IVAN'S LAKEMASTER
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CONSTRUCTION NOTES

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The LakeMaster started out to be a scaled down version of Ivan's "Seagull" which has been a fantastic model for over 20 years. The Seagull is virtually a powered sailplane; pure fun to glide in and touchdown gracefully as it has done for an estimated 13,000 water landings. The Seagull was built in the days of heavy brushed motors and nicad batteries when the way to get performance was to build a model on the large size in order to carry the weight of the equipment. With the much lighter batteries, motors and radio equipment now available, it is possible to build a model smaller and still get good performance. Hence the reduced size of the LakeMaster. It is very convenient for transportation, even when assembled ready to fly. Further to that, construction of the LakeMaster is more basic than that of the Seagull.

The past year there has been increased interest in float flying in our local area. Inspiration for designing the LakeMaster came from seeing the need for an easy build flying boat that would be a good entry level model for those wanting to get into wet flying.

This project started out being called "Flying Boats 101." It is not just about building another model, but educating future float flyers about things they should know before they start into this activity. At the same time, it might encourage some self taught float flyers to do a refresher course in the finer point about float flying. As a prerequisite, I encourage every builder to carefully read the article "Flying from water. Great fun!" A link to it is at www.ivansplans.com After reading that article, it should be noted that the LakeMaster follows many of the qualities that are desirable in a model that flies off water, plus some others.

* It is a flying boat rather than a float plane, so is not prone to being easily blown upside down when taxiing in windy conditions. Very little dihedral helps in the same regard.
* Differential ailerons help directional control on the water.
* An extension to the bottom of the rudder, attached to a sub fin, acts as a very effective water rudder.
*A thin airfoil and light wing loading make for a great floater. The flat glide angle makes for a nice slow approach with easy transition to flare and soft touchdown.
* The battery can be changed without removing the wing. The long nose allows the battery to be accessible without hands being close to the arc of the propeller in the case of an inadvertent start up.
*A flat bottom hull makes it possible to easily take off and land from a grass field.
* The model is fully aerobatic, so makes for more fun than just flying around in circles.
* The stab and elevator are mounted high enough to be out of most of the spray.
* The sub fin below the tail leads to an extended lower section of the rudder that serves as a very effective water rudder.

SPECS

Span with optional tips, 53 inches; wing area 410 sq. ins; Length 39 ins; Motor, Park 300 or equivalent. Prop 8x4 or 8x6. Battery 3S Li-Po 1300 mAh. Flying weight 25 ounces, Wing loading 9.5 os/sq.ft.

Before starting construction, check the ADDENDUM at the end of the building instructions. A suggesting is made about moving the wing forward by half an inch from the location shown on the plan, and is highly recommended.

FUSELAGE CONSTRUCTION

The fuselage is a simple box consisting of 1/16inch sheet balsa sides and top, with 3/32" balsa under the front section of the hull. It is not necessary to make a stick framework. For making the sides, glue two sheets of 3' wide balsa together, edge to edge, to make a 6 inch wide sheet. Cut to the outline of the fuselage, using the inner line of the double line shown on the plan. The outer line represents the outer surface of the sheeting on top and bottom of the fuselage. Notice the top of the fuselage is a straight line from the leading edge of the wing to the rudder post. This is to simplify assembly of the fuselage upside down on the work bench. Now glue lengths of 3/16" square balsa along the top and bottom edges, making sure that the left and right sides have these strips on opposite sides. These strips will be on the inside of the fuselage and we don't want two "left" sides. Gluing these strips to the edge of the sheet brings up the topic of what kind of glue to use. While CA is a wonder glue, it does not need to be used for everything. It does not always make a good join, does not dry out light, is difficult to sand and is expensive. Carpenter Glue is very suitable for this type of construction, especially the cream of tan colored kind that goes by the name of aliphatic glue. It gives time to get the sticks in the correct place and dries out very light. It is not as brittle as CA and seems to result in less cracks. Besides, the joint can be glued a second time if a repair is necessary. If you buy a bunch of small clamps at the dollar store they are great for gluing sticks to sheet like this, or you can pin them together on the bench. If you must use CA, try the combination. Use a bead of carpenter glue along the length of the joint, but not at a point where a pin would be attached if you were pinning the sticks to the sheet. Put one drop of CA glue where a pin would be located. When the strips are place on the sheet in the correct position, press on the spots where the drops of CA are located and they hold the pieces together while the carpenter glue dries. It does not matter if the glue squeezes towards the drop of CA glue and mixes with it. Carpenter glue is water based, and the water content is like an accelerator to the CA. Furthermore, do not be afraid to use Carpenter glue in a water model like this. It is most unlikely that it will let go because of water softening it in the case of a brief dunking. If carpenter glue is smeared lightly before placing the pieces together it does not take too long to dry. Meanwhile other parts of the construction can be continued.

