

## FUSELAGE ASSEMBLY

### STEP 1

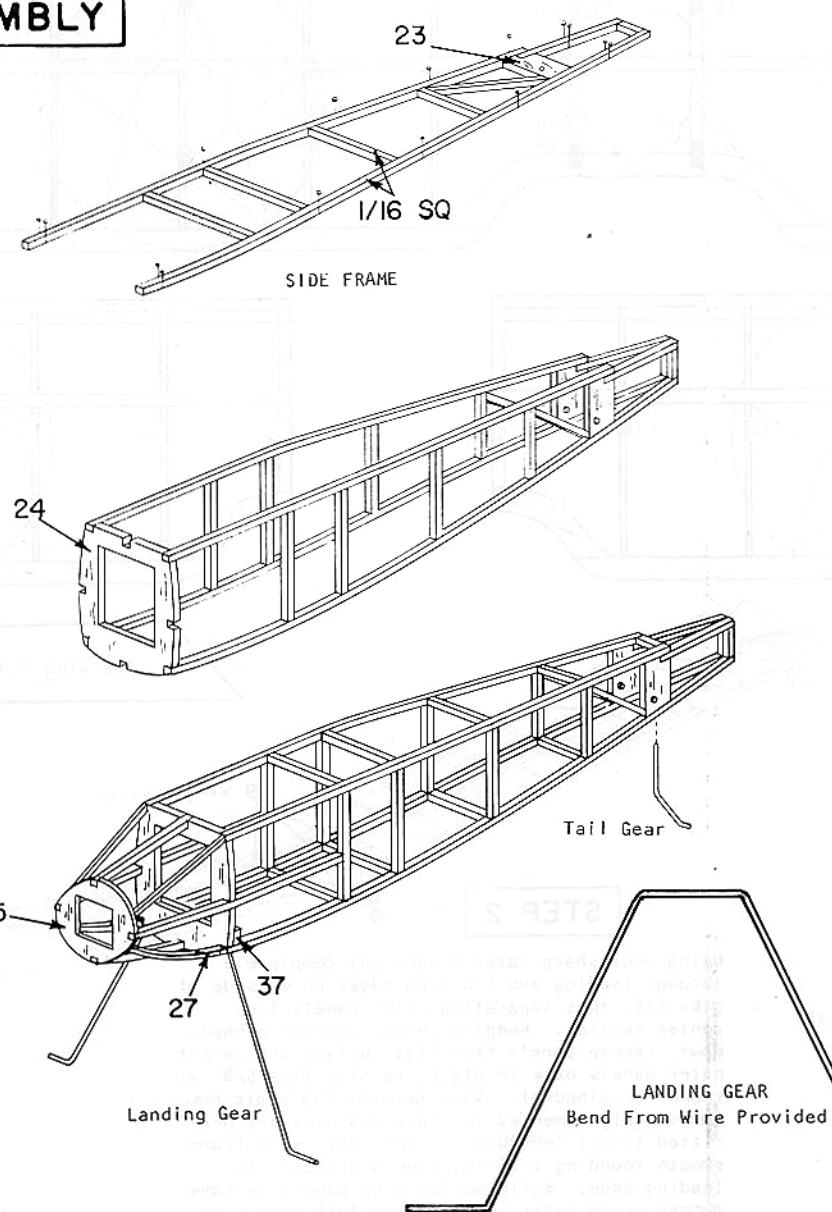
Remove any creases in plan. Tape down to building board, and cover with Plastic Kitchen Film to prevent frame from sticking to plan. Printed parts may all be cut out before construction is started. Using wire provided, bend landing gear to shape of full-size pattern. Solid black lines on full-size side view is the fuselage side frame. Cut 1/16" square strips carefully to length, pin & cement in place. Add part #23. Allow side frame to dry before removing from board, then build another identical side frame.

### STEP 2

Assemble fuselage sides by cementing them together at rear. Be certain ends are perfectly flush with each other, then cement #24 to front as shown. Allow to dry.

