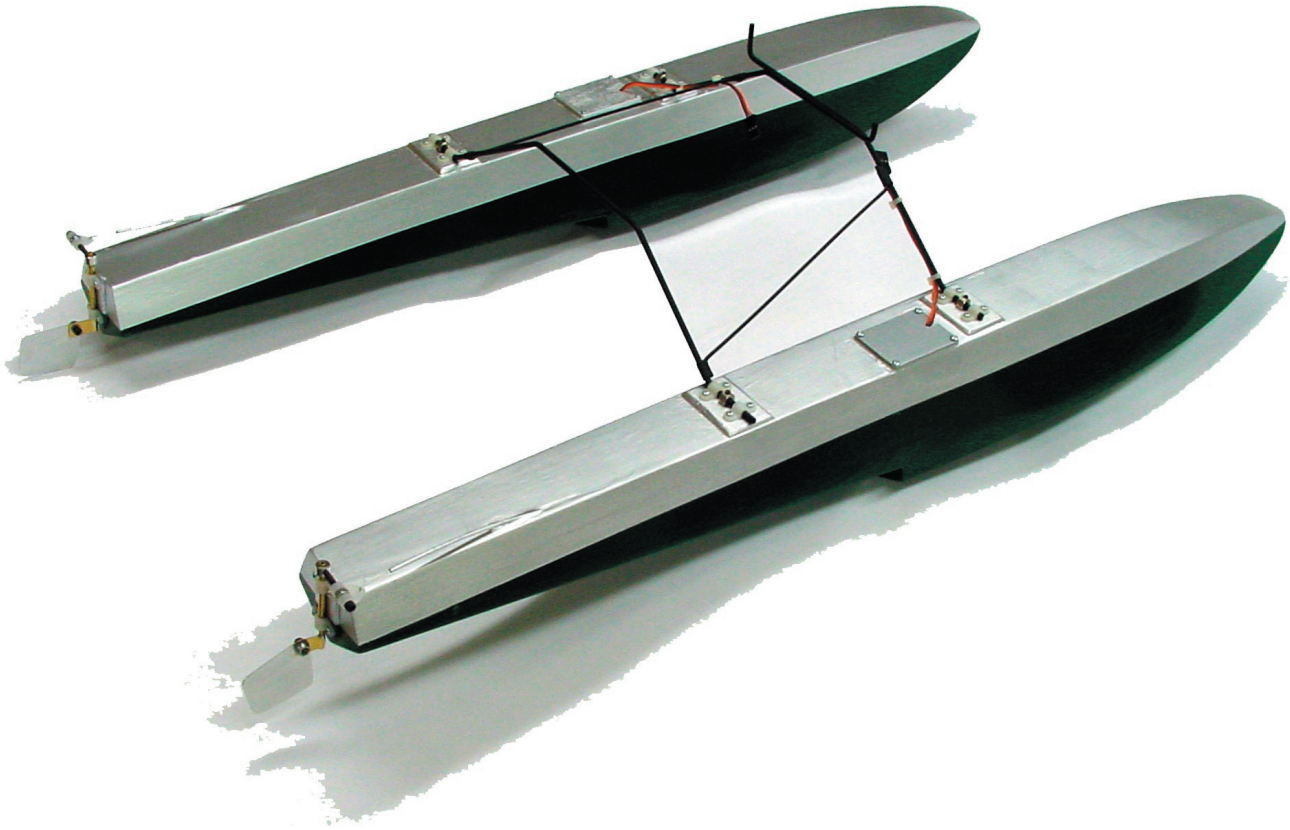
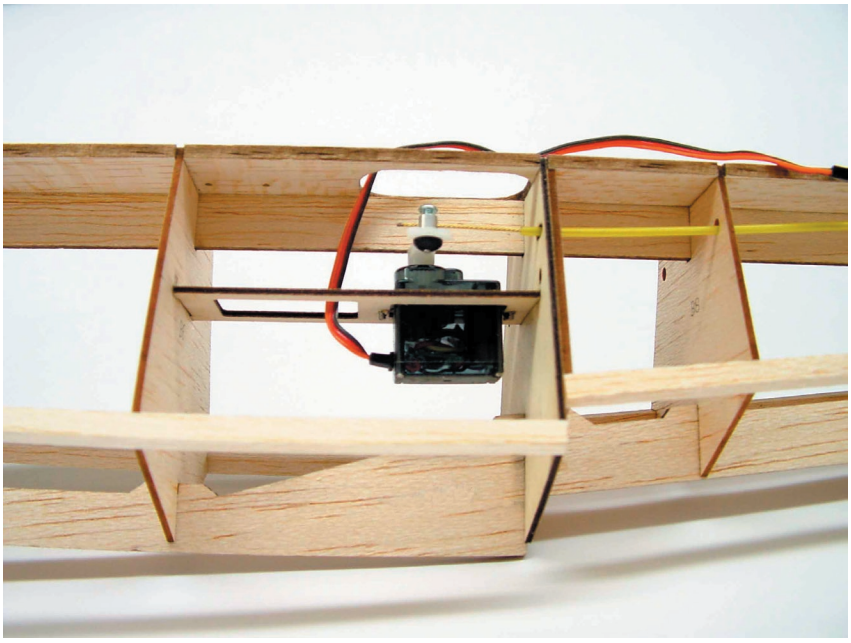
Top Notch Float Kit
ASSEMBLY MANUAL



TOP NOTCH SFK Float Kit #2351

About the Top Notch SFK Floats

The Top Notch floats were designed specifically to compliment the Top Notch Bush Hawk XP kit. However like their full-scale counter part they can be adapted for any other model up to about five pounds in weight. They are designed to utilize a small servo internally to each pontoon for water rudder steering. This provides an elegant means of total water rudder control and adds very little weight. The installation is extremely neat with only a servo cable to each pontoon. If other means of control is desired they can be assembled without the internal servo bays.



