

FUSELAGE ASSEMBLY

STEP 1

Saran Wrap (or similar) spread under frame will prevent frame from sticking to plan. Fuselage is built on flat surface directly on plan. Pin parts in place as shown. Cement together where they join.

STEP 2

Cement all Bulkhead-halves from #6 through #15 vertically in place, followed by side keel #16 which is cemented into notches in bulkheads. Note that keels as well as stringers in many cases extend beyond edges of bulkheads.

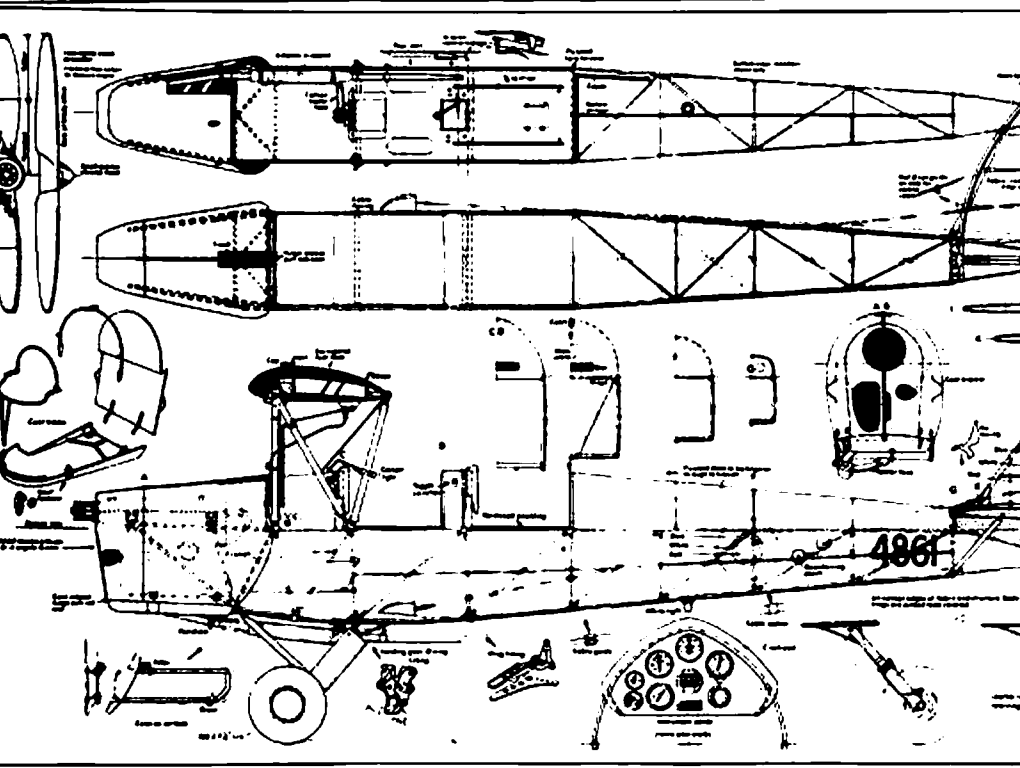
