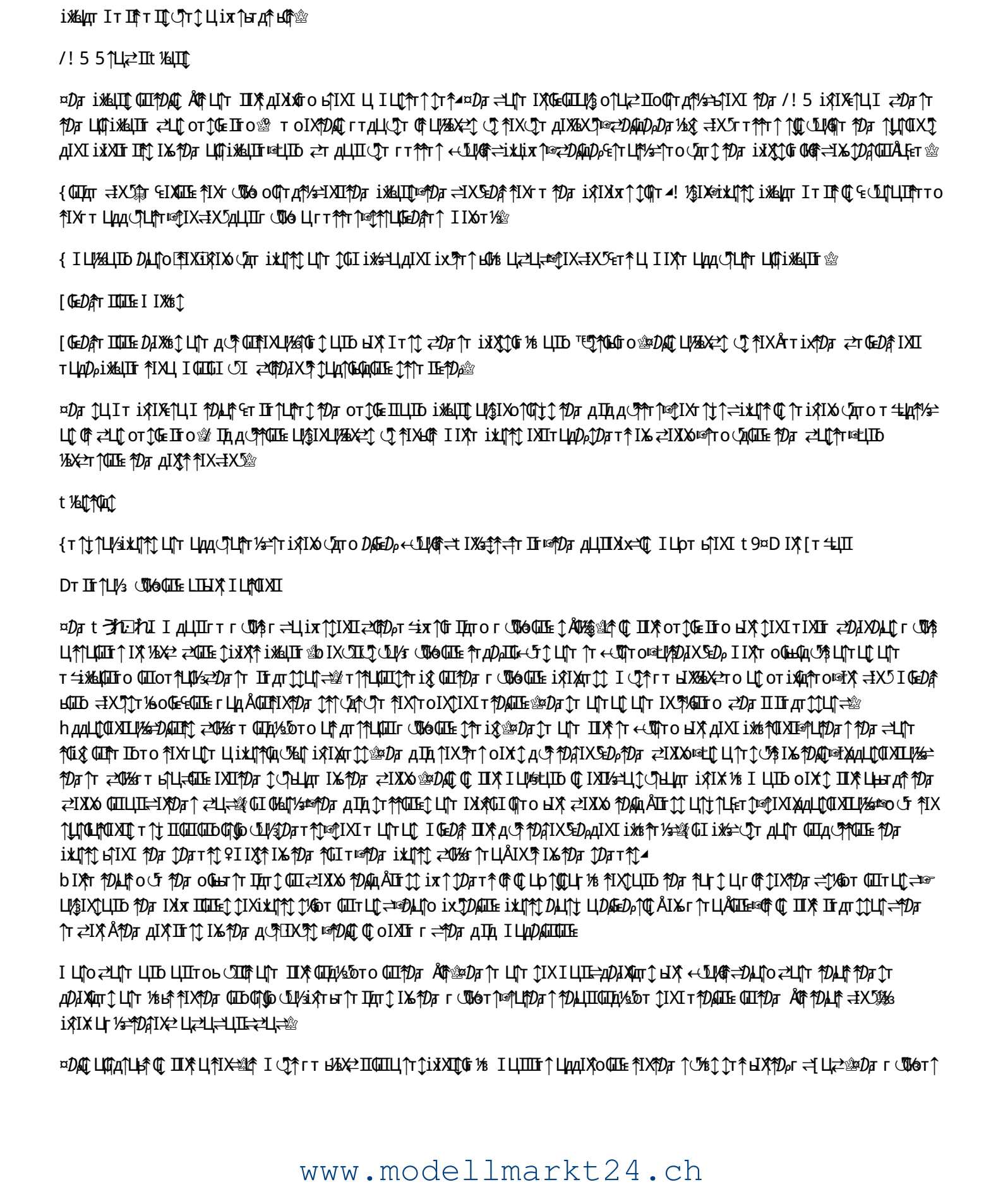


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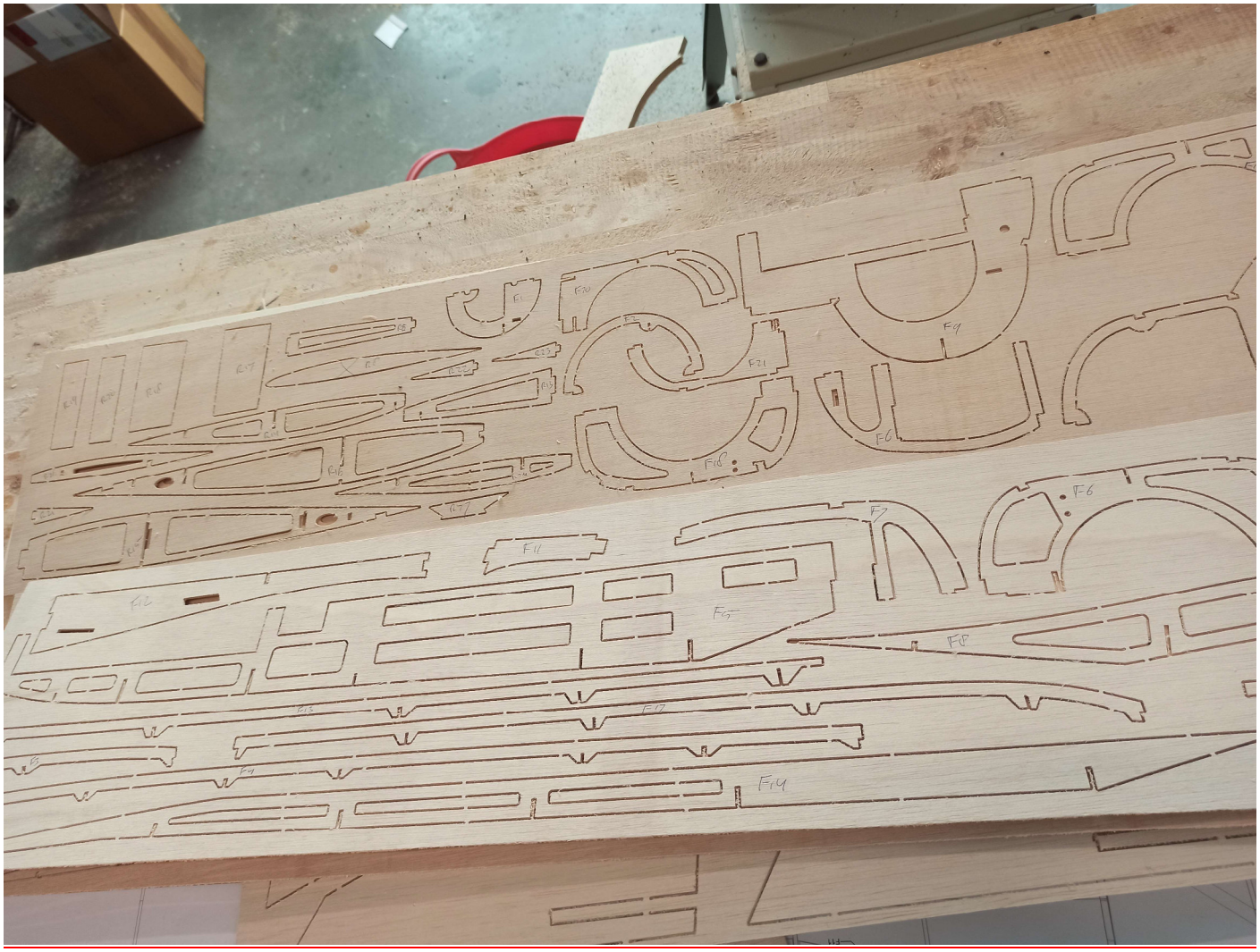
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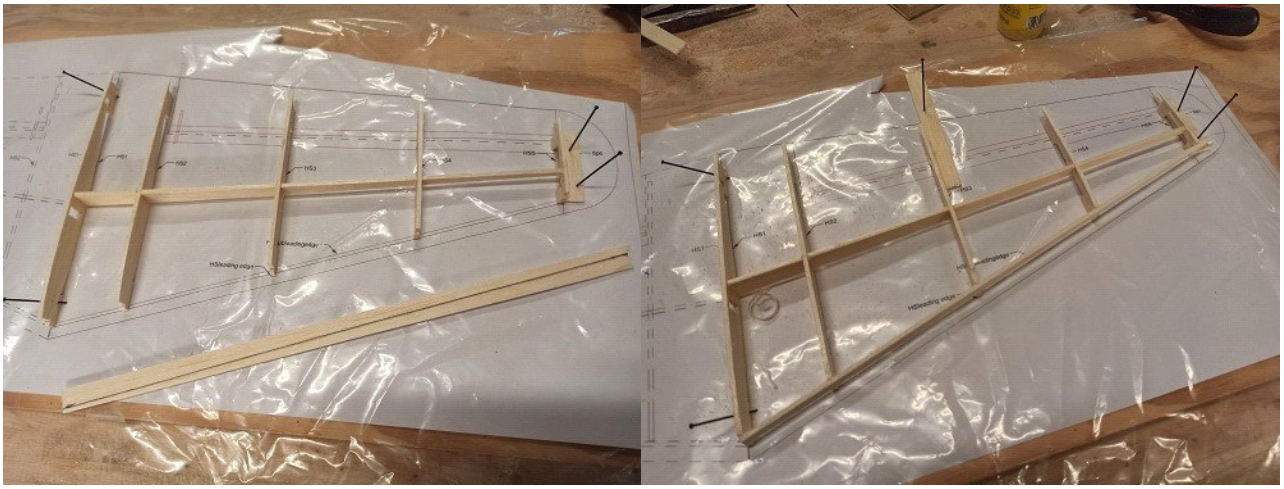
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Stabilizers:

J oin the sheet as per drawing, cut sub leading edge



Cut sheet to size and sheet top if stabilizer



Take of assembly and clean up edges and feet, place hinge lines from 6mm balsa



Place rudder arm inserts and sheet halves carefully




Place leading edges, tips and sand to shape, join halves.