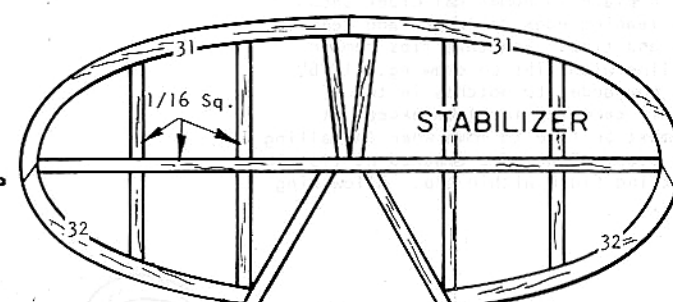
### STEP 3

Cement landing gear to rear of Bulkhead #24, then cement #37 to rear of #24 sandwiching gear between. Cut cross-members to length shown in solid lines on top view. Cement in place working from front to rear, holding sides together with tape where necessary. Where sharp bends occur, strip may be cracked or nicked with razor to remove strain. Both sides must be treated the same in order to avoid distortion. Check assembly with top view to be certain fuselage is aligned properly. Also check from front and rear to be sure fuselage is square and not distorted. When dry, cement Bulkhead #25 between side stringers then add bottom corner strips #27 to each side. Cut 1/16 square strips to length for top & bottom center stringers and top corner stringers and cement in place as shown. Clip head off straight pin, bend tail skid to shape shown on pattern then cement to end of fuselage.



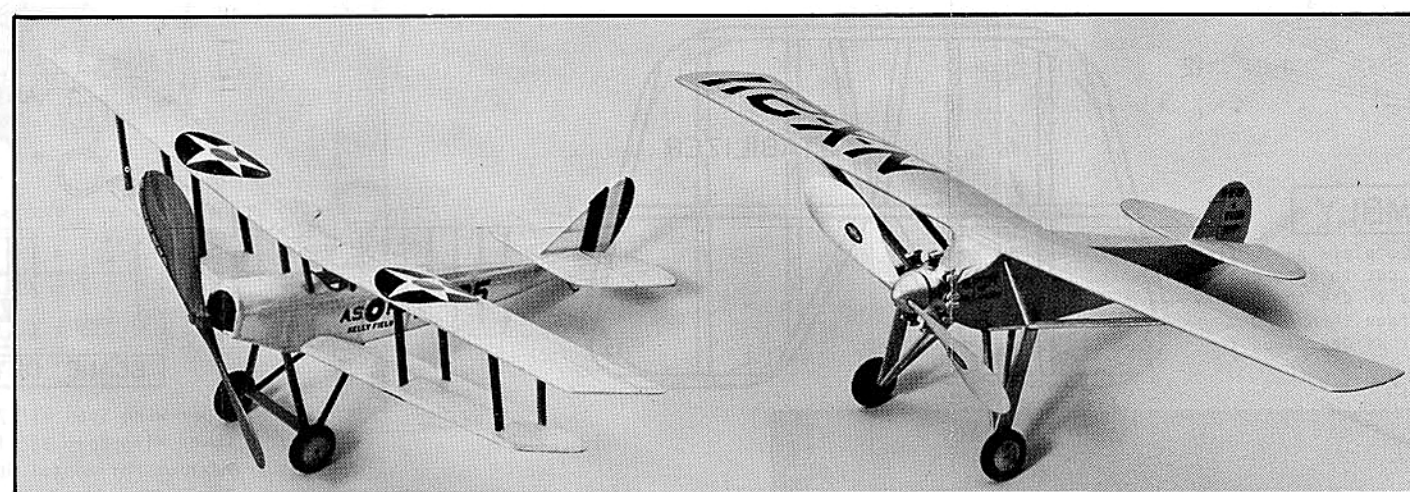
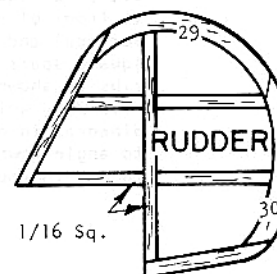
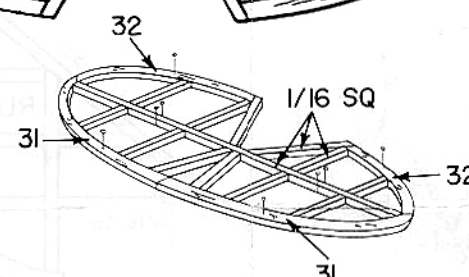
## INTRODUCTORY NOTE

Peanut Scale is fun to build and fun to fly. Building, however, does require careful attention when cutting out the parts and assembly. Plans should be followed closely to insure a well built and good flying model. Model is built directly on plan. Pins are used to hold the parts in place while frame is drying. Wherever possible, pins should not be pushed through the frame but angled around it to keep the part in place. Pinholes may weaken the structure. We recommend that model be built with "white glue" such as Tite Bond or Elmer's Glue, used sparingly. Excess glue only adds weight, not strength. Model airplane cement is used VERY SPARINGLY on plastic parts. Light coats must be used so that plastic is not distorted. Follow covering instructions closely, so that light structure does not warp. Assemble the following material and tools, which are not included in kit: FLAT building board, pliers, straight pins, hammer, tweezers, single edge razor blade, Plastic Kitchen Film, glue, dope (paint), thinner, paint brush, fine sandpaper, masking tape.



