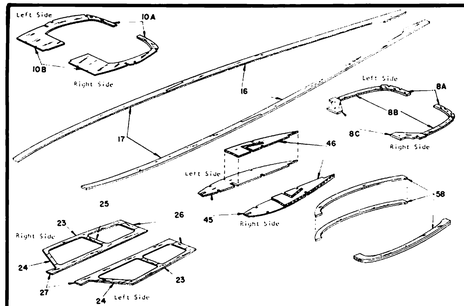
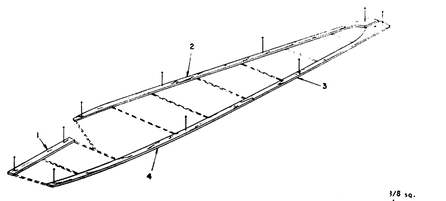
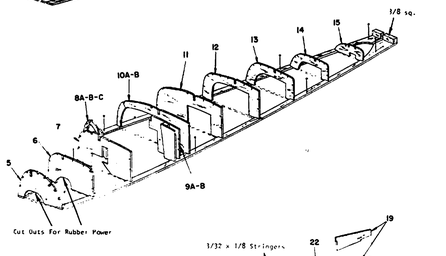
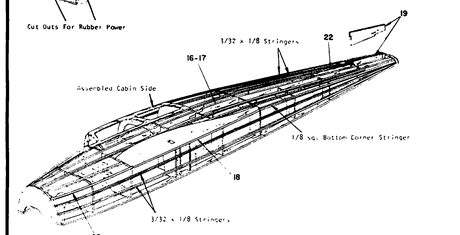
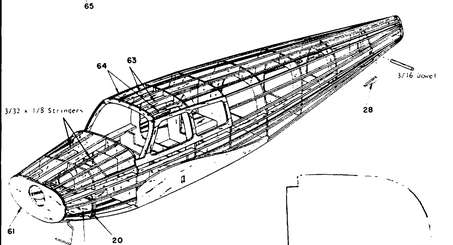
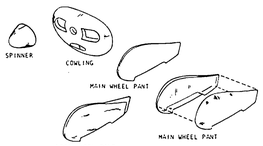












PLASTIC PARTS DETAIL

For best results, follow instructions carefully. COWL: Cut from sheet leaving about 1/16 of material for trim. Excess material may be trimmed with knife or razor blade and then sanded with fine sandpaper. Engine cowl is placed on bulkhead #61 for support while sanding. SPINNER: Cut from sheet leaving 1/16 excess material. Sand and trim off excess very carefully. Cut out for propeller at Scribe Line, then cement spinner to *propeller after propeller is in plane.* WHEEL PANTS: Cut from plastic sheet, leaving 1/16 excess. Be certain to leave Fin section on Nose Gear Pant as shown. Cement halves together and allow to dry thoroughly then trim and sand joint smooth. 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 as provided, or if painting parts, apply a light coat of silver, followed by a light coat of white before painting final color. 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!

Photo of the beautiful full-size Cherokee Cruiser

FUSELAGE ASSEMBLY

STEP 1

Saran Wrap (or similar) spread over plan will prevent parts from sticking to plan during assembly. For rapid assembly of your model, first complete the sub-assemblies shown as follows: Cement #10A to top of #10B over full size drawing as shown and make two of these assemblies. Cement #8A, #8B and #8C together over full size drawing and make two of these assemblies. Make a Left and Right Hand assembly of Bulkhead #9A and #9B by cutting 3/16 x 3/8 strip to length and cementing between crease marks in #9A as shown and cap with #9B. Make two Cabin Side assemblies by cementing parts #23, #24, #25, #26 and #27 together over full side plan. Cement two side keels together using parts #16 and #17 as shown. Make two Wingtips by cementing two #58's together forming double layer. Make a Left Hand and a Right Hand Landing Gear Rib by cementing #46's to #45's as shown.

STEP 2

Pin parts in place as shown, cementing #3 and #4 together where they join. You must decide now whether model is to be Rubber powered or Gas Engine powered. If model is to be Rubber powered cut out center of Bulkheads #5, #6 and #61 at crease marks. This cutout is clearly shown in next step. If model is to be Gas Engine powered remove the 1/4 x 5/16 notch, on left side Bulkhead only, at crease marks.