Next place some 1/8" square strips vertically on each side at locations 2, 3, 6 and 7. (#2 missed getting numbered on the plan.) Now a piece of 1/4" x 1/8" is glued near station #4 where is says "alignment post." It is important to get this in the exact position and angle indicated because it determines the correct position of bulkhead B-4 which in turn braces the motor supports which have to be angled correctly to give the required up thrust to the motor. It is convenient to attach the 3/16" x 1/8" strips now that will support the servo mounting rails between stations 4 and 5, though they can be left until later. Because the sides of the fuselage will be angled together at the top, the 3/16" square lengthways strips in the corners of the fuselage are not perfectly square. This is a good time to do some sanding so that when the top and bottom sheeting is applied, it will match up with a level surface.

Now cut out three bulkheads, B-1, B-4 and B-8. The outline of B-1 is shown on the front view of the fuselage. The sides are now glued together by placing them upside down on the bench, starting with bulkhead B-4 which is attached firmly to the front face of the “alignment post.” This is one place where CA helps to speed things, but there is something to watch. CA should not be used on the both the edge of B-4 and the rear face that glues to the alignment strip. Before you can slide the bulkhead into the corner where the alignment post joins the side, it may set up on one surface and not allow it to slide into the other one. It is best to use carpenter glue on one face, and drops of CA on the other. The bulkhead will slide into place against the surface with carpenter glue, and attach itself when the side with CA meets the other surface. The way to get around this problem for the CA purist is to put the bulkhead in place first and use thin CA to penetrate the wood. I do not have confidence in that method, having seen too many breaks in models that were assembled in that way. The joints seem very brittle and break easily.

Draw the sides of the fuselage in at the nose and attach to the edge of B-1, next doing the same at B-8. Check that the fuselage is symmetrical and not shaped like a banana. If carpenter glue was used, it is not too late to correct things, but if CA was used it is another matter. If you have to break one of the joints to correct things, you may find that CA does not stick when used a second time in the same place.

Now glue cross pieces at locations shown. They do not have to be exactly the length shown in the plan. You may find it easier to follow the natural curve of the sides. The bottom of the fuselage may now be attached, using 1/16” balsa aft of the step, and 3/32” hard balsa from the step to the nose. This sheeting should be cross grain. Again it may be found that convenient way to attach this sheeting is with beads of carpenter glue interspersed with drops of CA. Very little of the top sheeting is applied now, just the section from the back of the battery hatch to the start of the windshield, and likewise the top of the aft section from station 7 to 8. Leave the top of the remainder of the rear section open until control pushrods are in place. One of the reasons for the strip of 3/16” square balsa running along the corners of the fuselage is that they can be rounded nicely. This applies to all the corners except the hull forward of the step. A sharp corner is best there.

At some point, the hull needs to be sealed and covered, and it may be convenient to do that now before the motor supports and fin are added.

It has been found over the years that film does not stand up to repeated use in water, so the hull and tip floats are best covered with light tissue (silkspan) applied with clear nitrate dope. This dope may not be readily available, so clear brushing lacquer can be substituted. It works as well, but the drying time of about 30 minutes is a little longer than dope. Working with this should be done outdoors because of the fumes. Silkspan, very light tissue, should be applied to the entire hull up to about two inches above the water line. Prime the hull first by applying two coats of dope, sanding with fine sand paper after each coat. Next apply the tissue. Lay it out on newspaper, spray it lightly with water, and then apply it to the surface of the hull while damp. Rub is lightly to remove wrinkles. Next brush a coat of dope on to the damp tissue. It will bleed through and cement itself to the primed surface below. After it has dried, apply at least one more coat of dope. The hull should be sanded after each coat of dope is applied, and when a smooth surface has been obtained, the colour can be applied. Krylon spray paint is known to be one of the lightest and most suitable for models of this type, but other lacquer touch up spray can colour may be used. Inevitably water may get into the fuselage some time and pool in the bottom of the hull, so the inside should be doped so that the bottom and sides up about two inches are sealed. A good way to do this is pour some dope into the hull and swish it around with a brush. The rest of the covering with film can be done when the model is completed, but this water-proofing is easiest to do at this stage.