## TAIL ASSEMBLY

Pin and cement number parts together over plan. Complete assemblies by adding 1/16" square strips cut to fit, and cement in place. Allow frames to dry thoroughly before removing from flat surface then sand smooth, rounding edges. Cover as described in Covering Note.



## TISSUE COVERING

Frame is covered tissue dry. Use clear dope to attach tissue. Apply a light coat of dope to the outside edges of the area to be covered and allow to dry. Cut tissue to shape required, about 1/4" oversize all around. Apply a second coat of dope to the frame, then put the tissue in place smoothing into frame and working out any wrinkles. When dry, excess tissue is trimmed off with sharp blade. If any wrinkles develop, cut out wrinkled area (bounded by nearest framework) and recover section. Entire model is covered with white tissue. COVER BOTTOM OUTER PANELS OF WING using 1 piece for each panel: Cover top of wing in 3 pieces; center section and outer wing panels. If any problem of wrinkles is encountered on tips, use separate pieces of tissue. COVER STAB AND RUDDER with single piece of tissue for each side. COVER TOP, BOTTOM & SIDES OF

## FLIGHT INSTRUCTIONS

DO NOT ATTEMPT TO FLY MODEL UNTIL BALANCE (AT ARROW SHOWN ON SIDE VIEW) HAS BEEN ACHIEVED. ADD WEIGHT TO FRONT OR BACK IF NECESSARY. Check wing and tail. If warps have developed, remove using steam method described in Covering Note. Model is now ready. Pick a calm day for test-flying. Wind propeller clockwise, release propeller, then gently launch into any prevailing wind, slightly nose down at a point on the ground about 50 ft. ahead of you. If model noses up and then falls off and stalls (AFTER MODEL WAS BALANCED), 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. If model glides well but stalls, dives, or turns under power; cement 1/16" balsa shim to front

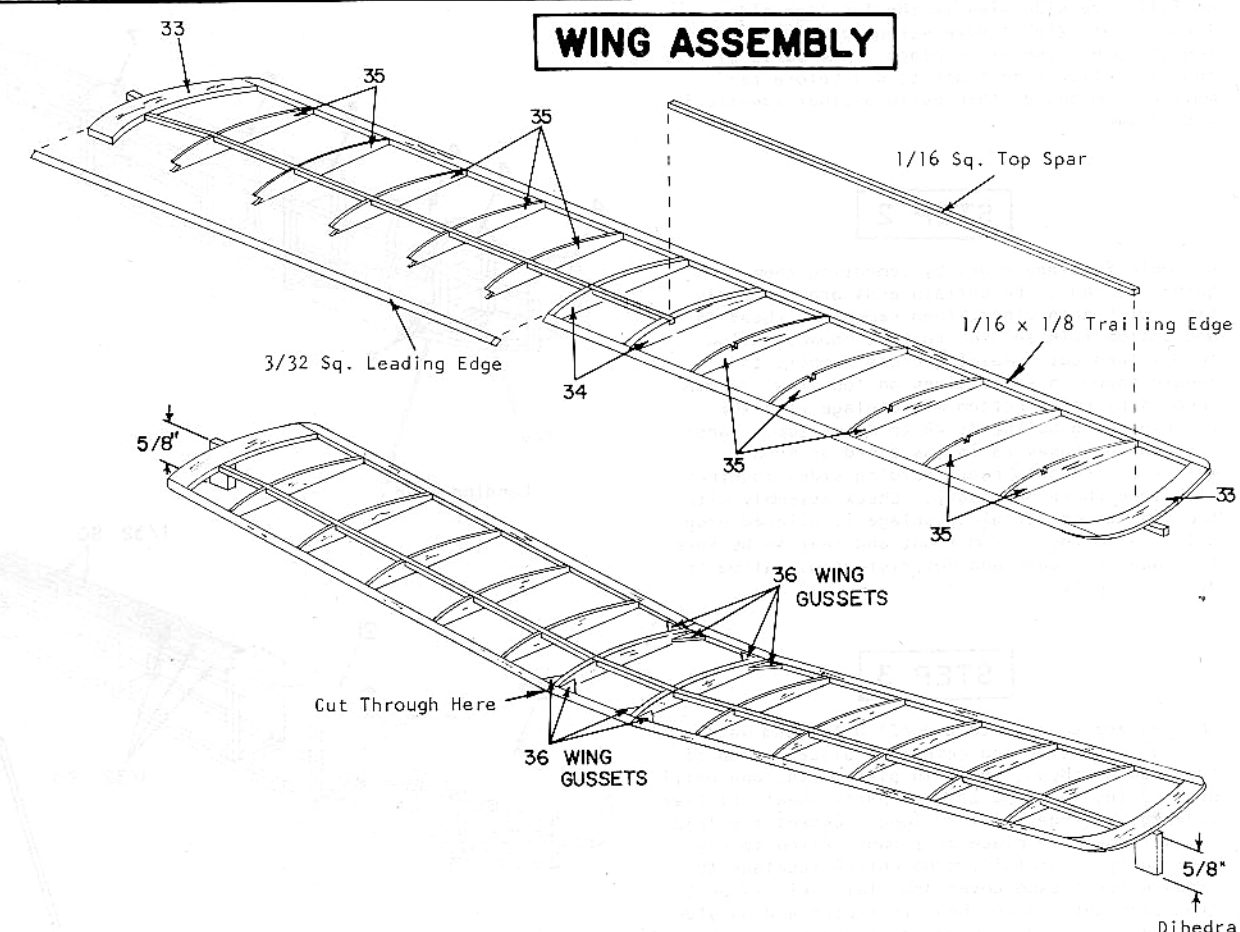
bulkhead which will angle cowl to opposite direction, (down or side thrust). Increase or decrease shim thickness as necessary. Take-offs require more power and therefore more turns in rubber motor. For longer flights and competition, it is recommended that model lubricant (available at most hobby shops) be used. Apply lubricant sparingly. Use winder, (Sterling Models Rubber Winder is highly recommended, it is available at your Dealer at a very reasonable price.) To store winds in motor, stretch rubber out 3 to 5 times original length, then proceed to wind, moving slowly back to model. Feel rubber from time to time to be certain that it does not get so taut that it breaks. Upon reaching nose, motor should be completely wound. GOOD LUCK AND GOOD FLYING.