Dimensions:
Length 25-1/2”
Height 3-1/4”
Pontoon Width 3-5/8’
Reccomended model weight 5 Lb. Max.”

At the left is a photo of the internal servo mount provided in each pontoon for water rudder control. A water proof hatch will allow access to the servo and linkage after assembly. The pontoons can be built with or without this feature. Decide how you want the servo’s oriented before beginning assembly.

SFK Float Kit Assembly Instructions

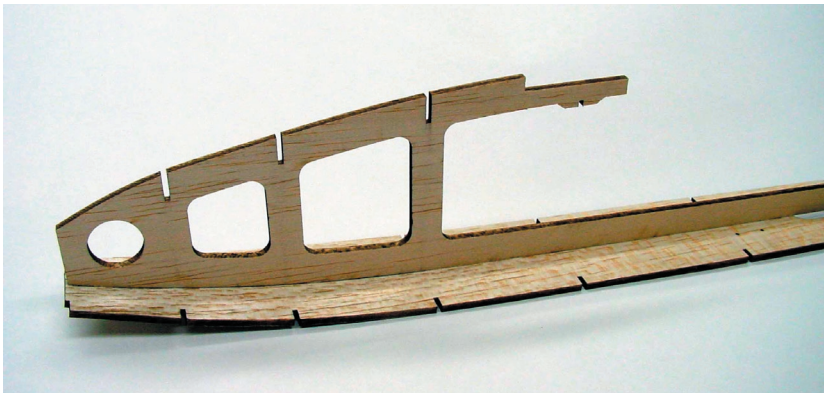
Before assembling your Top Notch float kit take note of the following options. Provisions have been made to enclose a small servo (HS-55 or equivalent) inside the pontoon for water rudder control. You have the following options:

1. A servo in each pontoon and a water rudder on each pontoon.
2. A servo on only one of the pontoons and either a single water rudder or twin rudders coupled with a spreader bar and link.
3. No servos in the pontoon at all and either no water rudder or a water rudder coupled to the air rudder by a flex cable.

Whichever option you elect to use be sure to make the necessary alterations to the instructions as you build. The instructions will assume you will be using a servo and water rudder in each pontoon.

Note:

When confronted with a cross wind, a model with only an air rudder or even insufficiently sized water rudder can be difficult or even impossible to turn. We recommend that you use at least one water rudder for positive control. Both full scale and model aircraft water rudders are intended only for low speed operation. Most full-scale water rudders are retracted prior to the take off run and remain in that position until taxi speed is again achieved. In a model we don’t typically have the luxury of being able to retract the water rudder however we design them so that the water rudder is out of the water when the float is on step, thus minimizing any influence the water rudder may impose at high speeds.

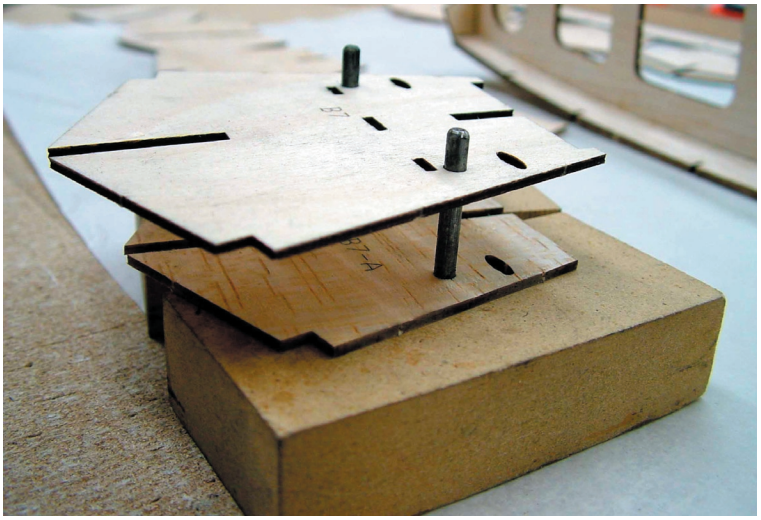


Before beginning the assembly of the floats, assemble the 1/4” ply stands. They will be handy during the assembly and installation processes.