The fin can be added at this time. Some may prefer to build it over the plan, but another way is to start by gluing the fin post to the rear of bulkhead B-8. Cut out the fin rib F-2 and glue it in place on the top of the fuselage. Now make the leading edge of the fin and attach it to the piece of ¼ inch balsa that forms the tip of the fin. This can be glued in place between the tip of the fin post and the front end of rib F-2. Rib F-3 is next glued in place. This must be exactly parallel to the top surface of the fuselage in order to set the horizontal stab at the correct angle. The strength of F-3 is critical since it has to support the stab and elevator. At this stage make F-3 the full distance from the leading edge to the fin post and do not worry about the small cut out that provides for movement up and down of the elevator spar. It will be cut out later. The gusset between the fin post and rib F-3 is extremely important. It should be 3/8" thick so there is just 1/16" left on each side for the sheeting that is inset between ribs 2 and 3. The importance of this gusset means it must be a strong glue joint. Have you got the message? When all this is finished, the small portion at the rear of rib F-3 that has to be removed may be cut out. Do not glue the remaining fin ribs, 4, 5 and 6 in place yet. Leaving them out until later allows the stabilizer and elevator to be assembled, covered and inserted through the gap in the fin. When they are glued in place on top of F-2, the remaining ribs may be added to the fin. Remember when covering the stab to leave the triangular part of the centre section covering bare so that the glue is attaching to the wood and not the covering.

The two motor supports may now be glued in place. Notice that the leading edge is tapered back slightly from the point where it is attached to the top edge of the fuselage. This again is important to give the correct up thrust to the motor. A small section of the 3/16" square strip along the top of the fuselage has to be removed in order that the motor supports can be glued to the inner surface of the fuselage. Next cut out R-1 from 1/16 balsa and glue it in place on the outer surface of the motor support where it joins the top of the fuselage. The wing support,WS-1, is now cut from 3/16" balsa and glued between the motor supports, the lower part overlapping and being glued to the top of bulkhead B-4. The rear face of WS-1 should be flush with the trailing edge of the wing supports. The sheeting across the top of the fuselage between the motor supports is best left until the wing is fitted.

The plates that hold the motor can now be glued to the leading edge of the motor supports. The first one is 1/8" balsa and the front one 1/8" ply which will hold the motor mounting screws securely. Before making the motor fairing, it is best to fit the motor in place to see that adequate spacing is maintained. Cut the side sections from 1/16" balsa and attach to the motor support. The top and bottom covering is 1'16" sheet with grain running cross ways. Again, like with the corners of the fuselage, if a strip of 1/8" square balsa runs along the top and bottom edges of the side panels on the inside face, it makes for a stronger join when the top and bottom sheeting is applied. It also allows the corner to be rounded off considerably which makes for a much nicer appearance. Make sure the motor does not have any side thrust to the left. A little to the right is OK, but not really necessary. If adjustments are needed, use small washers or 1/32" ply shims behind two of the motor mounting lugs. Likewise check the amount of up thrust. If the centre line of the motor shaft is extended rearwards, it should meet the leading edge of the fin about the level of rib R-3 where the stab is mounted.

The horizontal stab and elevator are now built over the plan. Tips should be added to the stab if the optional wing tips are going to be added to the wing. Otherwise they are not necessary. There is a proportion of horizontal tail surface to wing area that should be maintained, hence the connection. By all means keep the tail section light. Not having the weight of the motor up in the nose results in a tendency to have a model like this come out tail heavy. You cannot fly a tail heavy model safely and we want to avoid adding dead weight to the nose of the model to balance it. Fortunately with electric models, the way to go when the tail is heavy is to use a larger battery up front and fly longer.

