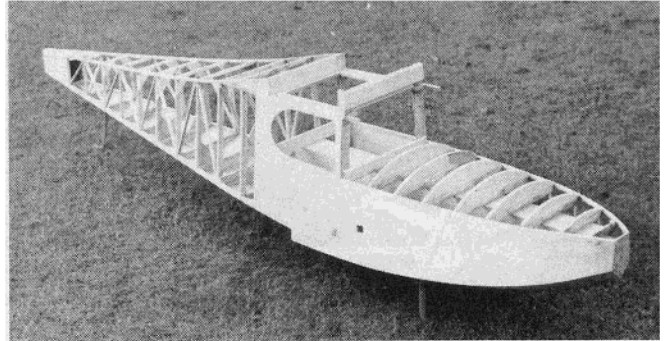
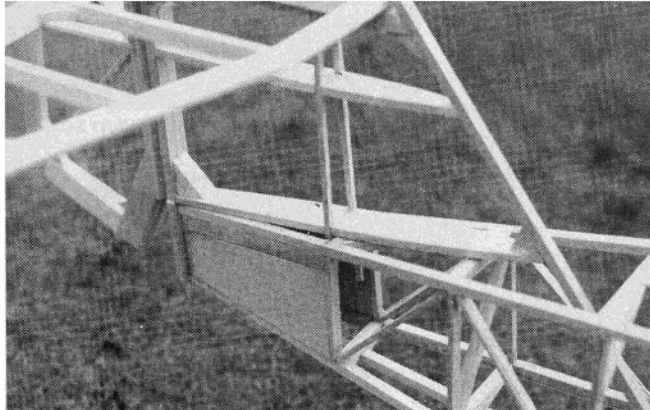


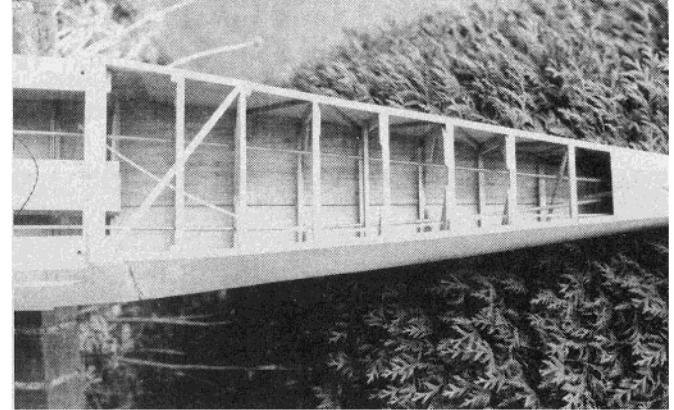
Forward bottom 1/32" ply skins in place, also 3/32" balsa on aft bottom behind step.



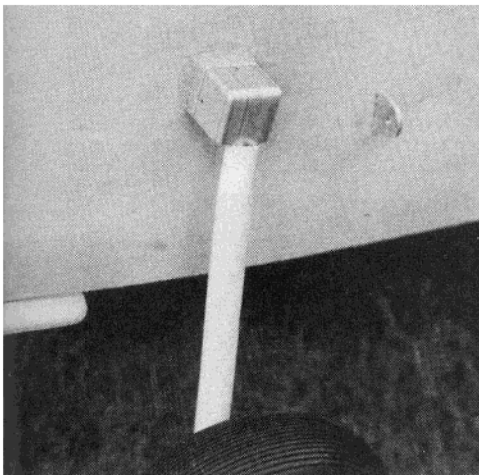
Structure is light and strong, particularly forward of the cabin. 1/32" plywood skin used on hull sides in this area. 1/8" balsa sheet is used to cover top nose section.



Fin before covering with balsa, note ply inserts for tailplane strut attachment screws.



Elevator and rudder "NyRods" installed in the hull. Note: Entire inside of hull is sealed to protect against moisture.