### STEP 1

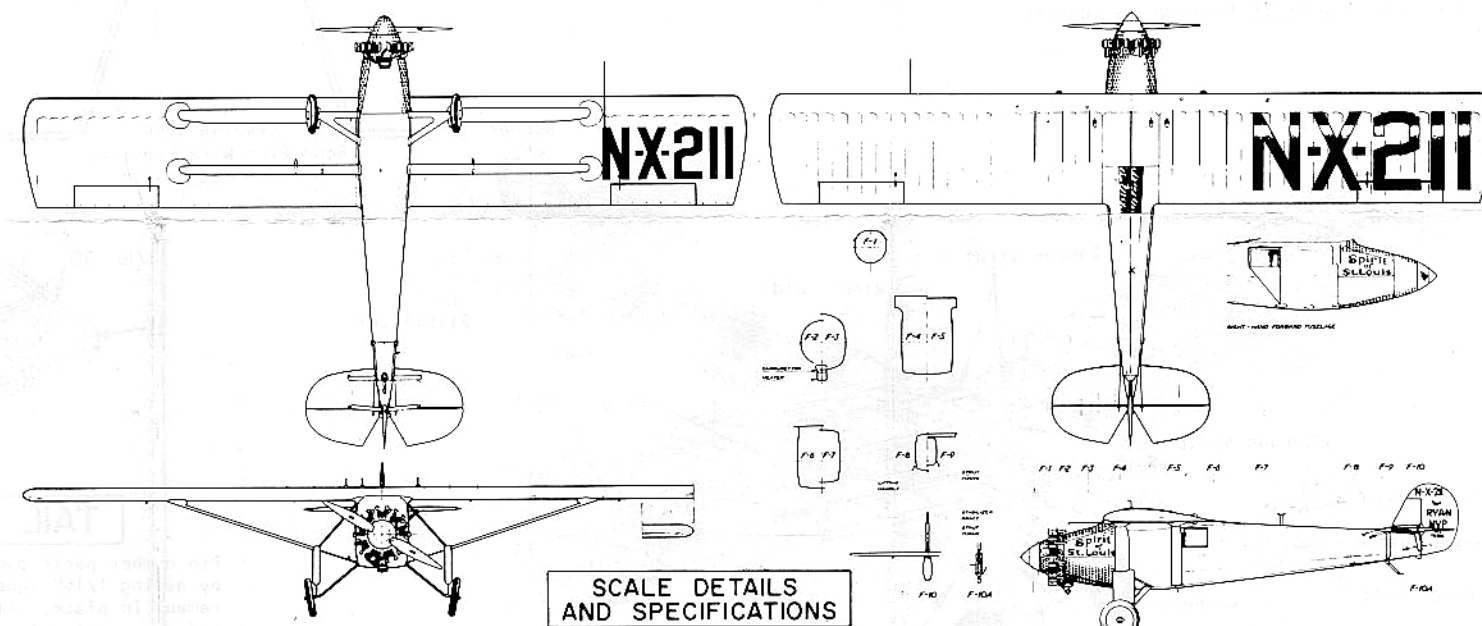
Cut 1/16" x 1/8" trailing edges to shape and pin to plan, then cement tips #33 to trailing edge, raising tip 1/32" as shown. Cement all ribs vertically in place in numerical order shown. Cut 3/32" square leading edge to length and cement to front of ribs and tips. See that ribs remain vertical and in line with ribs on drawing. 1/16" square spars are now added to notches in top of ribs as shown. All cemented in place except at rib #34, which must be free to move when installing dihedral in next step. Spars are cracked at tip rib #35 to angle down fitting flush within tip. Allow wing frame to dry thoroughly.