The rudder can now be built and attached to the fin. With the control horns attached, and the stab and elevator pinned temporarily in place, this is a good time to install the pushrods for the tail surfaces. If a small receiver is used, it is suggested that the servos be mounted further forward than shown in the plan. This reduces the possibility of having the model tail heavy. Keep the control rods as straight as possible to reduce bowing and friction, and be sure to brace them as shown at stations 5 and 6. Having the rudder control exit the fuselage at the top instead of at the side of the fuselage lessens the risk of water entering the fuselage. Likewise, having the stab mounted part way up the fin reduces the amount of spray it gets, and is better than having it located lower down. With the control rods in place, the remaining top surface of the fuselage can be sheeted and the corners really rounded off to improve appearance and streamlining. The dorsal fin can now be attached to the leading edge of the fin running forward along the top of the fuselage.

The nose block can be built from laminations of balsa. Four sections of 3/8” sheet work well. Before gluing together, hollow out the first two sections in order to slide the battery further forward if necessary. When the nose block is attached, the tray to hold the battery can be built in place, and the cover for the battery hatch assembled and fitted.

Finally glue in plane the two triangular pieces of ply or spruce that hold the wing attach screws at the trailing edge of the wing. Angle these down slightly toward the centerline of the fuselage to allow for the dihedral angle of the wing. That is as far as we need to go with the fuselage at this point.

WING CONSTRUCTION

Wings have a tendency to stall at the tip first, and this often leads to losing control of a model. Tip stalls are really nasty, especially when turning towards the landing area on approach at low altitude. Often there is not sufficient height to recover from the ensuing spin. The traditional way to reduce this risk is to have a lot of washout in the wing. This is twist, raising the trailing edge, so that the angle of attack is lower towards the tip. Excessive washout however can produce drag and spoil the gliding angle of a model. There are other ways to reduce the stalling tendency of a wing, one being to have the radius of leading edge larger, meaning that it is blunter. This however means that the wing has more drag in cruise flight than a wing which has a more pointed, smaller radius diameter leading edge. One option is to combine these two by building what is known as the NACA leading edge cuff. In this model, the airfoil used from ribs 1 to 5A has a fairly pointed leading edge since the lower surface of the wing ahead of the spar sweeps upwards slightly towards the front of the wing. A wing with this section has minimum drag at flying speed, and is less prone to buffeting in a gusty wind than an airfoil that is completely flat underneath. The airfoil of the outer ribs from 5B to the tip is what is termed "flat bottom." Note that the leading edge is quite thick and blunt. This means the outer section of the wing is less prone to stall than the in the inner section. If the inner section stalls, the out section may still not be stalled, resulting in there being less risk of going into a spin. Some builders may choose to eliminate the NACA cuff in which case all the ribs should be the same as those on the inner section of the wing. The instructions given will be for the cuff. Likewise, the tips on the wing are optional. They add wing area, improve the glide ratio, and when ailerons do not go right to the tip of the wing, this again is supposed to reduce the risk of tip stall.

It is important in building a wing that there is no difference in the incidence of one wing from the other. I think this sometimes happens because the wings are built separately, and the error creeps in when they are joined in the middle. If the spars are cut as shown in the plan and joined along the splice line before starting to assemble the wing, I believe there is a better chance of not having a twist in the centre section. After making the spars cut out the ribs. It is best to cut to the outer outline first, and all the ribs out as far as 5A have the swept up lower surface towards the leading edge. The outer ribs have the flat bottom. Next cut the slot for the spar. Notice that the spar is 3/16" square, but because 1/16" sheet is attached to the spar, the cut out in the rib needs to be ¼" deep. Next trim 1/16" off the top and bottom edge of the ribs from the position of the spar to the leading edge. This can be done very easily with a simple balsa stripper which is a good $6.00 investment for any scratch builder. Note that the #1 ribs need to be trimmed also from the position of the spar to the trailing edge to allow for the sheeting. Ribs also have more slots and cut outs on the lower surface because of the rails for the aileron servos, and sheeting where the wing float is attached.