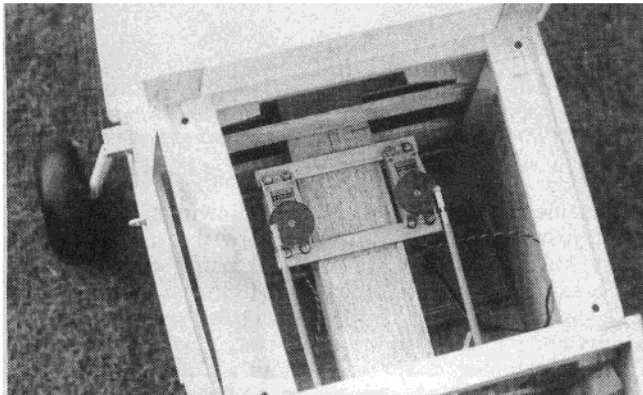
Landing gear plugs in, note strut attachment point.

block, and the "B" template on the opposite side also flush with the top of the block, and hot wire across the two at the angle they produce; it may look weird, but it works!

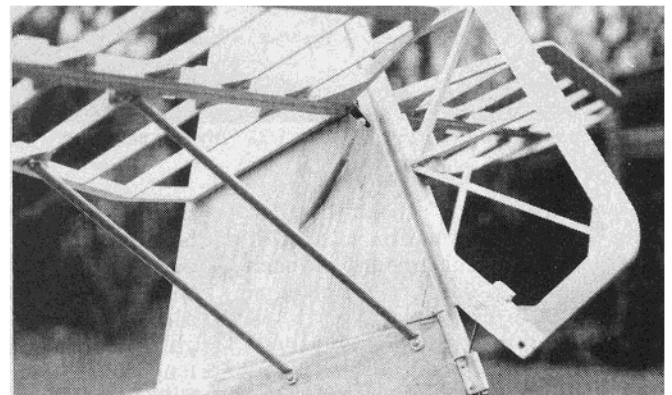
Now remove both templates and replace them, exchanging positions, and hot wire across them; you should now have a float! All that remains is to clean them up generally with a sandpaper block. The floats are covered either in balsa or plywood veneer, using "Copydex" or similar adhesive, and finished in the same way as the hull. The holes for the attachment struts are cut using a 1/4" diameter tube with a sharpened end, and the struts epoxied in place after establishing their respective lengths. These will vary depending on the

weight of the model, the heavier it is, the shorter the struts will need to be. A good guide is that when one float is supporting a wing, the other float should be about 4" clear of the water. You may wish to increase this if you normally fly in rough conditions. Use 1/4-20 x 1/2" or equivalent **nylon** screws to mount the floats on the wing. **Struts:**

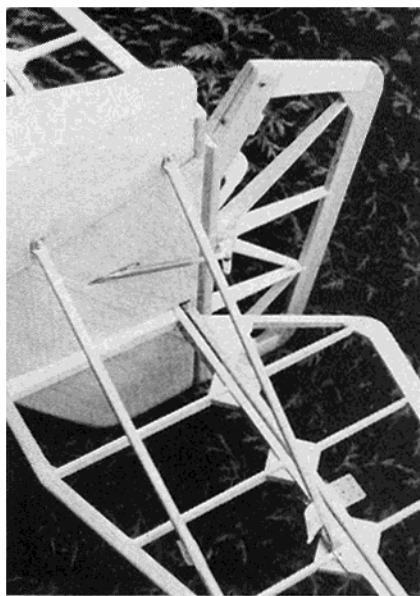
The last major components are the wing struts. If you have built accurately, they should be the same length for the left and the right side. Mine, however, were about 1/8" different, so if yours vary a little, do not worry. Check the required lengths using the following method: Set the model up by bolting the centre wing section in place, and pass a straight



Elevator and rudder servos mounting location.



Note elevator horn angled to the rear, square to the pushrod.

