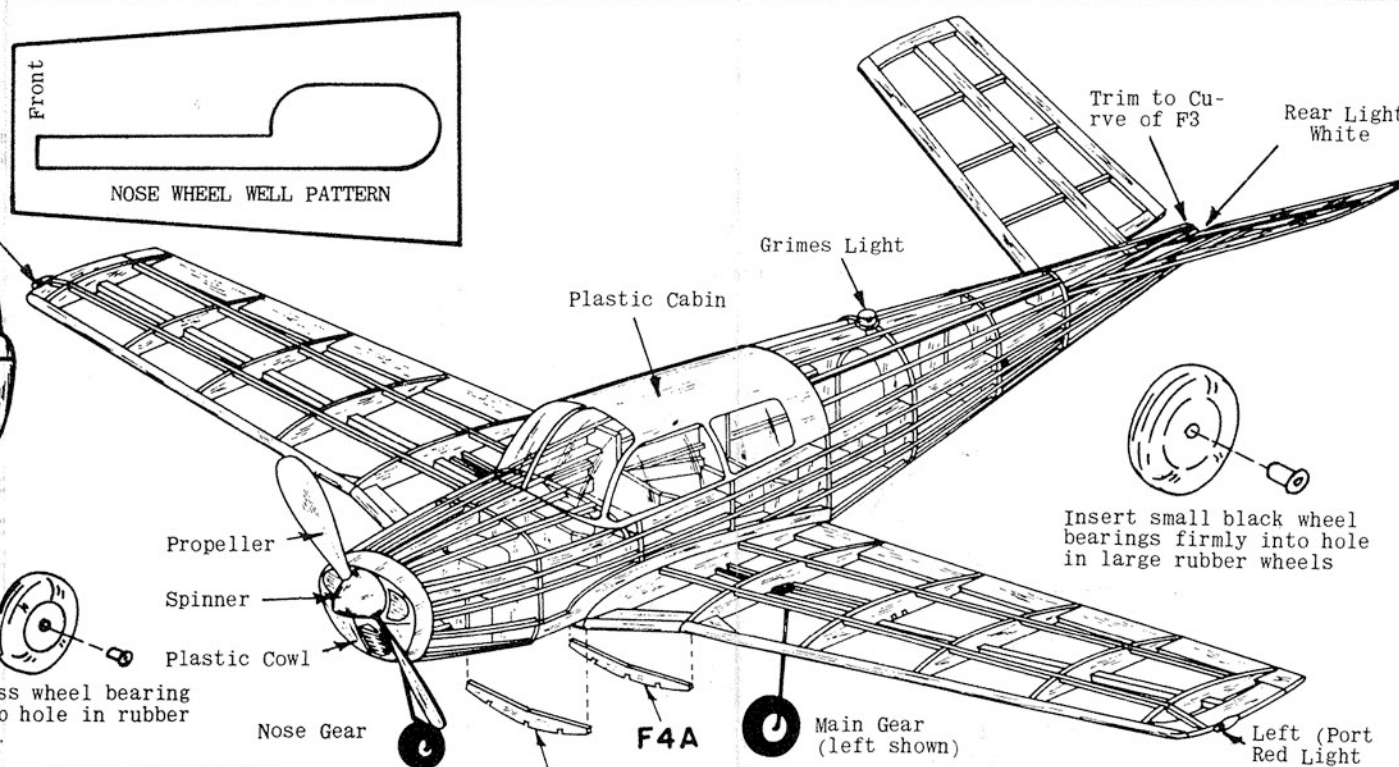
shown in sketch. Cut off excess wire, then engage front of control rod in bell crank as shown, according to instructions that came with bell crank. Controls are now in neutral position and they should work freely and easily. Stabilizer is now cemented permanently in place, making sure both tips are same height from flat surface. Make wing guide from 3/32 balsa, drilling holes as described in final assembly, securely cement wing guide to top of tip rib W6 as shown, front hole located directly over front 1/16 square wing spar. Reinforce lead-out line holes in fuselage and wing guide with washers or eyelets. Thread lead-out lines through holes in fuselage and wing guide, then 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 level (or slightly nose down) at point where front lead-out line comes out of fuselage. If necessary, add weight. Off-set engine towards outside of circle flown by placing two washers (about 1/32 thick) behind left side of engine. Engine points towards outside of circle flown. Use regular 1/2A control lines and handle when flying your Beechcraft Bonanza. GOOD LUCK AND GOOD FLYING!!!