STEP 3

Step 3 and Step 4 must be done one after the other to prevent glue from setting permanently before parts are aligned. Cement all Bulkhead halves from #5 thru #15 vertically in place being certain #8C fits into cutout in #7 and #9B faces front as shown. Cut Tail Post from 3/8 sq. and cement to #2 and #3 as shown.

STEP 4

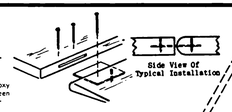
Side Keel #16 - #17 is inserted into long notches in sides of Bulkheads from #5 to Tailpost. Note that Keel (as well as stringers that will be installed) are in many cases past edge of Bulkhead, as shown on sketches and typical cross section drawing. Cement #18 against lower sides of Bulkheads from #7 to #12 with bottom 1/8" below Bulkheads. Cement #65 into corner notch from #5 to #7 as shown. Cement #19's in place from #15 to Tailpost as shown forming slot for stab. Cement two 3/32 x 1/8 strips into notches from #7 to #11 directly above side Keel, then cement assembled Cabin side in place from #7 to #11 flush with bottom of this stringer and against sides of Bulkheads as shown. Install 1/8 sq. bottom corner stringer from #12 to rear as shown. Install remaining 3/32 x 1/8 stringers as shown in sketch and side view. Top stringers not visable in this sketch can be seen in Step 5 sketch. Cement #22 in place from #14 to #15 directly above side Keel as shown. Allow framework to dry thoroughly.

STEP 5

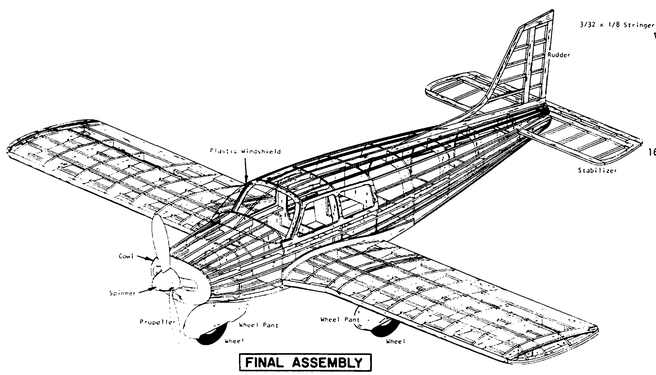
Remove Frame from flat surface and cement opposite side of Bulkheads in place, followed by side Keel as described in Steps 3 and 4 (Do not make another fuselage center frame assembly). These Bulkhead halves are cemented to the Fuselage frame you have just removed from the flat surface. Cement Bulkhead #20 in place against front of #6 with top slot to right. Cement Nose Gear into slot in #20 and then cement #21 to front of #20 sandwiching Nose Gear between. Complete right side of Fuselage in same manner as left, then cement top Cabin stringers #63's and #64's into notches as shown. Allow framework to dry thoroughly, then sand smooth to prepare for tissue covering. Cement #61 to front of #5 centered all around. Note that #61 is slightly smaller than #5 to allow for thickness of plastic cowl. 3/16 Dowel to hold rear of rubber motor and #28 are shown installed in this sketch for clarity only. They are installed after Fuselage has been tissue covered.

POLY HINGE INSTALLATION

TO INSTALL: Cut strip to desired hinge width (generally about 1") Slit surfaces to be joined as shown (in center of thickness). Epoxy hinge into slits, (hinge line in center between surfaces) leaving enough space for free movement. Secure hinge by pushing straight pins through wood AND HINGE as shown. Pins are clipped flush.