Rudder:

Take out all corresponding parts as per drawing, glue assembly together, and now make the decision if you want to have a working rudder. Cut out the sheeting as per plan; do make it a bit oversize




Place all balsa hinge inserts place dowels, (place servo for rudder?) pin down rudder at the feet positions and sheet the rudder.

Place tip and fairings and sand to shape as close as you can, later it will be more refined when it is mounted to the fuselage.

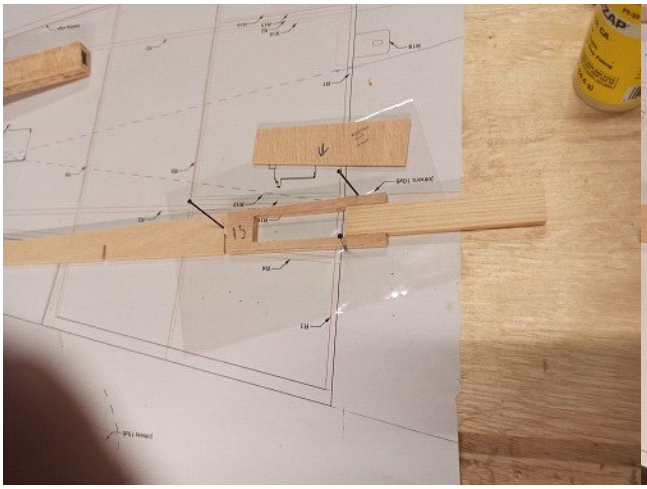
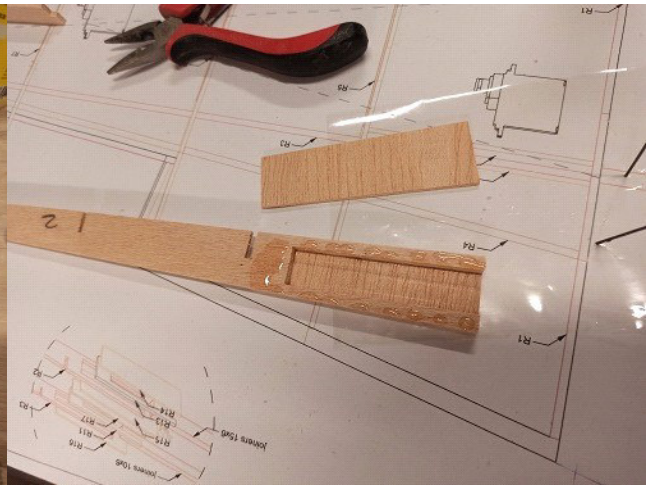
Wing:

Take out all parts from the cnccut sheets for the wing as per plan do mark parts.

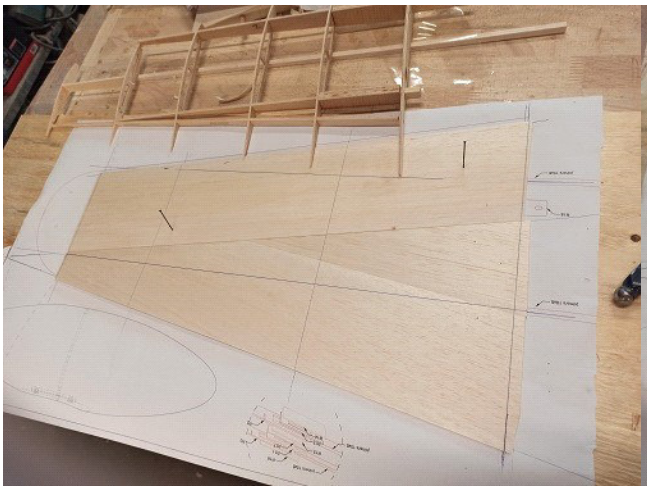



Make the sheeting as per plan do make oversize, draw up former and rib lines to the sheeting as per plan.

