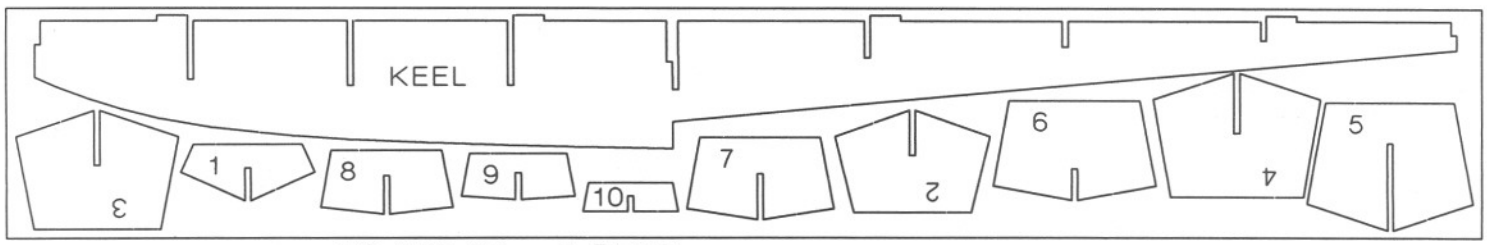
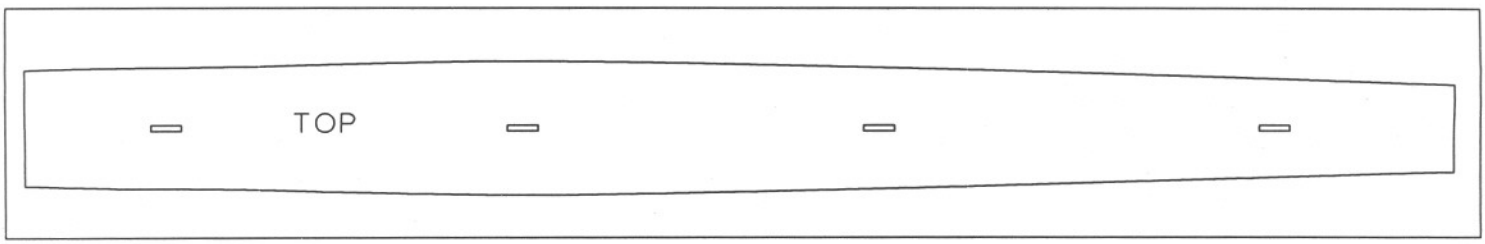
Mini-Floats Building Instructions

The Mini-Float kit contains the following items:

6...Laser cut sheets as shown below.



LC-509-01 2 REQD.



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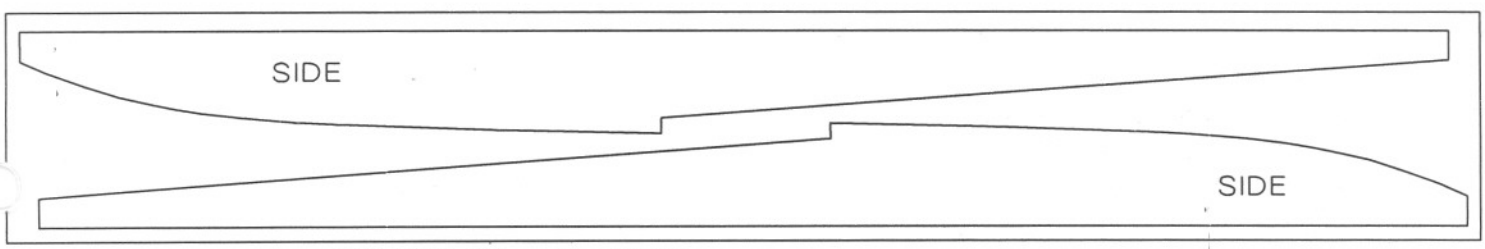


LC-509-03 2 REQD.