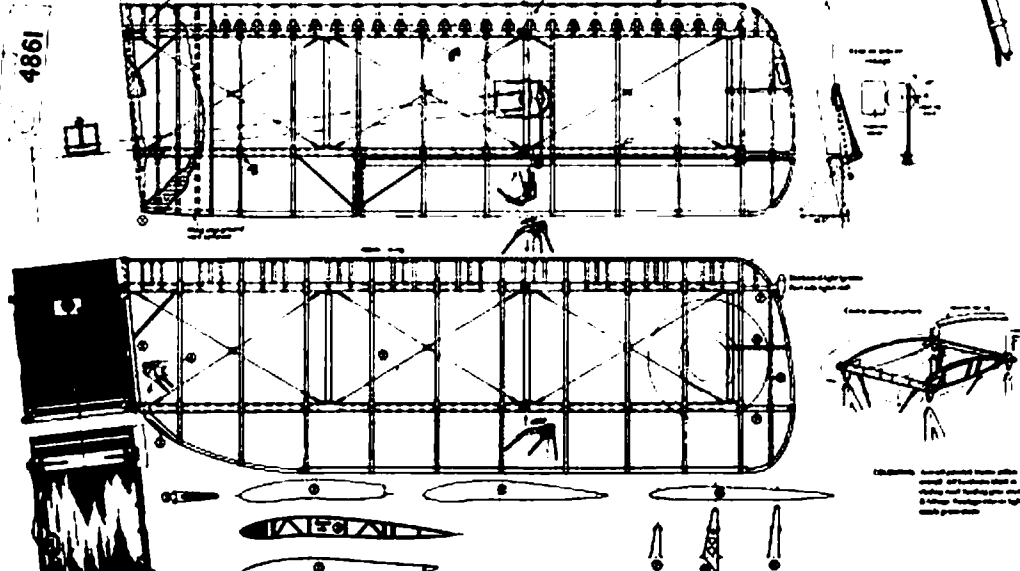
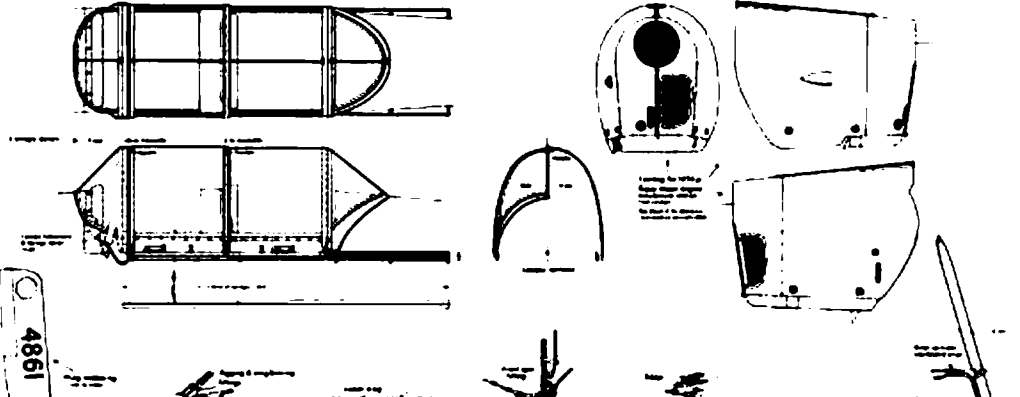
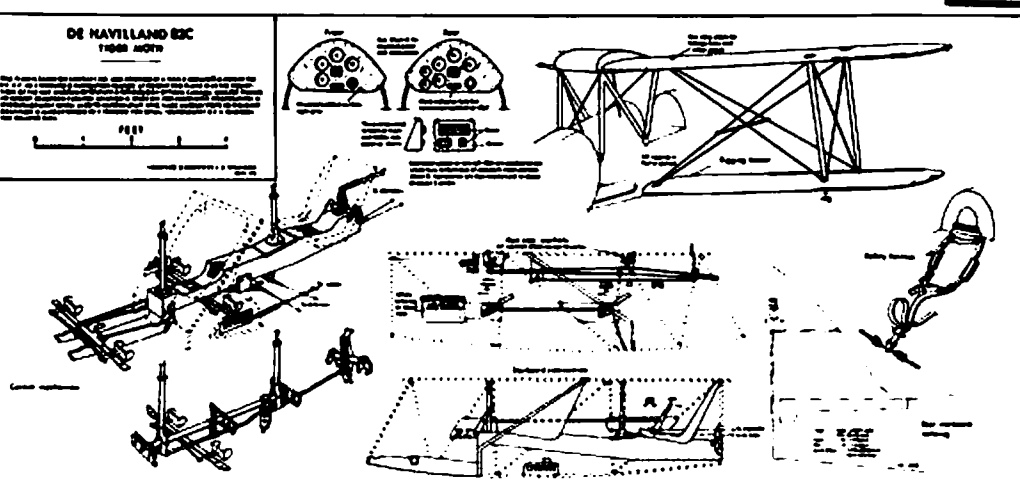
STEP 3

Die-cut rear piece #18 is cemented into notch in Bulkhead #15, against keel. Cement #17 into notches in Bulkheads from #8 to #10. Note that it permits room for 1/8" corner stringer which is cemented from #6 to rear as shown. Add 1/16" sq. stringers into notches and/or locations are marked on bulkheads with a crease mark. Allow to dry thoroughly.