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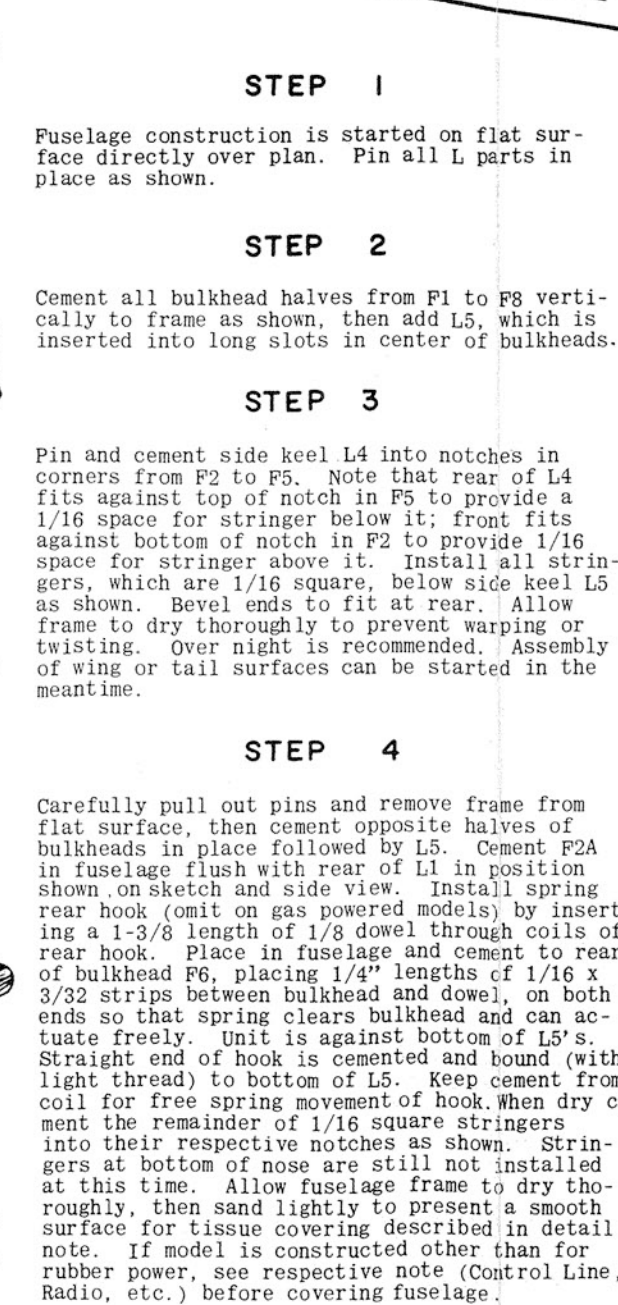
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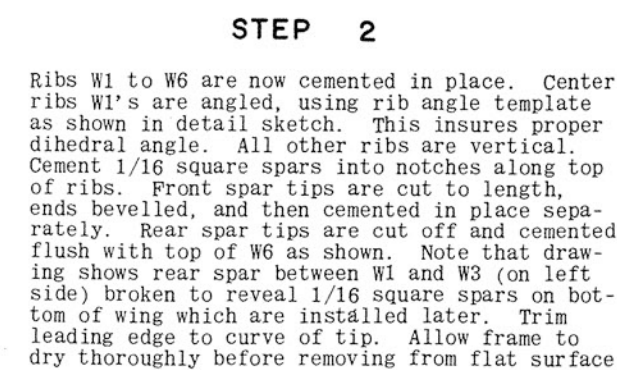


