

SCALE-PARKFLYER.DE

BERIEV Be200

***CONSTRUCTION MANUAL
PART 1***



BERIEV BE 200

by Scale-Parkflyer.de

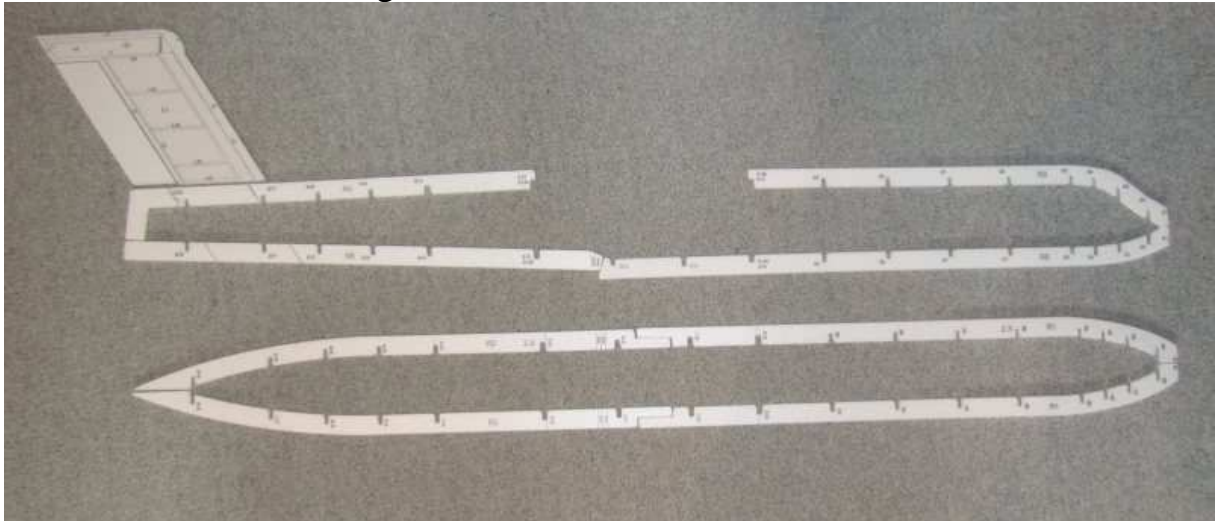
Material List			
Part No.	Title	piece	Material
Rumpf:			
R1 / R2	Frame side front / back	each 2 X	6 mm Depron
R3 / R4	Frame up front / back	each 1 X	6 mm Depron
R5 / R6	Frame low front / back	each 1 X	6 mm Depron
S1	Frame Hull	1 X	3 mm Depron
S2 - S10	Frames Hull	each 1 X	6 mm Depron
S10b	Frame Hull	1 X	1,5 mm wood
S10c	Half - Frame Hull	2 X	6 mm Depron
S11 / S12	Frame Hull	each 1 X	6 mm Depron
S12 a	Reinforcement	4 X	6 mm Depron
S12 b	Reinforcement	2 X	6 mm Depron
S13	Frame Hull	1 X	6 mm Depron
S13b	Frame Hull	1 X	1,5 mm wood
S13c	Half - Frame Hull	2 X	6 mm Depron
S14 - R19	Frame Hull	each 1 X	6 mm Depron
R7a-d	Hull Nose	each 1 X	6 mm Depron

R8	Border reinforcement	2 X	6 mm Depron
R9	Overlay for Wing	1 X	6 mm Depron
R10	Overlay for Wing Wood	1 X	0,8 mm wood
R11	Landing Gear box low	2 X	6 mm Depron
R12	Landing Gear box side	2 X	6 mm Depron
R13	Landing Gear box back	2 X	6 mm Depron
R14	Landing Gear box front	2 X	6 mm Depron
R15	Border reinforcement	2 X	6 mm Depron
R16	Support for Power Unit	2 X	6 mm Depron
R17	Support for Power Unit Reinforcement	2 X	0,8 mm wood
R18	Support for Power Unit Reinforcement	2 X	10X2X262 mm wood
R19	Support for Power Unit low	2 X	3 mm Depron
R20	Support for Power Unit side	4 X	6 mm Depron
R21	Cover Support for Power Unit	4 X	6 mm Depron
R22	Cover Support for Power Unit	1 X	0,8 mm wood
R23	Cover Support for Power Unit Front	1 X	6 mm Depron
R24	Bridge Hull Cover front	1 X	6 mm Depron
R25	front Hull Cover up	1 X	3 mm Depron
R26	front Hull Cover side	2 X	6 mm Depron
R27	Reforcement Rail for R26	2 X	6 mm Depron
R28	front Hull Cover low	2 X	6 mm Depron
R29	Hull Cover Material	5 X	1000x250x3 mm wood
R30	Step	1 X	3 mm Depron
Power Unit:			
R29	Turbine Pipe inside	2 X	3 mm Depron
R30	Turbine Pipe outside	2 X	6 mm Depron
R31	Template inside pipe	2 X	6 mm Depron
R32	Template inside pipe	2 X	6 mm Depron
R33	Turbine outlet	2 X	3 mm Depron
R34	Engine Support	6 X	6 mm Depron
R35	Engine Support Reinforcement	2 X	1,5 mm wood
Tail:			
L1	Tail	2 X	3 mm Depron two Parts
L2	Reinforcement Elevation	2 X	1,5 mm wood
L3	Tail Reinforcement	2 X	10X2 mm Pine X 350 mm
L4	Tail front	2 X	6 mm Depron
L5	Rudder box cover	1 X	3 mm Depron
L6	Tail Cover	1 X	6 mm Depron
L7	Tail Cover up	1 X	6 mm Depron
L8	Molding Tail front	2 X	6 mm Depron
L9	Rib	1 X	3 mm Depron
L10	Ribs	4 X	3 mm Depron
L11	Ribs	5 X	3 mm Depron
L12	Elevator part inside	2 X	6 mm Depron
L13	Elevator part outside	4 X	3 mm Depron
L14	Stream sheet	2 X	6 mm Depron
Wing:			
T1	Wing ground	2 X	3 mm Depron
T2	Main support	2 X	6 mm Depron
T3	Reforcement Main Support	2 X	1,5 mm wood
T4	Reforcement second Support	1 X	1,5 mm wood
T5	Second Support	1 X	6 mm Depron
		each 2	
T6 / T7	Reforcement Aileron	X	6 mm Depron
T8	Nose strip inside	4 X	6 mm Depron