This kit also includes the smaller parts listed below:

2 . . . .3/4" x 2" x 2" Balsa Nose Blocks
1 . . . .Water Rudder 1" x 1" White Plastic
1 . . . .Water Rudder Bearing Tube 1/8" x 2 3/8" Nylon Tube.
1 . . . .Water Ruder Torque Rod 1/16" Threaded Rod bent on one end
4 . . . .1/16" x 1 3/4 x 1 3/4" Plywood Mount Bases
4 . . . .Molded nylon attach Blocks
12 . . .#2 x 1/2" Sheet Metal Screws
1 . . . .3/8" x 1/2" x 5" Grooved Hardwood Rear Strut Mount Block
1 . . . .3/32" x 14" Rear Wire Brace
2 . . . .Nylon Straps
1 . . . .Nylon Steering Arm Fitting
2 . . . .1/16" x 2" X 10 3/4" Balsa Sheet (forward float bottoms)
2 . . . .1/16" x 2" x 13" Balsa Sheet (rear float bottoms)
1 . . . .1" x 1" Nylon Tape
1 . . . .Assembly Instructions

ddition to the items in the kit you will need:
4 . . . . 3/32" wheel collars
1 . . . .Flexible cable pushrod
1 . . . .Roll covering material

Note: Because the Mini-Floats are very simple structures, full size drawings are not required and there is no need to assemble them over the plan. The reduced scale drawings are for reference only and the Mini-Floats are built upside down directly on your building board. Cover your building board with wax paper before beginning construction.

Note: Using the drawing on the first page as a reference, mark the numbers on the formers in your kit before removing them from the laser cut sheets.

Building the Mini-Floats:

1....Pin one of the float tops to your building board.
2....Insert frames #2 through #9 into the slots in the keel. Do not glue the formers to the keel at this time.
3....Place the keel & frames into position on the float top. Tack glue the keel only to the float top in several spots
4....Adjust the frames so that they are 90 degrees to the keel and then glue the frames & keel to the float top. Now glue frames #1 and #10 into position.
5....Place one float side into position. The side should sit on top of the float top (see cross section drawing). Align the step in the side with frame #5 and glue the side to the frame.
6....Working forward and back from frame #5, glue the side to the frames and float top.
7....Glue the opposite side into position. Using a fore and aft motion, sand the lower edge of the sides to match the angle of the bottom of the formers.
8....Glue the 1/16″ x 2″ x 13″ sheet to the bottom of the float from frame #6 to the rear. Sheet one side at a time and center the inner edge of the sheet on the centerline of the keel.
9....Use one of the 1/16″ 2″ x 10 3/4″ sheets to sheet one side of the front bottom of the float. The inboard edge of the sheet should be trimmed to end on the centerline of the keel.
10....Use another of the 1/16″ 2″ x 10 3/4″ sheets to sheet the opposite side. The inboard edge should be trimmed to meet the first sheet at the centerline of the keel.
11....Trim the 1/16″ bottom sheet flush with the sides and the front and rear frame. Sand the float smooth all over.
12....Glue the nose block to the front of the float. Sand the block to match the contour of the top, sides and bottom. Then round the front edges. Now assemble the other float.
13....Draw a centerline on the top of the float from front to rear. Draw centerlines on two ply mount plates both front to rear and side to side. Mark the location of the step on the top of the float.
14....Measure the distance from the C/G to the landing gear on your model. Now measure this distance on the top of the float from the step forward and draw a line across the top of the float 90 degrees to the centerline.
15....Glue one of the plywood mount plates into this position on the marked line and the float centerline.
16 ....Attach the forward nylon attach brackets to the plywood plates making sure that they are aligned with the centerlines on the plywood plates. Use two screws on each bracket (one in the front outboard hole and one in the rear inboard hole).
17....Cut a channel in the bottom of the fuselage immediately behind the former at the trailing edge of the wing. It should be 3/8″ wide and 1/2″ deep to accept the rear mount attach block.
18....Cut the 3/8″ x 1/2″ rear mount attach block to the width of the fuselage and glue securely into position. Now cover the block with matching covering material.
19...If you are putting the floats on a Herr Piper J-3 Cub or Cloud Ranger, bend the rear attach wire to the shape shown on the drawings.
20...Mount the rear wire on the fuselage using the nylon straps and sheet screws.
21...Mount the floats to your model by sliding the main landing gear into the front attach bracket and securing with a wheel collar.
22...Attach the rear brackets to the rear attach wire with wheel collars. Place the rear plywood plates under the brackets and rest them on top of the floats.
23...The top of the floats should be parallel to the flat bottom of the wing. The floats also need to be parallel to the fuselage centerline when viewed from above. You can rotate the rear wire to achieve the proper angle between the wing and the float. Move the rear ends of the floats in and out to make them parallel to the fuselage. You may have to bend the rear attach wire or the landing gear legs to get the proper alignment.

