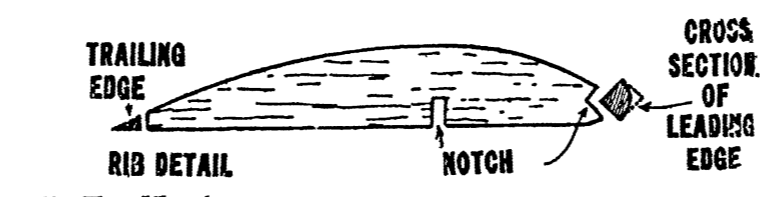
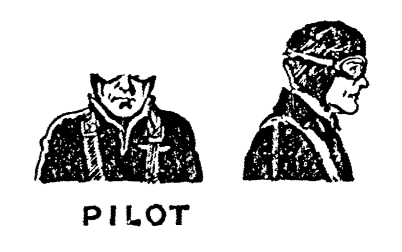


Also Dept Aug '52

Before proceeding with any part of construction and assembly work, study all perspective sketches and general plan for building so that a good mental picture of the complete model will be had.

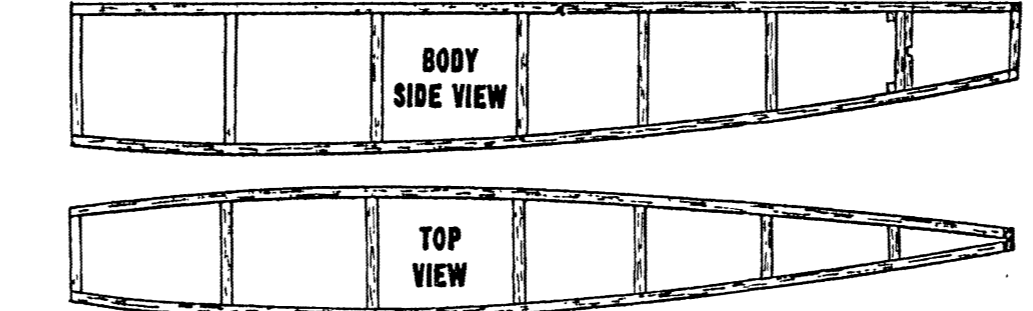
True Flying Scale Model  
**16" FAIRCHILD "22"**  
Detailed Instructions by Joe Ott



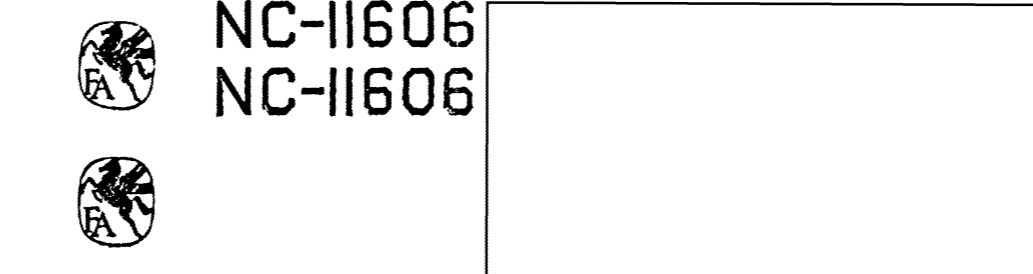
**STEP No. 1**  
**Body Sides** Material: Balsa 1/16" x 1/16".  
All construction work is done directly over or on paper plan. To prevent wood pieces from sticking to plan, obtain a piece of waxed paper, place it over the plan, and then pin the wood strips directly over the lines which show through waxed paper. The heavy outlines represent the main part of the body. This part should be constructed first. A side view of the body is illustrated in the sketches. Make both sides exactly alike by placing another piece of waxed paper directly over the first set of wooden parts and building the other body side directly on top of the first.

**STEP No. 2**  
**Body Top** Material: Balsa 1/16" x 1/16".  
After the cement has thoroughly dried, separate the two sides. The two sides are then assembled on the Plan View to the correct widths as shown in the view of body sections. The method of doing this is also illustrated in the perspective sketches.

**STEP No. 3**  
**Formers** Material: Printed balsa rib sheet.  
The body formers are illustrated in full size on the plan and are also printed in outline on the rib sheet. With a razor blade, cut out body formers and fit them to the top part of the body.