T9	Nose strip outside	2 X	6 mm Depron
T10	Wingtip	4 X	6 mm Depron
R1	Rib	1 X	6 mm Depron
		each 2	
R2 - R7	Ribs	X	6 mm Depron
		each 2	
R8 / R9	Ribs	X	3 mm Depron
		each 2	
R10	Rib	X	6 mm Depron
R10a	Reinforcement for Rib	4 X	1,5 mm Depron
		each 2	
R11 / R12	Rib	X	3 mm Depron
		each 2	
T13	Flap Casing	X	3 + 6 mm Depron
		each 4	
T14	Flap Casing	X	3 + 6 mm Depron
		each 2	
T15	Flap Casing	X	3 + 6 mm Depron
		each 2	
T16	Flap Casing	X	3 + 6 mm Depron
T17	Reinforcement for Floats	2 X	1,5 mm wood
T18	shank for floats	4 X	6 mm Depron
T19	Float segment	4 X	6 mm Depron
T20	Float segment	4 X	6 mm Depron
T21	Float segment	4 X	6 mm Depron
T22	Wing Cover front	1 X	3 mm Depron
T23	Wing Cover front	1 X	0,8 mm wood
T24	Rib Cover outside	2 X	6 mm Depron
T25	Rib Cover inside	3 X	6 mm Depron
T26	Rb Cover back	1 X	6 mm Depron
T27	Cover back	1 X	3 mm Depron
T28	Wing cover up	2 X	3 mm Depron
RC Equipments:			
Glue Recommendation:		Epoxy / solvent free glues	
glas fiber roof for any reinforces		ca. 150x150 mm	
Two-side Tape for fixing Hull on Heling			
Elevation Angle		2 X	6/5 x 65mm Alu-pipe
Elevation Angle		1 X	6/5 x 25mm Alu-pipe
			5 mm x 160mm Carbon
Elevation Angle		1 X	Pipe
Rudder bar		2 X	4/3 x 10mm Alu-pipe
Rudder bar		1 X	3 mm x 36mm Carbon full
Rudder bar		1 X	6x3x220 mm pine
Fan Recommendation:			
EDF Fan Brushless ADF64-300 XL		2 X	5250kv / 400 W, 8-Blades

Construction manual, Part 1

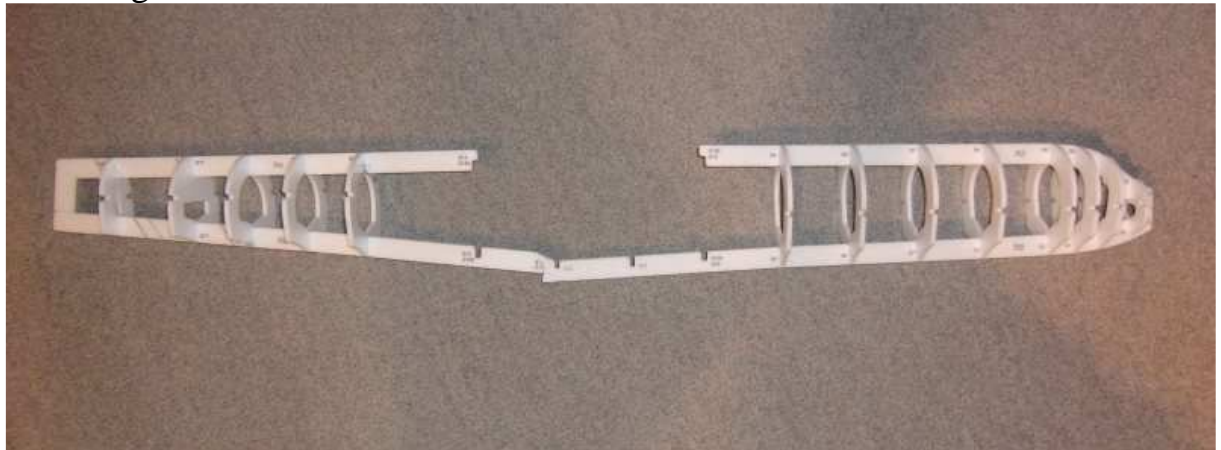
1. Frame R5 and R6 stick together.



2. Check for a perfect fit all Rib / Frame parts. (without any glue)



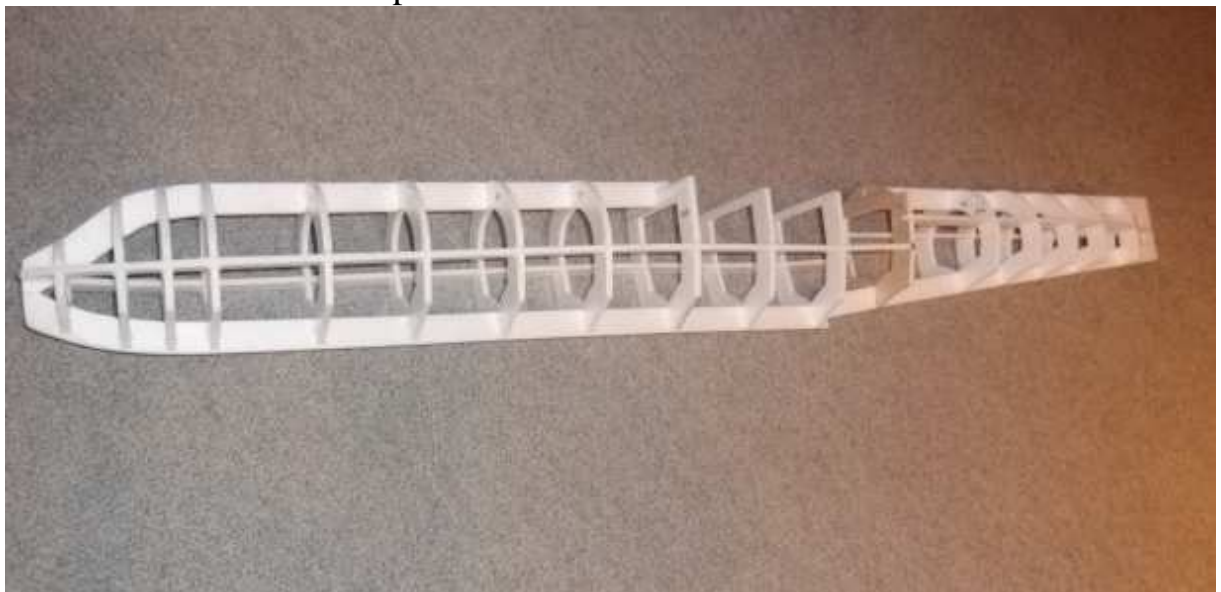
3. Put together Frames S2-S9 and S14-S19.