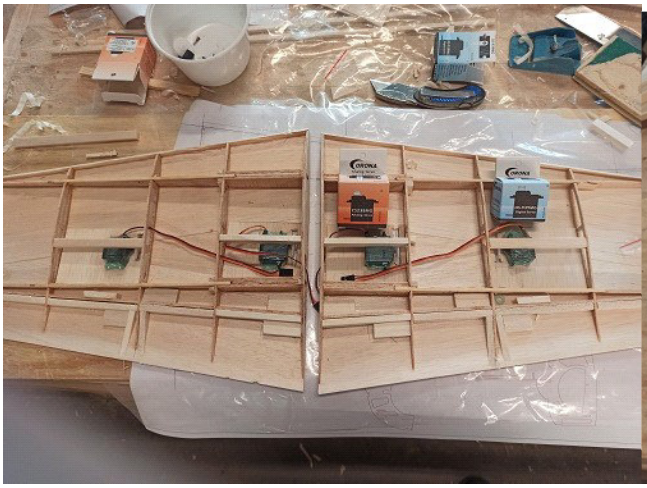
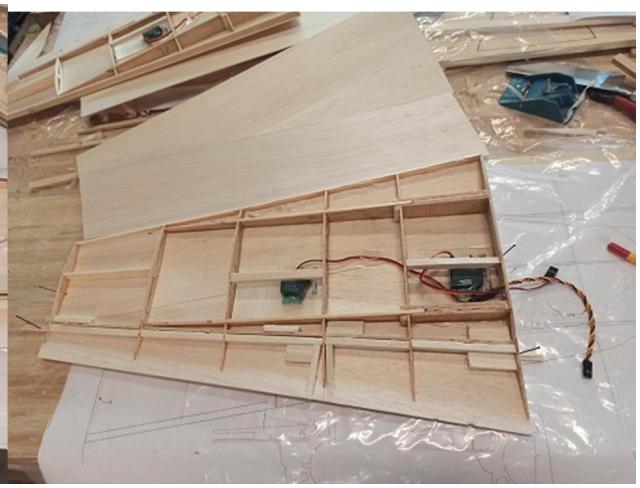
Make up the main formers

Mark all formers on the bottom sheeting. Place formers assembly to bottom sheeting, place sub leading edge




Place all inserts and hinge points into assembly, place servos onto a 1,5mm doubler

J oin ribs with doublers as per plan .close the wing joiner openings with the cnccut parts keep the openings clear of glue

Make up wing assembly dry onto sheet, , and glue main formers to sheet, glue ribs to sheet starting in middle of wing work your way outwards, watch the lines you did draw for the ribs

Place sub leading edge and place 3x3 spruce top stringers. Place all doublers and inserts for taking hinges and servos.

Place servos ,protect them with shrink tube or cello tape and we glue them in , note the orientation of the flap servos , also place the wing fastener F18(join with glass) mark the aileron and flap openings, by sticking your knife through the bottom sheeting so you have a clear mark

Secure all wiring and sand root rib flat. Place helpformer under wing with a few drops of ca, pin down wing and help former at the positions marked X.

Tape the top sheeting to the trailing edge, ad slow ca to all ribs and formers and bed over top sheet to wing.

You might need to support the leading and trailing edge with some scrap balsa

When sheeted sand sub leading edges flat to take the leading edge from 6mm balsa, glue on and sand to section, join and glue wingtips with glass between them and sand to shape.





The wing tip joiners are not pictured, place them after you shaped the tips to form then fill gaps with scrap balsa

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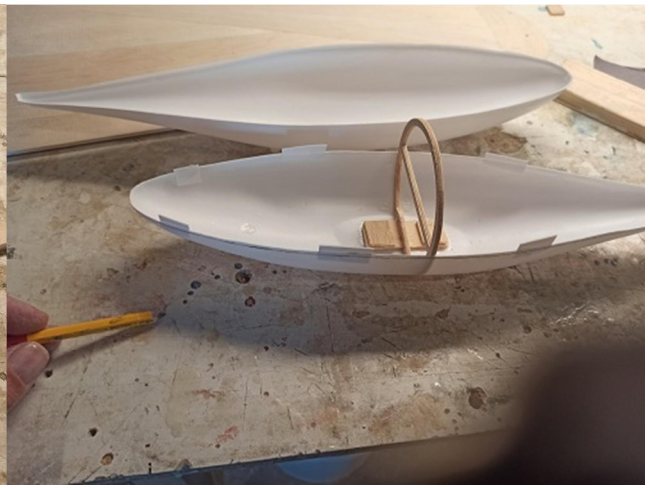


Sand all assembly to take easy the wing joiners; you might need to sand the joiners a bit to slide in easy. Keep joiners loose, clear holes for tip tank,



make tip tanks from the vacuum formed parts , cut them carefully along the edges till fit, place formers with ca, drill forward hole from top of wing through the ply parts , place a doubler at the screw position , drill and tap forward fastener , line out the tank with the wing and drill and tap backward fastener

Recess the fasteners into the wing tip



Leave the wing for now, we start with the…

Fuselage

Take out all formers and clean up the edges from the little holding tabs.