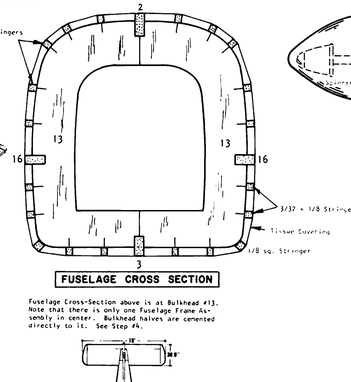


FUSELAGE CENTER FRAME ASSEMBLY



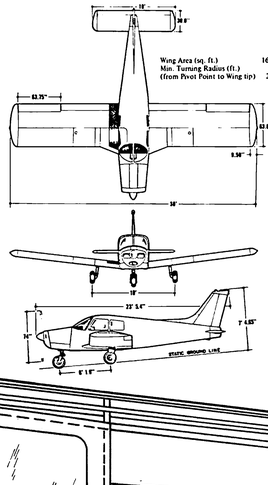
FINAL ASSEMBLY

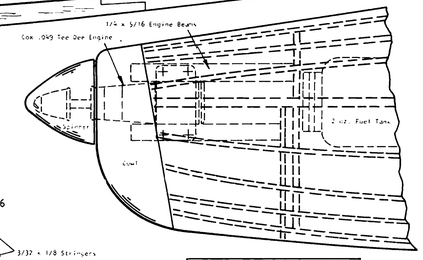
Trim and assemble all plastic parts as shown and described in Detail Note. Although sketch shows model uncovered, Wing, Fuselage and Tail surfaces must be covered before assembly is made (unless R/C or Control Line is being installed, in which case see respective Detail Note). Cement Stab into slot at rear of Fuselage. Cement Rudder vertically in place to top of Fuselage. Be certain that Stabilizer is horizontal and Rudder is vertical. Install Wing Panels by inserting main spar through notch in #18. Spars are securely cemented to Bulkhead #9 inside Fuselage, and panels are pinned and cemented tightly against #18 so that they assume proper Dihedral angle. Care must be taken that Ribs are aligned with #18 and bottom of Trailing Edge is at bottom of Fuselage to assure proper angle of incidence. Set model on a flat surface and check that both Tips are the same height and Stab is horizontal. Allow to dry thoroughly before continuing. Cowl is now cemented to front of Fuselage on Bulkhead #61. Use light coats of cement applied sparingly. If necessary, use more than one coat BUT DO NOT APPLY A THICK COAT AT ANYTIME. For powered models, Cowl is installed as described in Engine Installation. Trim out slot for Landing Gear at crease marks in #62's and cement together around Gear and against bottom of Wing Rib as shown in Wing Detail Sketch. Sand smooth to teardrop shape. Paint Wheels silver with black Tire and place into Wheel Pant. Main Wheel Pants must have 3/32 hole drilled thru at location shown and are simply slipped onto Axle and cemented in place. Nose Gear Pant has 3/32 hole drilled thru top, slip Pant onto Gear then spread Pant open and insert Wheel. Pant is cemented to Nose Gear on inside with epoxy glue. Check that wheels spin freely inside Pants (Speed Fairings). Model is now painted. Scale color scheme as shown in picture on Kit Box is authentic and is Red, White and Blue. For best flight performance use a minimum of color dope. Apply Decals by dipping in water and sliding off into position. Cut Instrument Panel from Plan and cement to #7. Outlines of scale control surfaces may be drawn in place with India Ink. Insert straight end of Propeller Shaft through rear of Nose Bearing. Slip on two washers and insert shaft through rear of Propeller, then bend front of shaft at 90°. Rubber motor is now installed. It is engaged on 3/16" dowel (that cross through #22's) at rear of Fuselage by dropping rubber into Fuselage from nose, far enough so that dowel can be inserted through one 22 through Rubber Loop and then into opposite 22. Tie a length of thread or make a hook in a piece of wire, to lower the loop of rubber into the Fuselage. After engaging it on dowel, pull rubber through Cowling and engage on propeller shaft. Nose bearing fits into cowling. Cement the spinner securely to Propeller making sure it is centered and in line when viewed from side. Cut Cabin Windows to shape over full size drawing and cement in place on inside of Cabin Frame. Cut Windshield from plastic sheet and cement in place as shown on sketch and side view. Center frame on Windshield is painted to match body color. Installation of movable controls, and other detail scale installations are optional and described in Scale note. Installation for Control Line and R/C are described in respective notes. This completes your Cherokee. See Flight Instructions before flying model. GOOD LUCK!! HAPPY LANDINGS!!!



FUSELAGE CROSS SECTION

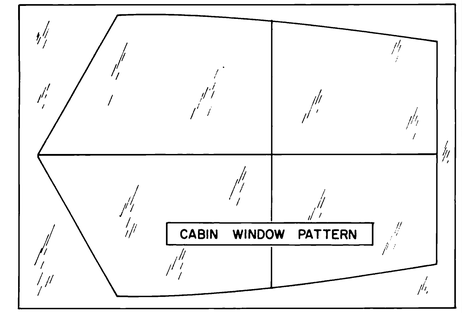
Fuselage Cross-Section above is at Bulkhead #13. Note that there is only one Fuselage Frame Assembly in center. Bulkhead halves are cemented directly to it. See Step #4.