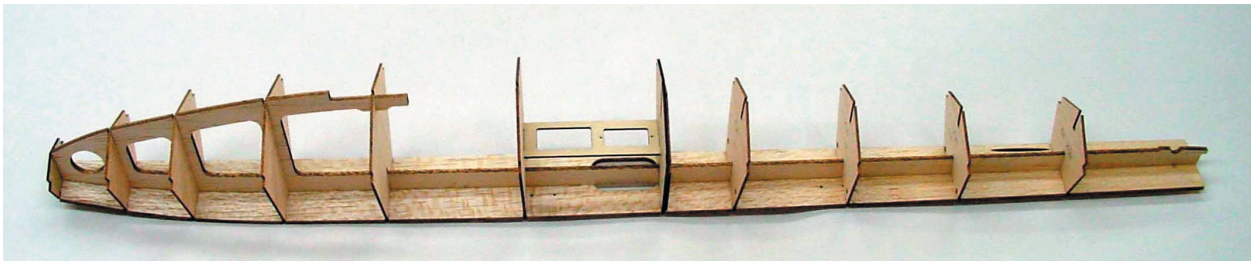
Assembly

Place the pontoon top on the bench over a piece of parchment paper. If you do not have parchment paper waxed paper will do. Remember you will be working with the pontoon upside down at this point.

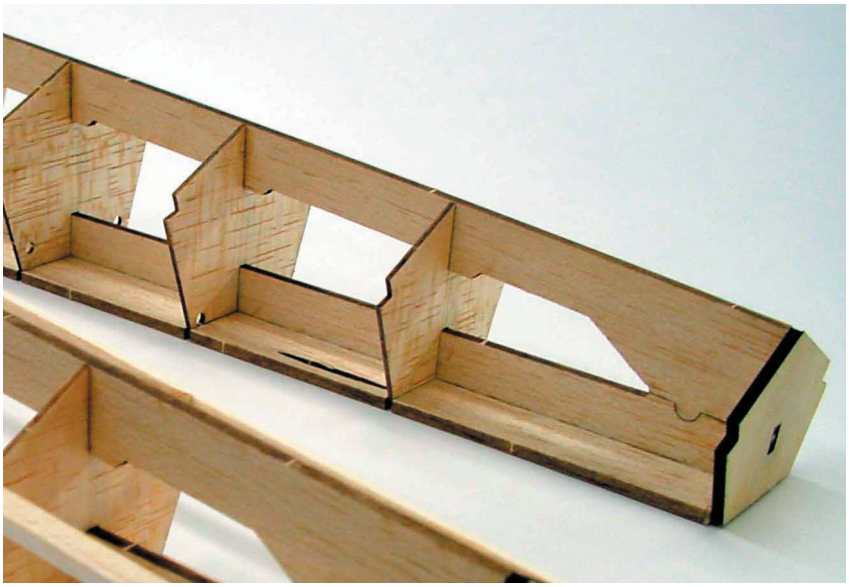
When installing the top keel, the pontoon top will need to be bent to make the curve at the front of the pontoon. Wet the top of the pontoon top from about B-5 forward with an ammonia and water solution and let it soak in and soften the wood. Install the top keel with thin CA. Assure that it is at 90º to the top.



Assemble B-7 and B-7A; note the B-7A can be oriented either way. Use the 1/8” pinning holes to align these parts. (See the enclosed addendum regarding the use of pins to align parts).

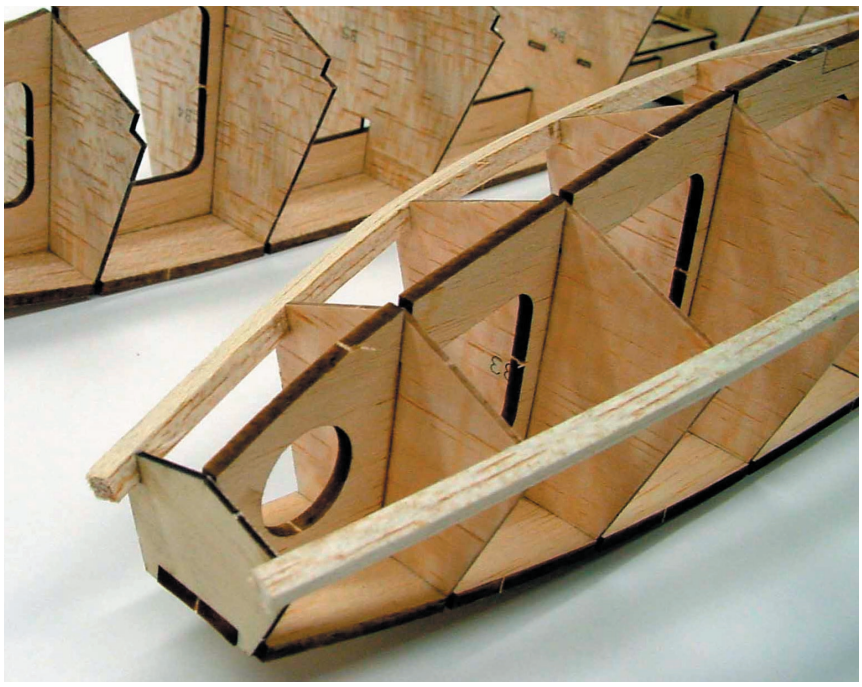


Install bulkheads B-1 through B11; note that B-6 and B-7 are designed so that the servo tray will orient correctly no matter which way they are installed. Be sure that B-7A is facing the aft end of the pontoon. Install the servo mount (SM) when installing the bulkheads.



Next install the bottom keel and the stern bulkhead. Note that the bottom keel keys into the top keel at the aft end for correct alignment.

Wet about eight inches of one end of a 3/16" x 3/16" stringer and let the wood soak for at least three minutes. Now install the stringer from B1 through B7.
Cut the stringer off and use the remaining section for the other side of the pontoon.