Place Drawing on your building board cover with plastic

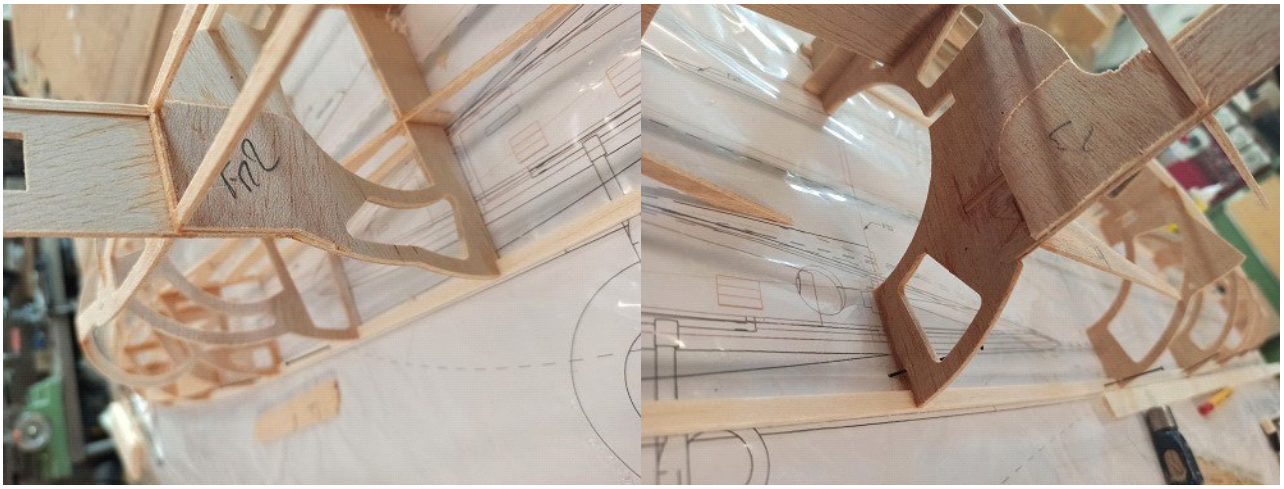
J oin formers F30, F31 and F32, F33, the 3x3 spruce comes later after placing the ribs




Start by laying out the top and bottom length stringers from 3x6 and the nose former F19




When the front part is joined move on to the next formers. Carefully fitting, just a drop of glue here and there to hold, when satisfied glue formers to main stringers, be careful with the F30 and F32 formers as they should be positioned Straight , place F18 and when satisfied glue F18 to formers , and place the 3x3 spruce



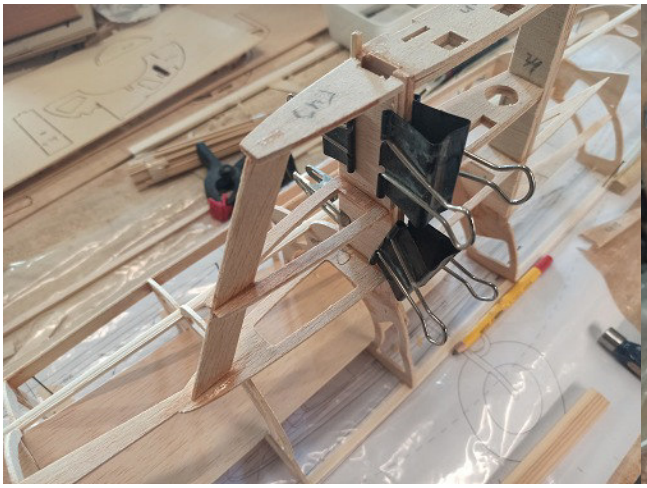
Place stringers 3x6; check all pictures do not forget formers. Place duct sides chamfer duct end at the fan side



Now place the midwing parts doublers and formers, again take care for straightness, doublers first glue careful step by step if you are not certain, look pictures do dry fit



Place main formers F43, F44, F45 with help from some straight scrap place doubler F47




Now glue in the retract bearers front and for the main gear the bearers are joined 3 layer of 3x12 ply with glass between.




Now be sure all formers are straight and glue them, take off side assemblies,

Careful join sides with a lot of clamps taking care for straightness

J oin tail parts with F13, F5 and F32



J oin the Formers F30 and F32 with a bridge from 3mm ply

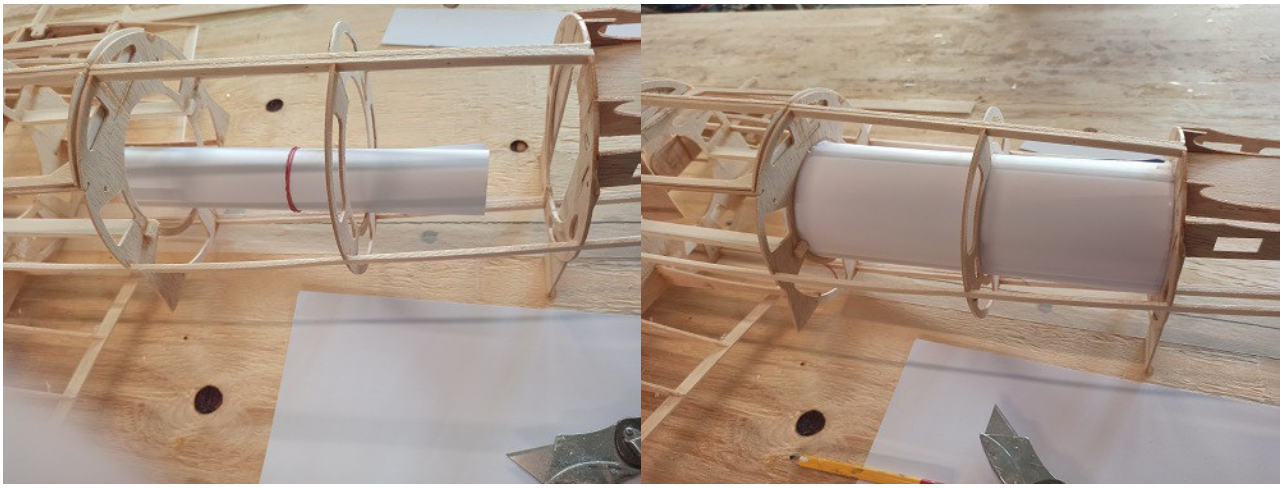


Place build mould formers to fuselage use the wing joiners now do not glue wing joiner˜s in., you can secure the build mould with a small drop of ca, and place assembly on a build board with lines for reference