### STEP 2

Using your sharp razor blade, cut completely through leading and trailing edges on outside of ribs #34, thus separating outer panels from center section. Keeping center section pinned down, remove panels from flat surface and cement outer panels back in place, raising tips 5/8" as shown for dihedral. Wing gussets #36's are now immediately cemented in place and assembly permitted to dry THOROUGHLY. When dry, sand frame smooth rounding trailing edge and tips into leading edge.



## WING ASSEMBLY



## SCALE DETAILS AND SPECIFICATIONS

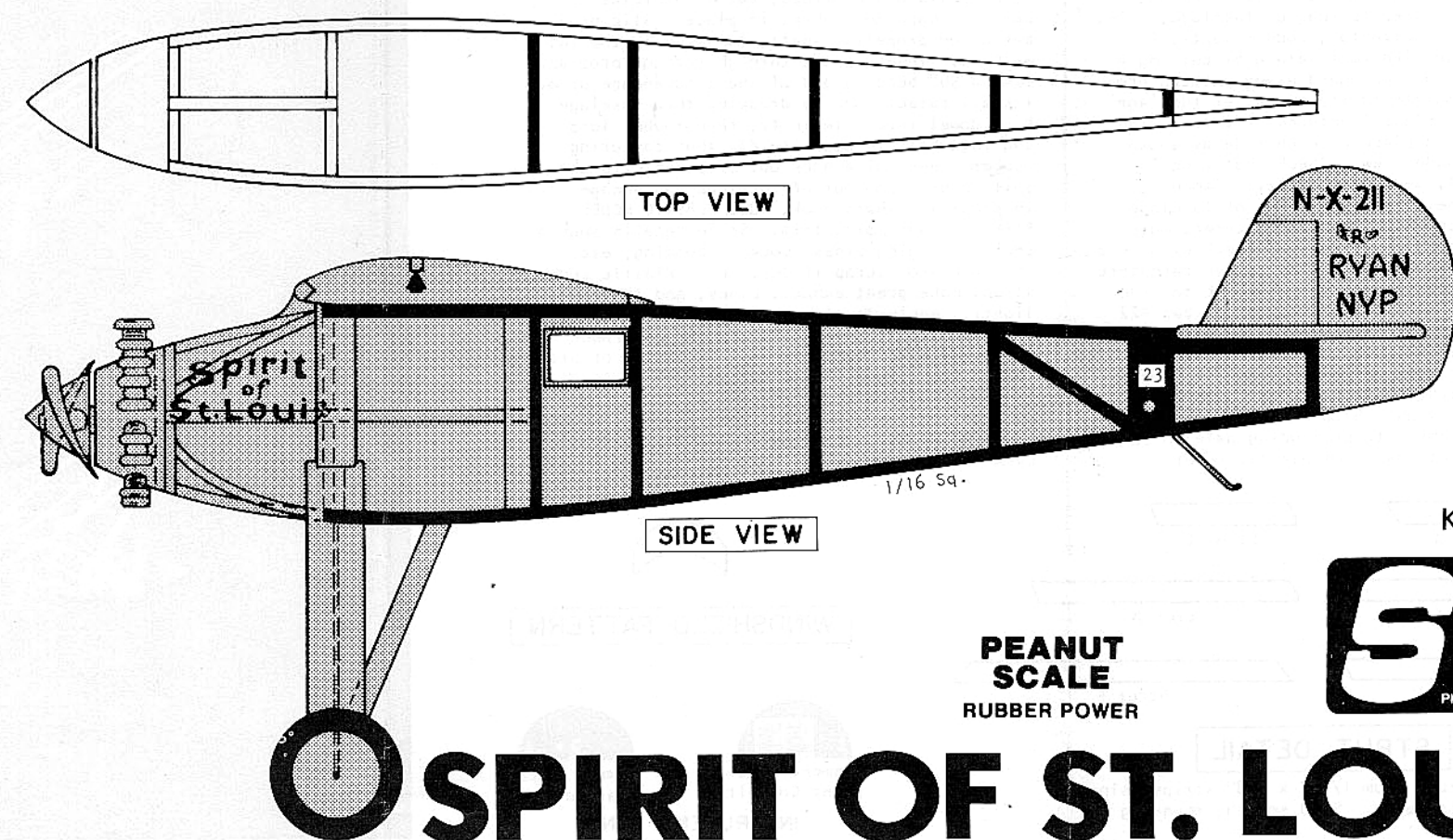
Scale Drawings and Specifications Courtesy of Model Aviation Magazine