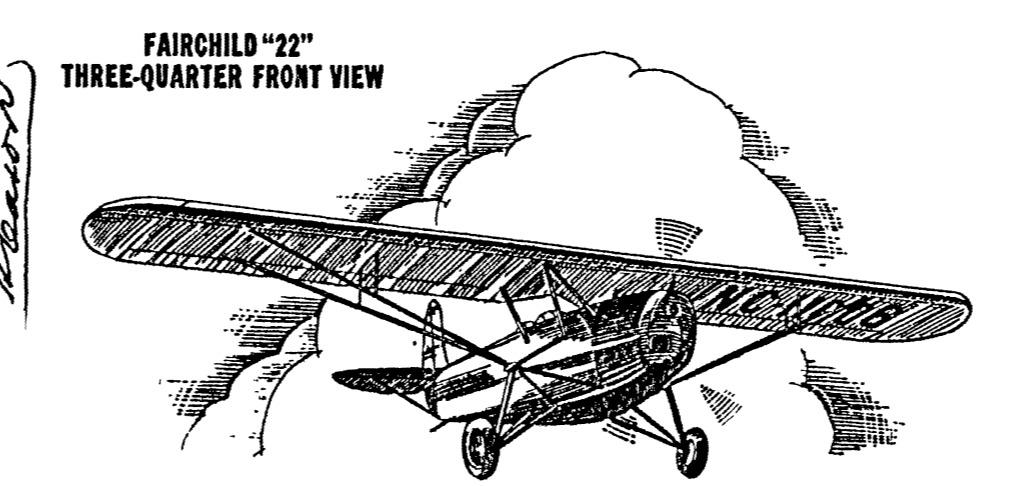


**STEP No. 4**  
**Stringers** Material: Balsa 1/16" x 1/16".  
The semi-circular shape on the top portion of the body is secured by the formers. To fill out the roundness of the body, longitudinal stringers are placed in the small square cut-out sections of the formers. The stringers, as a rule, are always a trifle smaller than the main body longitudinal members.