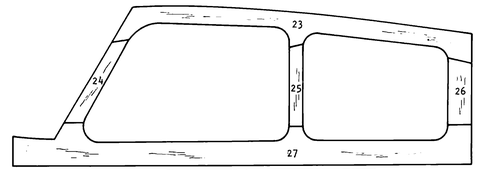


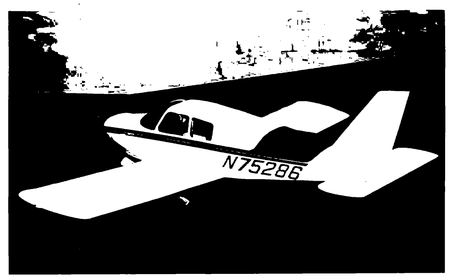


ENGINE INSTALLATION

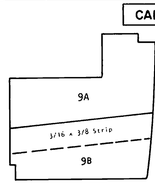
Engine is used if model is being built for R/C, Control Line or Free Flight Flying. Engine is not provided in kit. Drawing shows the installation of a Cox .049 Tee Dee Engine and 2 oz. Pylon Brand Fuel Tank (not provided). 1/4 x 5/16 hardwood Engine Beams are cemented into notches from #5 to #6 flush with rear of #6. Front Bulkheads #6! and #5 must be trimmed to clear Engine. Set Engine in place (horizontally) and mark off mounting location. Entire front of Fuselage back to rear of Cabin must be covered with 1/32 or 1/16 sheet Balsa. Engine is then installed after model is painted, including entire Engine and Tank Compartment. Cut out front of Cowl for Engine cooling and drill holes thru bottom of Fuselage in front of Nose Gear for exhaust and oil residue. Cowl can either be cemented in place, breaking glue joint to remove Engine, or it can be made removable by cementing small blocks to #6!, which receive tiny wood screws (not provided) through Cowl.

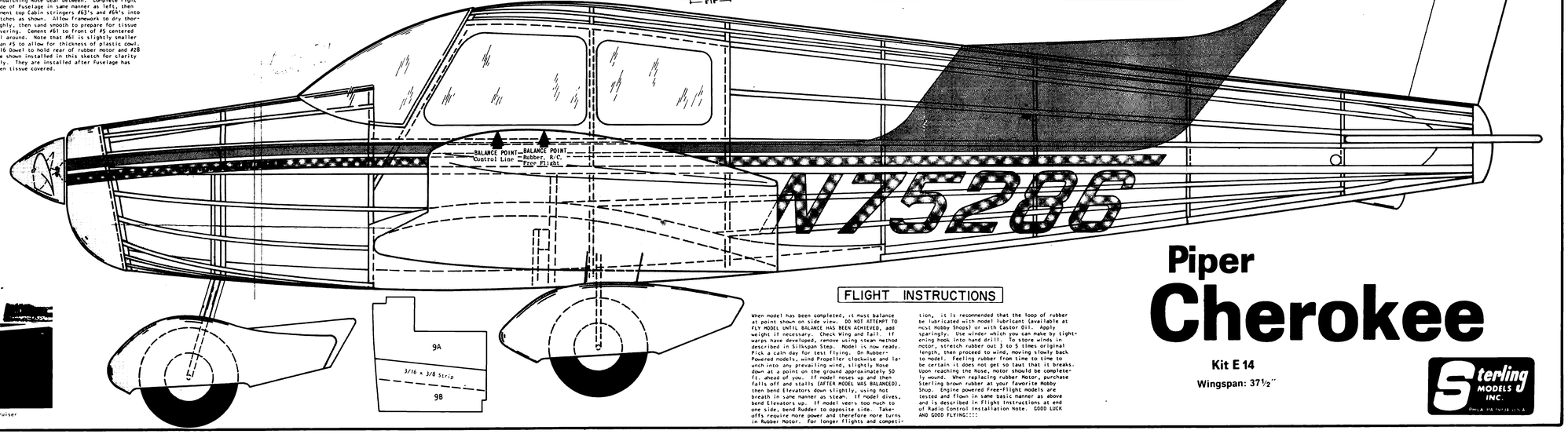






CABIN FRAME ASSEMBLY





FLIGHT INSTRUCTIONS

When model has been completed, it must balance at point 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 Silkspan Step. Model is now ready. Pick a calm day for test flying. On Rubber-Powered models, wind Propeller clockwise and launch into any prevailing wind, slightly Nose down at a point on the ground approximately 50 ft. 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 loop of rubber be lubricated with model lubricant (available at most Hobby Shops) or with Castor Oil. Apply sparingly. Use winder which you can make by lightening hook into hand drill. To store winds in motor, stretch rubber out 3 to 5 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 Sterling 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!!!!

