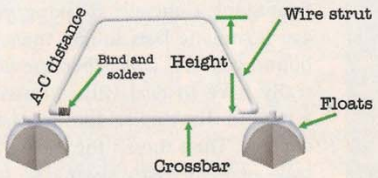
Float Attachment

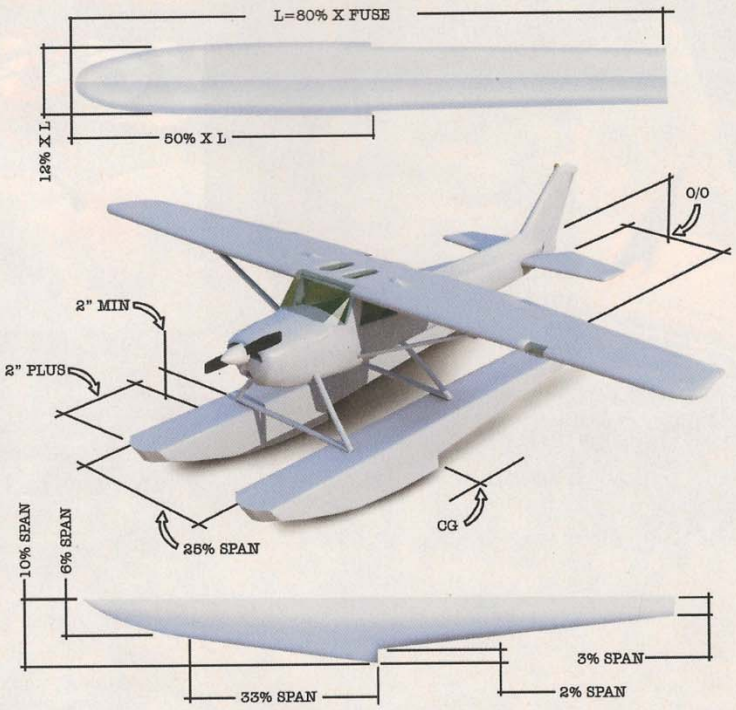
Formed-aluminum or fiberglass landing-gear struts don't require diagonal bracing.

Float bracing



Typical wire strut with crossbar brace forming a trapezoid.

Float Plane Layout



ILLUSTRATIONS BY RICHARD THOMPSON

Obviously to be successful, there are a couple of things to keep in mind. The first order of business is to select properly sized floats for your plane. Several model manufacturers and kit makers offer float kits for certain planes in their product lines. You can also find foam core floats and molded plastic floats if you look online. The best way to determine if commercially available floats will suit your plane is to multiply your model's fuselage length (from prop to rudder hinge line) by .80 and buy accordingly.

OUTFITTING FLOATPLANES

If you can't find a set of commercial floats, you can make your own. The float's step is located at the 50-percent position to handle weight distribution and the volume will provide an 80 percent buoyancy factor in most cases, which follows full-scale practices. To determine the float dimensions, multiply the fuselage length by .80. This gives "L" (or length of float). Every other dimension is taken as a percentage of (L). For example, the distance from the bow to the step on a 36-inch float will be 18 inches, or .5 L. Rounding dimensions off to the nearest ⅛-inch is more than close enough.

There's one exception to the above formula, which occurs because the float step must be under the CG and the float bow must extend past the models propeller at least 2 inches to overcome "digging in" when you advance the throttle. Because nose moments vary from plane to plane, it sometimes becomes necessary to move the 33-percent break point on the forward bottom portion of the float (where the rounded bow meets the bottom of the float) until you have the required extension, and then you can redraw the float's profile. This method is preferable to building an overall larger float simply to satisfy the 2-inch extension rule.

Floats can be constructed with just about any of the usual materials. Just keep the bottoms smooth, the area forward of the step perfectly straight and the edges sharp. Vee-bottom floats do track better and produce somewhat smoother takeoff and landings runs, but they also increase the wetted surface (drag) are less maneuverable, produce more spray, and generally are more difficult to build. The weakest points on any float are generally the side areas above the step and where the struts attach to the top (deck) of the floats. It is wise to add reinforcements to these areas to help spread the load.

Finally, the above dimensions will support any average- to heavy-weight plane. For example, a 48-inch set of floats can easily support a 23-pound aircraft without burying the stern. However, if you are equipping a plane that's above or below normal weights, you can juggle sections and lengths (i.e., a 46-inch-long float with a 34-inch float's cross-section) to build floats that looks right yet provide the proper buoyancy. What looks right usually

FLOAT TYPES

A variety of commercially available floats are available in several sizes, and at least four different construction materials are used during manufacture.

These include:

- Conventional wooden kits that are built with lite-ply and balsa.
- Precut foam cores that must be covered with thin plywood or sheet balsa.
- Ready-made molded-plastic floats.
- Ready-made fiberglass floats.

Wooden floats can be easily covered with heat-shrink film or with fiberglass cloth and resin and then painted. Ready-made plastic or fiberglass floats are usually painted but can be left as is. The choice of floats really depends on how much work you want to do and your budget for float flying.