24...Glue the plywood mount plates into this position on the float centerline.
25 ....Attach the rear nylon attach brackets to the plywood plates. Use two screws on each bracket (one in the front inboard hole and one in the rear inboard hole). Mark the floats to identify which one is the left one and the right one.

Covering the Mini-Floats:

26...Remove the floats from the model. Sand them smooth all over with 220 grit sand paper.
27...Cover the floats with a plastic iron covering material. To make sure that the floats are water tight you should overlap all seams by about 3/32″. There is no reason to fiberglass the bottoms of the floats. They are more than strong enough for the size of models that they are designed for and are very puncture resistant.

Final Assembly:

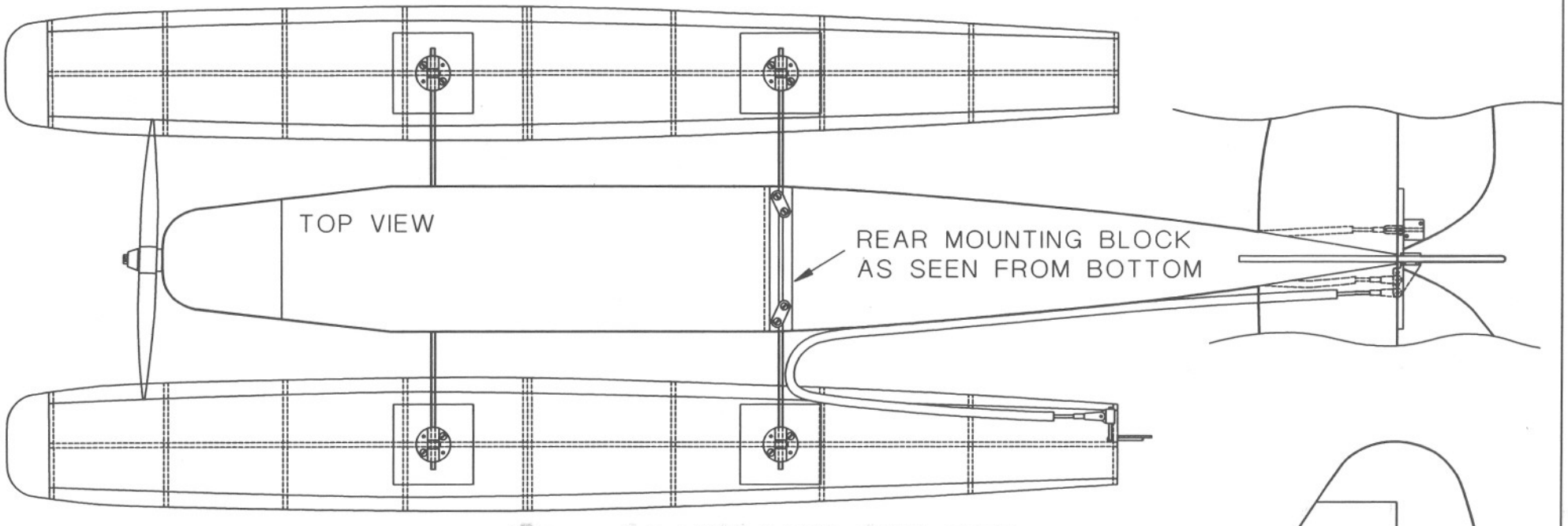
28...The water rudder is mounted on the float that is on the same side of the model as the rudder horn. Identify this float and drill a 1/8″ hole vertically through the rear end at the intersection of the keel and F-10.
29...Lightly sand the outside of the nylon rudder bearing tube to roughen it up and glue it into the hole in the rear of the float. Trim the tube off so that it sticks out above and below the float 1/16″.
30...Trim the plastic water rudder to the shape shown on the drawing.
31...Insert the wire rudder torque rod into the bearing tube from the top. The top threaded portion should be held 90 degrees to the float centerline and should be on the fuselage side of the float. Bend the lower part of the wire 90 degrees toward the rear as shown on the drawing. Cut off the excess wire.
32...Place the water ruder into position. The top of the water rudder should make contact with the bottom of the nylon bearing tube. Tack glue the rudder to the wire at the bend with a tiny drop of thick C/A glue.
33...Apply a small drop of oil to the wire where it exits the bearing tube on the top and bottom and rotate the wire to allow the oil to penetrate the tube. Apply candle wax or Vaseline to the wire where it exits the bearing tube to prevent glue from entering the tube. **Failure to do this will result in the wire being glued to the inside of the tube.**
34...Apply C/A glue sparingly to attach the wire completely to the rudder. Now apply the 1″ x 1″ nylon tape over the wire to trap it against the rudder. Trim the tape flush with the edges of the rudder as required.
35...Screw the steering arm fitting onto the torque rod. About 1/4″ of the rod should stick out past the fitting.