Piper
Cherokee

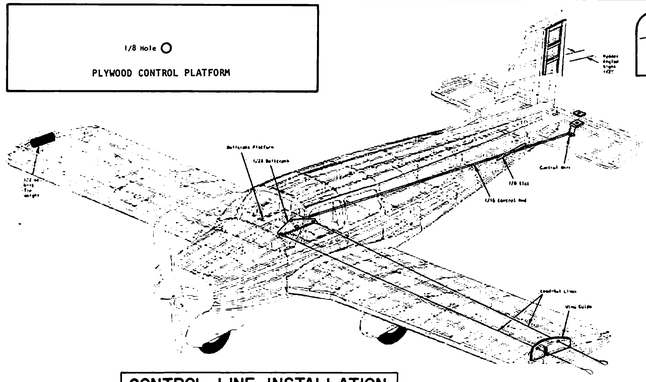
Kit E 14

Wingspan: 37½"

Sterling MODELS INC.
PHILADELPHIA, U.S.A.

1/8 Hole

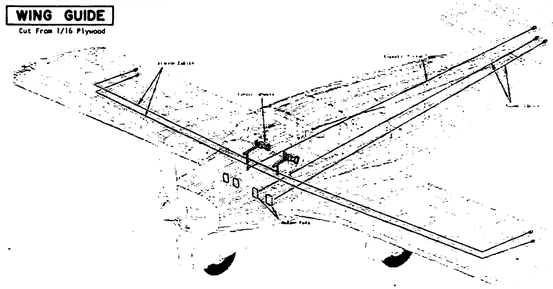
PLYWOOD CONTROL PLATFORM



3/32 Holes

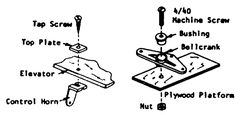
WING GUIDE

Cut From 1/16 Plywood



CONTROL LINE INSTALLATION

Install controls after Fuselage Step 5 has been completed. Fill area from 15 to rear with scrap 1/16 sheet balsa, flush with outside of frame; between 16 and 19. Cut 1/8 slot for control rod as shown. Cut two 24" 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 through fuselage at holes drilled for them as shown. Cover fuselage with tissue as described in Detail Note. Cut stabilizer through 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 elevator in neutral position (in line with stabilizer, neither up nor 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 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. 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 1/16 plywood (not provided) and cement securely to wing rib #50 as shown. Reinforce fuselage 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 1/2A control lines when flying your Cherokee.
GOOD LUCK AND GOOD FLYING!



CONTROL ASSEMBLY

Parts supplied for control system are Nylon - which is virtually indestructible. Drill 1/8 hole thru plywood platform. Insert bushing in Bellcrank as shown, followed by 4/40 machine screw. Assemble on platform, inserting screw thru hole. Secure with nut, closed side against plywood, secure nut with drop of glue or solder. Be sure Bellcrank swings freely. Install Elevator Horn on Elevator at location shown. Drill 1/16 hole then insert tap screw thru top plate and tighten into hole in horn. Secure with drop of glue.

SCALE DETAIL

Multiple view drawings and photos of the actual Cherokee reveal a wealth of information, which can be built into the model, if desired by the modeler. There are definite limitations on details if model is being built to fly; otherwise without the factor of weight involvement, etc. modeler can construct his model as detailed as he wishes. Basically, the scale outline of the full size craft has been followed accurately. The Scale outline of the Fuselage, as well as Wings and Tail are true and modeler can make whatever changes desired in the structure before Covering. Plastic Parts and Decals are authentic and correct. Special overlay sketch shows installation of movable controls from the Cockpit. Parts are mostly made from scrap Balsa and Nylon thread. Improvisation at this point by the modeler is a necessity. Reinforce area where the lines exit through Tissue covering with cardboard discs as shown. Ailerons are mounted with Hinges. Be sure when installing Controls, that when wheels and Rudder pedals are in neutral position, the Control surfaces are likewise. Your comments & photographs will be welcome. Write to Sterling Models, Inc., 3620 "O" Street, Philadelphia, Pa. 19134 U.S.A.