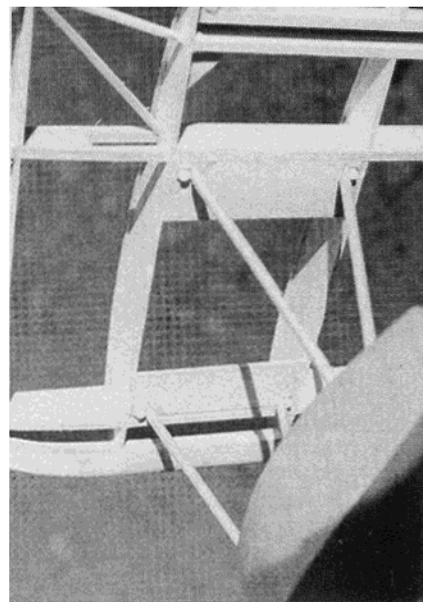


**Braced tail unit ensures rigidity at all times.**

cabin depth about 1/2"). The centre distance between the main lift strut (front) fixing holes on the hull and in each wing can be recorded and the struts made that length. The rear struts are adjustable for length, as they control the twist (wash out) in the wing, and must be set during final assembly. The struts as drawn are aluminum, but you can use hardwood if you wish, just employ your favourite method so long as they do the job, and make metal fittings for the attachment points. The tailplane struts are of aluminum tube with the ends flattened and drilled as shown.

**Radio:**

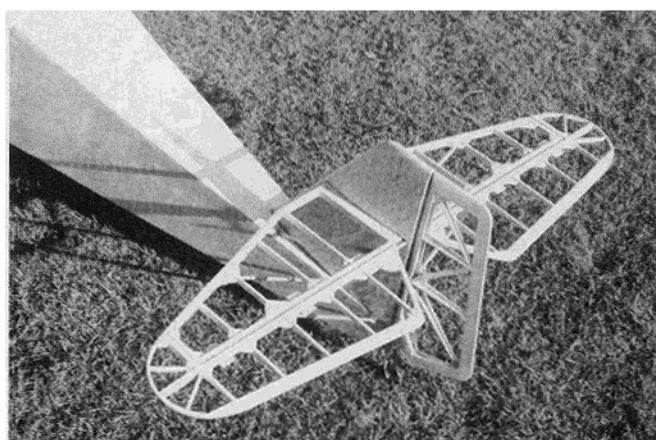
I usually install the system before covering. In the interest of waterproofing, the aileron servos, in this case have no hatches for access. If you ever need to get at them, just cut



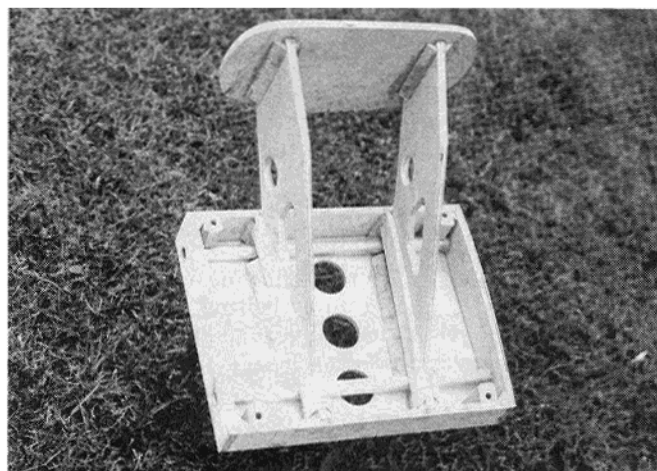
**Wing tip float attachment, nylon screws.**



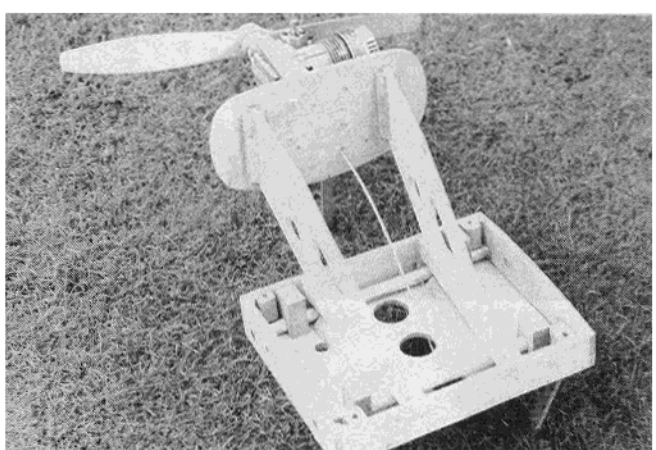
**Make windshield pattern from card to establish exact shape.**