Now place outlet duct tube from the heavy paper, roll it up and glue in from F9 till F11

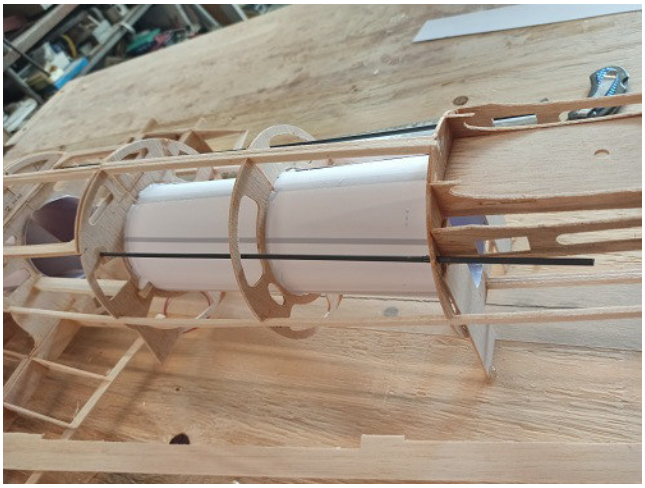
The outlet tube will be in later as the former F46 is quickly broken, we sheet first



Make the intake duct cut as per plan , it is a hard job to get in but it is possible I did it alsoŭ if in doubt or lose controlŭ jus cut them length wise in 2 a bit larger pieces so they can overlap in the middle , that will go in easier.



Glue with ca and white glue, place duct straighteners from 3x6 balsas, place steering cables if used

Continue with the midwing place F27 and sub leading edge .place flap hinge lines as per plan.

Place the joiner tube , depending on your build , as we do it it is not scale the original had bottom flaps under the wing the top of the wing was in split at 10mm from the trailing edge, but that is your choice , it is easy done




Start sheeting the top midwing section with the 1,5x100x450mm balsa




Now start sheeting the fuselage with the 2x20x950 balsa sheet, step by step study the pictures, it is not that easy




The canopy /battery hatch is also sheeted, mark the formers for cutting loose later note that there is a split at F32, as motor and battery hatch are joined with a canopy latch F32 is a bit larger study the drawing.
Note for some small doublers for sheet anchor.




If the most of the top is sheeted take of fuselage from the build board and remove build mould formers, have a soft stand for the fuselage so you can sheet the bottom parts. start with the mid wing and sheet bottom and make fairings.




This is a hard part of the build the fairings are difficult just study the pictures



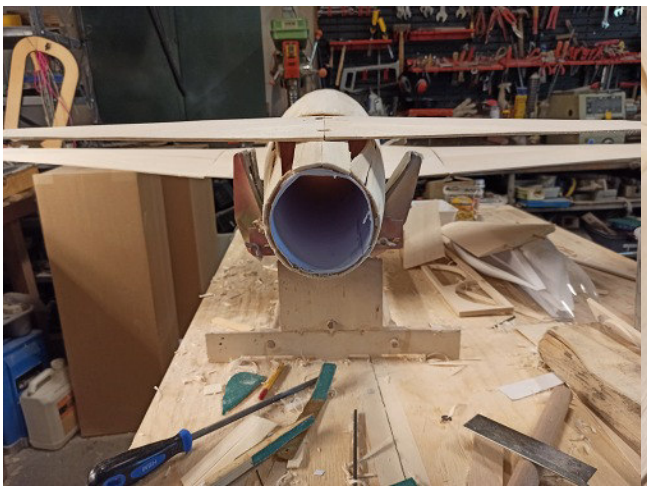


When tailpart is sheeted you can take out part of F46, cut tailpipe to drawing

Slide in tail pipe rolled up with some rubber bands, fit and release.

When fitting ok glue tailpipes to formers , note that the fuselage must be straight as the pipes stiffen the fuselage, no twisting possible after this assembly.

Place stabilizers to fuselage, you can place wings to fuselage with the joiners it should all be straight…
glue stabilizers to fuselage the dowels protrude the horizontal stab , but they should not stick into the outlet duct




Make fairings as per plan for the stabilizer and fit them to the assembly




Place intake former and fairings and sand to shape.




Take out battery and motor hatch and sand to a nice fit.