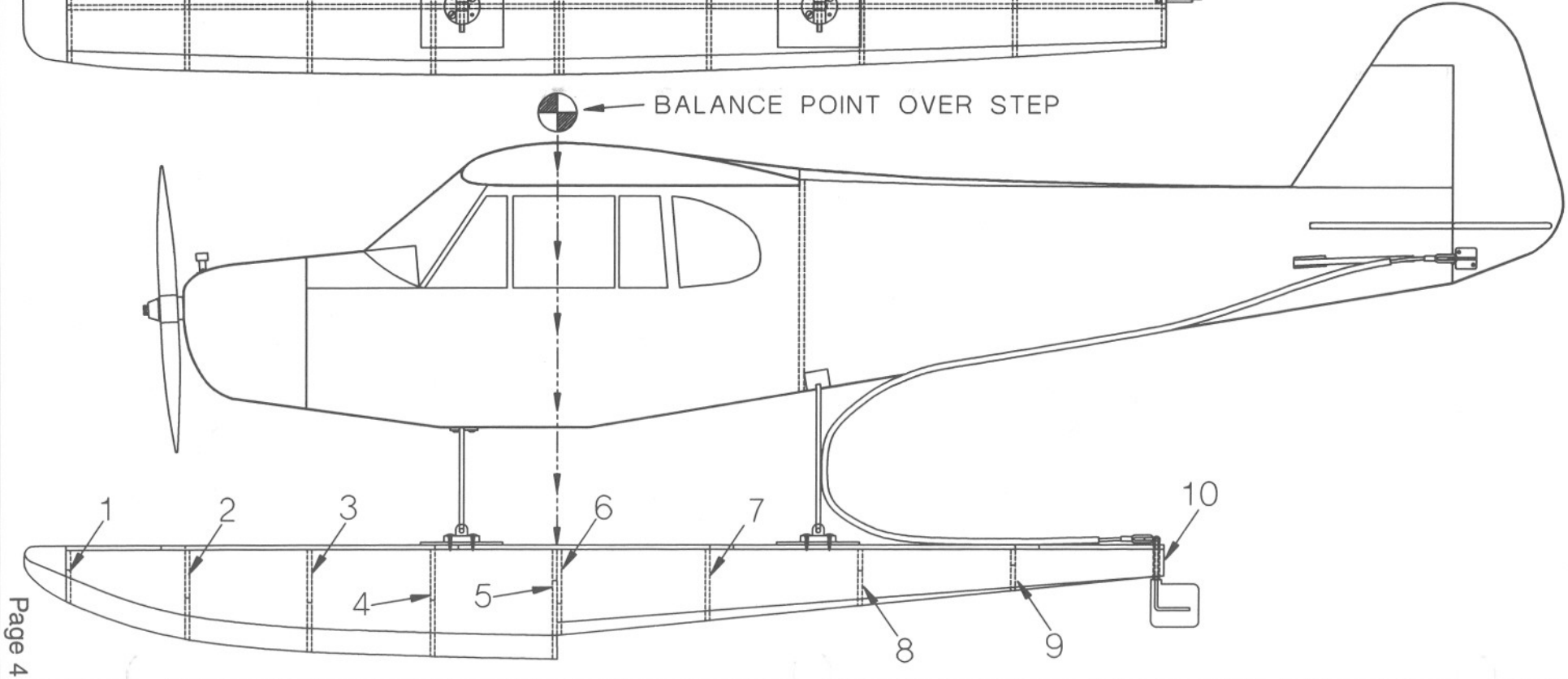
Installation:

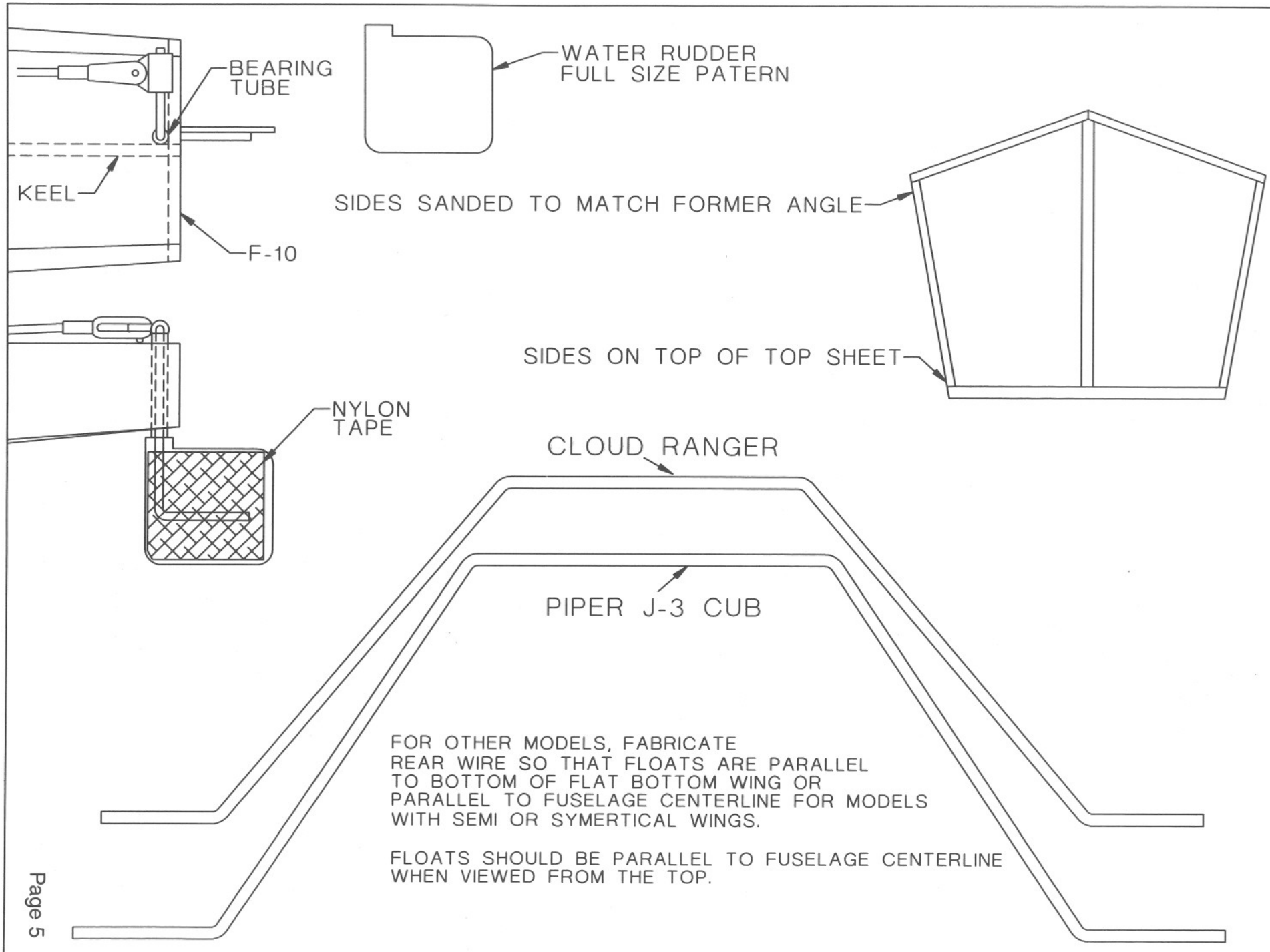
36...Reinstall the floats on your model.
37...Install the flexible cable push rod to connect the rudders. The pushrod should connect to the outermost hole in the models rudder horn. Secure the pushrod housing near its ends to the fuselage and float with covering material and a small amount of thin C/A glue. The housing should also be secured aft of the front bend where it first makes contact with the fuselage and float.
38...Check for proper movement of the water rudder with your radio.
39...Finally, Check the balance of your model with the floats attached. You may have to add weight to the model to achieve the proper balance.