4. Put together wood Parts each on the wing side on the FrameR10 and R13 S10b and S13b. S10 until S13 Frame put together in Hull.

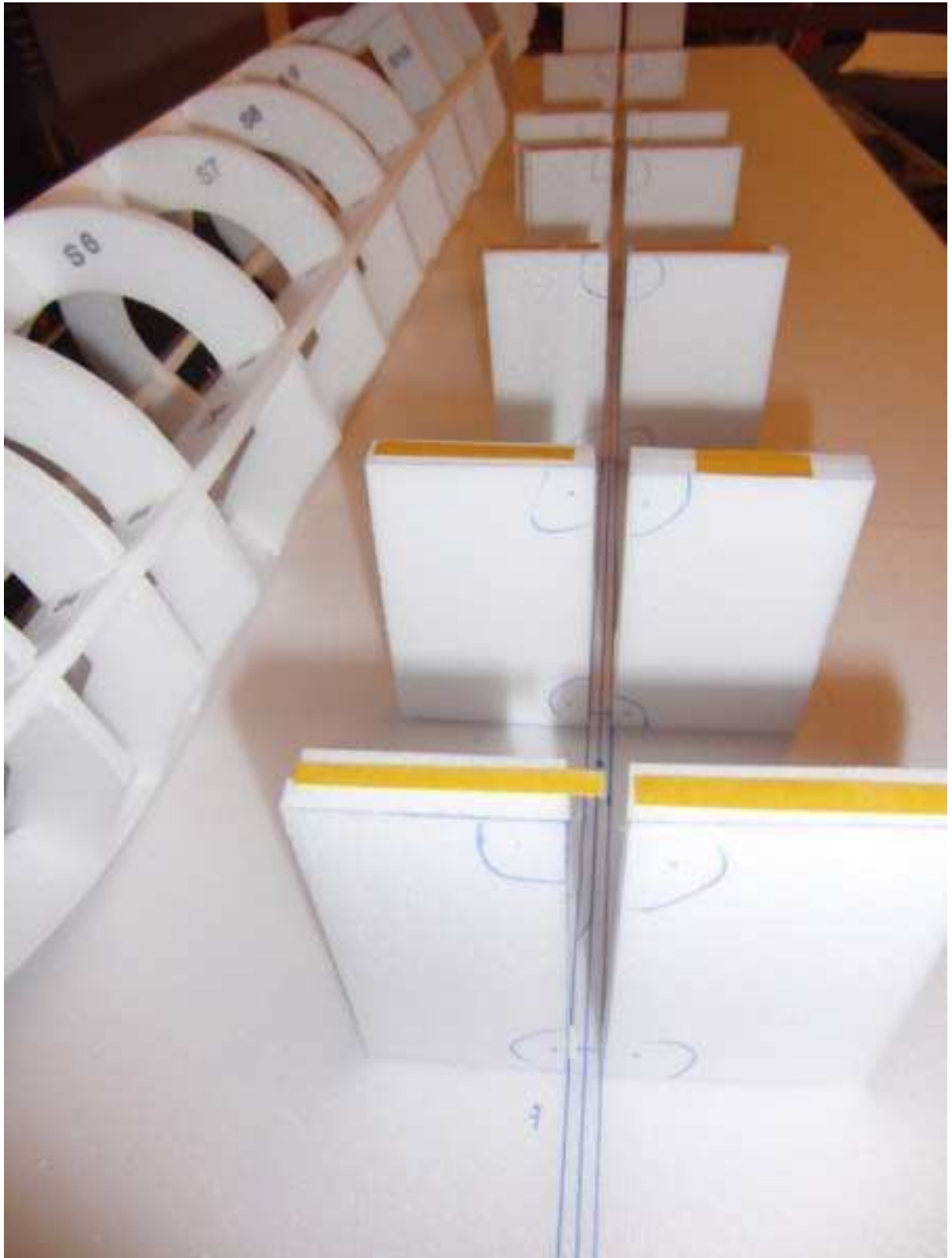


5. Side Frame R1 and R2 put in the Hull without twist..



6. For a perfect Hull without any twists, please take a Heeling in wood or see here in 6 mm Depron (its easy) You can fix all bars with two-sides tapes.