Take out wheel and retract openings, cut all moving parts out of wings and stabilizers



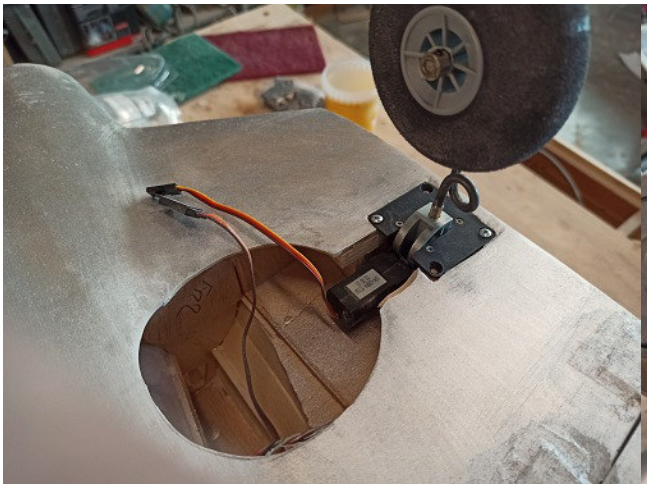
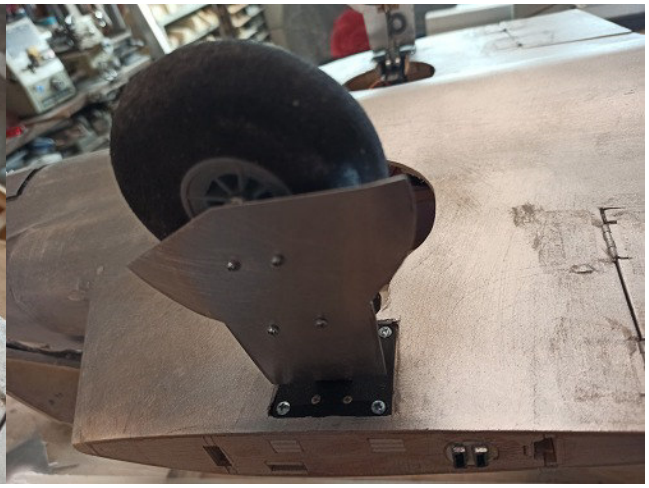

Cut hinge openings and flap hinges as to your choice .start fitting wing to fuselage and flap joiner fitting




Cut out front retract opening , we made the doors from 0,5 aluminium forced with a round stick into the fuselage curve, placed 2 hinges each door , screwed with small screws , door actuated with a small hinge and 2 arms see the drawing , we used a push pull steering

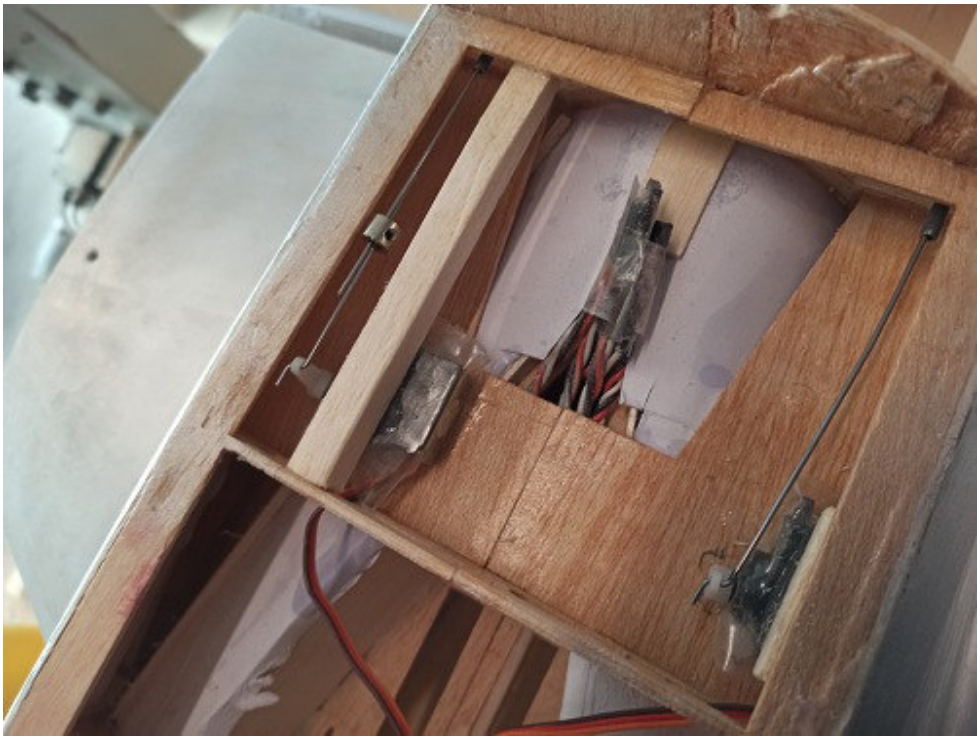



Cut out retract wheel openings, fit retracts for good working and closing. Make the wheel doors from 0,5mm aluminium.