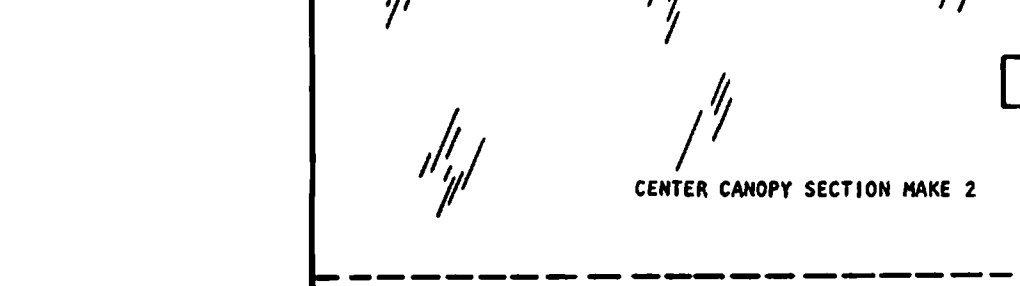
STEP 4

Remove Fuselage half from flat surface. Kit builds Canadian version of Tiger Moth. If British version is desired see British version Detail Note for changes. Cement Landing Gear Bulkhead #19 (which slants back) against rear of bulkhead #9, sandwiching Landing Gear between them as shown. Complete opposite side of Fuselage in same manner as described in Steps #2 and #3. (DO NOT MAKE ANOTHER FUSELAGE CENTER FRAME ASSEMBLY). These Bulkhead-halves are cemented to the same Fuselage frame that you have just removed from the flat surface. Allow frame to dry thoroughly. Sand all stringers slightly to smooth surface to prepare for covering as described in Silkspan Tissue Note. (except if building for Control Line or Radio, then see respective notes). Cement Bulkhead #20 in place against front of #6 then cover top of Fuselage down to side keel #16 with 1/32" sheet balsa joining over center keel as shown, skins are moistened with water to aid bending.

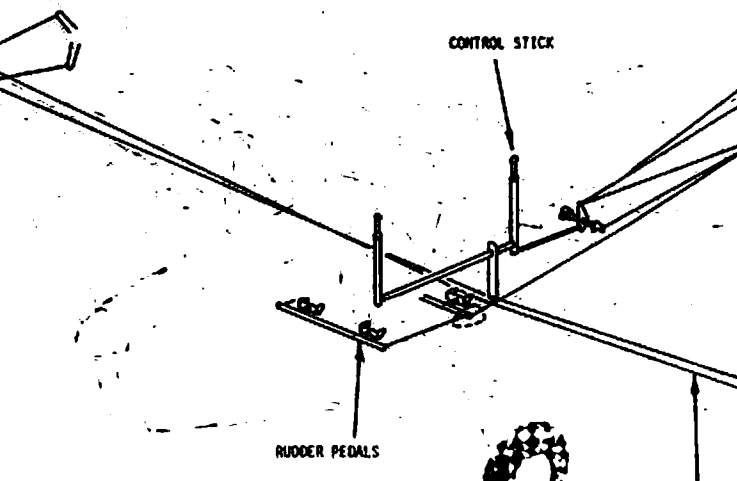
FUSELAGE CENTER FRAME ASSEMBLY



Scale drawings above thru the courtesy of Model Airplane News Magazine. Write: I. N. Broadway, White Plains, N.Y. 10601.