**Completed tail unit in place, ready for covering.**



**Center section/motor mount prior to 1/32" ply top skinning.**



**Center section/engine mount; note blocks where wing fixing pins will enter the tubes, also blocks for mounting bolts seen here drilled.**

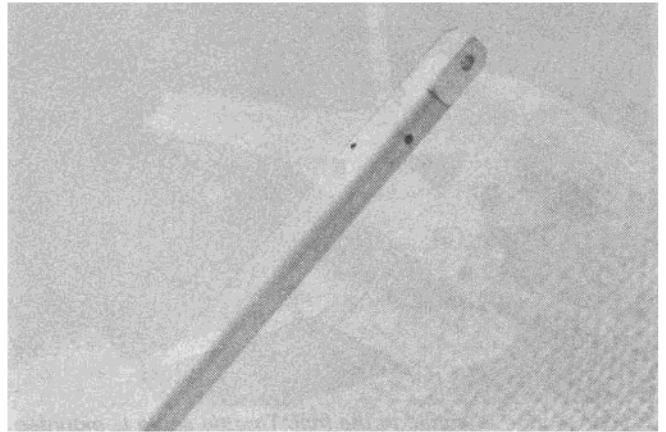
piece of wood 2" x 1" about nine feet long through the cabin so that it protrudes an equal amount on each side. If you can support the piece of wood, allowing the model to rest on it, that is fine, you will probably need some help here. Fit the wings in place, and if necessary, block them up to the right dihedral, e.g., 1/4" under each tip rib (don't forget to allow for the

the covering around the inside of the box, and when all is well, just iron a patch on over the box, easy! Make sure that the long extension leads for the aileron servos do not cause any glitching. Some radios just don't like long cables, and may require a choke to be fitted. Before covering, I used the tinted Clear Coat on all the structure. I then covered the hull with tissue and

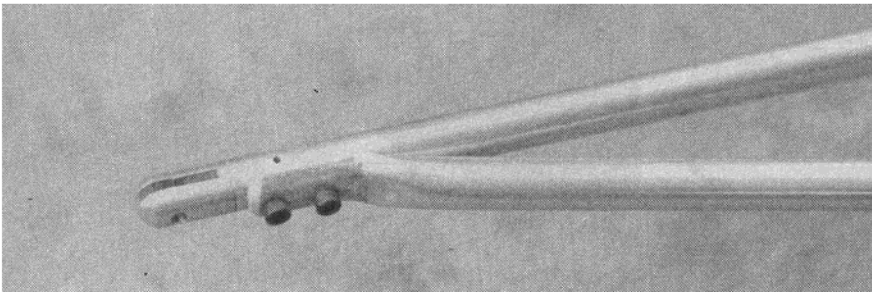
dope by the following method: Coat the entire hull with a thinned brush coat of non-shrinking clear dope and allow to dry; lightly sand to remove fuzz, etc., then cover with **dampened** lightweight tissue by doping through the tissue and allow to dry. Lightly sand again, and apply two or three brushed coats of sanding sealer, lightly sanding between coats to a



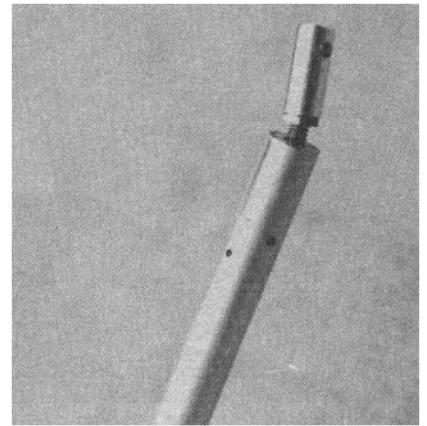
*Left wing tip with float attached.*



*Upper front main strut end pinned in place.*



*Main strut bottom junction joint.*



*Adjustable top end of rear strut.*

smooth finish. Then, apply your chosen colour scheme, spraying if possible, using coloured dope or automotive spray paint, and finally