DANGER

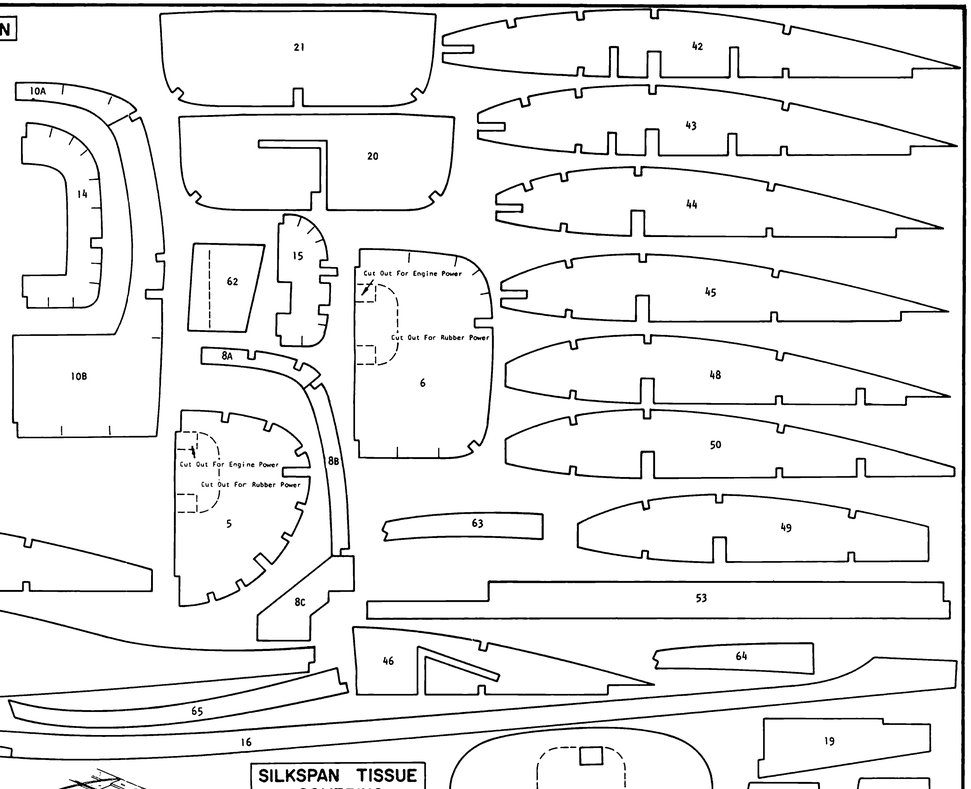
RULES FOR SAFE FLYING

1. All equipment must be checked before each flight to make sure it is in good operating condition.
2. Fly only in a clear unobstructed area.
3. Model must never be flown in the vicinity of High Tension Lines or any Electrical Lines.
4. Model should never be flown when thunder and lightning storms are in the area
5. Precautions should be taken to insure the safety of all spectators, modeler and property.

Sterling Models, Inc.
Phila., Pa., 19134, U.S.A.

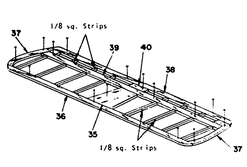
RADIO CONTROL INSTALLATION

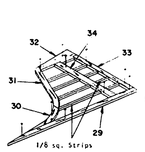
Because of the relatively small size of this fine scale Cherokee model, it is recommended that only the lightest Radio equipment be installed. None of the Radio Control Equipment or installation material is included in the kit, it must be supplied by the model builder. In order to maintain the balance point shown on side view, mount the Radio equipment in the Cabin area. Access to this equipment is made through a Trap Door, which is fitted in the center section of the fuselage directly below the wing. Trap door, should be of substantial strength and hinged on the front end. Opposite end can be held in place with a rubber band stretched across hooks on each side of fuselage, or tiny screws into hardwood blocks to receive them. If model is to be flown Rudder only, mount Rudder with cloth Hinges (see detail), making sure that it swings freely. Location of Hinges is shown on full size Rudder drawings. If model is to have elevator control follow hinging and linkage instructions in Control Line Note. If Ailerons are to be operable drill hole thru wing ribs for nylon tubing (not supplied) used for pushrods and install tubing according to manufacturers instructions. Hinge Ailerons to Wing with Poly Hinge material. Leading Edge of Wing, back to main spar must be sheet covered with 1/32" balsa sheet (not provided) on models with operating Ailerons. Since R/C equipment is varied, no specific installation directions can be given. Install the R/C equipment according to the R/C manufacturer's instructions. All installations for securing R/C in fuselage should be made before covering fuselage. 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 Wing 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 to 60 ft. in front of you, and release at approximate flying speed. Model should fly in straight line and either maintain or slightly lose altitude. If model turns to either side, Rudder or Engine may be offset 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 Shim under mount. Increase Engine RPM as adjustments are made, checking R/C controls before each flight.
GOOD LUCK! GOOD FLYING!