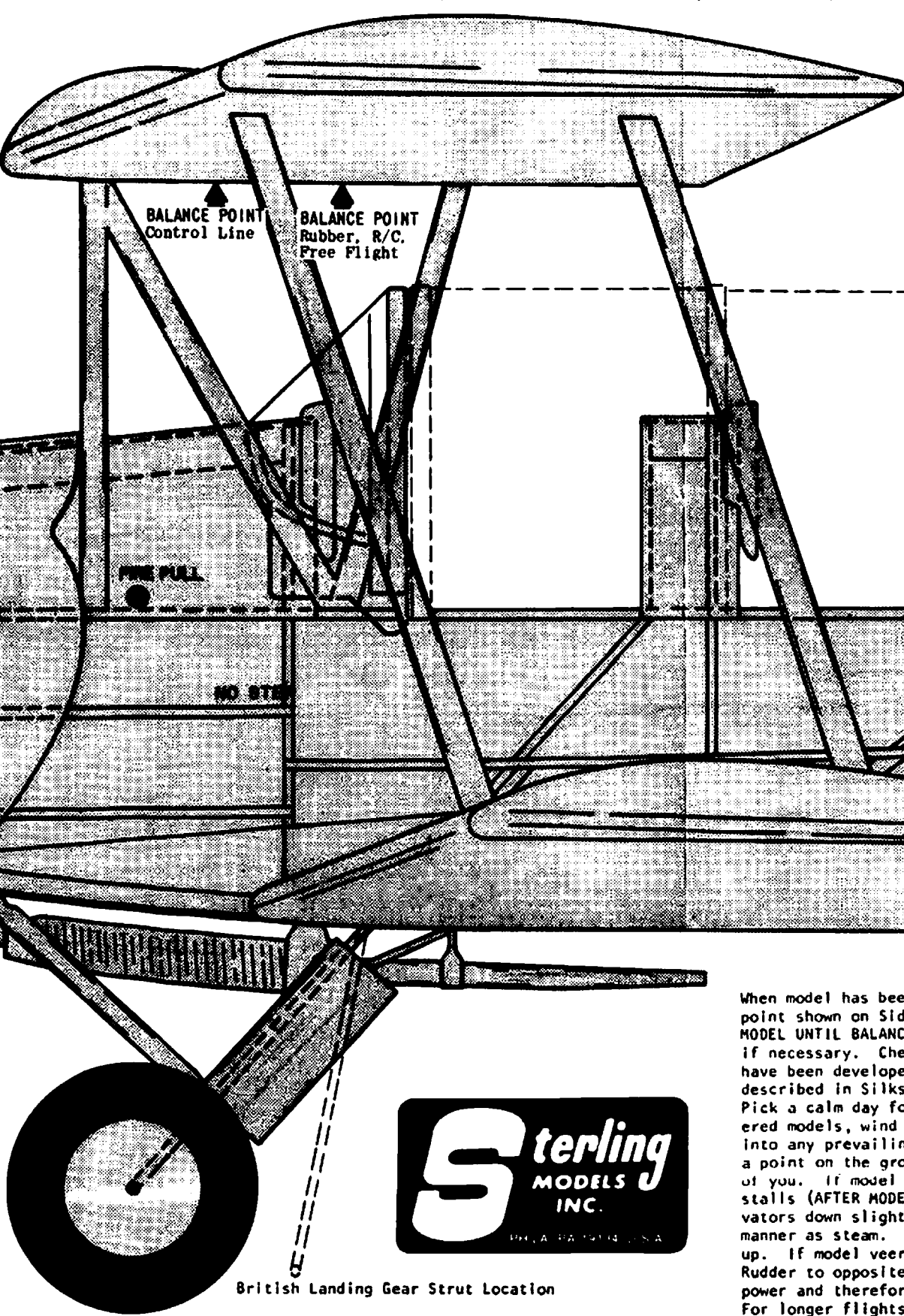
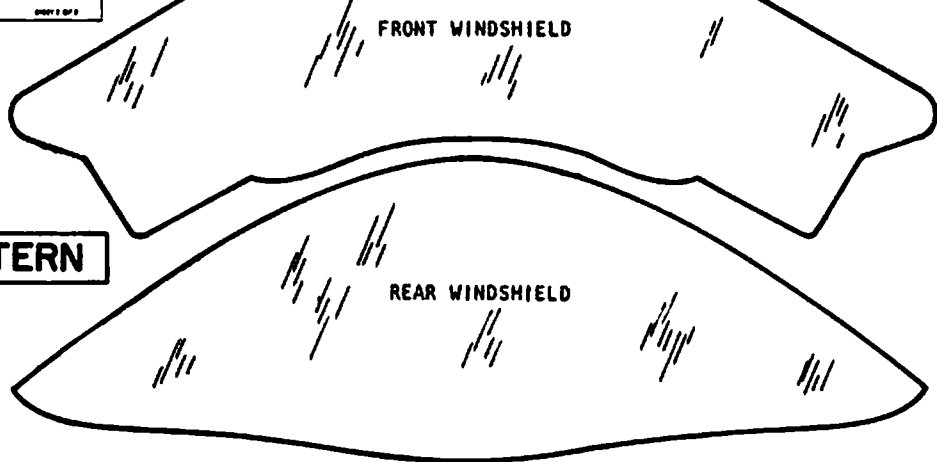
Specs are: Wing Span: 29"4". Length: 23"11". Height: 8"9/16". Engine: 125 h.p. Menasco, Cruising Speed: 94 M.P.H., Maximum Speed: 110 M.P.H., Normal Weight: 1,650 lbs., Range: 302 Miles, Rate of Climb: 798 Ft. per minute, Service Ceiling: 15,800 ft.