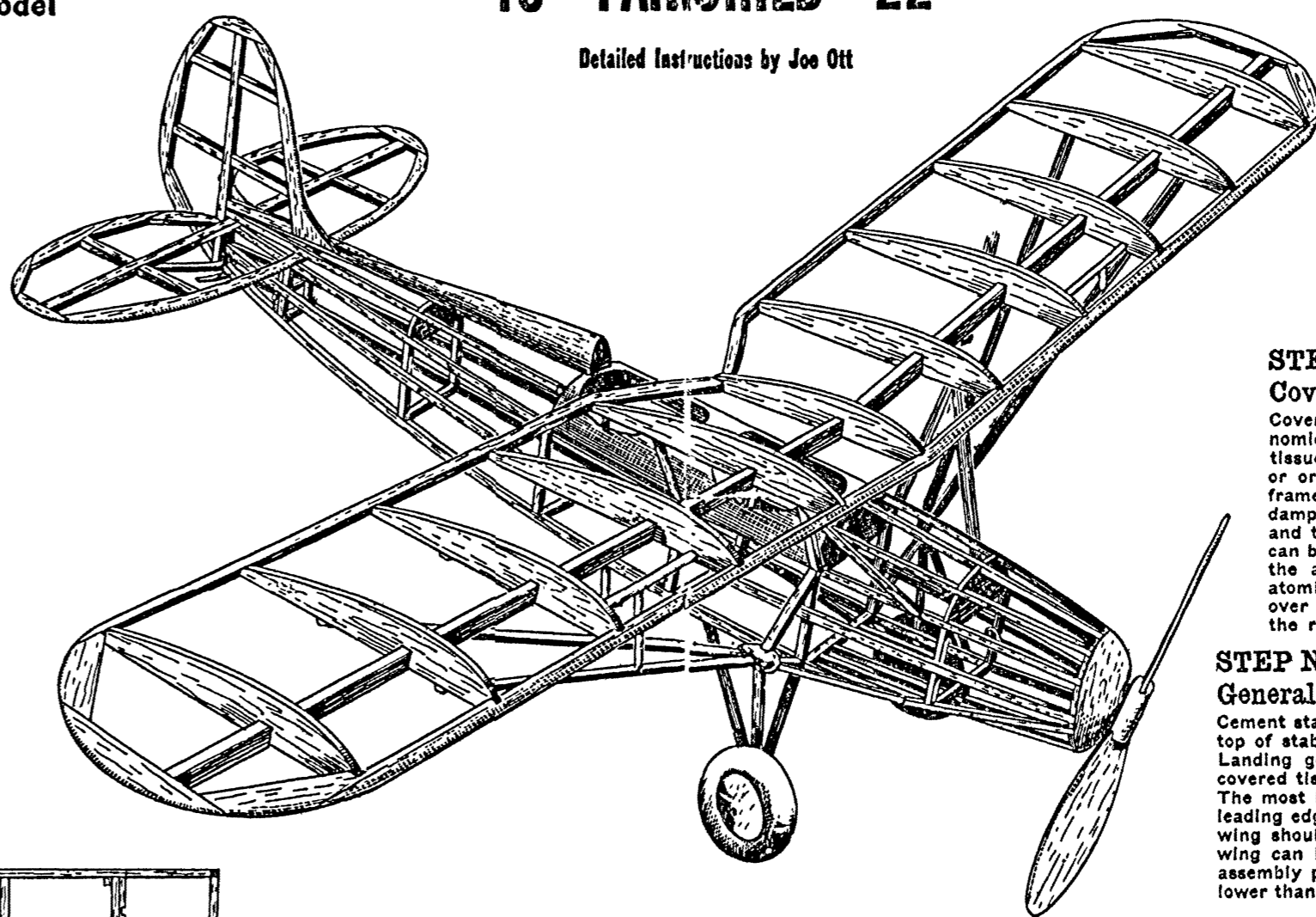


**STEP No. 5**  
**Cockpits** Material: Printed paper outline on plan.  
The two cockpits are illustrated in full size on back of plan. They may be cut out and used as shown, or, if plan is to be preserved, trace the outline on a stiff piece of paper to use as a guide for cutting.

**STEP No. 6**  
**Windscreens** Material: Transparent material.  
A full size layout of windscreens is illustrated on front of plan. The transparent material should be cut to size and then formed. Then cement them to front of cockpits as shown.



CUT OUT BLACK LINES BELOW TO USE IN OUTLINING CONTROLS



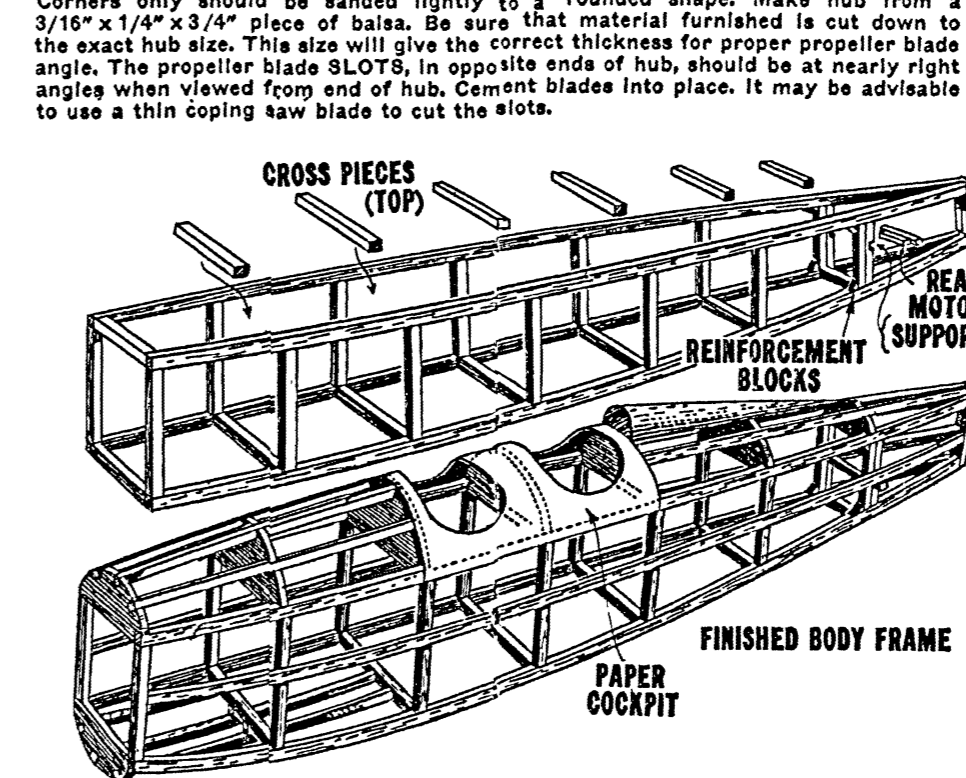
**STEP No. 7**  
**Headrest** Material: Balsa 1/4" x 1/4".  
The headrest is the small piece of streamlined balsa which starts at the back of the rear cockpit and continues to rudder. It is carved from balsa furnished for this part.