DIE CUT PART NOTE

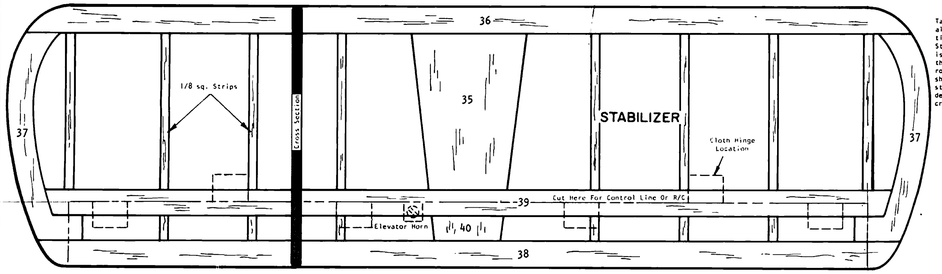
All die cut parts used in construction are given full size either on full size plan or individual layout. This will enable you to duplicate any part should it become necessary for any reason. Die cut parts contained in sheet as furnished in kit are also available from the factory as replacements.

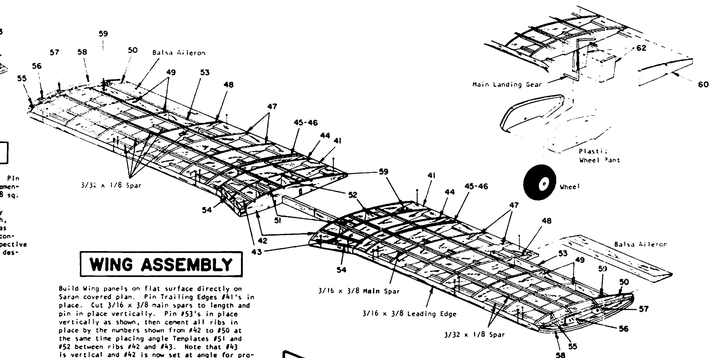




TAIL ASSEMBLY

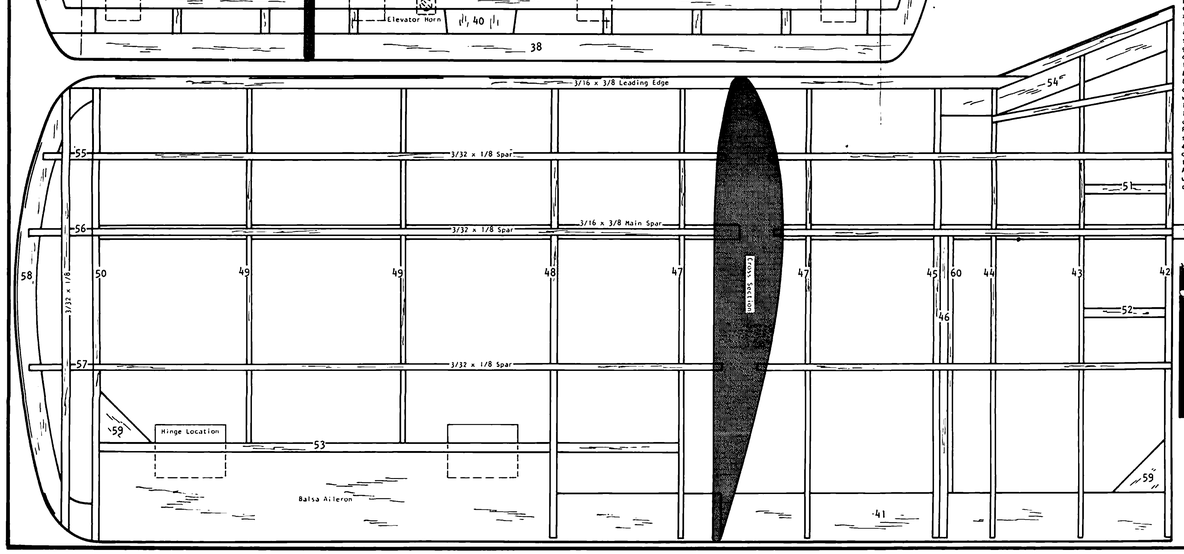
Tail Surfaces are built directly over Plan. Pin all parts to Plan by the number as shown, cementing them together where they join. Cut 1/8 sq. Strips to fit, and cement in place. Rudder is built in same manner. Allow units to dry thoroughly on flat surface, then sand smooth, rounding edges (except for bottom of #29), as shown in cross section. If model is being constructed for Control Line or Radio, see respective detail notes BEFORE COVERING with Tissue as described in Silkspan note.