SCALE DETAIL

Multiple view drawings and construction sketches of the Canadian and British Tiger Moth reveal a wealth of detail, 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. Scale outline of Fuselage, Wings, and Tail are true and modeler can make whatever changes desired in the structure before covering. Landing Gear and installation on kit model is correct for Canadian version. It changes for British Tiger Moth, see Detail. Plastic Parts and Decals are authentic and correct for Canadian version. Special overlay sketch shows installation of moveable 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 located on Bottom Wing only. Additional structure must be installed so that Ailerons can be moveable. Kit contains 1/16 x 7/16 Strip Wood, which is cut to length and cemented between Ribs on either side of scale Aileron outlines (as shown on left side only of full size Plan) so that when Aileron is cut off of the Wing structure, there is a Leading Edge for Aileron and a Trailing Edge for Wing at that point. When dry, Ailerons are cut from Wing, then re-mounted with hinges. Model is rigged with thin black thread. Rigging lines are shown on drawings of full size craft, as well as photograph of model on box wrap. Be sure when installing Controls, that when stick and Rudder pedals are in neutral position, the Control Surfaces are likewise. Your comments and photographs will be welcome. Write to Sterling Models, Inc., 3620 "G" St., Phila., Pa. 19134, U.S.A.



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 wings have been developed, remove using steam method described in Silkspan Step. Model is now ready. Pick a calm day for test flying. On Rubber Power model, 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 the 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. Takeoffs 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 a model lubricant (available at most Hobby Shops) or with Castor Oil. Apply sparingly. Use Winder which you can make by tightening hook into hand drill. Or purchase a Sterling Winder at your Hobby Shop. 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 contest grade Sterling 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!!!

Sterling
MODELS
INC.