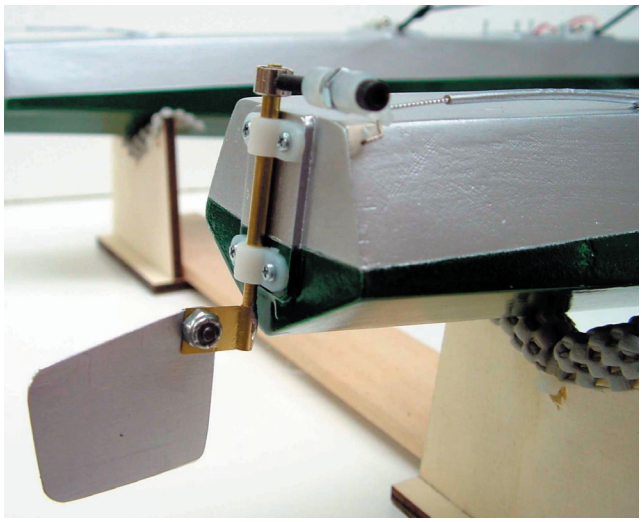


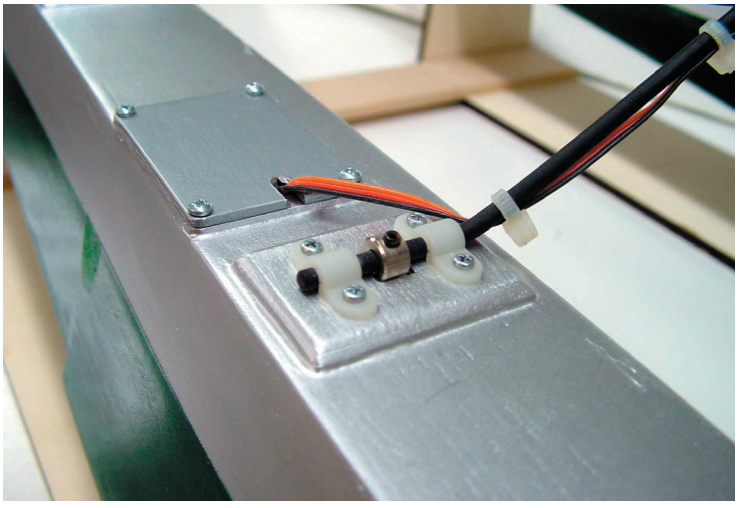
Use another 3/16" square stick for the aft section of the pontoon. When finished, trim and sand the bottom and sides of the pontoon so that the stringers and keel are flush with the bulkheads. This will assure good contact with the sides and bottom when installed.

2. For the servo linkage, use Sullivan #LXFU92 flex cable (throttle cable) for the water rudder linkage. It's a good idea to run the guide sleeve for this cable at this time. After sheeting the pontoons it will be more difficult to install. See the plans for the recommended installation.
3. To install the side sheeting, shim the top up with some 1/16" scrap material. Lay the side up against the assembly, check to be sure it is lined up for and aft and extends slightly beyond the corners and then glue it with thin CA to bulkhead B-7. Now work out in both directions from B7 and glue the side to the assembly.
4. Glue on the aft bottom sheeting. Once again make sure it extends beyond the edges of the assembly slightly. Then glue on the forward bottom sheeting. Some trimming may be required to get a nice close fit.
5. Glue on the 1/16" ply servo hatch liner.
6. Glue on the ¾" balsa nose block and then carve to shape.
   Glue on the 1/16" ply rudder mounts.

An effective water rudder can be assembled from these off the shelf components. The aluminum rudder and the brass flange will have to be fabricated from sheet stock. The flange will need to be soldered to the bottom of the tiller shaft. The rudder must remain loose and able to kick up to release any material that may strike it such as weeds etc. A plywood rudder is supplied and works just as well as the aluminum one shown here after water proofing with resin.

The assembled water rudder should look like this. Use a Z bend in the linkage and leave the guide tube as long as possible. Coat the inside of the guide tube as well as the flex cable with silicone grease or Vaseline to repel water from entering.