A secondary spar 5/16" x ¼" is cut and shaped from ¼" sheet balsa and runs the full length of the wing. To assemble the wing, pin one of the secondary spars to the plan laid out on the building board. Now pin the main spar for the same wing in place, with the attached part for the other wing propped up slightly because of the dihedral angel. But remember that this spar is going to have sheet covering, so a few strips of 1/16" balsa scrap should be used as spacers to keep the bottom of the main spar 1/16" inch about the surface of the building board. Now glue ribs 2 to 8 in place. Check that the lower edges of the ribs between the spar and trailing edge are flush with the level of the building board. # 1 rib will be added later. Next cut and shape the first leading edge for the outer wing section from ribs 5B to 8. It will be cut from I/8" sheet balsa to the width indicated on the plan, 5/16". Attach this inner strip of the leading edge to the nose of the outer ribs. Do the same now for the inner ribs. However, extend the inner end of the leading edge temporarily to the centreline of the wing. It will help in matching up the leading edge from the opposite wing, and will be cut off at the position of rib #1 when that rib is finally put in place. The trailing edge can now be attached to the rear of the secondary spar from the centre line of the wing to rib #3. This can be cut to length from 1 ¼" x ¼" aileron stock. If this is not available, it can be shaped from 1/4" soft sheet. The ailerons will be made in like manner later on. It is not necessary to prop up the trailing edge at the tip (to provide washout) at this stage of building. It will come later. When the glue is dry, remove this wing panel from the board and prop up the tip so that the spar of the other wing is located correctly over the plan.

Repeat the process for assembling the second wing panel. Start by joining the two rear spars with the 1/8” spruce or ply doubler, being careful to centre it so as to allow for the inset sheeting that will come later. When attaching the leading edge of the inner section of the wing, make sure it lines up at the centreline of the wing with the leading edge of the first panel that was built.

The top spar can now be inserted into the slots in the top of the ribs. With one wing tip propped up to 1 1/8” to give the correct dihedral, glue the ply doublers in place that attach to the front and rear surfaces of the spar at the centre line of the wing. This glue joint is very critical. Smear carpenter glue into each face before the doublers are attached to the spar, and clamp well. The rear part of rib #1 can now be glued in place. Before gluing the front section rib #1 in place, you might try a trial fit of the wing. Cut the inner end of the leading edge off just enough to clear the motor supports, then mark where #1 rib should be mounted so there is minimum gap between it and the fuselage side; actually the piece R-1 that was added to the side of the motor support. Now a short cross piece of 3/16” balsa 5/8” wide is cut and trimmed to fit between the two R-1 ribs right up against the rear face of WS-1. This piece serves to hold the wing dowel which is then put in place and should be anchored at the inner end to the front face of the ply spar doubler. When making the hole in WS-1 for the wing dowel, start by making it a little too low, then filing out the top until the wing is a snug fit. Having the hole a little larger on the bottom edge makes it easier to put the wing on and take off. When the wing is in place, the sheeting for the windshield area can be attached and should follow the contour of the upper surface of the wing, extending back between the motor supports to the rear face of WS-1.

Next we come to sheeting the front section of the wing from the spar to the leading edge. These two surfaces, along with the balsa plates called “webs” that are glued to the rear of the spars, form what is known as a “D” section. It is like a hollow tube. The purpose is strengthen the wing in terms of torsion. Without these web pates the wing would twist easily. When full aileron is applied at high speed such as doing a roll, the upward or downward force on the trailing edge my cause the wing to twist.

Furthermore, this twist is in the wrong direction in regard to producing the desired direction of roll. In mild cases, this twisting of the wing reduces the effectiveness of the ailerons. In extreme cases it can even cause what is known as “control reversal.” This used to happen in the early days of supersonic flight when flying surfaces were not rigid enough. So these web plates are glued to the rear face of the spars, going out as far as rib #6. The last two bays are not so important. Next the bottom surface of the wing is sheeted, just forward of the main spar of course. If the NACA cuff is being built, the sheeting will be in two sections, with the join at rib #5.

Notice at this point that the wing can still be easily twisted (warped). The “D” section has not been closed since the top sheeting is still to be applied. After the top sheeting is applied it will be quite rigid, so it very important that the wing is held in place while the sheeting is glued on. To do this, put weights on the top of the wing from the centre section out to rib #4. These weights can be placed to top of the ribs just to the rear of the spar. Now put a 3/16” space under the trailing edge of the tip rib, #8, and weight down the centre part of the rib so that the twist is only in the outer section of the wing. This should be done regardless of whether or not the wing has the cuff. It is added insurance. Now glue the sheeting to the upper surface. It can be in one length instead of two separate pieces on the lower surface. Again, instead of using pins to hold the sheeting in place while the glue dries, the CA / carpenter glue combination works well. When cutting this sheeting, it is best to have it slightly wider than necessary so that a little extends of the edge of the leading edge. When the glue dries, remove the weights and notice how difficult it is to twist the wing. Often the washout is not as much as desired, so if not using the cuff, it would be good to use ¼" spacers under the trailing edge at the tip instead of 3/16". Now trim the sheeting flush with the font face of the leading edge strip. The leading edge is completed by gluing another strip to the first one, cutting to the dimensions shown on the plan. This is now sanded to a nice round section.