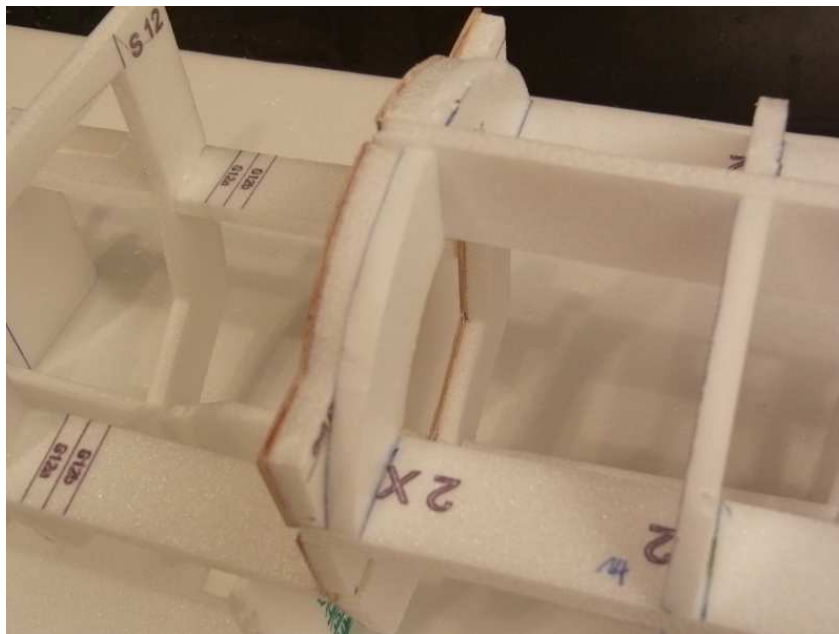
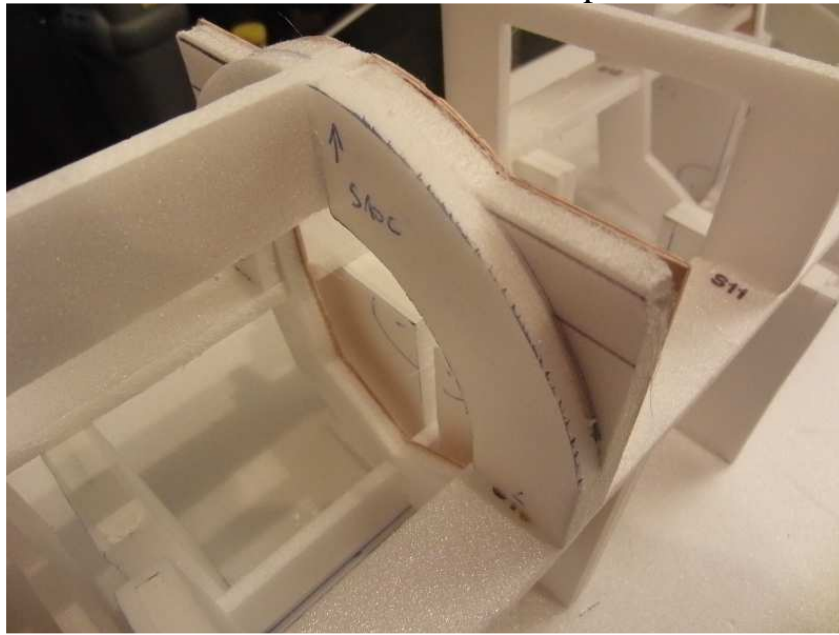