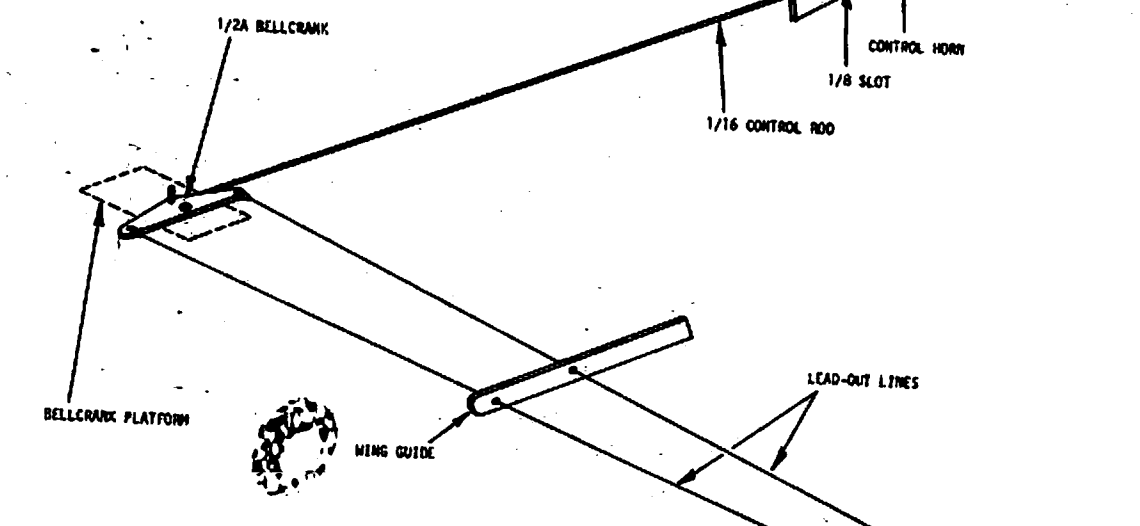
British Landing Gear Strut Location

STEP 5 - FINAL ASSEMBLY

Prepare all plastic parts as shown in Detail Note. Although sketch above shows model uncovered; Wings, Fuselage, and Tail surfaces are covered before assembly is made (unless R/C or Control Line is being installed, in which case see respective Detail Note). Cement bottom wing panels into Fuselage. Be certain it is pressed firmly up against sides to insure proper angle of incidence (angle viewed from front). Hold in place with pins until dry. Cement stabilizer to Fuselage. Stabilizer must be horizontal and in line with Lower Wing. Rudder is now cemented vertically in place. Sand Landing Gear Struts #49 smooth, rounding edges. Cement struts shown in drawings, sandwiching gear between them. Front struts are made from 1/8" dowel and cemented in place. Undercarriage is made from 1/16" dowel as shown in Detail Sketches and on box top, and cemented in place. All strut joints should be given an additional coat of cement and then covered with Silkspan for maximum strength, and good paint preparation. Trim Silkspan from all strut notches in wings. Top wing is installed by cutting the top wing template from scrap wood or cardboard, using pattern on plan. Pin in place on top of Fuselage, lining up front, flush with front of Fuselage, and rear flush with Cockpit. Pin in place vertically in center of Fuselage. Set wing in place on top of template and cement outer struts into notches in top and bottom wings. BE SURE TIPS ARE SAME DISTANCE APART ON BOTH SIDES. Cement center struts in place and allow to dry thoroughly, then remove template. Apply second generous coat of cement to all strut attaching points. Cement Tail Gear to rear of Fuselage as shown on Side View. Be sure it is centered. Model is now painted Trainer Yellow. Color is clearly shown on photograph on box top. Cement Assembled cowl on front of Fuselage as shown. For best flight performance, use a minimum of color.

CAUTION:

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



CONTROL LINE INSTALLATION

Install Controls after Fuselage Step #4 has been completed, before covering. Plywood Bellcrank Platform is securely cemented across 16's at #8. Drill 1/16" hole in rear of Fuselage with scrap 1/16" sheet Balsa, flush with outside of frame. Cut 1/8" slot in rear of Control Rod as shown. Cut two 22" lengths of Lead-Out Lines (not provided in kit) and fasten them to Bellcrank. Mount Bellcrank 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 Spar, as indicated by dotted lines on full size drawing. Bend "U" shaped Elevator Joiner from Wire. Cement Spurs to both Elevators in position shown. Elevators now move as one unit. Round edges and install Control Horn at location shown on drawing, then join together with cloth Hinges

as shown. Cement Stabilizer to Fuselage as described in Final Assembly note. Tape Elevators 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 Bellcrank and Insert Rod from bottom with Spur vertical, then secure Bellcrank. 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 of Rod at precisely the location of the hole in the Elevator Horn with Bellcrank 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 Fin and Rudder apart through wide Main Spars as indicated by dotted line on full size drawing. Cement Fin to top of Fuselage, in line with center keel #3. Rudder is now cemented in place, angled 1/2" to outside of circle flow as shown. Cement approximately 1/2 oz. of weight (empty cement tube rolled up) to bottom Wing Tip Rib on right side as shown. Drill 1/16" holes through Plywood Wing Guide and cement to top of Bottom Wing against outside of Struts. Reinforce Fuselage and Strut holes with Washers or Eyelets (not supplied). Thread lines through holes in 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 level (or slightly nose down) at point where front Control Line comes out of Fuselage. If necessary, add weight. Use regular 1/24 Control Lines (not supplied) when flying your Tiger Moth. GOOD LUCK!!! GOOD FLYING!!!