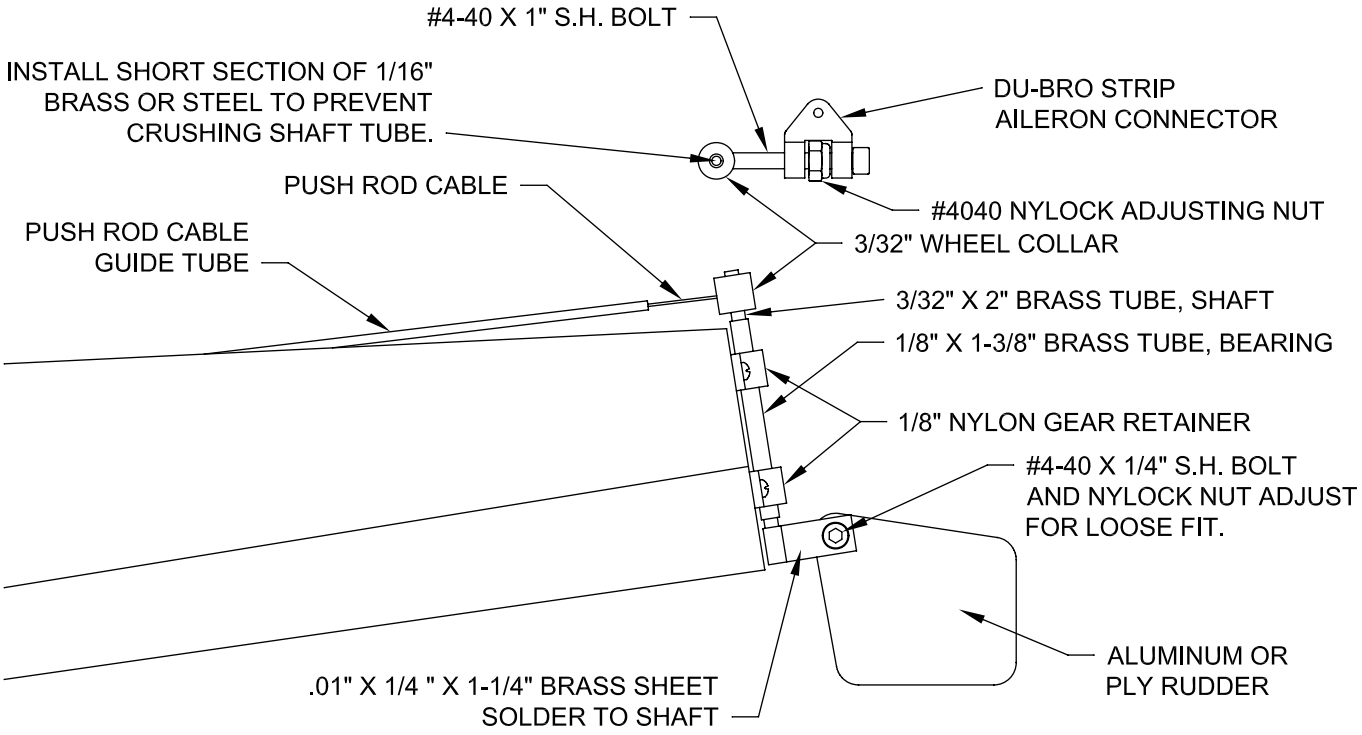


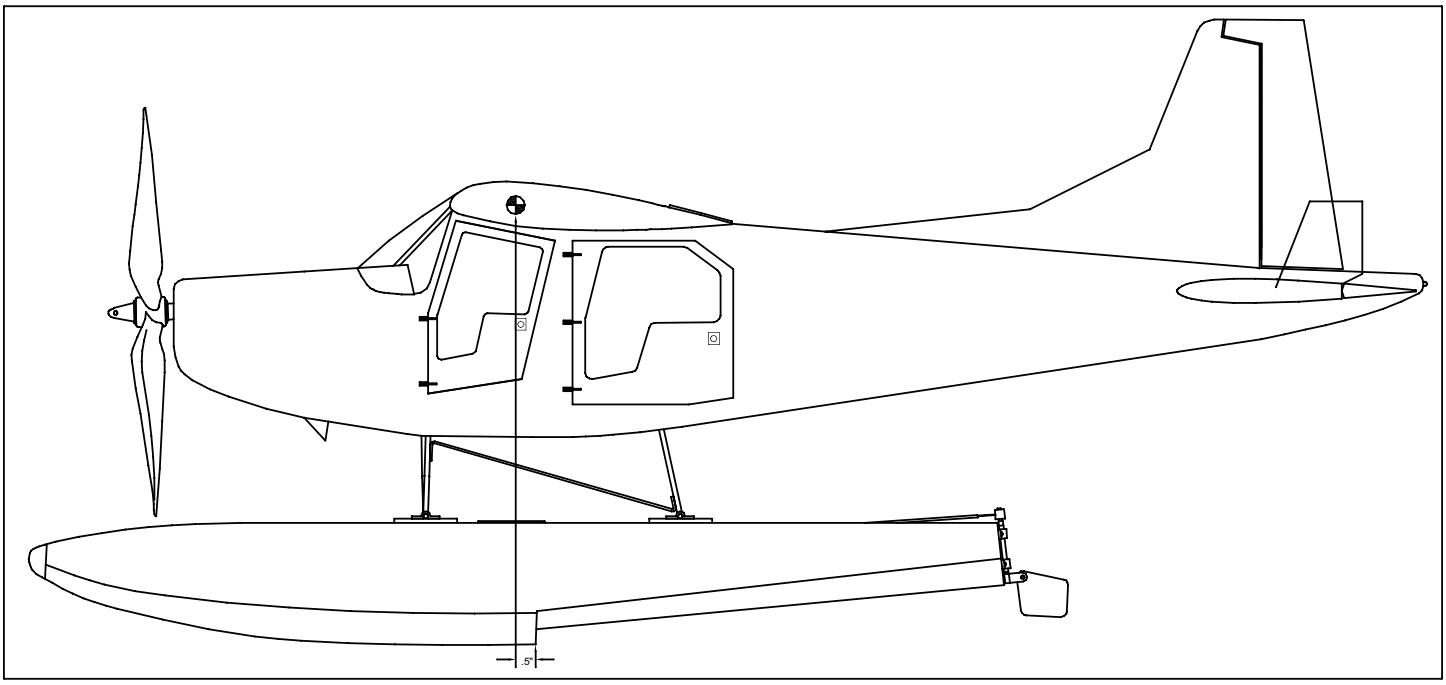


The servo hatch cover can be waterproofed as follows. Place a Piece of waxed paper over the hatch opening on the pontoon. Apply a bead of silicone around the perimeter of the hatch and then screw the hatch in place over the waxed paper. Leave the screws slightly loose as not to squeeze all the silicone out. After completely cured, remove the hatch and trim off the excess silicone sealant. This will form a gasket on the bottom of the ply hatch cover. Use a dab of silicone seal or Vaseline in the servo lead exit slot to seal it as well.