8. The Spacer have got follows lenght: Rear Part: 120,5 mm, in the Front: 88,5 mm.

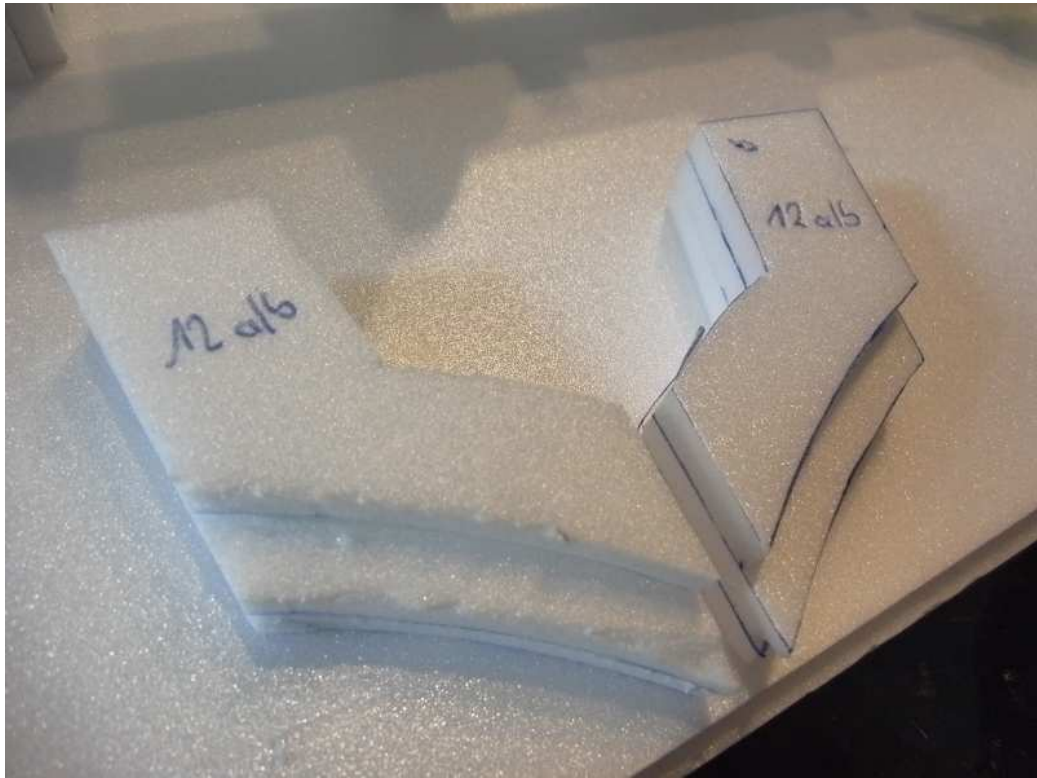




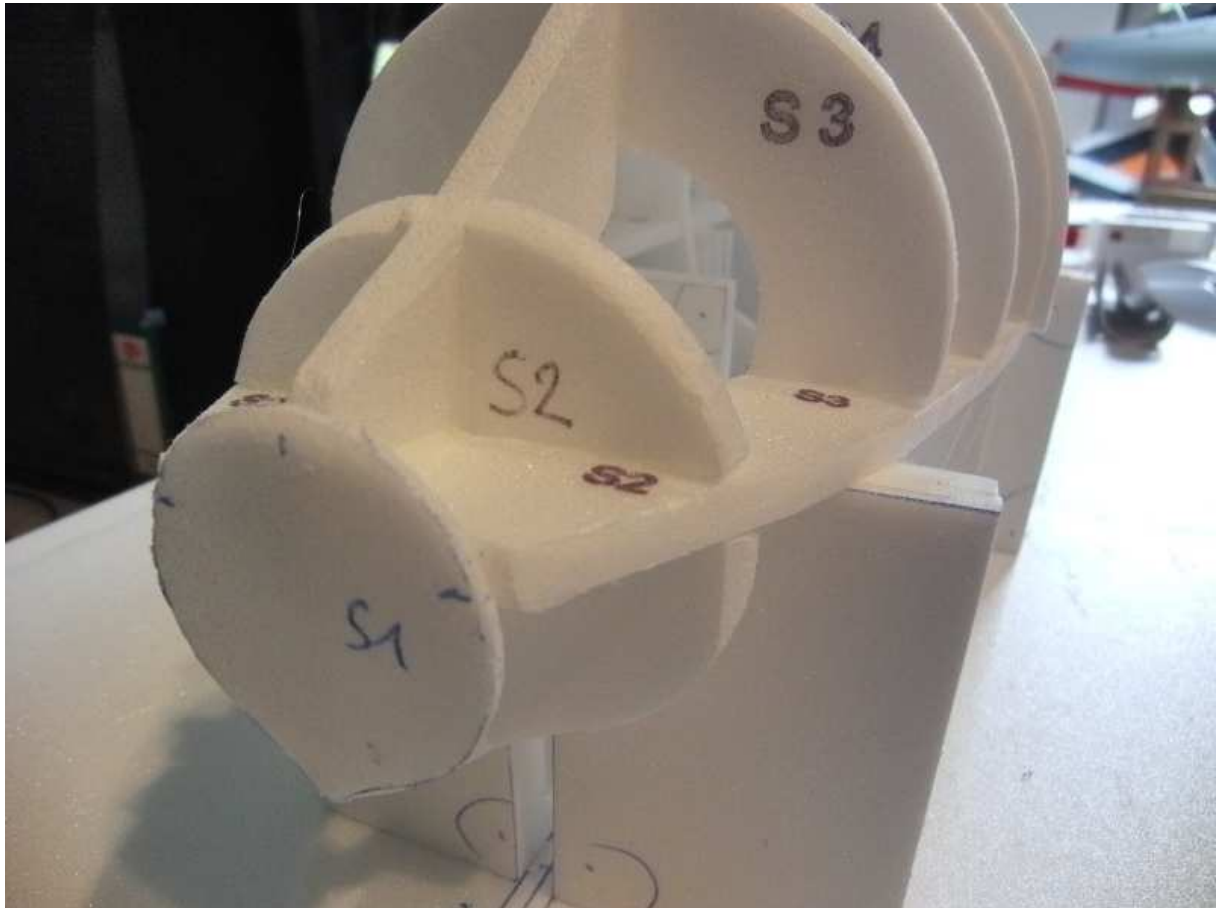
9. Half-Frames S10c and S13c put in..



10. S 12a/b parts put together for one Part.

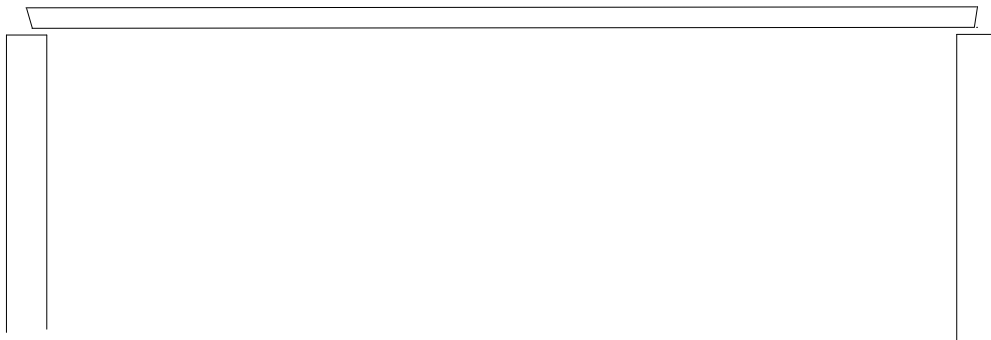


11. Frame S1 put in the front of the Hull.



12. Planking the Hull:

The Hull please cover with 3 mm Depron. For a perfect finish, please follow next steps: Please flex the Depron Material in the right direction before. Its going easy with a commercial Hairdryer (min. 1000 Watt). Take only one Segment from Frame to Frame. I like to glue with Epoxy, because the 5 minutes is enough to fix it by Hand. Tape to fix isn't good for any bumps.