Ailerons are cut and hinged. They can be attached before or after the wings are covered. The method shown for mounting the servos is possibly the simplest way of mounting the servos. More experienced builders may choose to install them flat in the wing. That is better, but requires a little more work. Two things are important in the aileron linkage in order to give adequate differential aileron. The control are should sweep forward as shown on the plan when in the neutral position. The second item is the placement of the control horn on the aileron. It should not be up close to the hinge line. That is OK for the rudder and elevator, but with the aileron it should be back towards them middle of the aileron. Sheeting now needs to be completed for the centre section and also below the wing between ribs 5 and 6 where the wing floats will be attached. Like the start of the fuselage construction, it is best to start building the tip floats upside down. The sequence for attaching the parts is shown on the plan. The experienced builder may wish to angle the sides as is done with the fuselage. It could give more surface area to the bottom, and look better. The float support, TF-2, may be permanently glued into the slot in the float, and it is good at this time to do what is necessary to cover or waterproof the float. When it comes to attaching the float to the wing, consider that no matter how careful you are, the wing float is prone to getting severe knocks. This is not so much in normal flying, but "hangar rash," getting in and out of the vehicle and workshop. If the upper end of the float support is anchored to the wing spare so that it will never come off, it will possibly tear up the wing structure. So use the sheer plate technique. Use glue sparingly when attaching the float support to the wing. It is better to have the glue joint let go than break some of the balsa.

The centre of gravity is shown on the plan. It is very important that you are close to this. Adjustments are made by changing the battery position, or using a larger battery if the model comes out tail heavy. Control throws are also shown on the plan. These are important.

When it comes to covering you are in trouble if you did not do the required homework, reading the article "Flying from water. Great fun!" Film is OK for everything above the water line, but material that allows the air to "breathe" seem better for the lower surfaces of the wing and horizontal tail surfaces. The outline of the windows is shown on the plan and can be dark film; olive green, grey or black. Be sure to continue the top of the windshield back to the join between the fuselage and wing.

I encourage you to try turning the brake on in the ESC. A wind-milling propeller on approach with the throttle closed produces quite a bit of drag. It is like changing down to a lower gear in a vehicle when engine braking is used going down a hill. There is so much drag to an auto-rotating rotor in a helicopter that a safe approach and landing can be made in the event of an engine failure. But think what would happen if a brake was applied to the rotor! The glide ratio of the LakeMaster is improved by using a brake and it makes nice approaches and landings with the propeller stopped. Otherwise keep a little power on during approach and landing.

Whatever surface you fly from, have fun wringing out your LakeMaster
Ivan

ADDENDUM
The flight characteristics and water handling of the LakeMaster have been improved by moving the wing ½ inch forward from the position shown on the plan. The change is very simple.

Where the dowel in the leading edge of the wing is located, it passes through a 3/16 inch balsa plate, "S-3," and glues into a 1/16 inch ply plate "P-3" glued to the front surface of the wing spar. The outline for each is the same. "S-3" should be moved rearward ½ inch, almost touching "P3." Better yet, cut "S-3" from ¼ inch balsa and glue it to the surface of "P-3."

The other change that is necessary is to move the gussets "WM" in the fuselage that hold the wing mounting screws at the trailing edge. They should be moved forward ½ inch. The center of gravity is always a set percentage of the wing chord, so it must be ½ inch forward of the original position shown on the plan. It will be necessary to move the battery forward a little, and if the cutout in the nose block is not sufficient, a heavier battery is better than adding ballast. An 1800mAh Li-Po gives a lengthy flight time.

This change improves longitudinal stability by lengthening the tail moment. Water handling is better because of moving the step rearward in relation to the Center of Gravity.

At the centre section of the wing, the leading edge of the wing will protrude forward of the windshield at that point. This was often done in the construction of light planes in the past and adds a little character. Some may think of it as a somewhat nostalgic memory.