ENGINE INSTALLATION

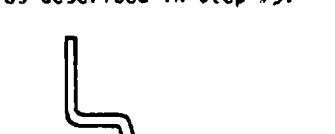
Engine is used if model is being built for Control Line, Free-Flight or Radio. Engine and installation material not provided in kit. Drawing shows installation of Cox .020 Pen Wee Engine; however, any other similar Engine may be used. Entire Fuselage, or front back to #8 should be covered with 1/32 or 1/16 sheet Balsa. Top of Cowl is cut out for engine clearance. Engine is installed on die-cut 1/16 Firewall provided in kit. Carefully drill 3/32" holes at punch marks. Mount Engine to Firewall with #2 Nuts and Bolts, tightening Nuts securely. Cut Plastic Nut Plates from included sheet and securely cement to back of Firewall over Nuts, drilling hole 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 Firewall in place when starting Step #4. Trim #6 to clear Engine. Drill three holes in top of Fuselage in position indicated by dotted line on drawing, for Needle Valve and fill & overflow tubes.

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.

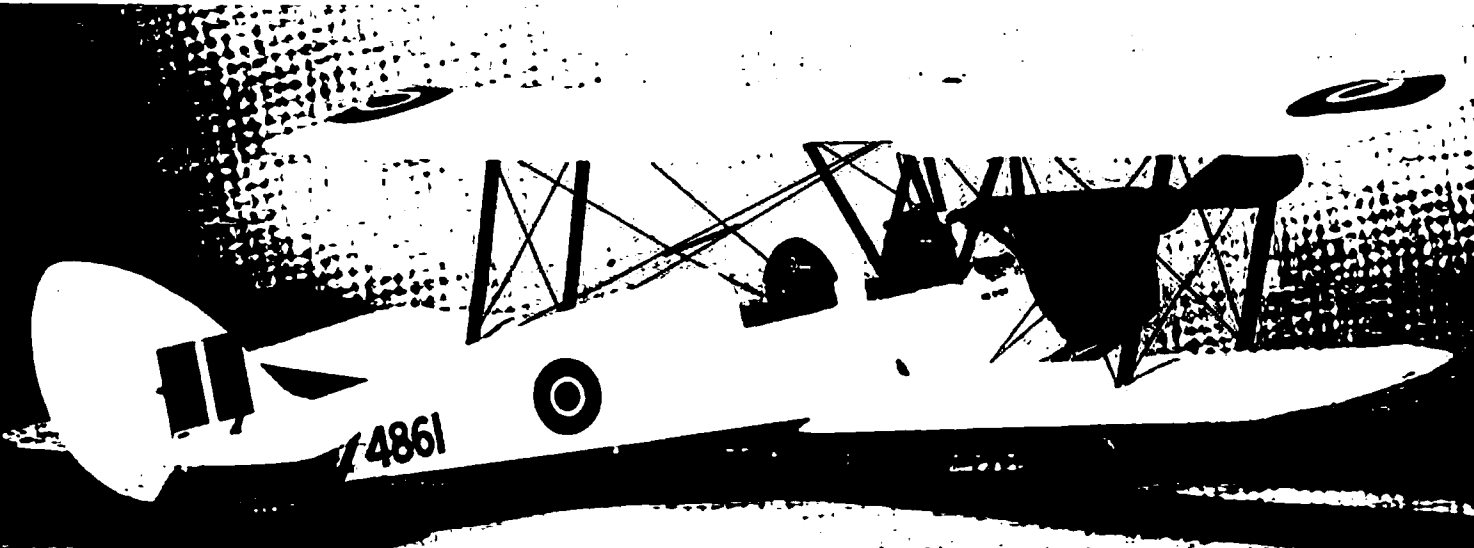
TAIL GEAR DETAIL

Bend to shape of this full size pattern from .045 wire provided install as described in Step #5.



DE HAVILLAND
TIGER MOTH

KIT E13
SPAN 33"
1 1/4" = 1 Ft.



Following the success of the Moth, the DeHavilland Company produced the DH-82 Tiger Moth in 1923, which was to become the most popular and famous trainer in the world. Still in service and older than even the DC-3, the Tiger Moth still remains in the opinion of many experts, the finest training aircraft available in Great Britain and perhaps in any country in the world. The Tiger Moth was very popular in the Flying Clubs in Great Britain and more than 300 of them were in use by Flying Clubs and Reserve Training Schools by 1928. A total of 4,005 Tiger Moths were delivered in the United States prior and during World War II and it was also built under license in Canada, Australia and New Zealand. Our Model is a true reproduction and captures the beautiful lines of the full-size craft. Tiger Moths, either real or model, are excellent flyers as you will see when you complete yours.