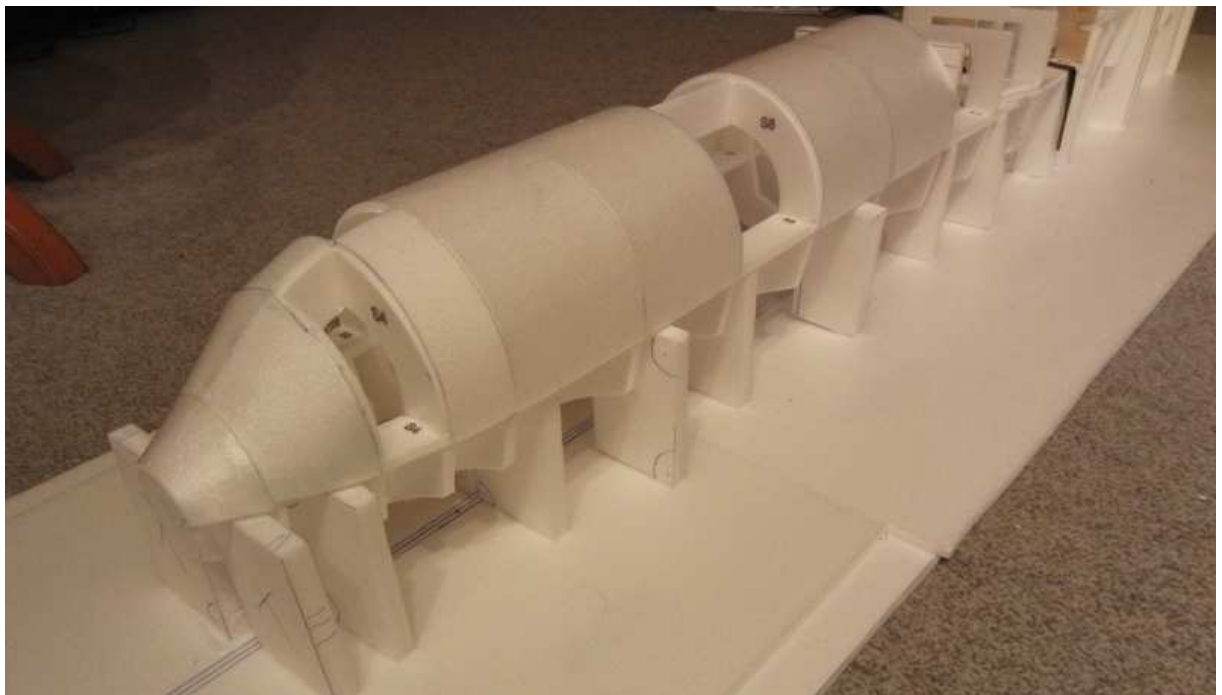
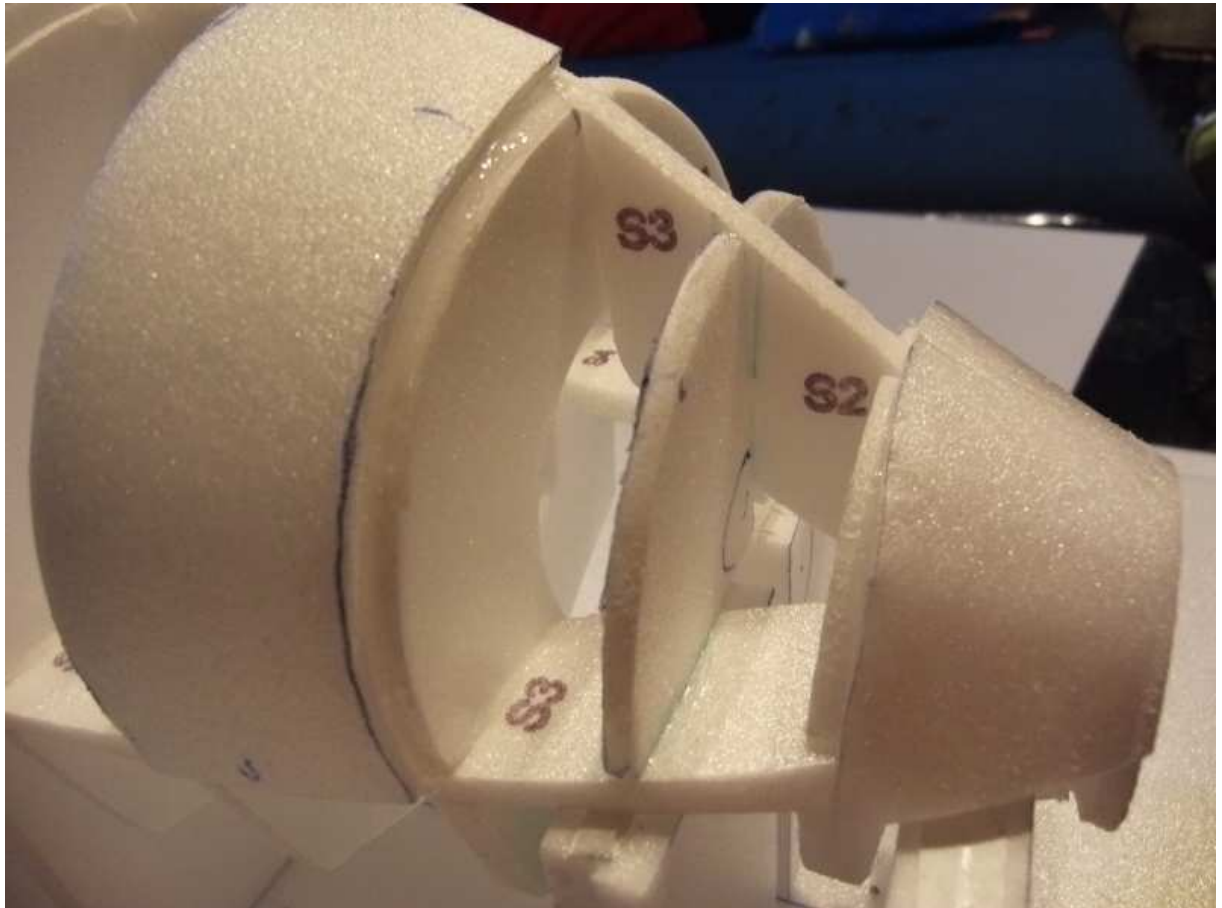