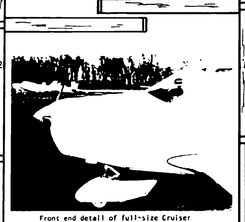




WING ASSEMBLY

Build Wing panels on flat surface directly on Saran covered plan. Pin Trailing Edges #41's in place. Cut 3/16 x 3/8 main spars to length and pin in place vertically. Pin #53's in place vertically as shown, then cement all ribs in place by the numbers shown from #42 to #50 at the same time placing angle Templates #51 and #52 between ribs #42 and #43. Note that #43 is vertical and #42 is now set at angle for proper Dihedral. Cement #54 into notches in front of ribs from #42 to #45 as shown, then cut 3/16 x 3/8 strips for Leading Edge to length and cement to front of Ribs. Cement Wingtips #58 in place centered on Leading Edge. Cement the 3/32 x 1/8 spars into notches in tops of Ribs. Cement corner gussets #59's in place and allow Wing to dry thoroughly (over night recommended). Remove Wing from flat surface and cement Tip supports #55's, #56's and #57's in place as shown. Cement Landing Gears into notches in Ribs #46 with Axles pointing out then cement #60 in place against #46 sandwiching Gear between. Detail Drawing shows Fairings #62, Wheel, and Wheel Pant which are installed in Final Assembly. Pant is shown in half for clarity only; it is assembled as described in Plastic Parts Note. Cement the 3/32 x 1/8 lower stringers in place. Cement a length of 3/32 x 1/8 across top of Tip supports as shown from front of #58 to rear. Allow Wing to dry thoroughly then sand smooth to prepare for tissue covering. Ailerons are cut to length and cemented in place unless model is to be Radio Controlled in which case see instructions in Radio Control Detail.





Front end detail of full-size Cruiser

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.

SILKSPAN TISSUE COVERING

The finest grade wet strength Silkspan Tissue provided in this kit permits covering of most compound curves without wrinkling when moistened with water before applying to frame. Tissue shrinks when dry, to a tight smooth surface. Follow directions for a smoothly covered, warp-free flying model. Use clear dope to attach Tissue as follows: Apply a light coat to the outside edges of area to be covered, and allow it to dry. Cut Tissue to shape needed, plus 1/4" over size. Place Tissue on flat surface and dampen with moistened cloth. Apply a second coat of clear dope on frame, then place moistened Tissue on frame. Pull Tissue Gently with fingers, working out all wrinkles. WHEN COVERING WINGS AND TAIL SURFACES, PIN FRAMEWORK TO FLAT SURFACE TO PREVENT WARPS AS TISSUE DRIES. Cut out any wrinkled areas (bound by nearest framework) and re-cover. If model is being built as Non-Flying Scale, see detail note before covering is started. COVER WING FIRST: If model is being built for Control Line, be sure weight and wing guide is added to Wing Tips (see Control Line Detail). If model is being built for R/C be sure if Ailerons are to be operable that all linkage is installed before covering. COVER top and bottom with one piece each. If any problem is encountered with wrinkles on the Tips, USE a separate piece of Tissue. Cover STABILIZER AND RUDDER NEXT: Cover both sides of each in one piece. COVER FUSELAGE NEXT: Cover sides from #5 to rear with 1 piece. Cover bottom from #5 to rear with 1 piece. Cover top of Cowl in 2 pieces joining over center. Cover top with 1 piece. Apply 4 coats of thinned dope (3/4 dope, 1/4 thinner) to all Tissue covering, holding surfaces flat to prevent warpage while dope is drying. Company models required two additional coats of straight dope to fill pores before color dope was applied. Check Wing 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.