**Tuf Kote the hull all over.**

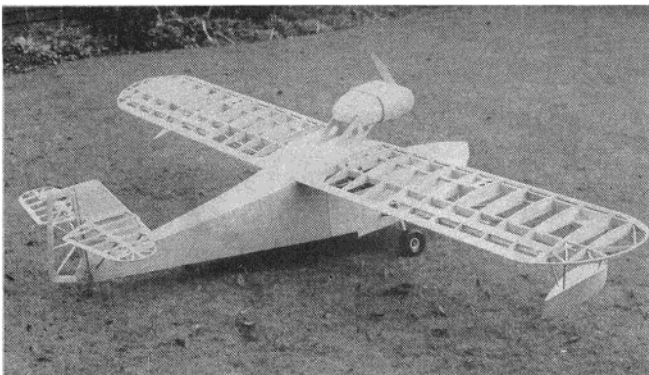
The side windows and windscreen can be fitted once the paint job is complete. If you have acetate,



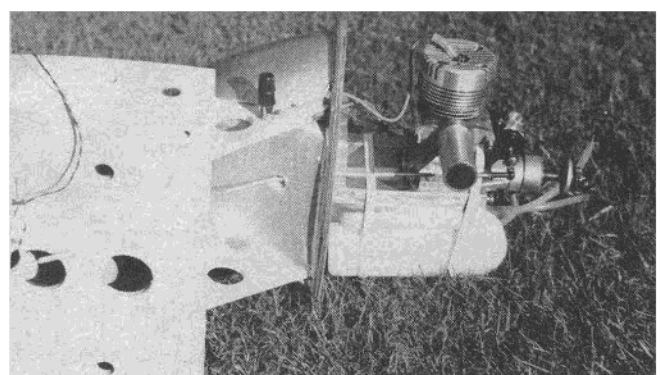
*The hull sits on its wheels ready for covering.*



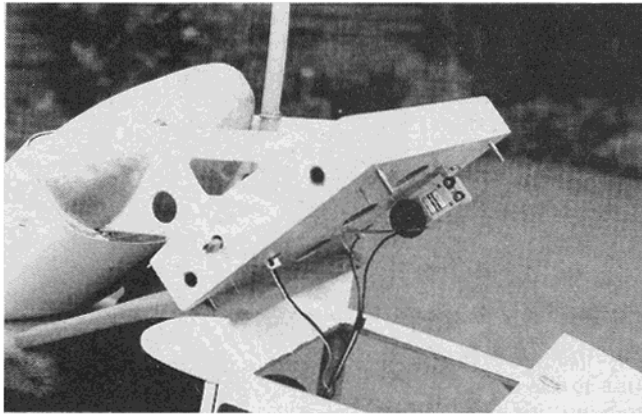
*Completed model ready for covering.*



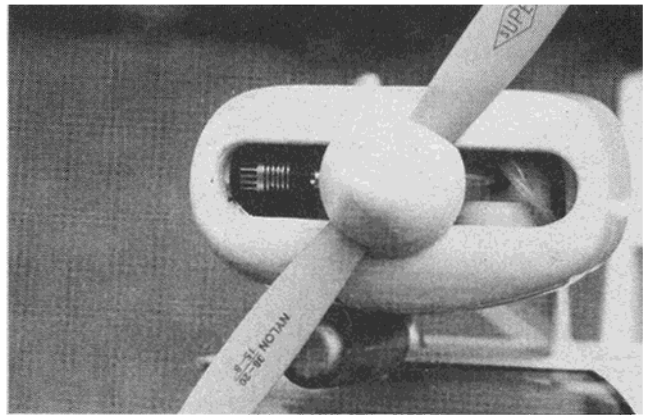
*Hull, floats, engine nacelle, and cowling get paint.*