# SILKSPAN TISSUE COVERING

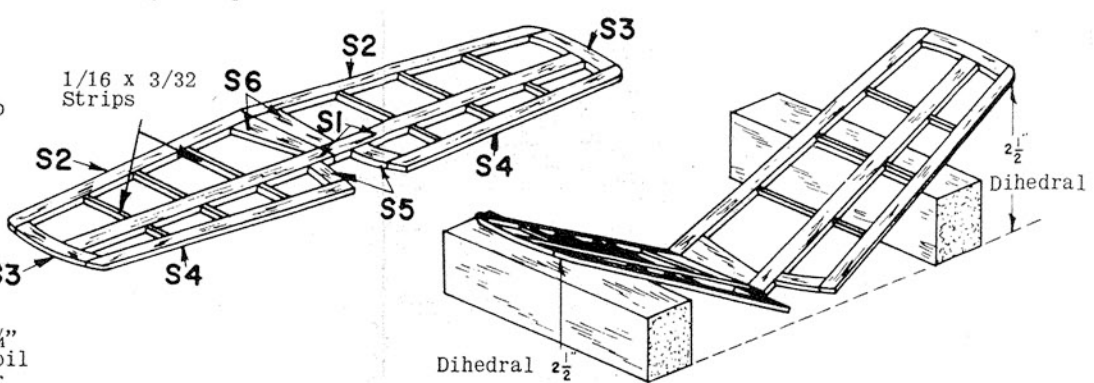
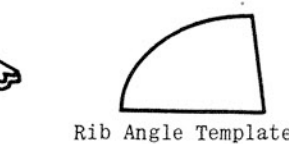
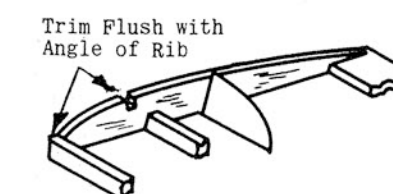
FINAL ASSEMBLY



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, joining directly over center, where they are cemented to each other and to WT's. 1/8 x 3/16 x 12 is also used for leading edge. Pin in place in upright position, fitting small sections around WTI's as shown.

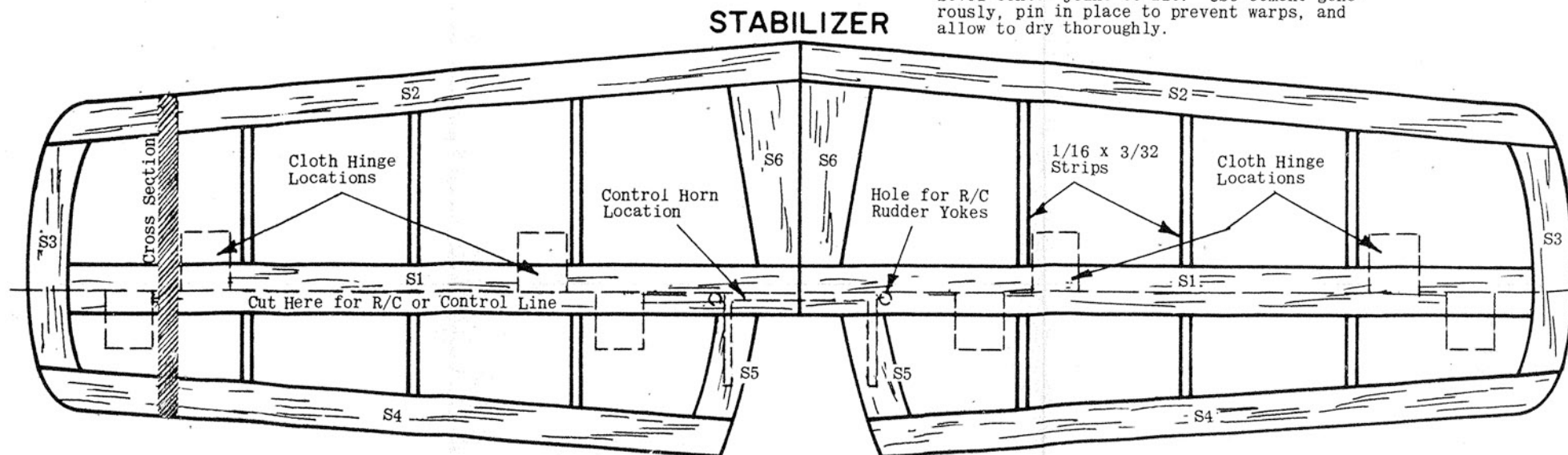


Sketch above shows how wing rib angle template is used as described in Wing Step 2.



## STABILIZER ASSEMBLY

Assemble stabilizer by pinning all S parts shown to plan on flat surface, and cementing to each other where they join, except along center joint. Cut 1/16 x 3/32 strips to fit and cement in place, upright. Allow assemblies to dry thoroughly on flat surface, then remove and sand smooth. Round edges (except center joint) as shown on Cross Section. Cover with tissue as described in detail note. If model is being constructed for control line or radio, cut elevators loose and hinge together with tissue in their respective detail notes. Cement halves to each other, blocking up each side so that both tips are 2 1/2" from flat surface as shown. Bevel center joint to fit. Use cement generously, pin in place to prevent warps, and allow to dry thoroughly.