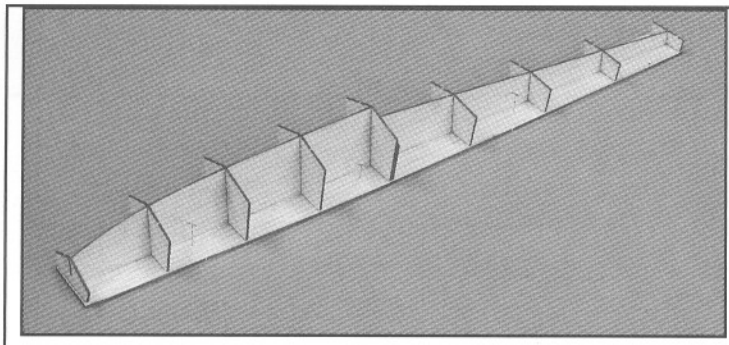
Flying Notes:

With a seaplane you will always take off and land directly into the wind. The proper technique to initiate water take offs is: Point the model directly into the wind. With the engine at idle, hold full up elevator. Slowly advance the throttle (5 seconds from idle to full throttle). As speed builds up the model will come up on the step. As it does, relax the pressure on the elevator stick slowly to neutral or just slightly up. Once take off speed has been achieved, apply a small amount of up elevator to climb out. Water landings are made by reducing the throttle to about 1/4 power and making your final approach into the wind. Level out just above the water and hold a slight amount of up elevator to establish a slight nose up attitude. Now slowly reduce the power and allow the model to settle into the water while maintaining the slight nose up attitude. Do not attempt to make an extremely nose high landing or a full stall landing. Fly the model onto the water, slightly nose high with a little power.

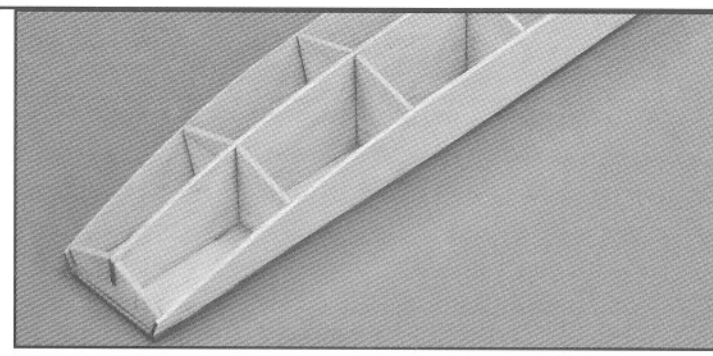

TOP VIEW
REAR MOUNTING BLOCK
AS SEEN FROM BOTTOM


BALANCE POINT OVER STEP
1
2
3
4
5
6
7
8
9
10

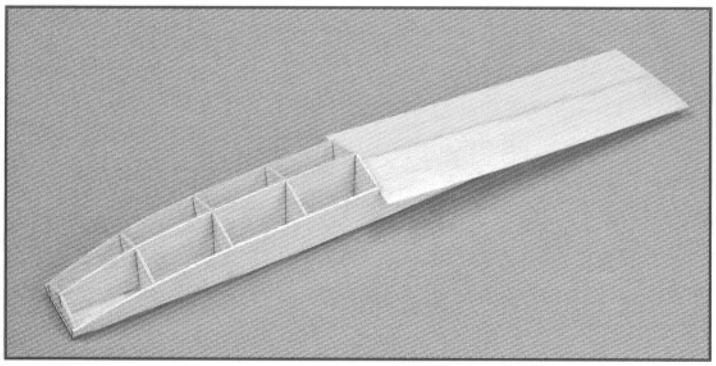

BEARING TUBE
KEEL
F-10
NYLON TAPE
WATER RUDDER
FULL SIZE PATERN
SIDES SANDED TO MATCH FORMER ANGLE
SIDES ON TOP OF TOP SHEET
CLOUD RANGER
PIPER J-3 CUB
FOR OTHER MODELS, FABRICATE
REAR WIRE SO THAT FLOATS ARE PARALLEL
TO BOTTOM OF FLAT BOTTOM WING OR
PARALLEL TO FUSELAGE CENTERLINE FOR MODELS
WITH SEMI OR SYMERTICAL WINGS.
FLOATS SHOULD BE PARALLEL TO FUSELAGE CENTERLINE
WHEN VIEWED FROM THE TOP.