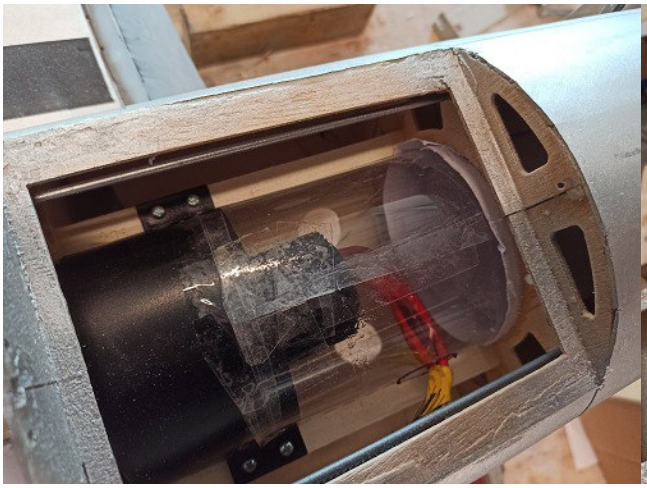



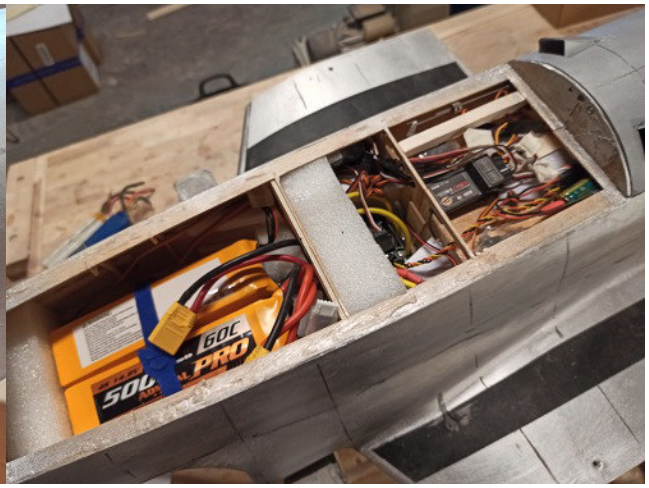
Canopy: place canopy onto battery hatch we made small headrest from scrap ply and balsa, a pilot is a must

Place steering servos onto F25 or into the tail section your choice, we did not use a rudder but that is also possible servos are glued to F25, note the orientation, 1 steering cable is adjustable, we use z-bends almost everywhere



Place fan unit with the in between plastic tube and place speed controller, it is a tight fit we also place the receiver and retract battery to F25





Performance

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Place batteries as seen here for the cg, with a different drive the location might differ.

We used NiCad cells retract and we used a separate receiver pack 4xnimh 1500, no switches

Do make cooling openings if your controller is there

Assembly at the field:

Carefully slide in the wings , if it is a bit tight use some talcum powder at the joiners,
fasten the wing with the m3 fastener for the mid tongue do not over tighten it is just for preventing sliding out

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Aileron, flap, stabilizer and rudder and steering servo Corona CS939
https://hobbyking.com/en_us/catalogsearch/result/?cat=&q=cs939
Alternative front leg possible, note modification
Alloy Trailing Link Undercarriage Strut with Wheel and Rubber Tire (125mm Long/5mm Pin)
https://hobbyking.com/en_us/alloy-trailing-link-undercarriage-strut-with-wheel-and-rubber-tire-125mm-long-5mm-pin.html

Servoless Retract with Metal Trunion 44mm x 41mm Mount (2pcs)
https://hobbyking.com/en_us/servoless-retract-with-metal-trunion-44mm-x-41mm-mount-2pcs.html

Servoless Steerable Nose Retract with Metal Trunion 44mm x 41mm Mount
https://hobbyking.com/en_us/servoless-steerable-nose-retract-with-metal-trunion-44mm-x-41mm-mount.html or as we used

https://nl.aliexpress.com/item/4001160966301.html?spm=a2g0o.order_list.0.0.3f6579d2Po7OrM&gatewayAdapt=glo2nld
Giant Landinggear
Size(L *W *H):92.2*51*36mm
Gewicht: 88.8g/3.1oz
Landing Strut Diameter: 5mm
Flight weight 8kg,: 4.8v-7.4v

find more retracts here:
https://nl.aliexpress.com/store/group/Retract/712819_40000000962091.html?spm=a2g0o.detail.100008.46.67c079a7CJYnLl

We used a wemotec midi fan evo with hetrc edf 650-68-1500 and 8 cells 5000 for more power use the 1600kv version

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Materials you need to provide:
Building board 1500x450mm
Hinges for ailerons and stabilizers 12x ca type
Hinges for flaps 6x
hinges for wheel doors 4x
Steering wire 1,2mm steel 2mtr
Steering wire 0,8 500mm front wheel steering
Steering arms 6x
Steering outer cable 3,2/2mm 1000mm
4mm steel wire for landing gear bending yourself 1mtr
Wheels 2x 75-80 mm main gear
Wheel 55-60mm front wheel
2,2x6 or 9 fasteners for wheel doors 20x
Canopy Latch 1x