Wing Span 46' 0" Engine 225 HP Wright J-5 Whirlwind  
Wing Chord 7' 0" Overall Length 27' 8"  
Empty Weight 2150 lb. Maximum Speed 129 MPH  
Loaded 5250 lb. Minimum 71 MPH

## FINAL ASSEMBLY

Although sketch shows model uncovered, all components are actually covered (as described in Covering Note) before assembling model. Cement Stabilizer and then Rudder to rear of Fuselage, being certain Stabilizer is horizontal and rudder vertical. Cement wing to top of Fuselage locating in position shown on sketch and side view. Note that front of wing overhangs slightly. This area between bottom of wing and top of fuselage is filled with a piece of scrap balsa or plastic balsa (not supplied) and sanded smooth to side view shape. Check wing and tail alignment from front and top. Entire model is now painted silver with an ABSOLUTE MINIMUM of colored paint. All parts to be added should be painted silver before being cemented in place. Trim out tissue for cabin window on each side of fuselage at location shown on side view then cut celluloid windows to size and cement in place. Cut landing gear struts from 1/16 x 1/8 strips to length and cement in place. Cement wing struts #38 and #39 in place followed by landing gear strut #40 then top 1/16 x 1/8 support strip. Slip wheels on axles and add a drop of cement to protruding axle to secure wheels. Place #26 into corresponding cut-out in #25, trimming if necessary for snug fit. Apply a coat of cement to front of #26 only then put #28 in place, aligning with #25, pressing #28 against #26. When cement is dry remove assembled #26 & #28. Cut cowl from plastic sheet. Place assembled #26 & #28 on flat sur-

face with #26 down. Push rear of cowl over assembly and cement in place flush with back of #28. Use very light coats of wood model airplane cement on this installation to prevent distortion of plastic. Cut nine pieces of 1/8 dowel 3/16" long for cylinders. Wrap with black thread (not supplied) and coat with cement to secure thread. Drill 5/32" Dia. holes at cylinder locations on plastic cowl and then cement the 9 cylinders in place as shown. Cut 18 pieces of 1/16 sq. balsa, 7/32" long. Round off as shown and cement to each side on top of dowels to form valve covers. Slip nose button on propeller shaft, followed by two washers. Insert shaft through rear of prop and make a 90° bend in end of shaft to engage prop. Insert nose button into front of plastic cowl. Install rubber loop by dropping thru fuselage. Push 1/16 dowel through hole in #23, thru rubber loop and into hole in opposite #23, thus capturing rubber. Bend a wire hook from paper clip and pull rubber loop out front of fuselage and engage in propeller shaft hook. Cut spinner from plastic sheet and cement over propeller. Apply decals at locations shown. Scale control surface outlines may be drawn carefully with India ink or use thin strips of Black Tape. Your Peanut Scale Spirit of St. Louis is now finished. Be sure it balances at arrow shown on side view, and that you read flight instructions before flying. GOOD LUCK AND GOOD FLYING!!



KIT P6



PEANUT SCALE RUBBER POWER

# SPIRIT OF ST. LOUIS