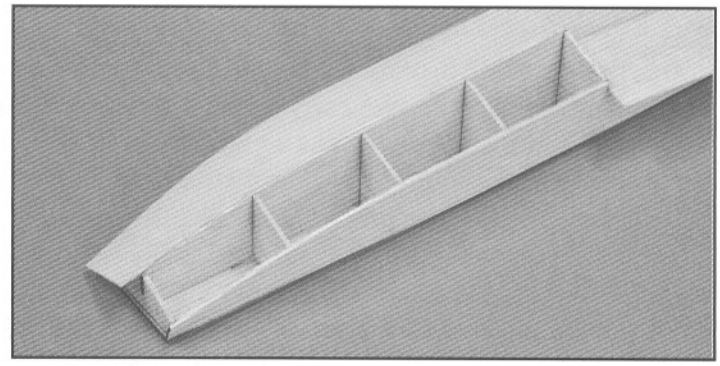
Step 4: Float being assembled upside down with keel and all formers in position.



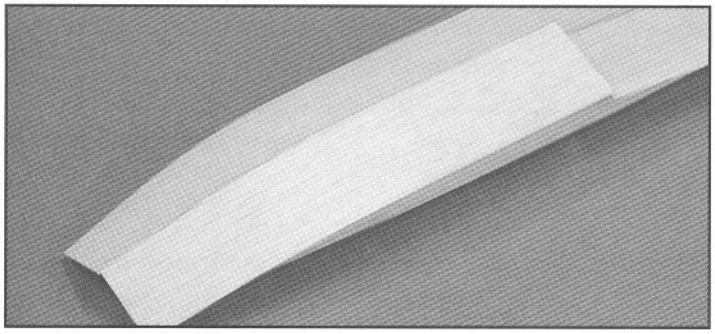
Step 7: Sides installed and sanded to match former angles.



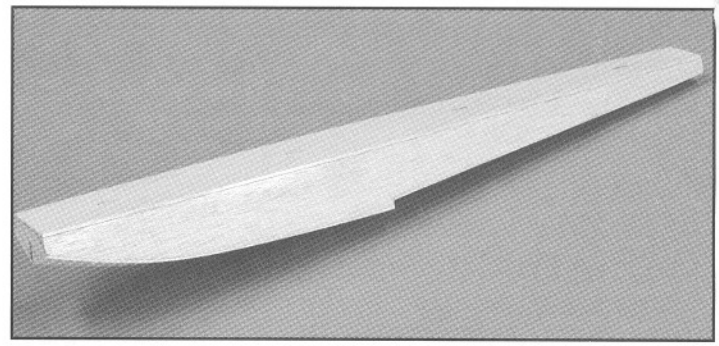
Step 8: Aft bottom sheet glued in place with inner edges centered on keel.



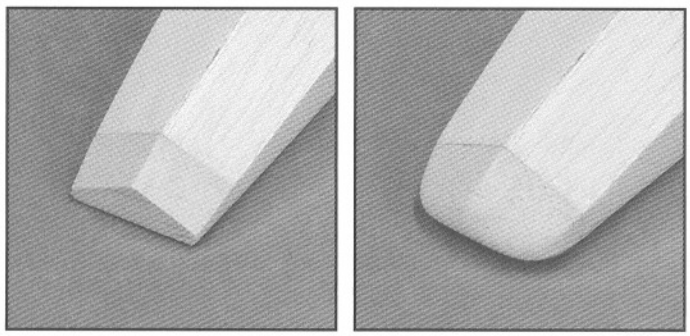
Step 9: First forward bottom sheet glued in place with inboard edge trimmed to keel centerline.



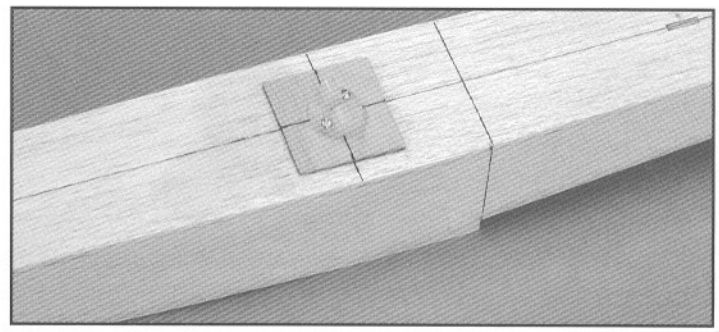
Step 10: Opposite side bottom sheet installed with inner edge trimmed to keel center line.



Step 11: Bottom sheet trimmed flush with sides, F-1 and F-10 and float sanded smooth all over.



Step 12: Nose block is shaped in two steps. First sand flat to match bottom, sides & top. Then sand front rounded as shown.



16: Front plywood mounting plate & attach fitting installed for main landing gear so that step is directly below models C/G.