**STEP No. 8**  
**Wing-Ribs** Material: Printed balsa rib sheet.  
Cut out all ribs as illustrated. Notch them for assembly to leading edge, spar and trailing edge. The wing should be assembled and cemented in one piece across the Plan View. Use waxed paper underneath wooden parts. After wing is completely assembled and thoroughly dry, crack it at the middle. Place blocks near wing tips to raise ends. Pin down firmly, cement cracked joints and allow to dry in this position. The incline of the wing is called dihedral. It helps to give the model airplane inherent stability.

**STEP No. 9**  
**Stabilizer** Material: Balsa 1/16" x 1/16" and 1/16" x 1/8".  
Two sizes of balsa are required for the stabilizer. The wider pieces are used for the curved parts. Assemble to outline illustrated in plan view.

**STEP No. 10**  
**Rudder** Material: Balsa 1/16" x 1/16" and 1/16" x 1/8".  
Material and construction are the same as used for stabilizer. Make part over side view as illustrated on plan.

**STEP No. 11**  
**Propeller** Material: Printed balsa rib sheet.  
Hub 3/16" x 1/4".  
The blades of propellers are cut from the printed rib sheet. Outlines only are shown. Corners only should be sand lightly to a rounded shape. Make hub from a 3/16" x 1/4" x 3/4" piece of balsa. Be sure that material furnished is cut down to the exact hub size. This size will give the correct thickness for proper propeller blade angle. The propeller blade slots, in opposite ends of hub, should be at nearly right angles when viewed from end of hub. Cement blades into place. It may be advisable to use a thin coping saw blade to cut the slots.



**STEP No. 12**  
**Nose Block** Material: Balsa 1/4" x 5/8" x 1-1/4".  
Cut nose block to shape illustrated in front views of plan. Then shape it as shown in side view. The general appearance of nose block is semi-circular as viewed from both top and side. Its outside dimensions should conform to the front shape of the body.

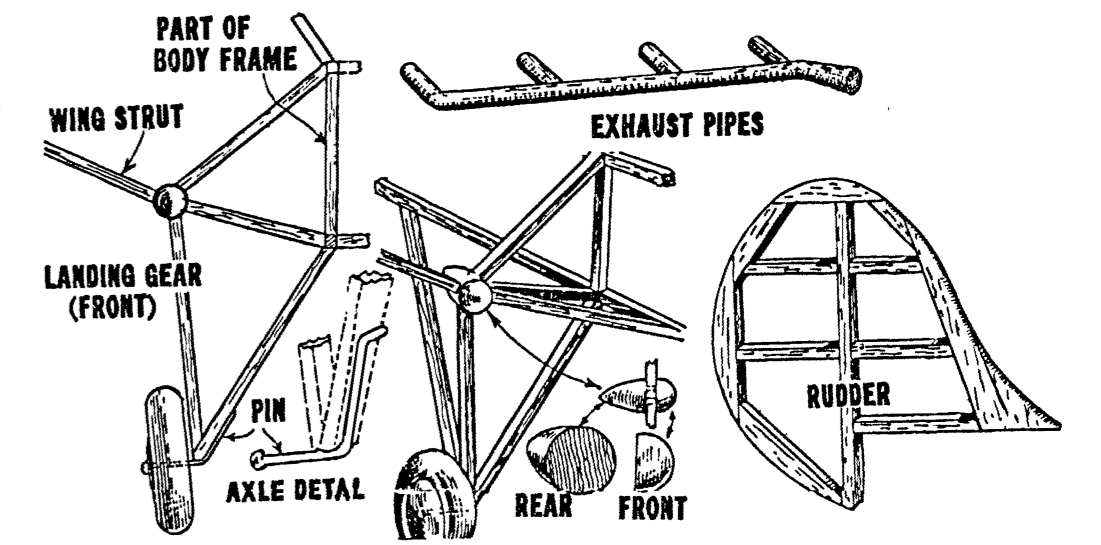
**STEP No. 13**  
**Shaft** Material: Steel wire—.026".  
After propeller has been assembled and nose block carved to fit front of body, insert propeller shaft through nose block, slip 2 washers over shaft and then push shaft through propeller hub. (Before pushing shaft through hub, make a small hole with a pin or needle slightly thinner than the shaft diameter.) After assembly has been completed, push shaft farther through hub and bend protruding end over as illustrated in propeller sketch. Pull hook back into the hub, cement securely and allow to dry. This complete nose block unit should now be cemented to front of body.