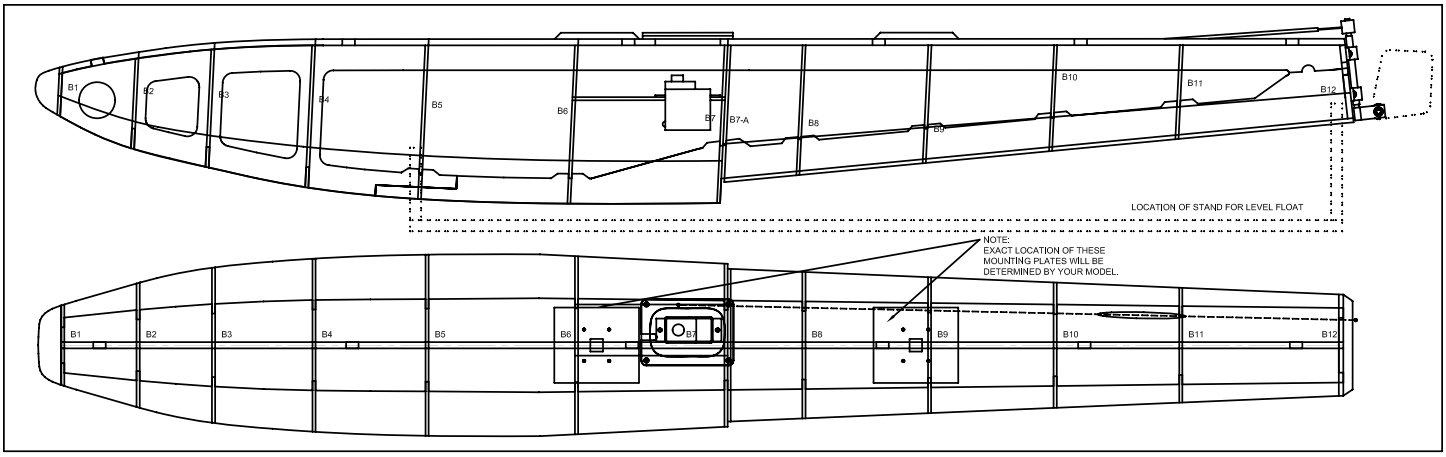
Each gear leg is retained by two nylon gear retainers. Once the pontoons have been aligned and are parallel they are held fast by tightening the 1/8” wheel collar.