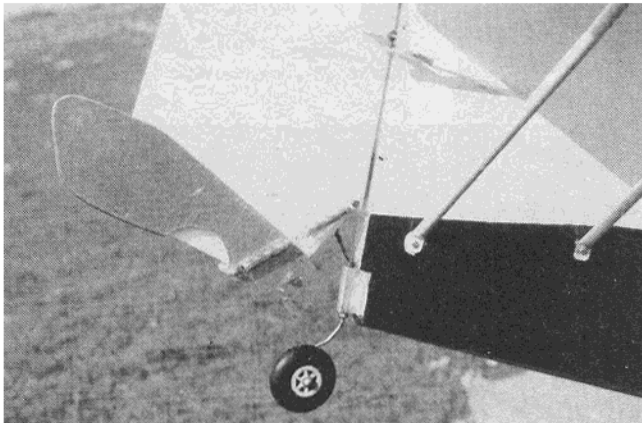
*Completed engine installation minus cowl and muffler; note remote glow plug jack.*



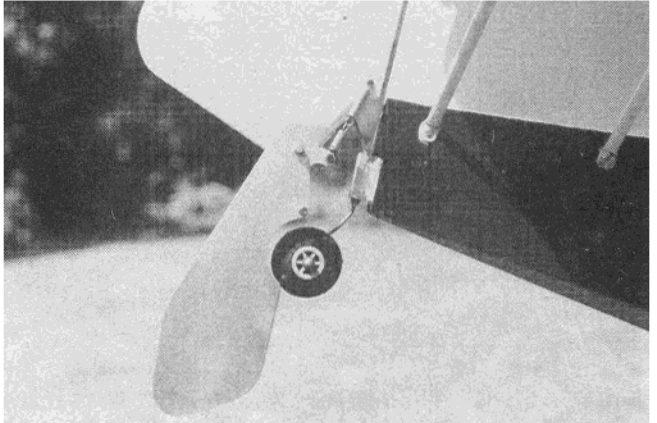
**Center section is bolted to the hull. Throttle servo is mounted underneath, inside of cabin.**



**S.T. 90 engine is fully enclosed. Exhaust is routed up, above the wing.**



**Water rudder in retracted position over center spring, holds it either up or down.**



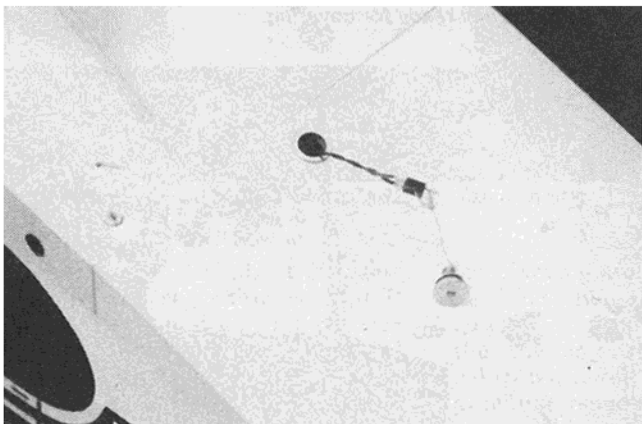
**Center section is bolted to the hull, and 1/16" dia. steel pins retain the wing mounting tubes.**

butyrate, or similar sheet, you can use balsa cement, but clear Bostik cement is probably the best; be careful not to spoil the job by getting it where you don't need it! If your screen fits well, it is easier to cement the screen to the top leading edge and allow it to dry before pulling it down and around the cabin, and cementing it there. The registration letters are cut from Solartrim (Black Baron "Presto").

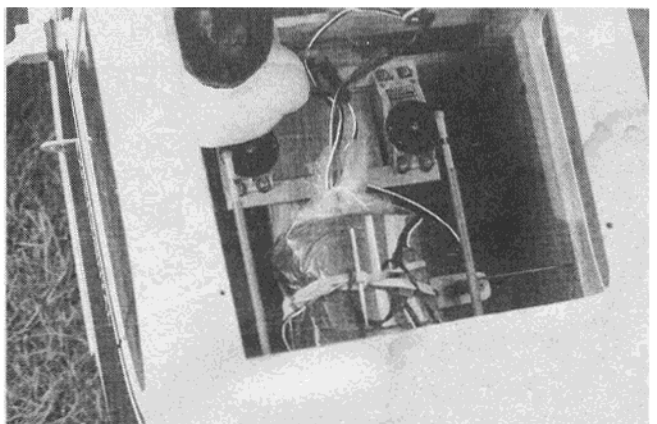
Now is the time to get the model together and check the balance point. Get this right and you will be able to use your airborne battery pack for the

final balance trim by sliding it down into the box in the nose. Establish its position, in conjunction with any lead that may be necessary, and pack it fore and aft with hard foam. Use piano wire pins pushed right through the box and foam to hold it all in place.