**STEP No. 14**  
**Landing Gear** Material: Printed balsa rib sheet.  
Balsa 1/16" x 1/8" strip.  
The landing gear design is very simple. Its construction should be studied from side and front plan views and also from sketches. Correct lengths should be copied from the plan views. Finish this assembly only after body has been completely covered with tissue.

**STEP No. 15**  
**Wing Struts** Material: Balsa 1/16" x 1/8" strip.  
All wing struts should be roundly sandpapered on both leading and trailing edges. Wing should be completely covered before it is attached to body by means of struts. As the cement dries rapidly, struts will soon become secure. All corners and edges on entire model should be gently smoothed or rounded with sandpaper.

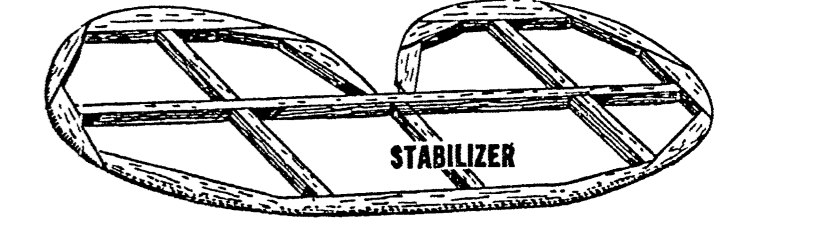
**STEP No. 16**  
**Covering** Material: Tissue.  
Cover body first. Fit tissue over all sections before cementing down. Be economical with tissue as only enough is supplied to cover model. For sticking tissue to framework, use a VERY THIN solution of flour or library paste, or ordinary glue thinned with water. Apply paste to a small portion of the framework and then place tissue on same. Be careful not to tear tissue when damp or wet from paste. The covering procedure is the same for both wing and tail units. (In some cases only small portions of the body or other parts can be covered without wrinkling.) Joints can be readily made without spoiling the appearance of plane. If the covering is sprayed very lightly with an atomizer containing clear water, the tissue, after drying, will shrink smoothly over the entire framework. It is not necessary to soak the tissue. Practice on the rudder. Note results before spraying entire model.

**STEP No. 17**  
**General Assembly** Material: Various finished parts.  
Cement stabilizer in place on top of longerons at rear. Cement stringers over and on top of stabilizer. Rudder is then to be cemented in place. Landing gear and wing struts can now be attached in their proper places over covered tissue sections.  
The most important point to keep in mind when assembling, is the relation of the leading edge to the trailing edge of the wing. In any event, the under surface of the wing should be nearly parallel to the center line of the body. The position of the wing can be checked best by sighting the entire model from the side during the assembly process. It is safe to place the trailing edge of the wing 1/16 of an inch lower than the leading edge. This is done by slightly shortening the rear wing struts.



**STEP No. 18**  
**Motor** Material: Rubber Band 1/32" x 3/32" x 7".  
The rubber band is held in front by hook in shaft and at rear by hard balsa cross piece. Band can be easily inserted by threading or pulling into position with a piece of string. A small opening in the side at front and at rear of body will be left uncovered for convenience in inserting rubber. DO NOT crush plane while affixing rubber.

**STEP No. 19**  
**Decorations** Material: Numbers and black lines on plan.  
All commercial ships are licensed by the government. In order to identify them, the department of commerce issues numbers which are recorded with name of owner so that proper ownership is known at all times. Numbers to fit this plane are provided on the plan. Cut them out and paste on plane as shown. (Or trace them and



make copies if plan is not to be cut.) Near the edge of the plan is printed a set of small black lines. Cut them out and use them for outlining ailerons, elevators, and rudder.

**STEP No. 20 - Flying**  
Before attempting to fly the model, check for correct center of gravity. This is accomplished by placing the two forefingers in the center at the wing tips and suspending the entire model. Allow the model to swing freely or rock on the finger tips. If the tail has a tendency to hang down from a natural horizontal position, a very small weight such as two or three straight pins must be added to the nose. This slight additional weight will have a tendency to raise the tail. In some cases, a model is balanced best during its actual trial flights. When model climbs too rapidly, it shows that it is tail heavy. This condition should be corrected by the addition of small weights. If the nose is heavy, the weights should be placed in the rear lower side of body.