RUDDER INSTALLATION DETAIL



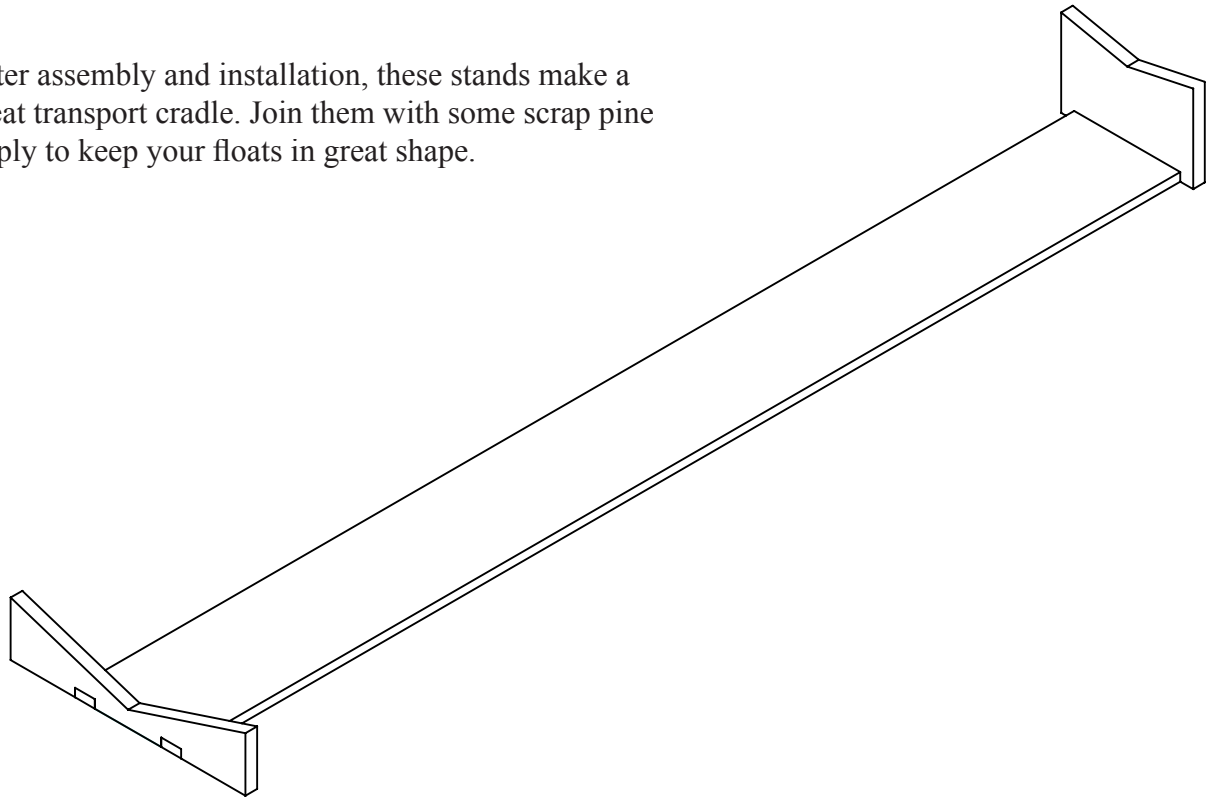


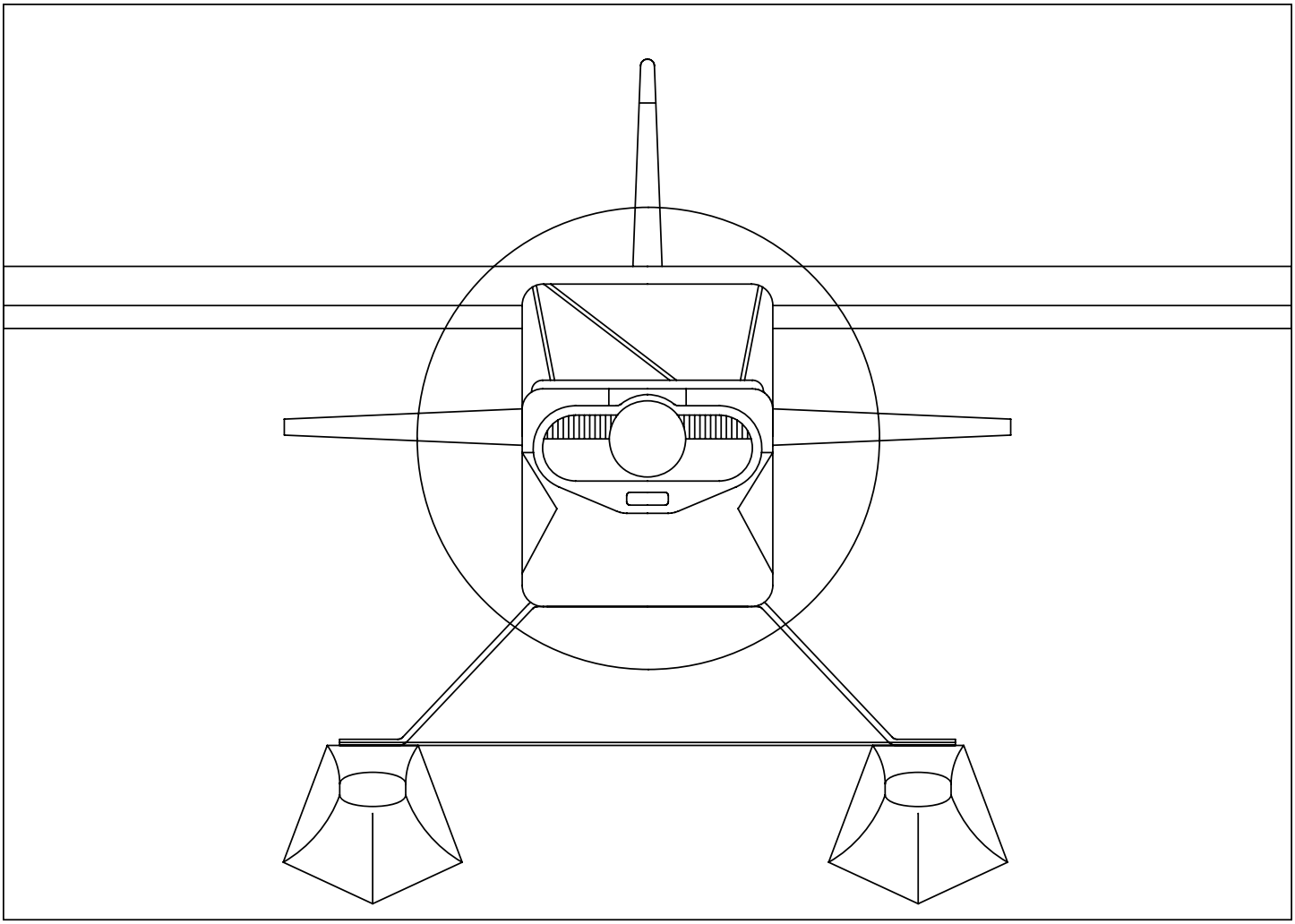
Positioning of the floats is critical and should be done carefully. Follow the diagram above. The step should be about 1/2” aft of the CG when the model is level. If any weight must be added after the floats have been mounted, add it to the floats and not the model. Allow enough height for prop clearance of the largest prop anticipated. Remember it takes more power to ROW. Wing incidence should be slightly positive to that of the pontoons.



Use the included stands to level and support the floats during the assembly and installation process. Once the floats have been mounted, join the stands with some pine joiners and it will make a great transport carrier when you head to the fly in.