### CAUTION:

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

with operational landing gear. Cut two 14" lengths of 1/8 dowel and insert through coil spring of right and left main landing gear struts. Cut four 5/16" lengths of 1/16 x 3/32 strips. Assembly is now securely cemented in place against rib W2 as shown on full size layout with 1/16 x 3/32 x 5/16 strips used as spacers between rib and dowel as shown. Flat spur of landing gear rests on top of main spar and is securely cemented and bolted in place with thread as shown. Be sure landing gears are on correct side, axle facing inward. Don't get cement on coil, it must be free to actuate. Cut two 1-3/8" lengths of 1/32 wire for main landing gear retainers. Bend 1/8 at right angle to form spur. Put pin hole in bottom of rib W1's for spur and sink into place as shown. Rear landing gear W2 in place. Landing gear and cement securely in place. Use needle and thread for binding, passing needle right through rib. When dry, sand frame smooth to prepare for tissue covering.

Install nose wheel gear by cutting a 1" length of 1/8 dowel and inserting through spring coil. Cut two 1/4" lengths of 1/16 x 3/32 strips. Assemble is now cemented to rear of F1 as shown on side view. Struts are placed on either side of trailing edge of wing and F1 as spacers. This space permits oil spring to operate freely. Strut is located 1/16 from right side of keel with open end of axle facing same side. Use two heavy coats of cement and allow to dry thoroughly. Keep cement off coil. It must actuate freely. Cement F2 to fuselage, ribs W1 are directly under side keels. Be certain to press wing tightly against L4's to insure proper incidence, otherwise model may not fly! Trailing edge is flush with F5. Hold in place with pins until dry. Cement F3A under leading edge of wing. Cement F4A to bottom of main spar, flush with rear of F1. Cement F5A to inside, into center notch from F3A, to rear of rib W1, just in front of trailing edge. Bevel rear to knife edge where it is cemented to rib W1 and becomes flush with surface. Cement wheel well's W1 in place and cement F6A and trailing edge as shown on full size drawing. W1A is cemented flush with surface of F4A, ribs and trailing edge. If operational landing gear is installed, cement horizontal wire nose-guide to front of F2, 1/8 above bottom of bulkhead, closed end in line with center keel. Install on left side only. Install remainder of stringers (two on each side) into notches for same from nose to F4A. Cement completed stabilizer to rear of fuselage against F8. Be certain both tips are equal distance from flat surface. Pin in place and allow to dry thoroughly. Cement L1 to L3 and replace with rubber motors, it is necessary to have an access door. Cut out stringer immediately above side keel L5, on right side, between F6 and F7. Fit a piece of 1/16 balsa into space. Cement a strip of 1/16 square to side keel L5 inside bottom of door. Cut out notch in L5. Cement L6 into place. Hold bottom with Scotch Tape. Sand structure smooth to prepare for covering. Complete operational landing gear installation, as described in detail note, then cover as described in Silk-Span Note. F1A is shown for position in fuselage structure which it is now cemented to. Cement flush with flat bottom cut-out. Cut out and prepare all plastic parts as described in detail note. Place cowl over F1 and F1A to check fit, but do not install. Do likewise with plastic cabin. Plastic parts are painted separately as described in detail note. Model is now ready to be painted. If it is to be painted scale colors see three view drawings or box top. Since the Beechcraft Bonanza was a personal plane, there were many color schemes at the option of the owner. For best flight performance, use a minimum color and apply dark colors using a brush and sliding off into position shown. Cut instrument panel from plan and cement to rear of F2A in cabin. Cement cowl, plastic cabin and remainder of plastic parts in place as shown. Outline of scale control surfaces can be drawn on with black ink. Place nose wheel bearings into wheels and place wheels on axles. Secure by bending up end of axle or with drop of cement or solder. Insert straight end of propeller shaft through rear of nose bearing. Slip prop washers provided on shaft through back of propeller. Bend front of shaft to U shape as shown in side view and cement U securely to propeller. Cement spinner over front center of propeller. Make two loops of rubber. Insert rubber through trap door on right side of fuselage and engage into hook on underside of rubber into fuselage and shake down towards nose. Make hook on end of a piece of wire. Slip wire through hole in cowl and capture rubber on hook. Pull through cowl and engage prop cowl. Nose bearing fits into center hole in cowl. Your Beechcraft Bonanza is now ready to fly. See flight instructions before flying. GOOD LUCK AND HAPPY LANDINGS!!!