If you fly off water, it is important to seal the gap between the underside of the centre wing section and the top of the hull with clear silicone bath sealant. To do this, cover the underside of the wing centre section with clingfilm (Saran Wrap) to prevent the sealant from sticking.



**Small access cap has line attached to battery charging receptacle.**



**Receiver is mounted on top of structural box. Note location of receiver switch.**

Squeeze out a thin bead of sealant all around the top outer edge of the opening on the hull, bolt the centre section in place and allow the sealant to cure. Remove the centre section and peel off the clingfilm (Saran Wrap). This will leave a good, permanent waterproof seating which should last for a long time. Since you should use a switch extension for the radio, and have an external charge point for the batteries, there is no need to remove the centre section during normal operations. Any other openings such as pushrod exits should be sealed with petroleum jelly.

#### **Preparing the Model For Flight:**

Completely assemble the model with everything connected up, and adjust the ailerons so that they are about 1/10" higher than the wing trailing edge. This helps to provide more differential movement (i.e., when the down-going aileron is flush with the wing, the up-going will be about 1/5" above), it also will tend to delay tip stall. As a belt and braces exercise, I also incorporated about 1° washout as on the full size aircraft, at the outer end of each wing panel (this is equal to about 1/4" at the trailing edge of the wing), by adjusting the length of the rear struts. A Robart incidence meter can be used for this, but a general critical view from the tail end of the model, to a reasonably trained eye will reveal any distortion in the wing and tail surfaces. When you're satisfied, and **only** when you're satisfied, start the engine and taxi the model around to ensure that it is running dependably, and will idle without any chance of stopping. With a model of this type, particularly when used on water, a reliable engine is of paramount importance. When you are sure that you have complied with the foregoing, re-check your balance point!

#### **Flying:**

I chose to make my first flights in the landplane configuration, mainly to confirm the engine reliability, but I also have to travel a lot further to fly off of water. Assemble your model, check that all controls operate correctly and in the right sense (some of us have taken off with the aileron function reversed!). Fuel up, start the engine, then taxi around to get the feel of everything. You can try a short hop if you like; I did, it took off in a gust, and was six feet up in a trice! I decided to open the throttle wide and keep going; I did, and it flew beautifully! All the work and worry was suddenly worth it. As I said earlier, it is Cub-like in its flying characteristics, but has more built-in headwind (drag) due to its type, with its tip floats and

bulky hull. You will find that if you reduce power abruptly it almost stops; so pull off the power gradually when setting up for a landing, and fly her down with about 1/2 to 1/3 power and literally fly it on the ground or water, the landing technique for both is the same.

Should you have the engine stop during a flight, it is important to get the nose down to overcome the drag of the model, and keep up flying speed to maintain control; just level out and land when a few feet up. If you have got your engine set up correctly, you should never find yourself in that situation. As far as general flying is concerned, the full size aircraft is



certainly not aerobatic. You can of course, throw in the occasional loop or chandelle, but if you are in a competition, remember that such things are not necessarily pro-typical, and you could lose points for being too clever! I find that the model is quite stable and easy to fly. In gusty conditions it is more comfortable if you couple aileron and rudder, should you have that facility on your transmitter. One last tip, when taxiing on water using full up elevator going downwind and full down elevator when going into wind, will give the best control.

I hope you enjoy building this model. It is a builder's model after all, and a good winter project, one which will give hours of pleasure flying both from land and water.

Good luck and happy landings! □

**From  
RCModeler  
Feb. 1990**