After assembly and installation, these stands make a great transport cradle. Join them with some scrap pine or ply to keep your floats in great shape.





Use a spreader bar as shown above to eliminate any flexing of the gear. The floats must remain paralell to each other at all times.

Covering

I strongly recommend your floats be glassed and painted for best results however some builders prefer to cover there floats with an iron on covering. Properly done either method will work just fine.

MonoKote

If you are going to use MonoKote or a similar iron on covering follow these instructions.

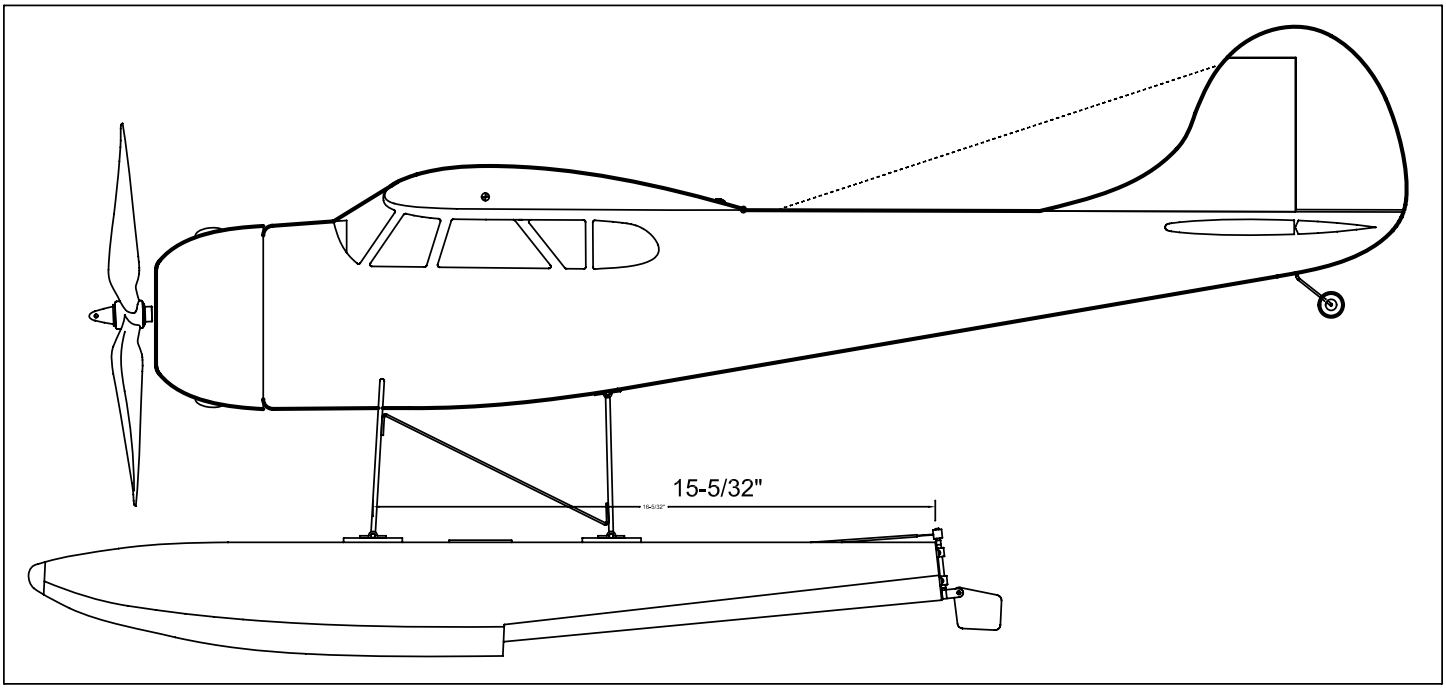
After filling and sanding, coat the entire pontoon with Balsarite. Apply a second liberal coat to all seams and joints. Cut some 3/8" wide strips of covering and apply a strip of covering over all edges and joints. Iron this down firmly.

Now cover the entire pontoon as you would any other structure taking care to assure that all the covering is firmly ironed to the structure. After your first flying session it's a good idea to open up the servo hatch and check for moisture. Leave the hatch open until the next time you fly it. Be sure to use some Vaseline or silicone grease in the control cable sheath to prevent water from wicking into it, also on the servo hatch to seal it.

Fiberglass

Glass the pontoons in two stages, first cover the bottoms in two pieces and then the top and sides. Use .5 oz. to .75 oz. cloth and epoxy finishing resin cut about 50% with denatured alcohol. This mixture will be very thin and will require no sanding of pooled resin, as it will all soak into the wood and seal all joints.

Lay the pontoons on their tops and cut two pieces of cloth that will cover the bottoms. One from the front back to the step and one from the step back to the end. Brush the epoxy from the center out to the edges and don't let it bead up at the edge. After curing, cut the cloth by sanding lightly along the edge of the bottom. Now cut two pieces of cloth that will cover the top and sides of each pontoon and repeat the glassing operation. Then sand, prime and paint. Use the same water proofing methods for the hatch and control cable as for the MonoKote covering.



Installation on the Top Notch Cessna 195. Use stock gear length for the mains, the aft mount should attach just behind former F-5.

Top Notch Products Company

PO Box 1051
Goodlettsville, TN 37070
www.topnotchkits.com