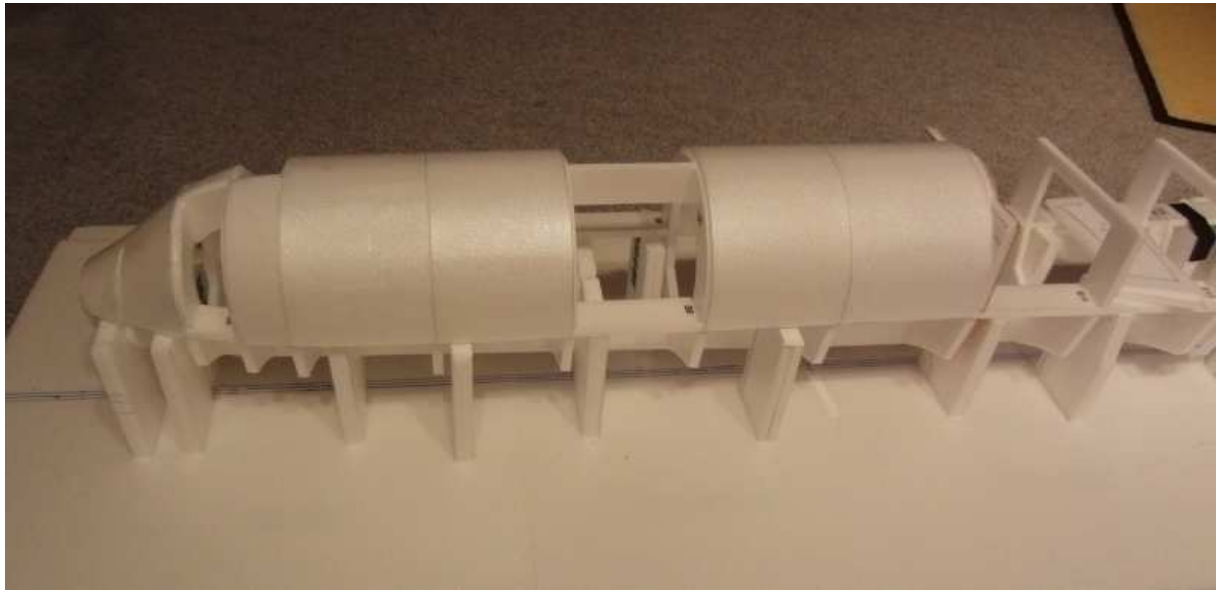
Please wait for planking by Frame: S3/4 and S7/8, S15/16 and from S17 until all Frames behind them:



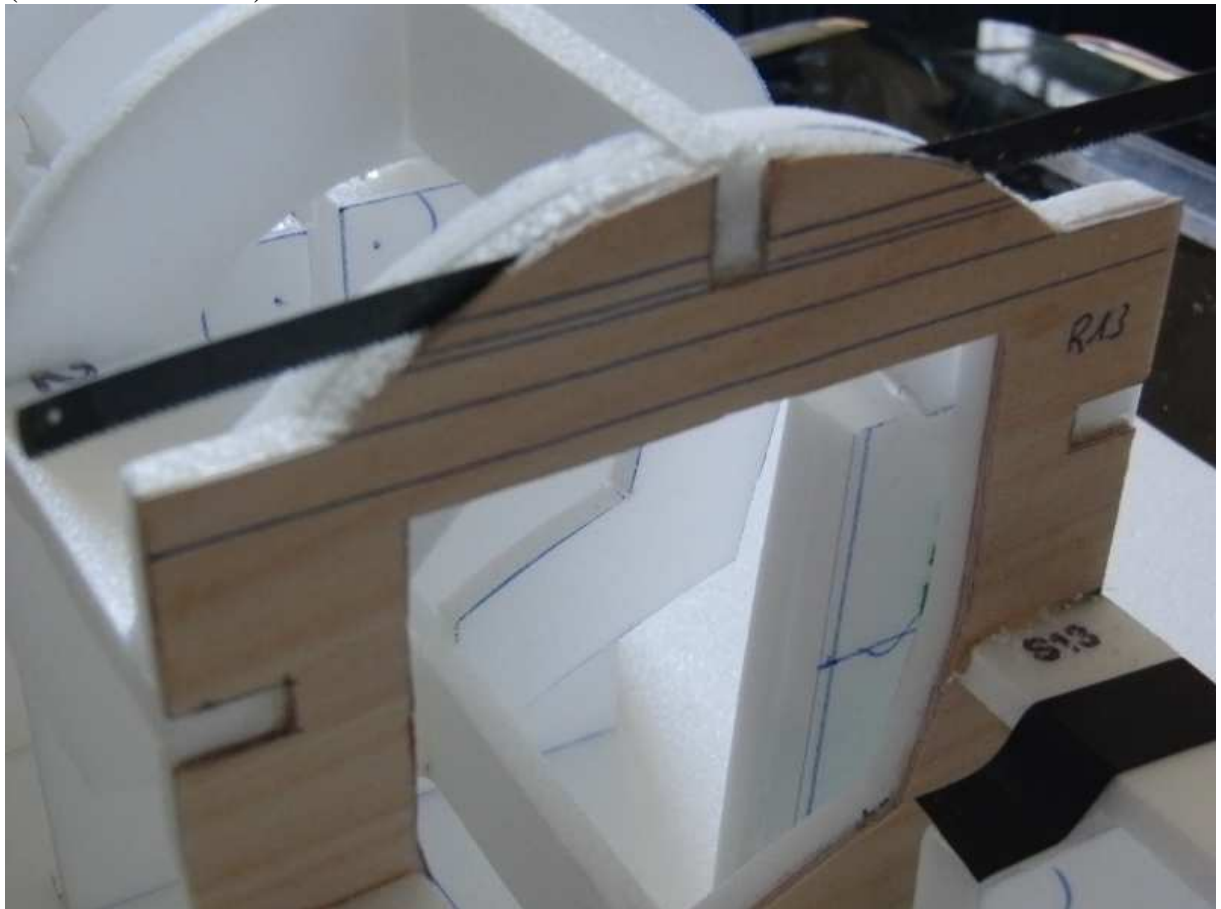
A bent Segment





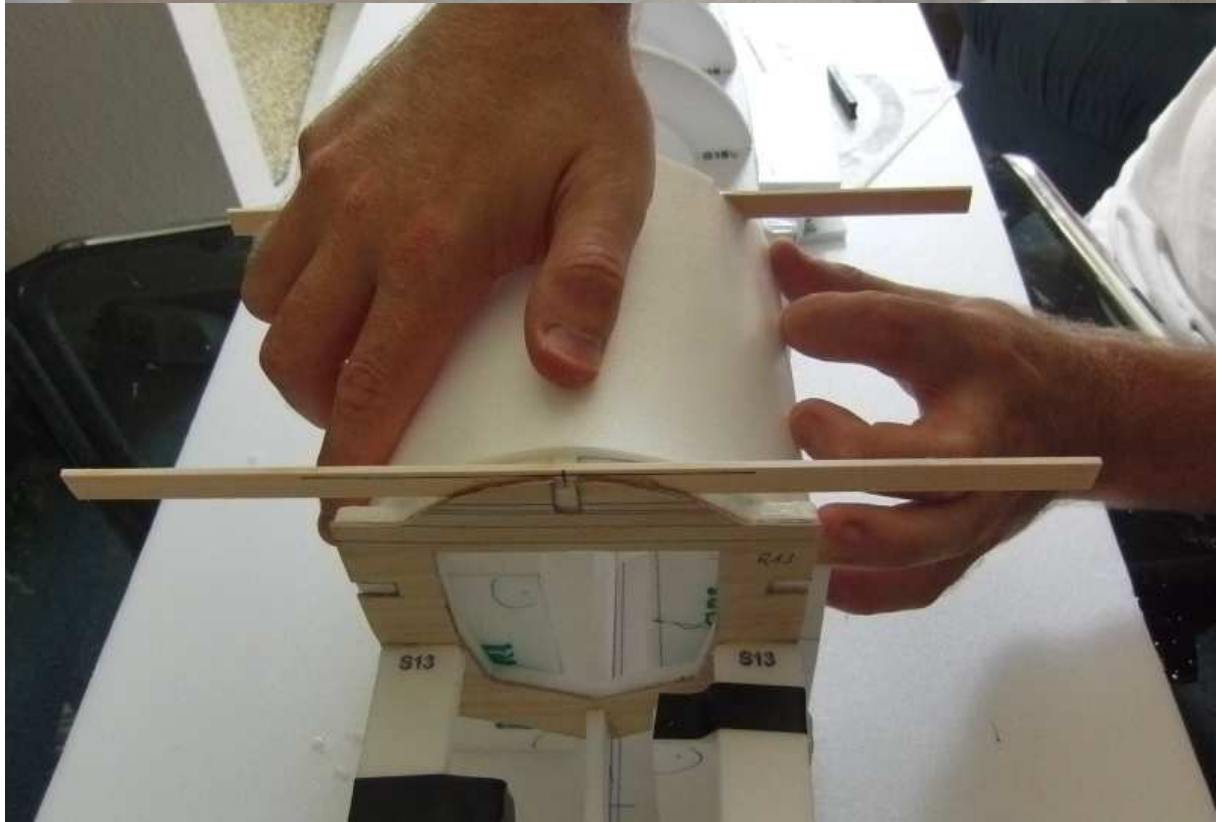


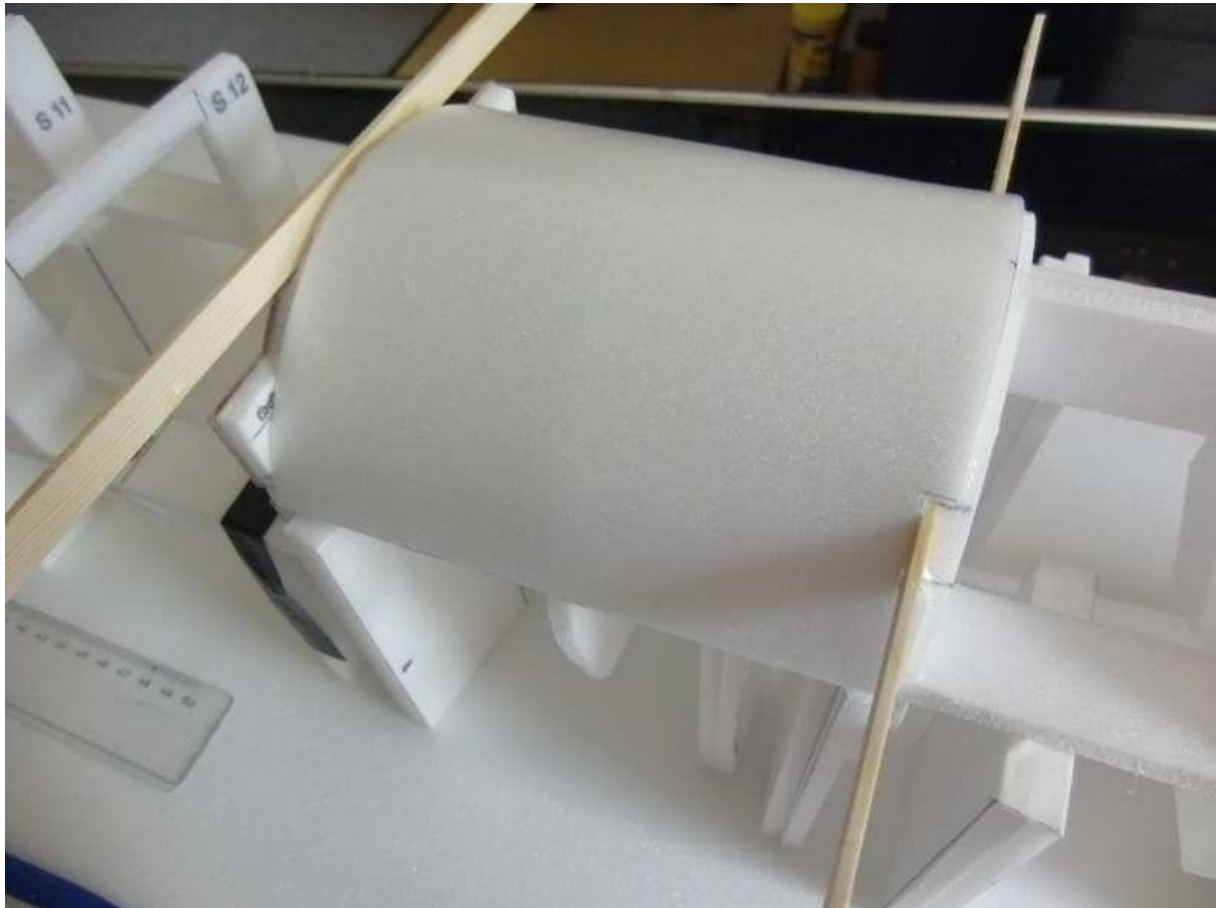
13. Please take a cut between R13 and R13b for pine wood R17/R18 (10x2x262 mm).



14. Please cut out space for pine wood.



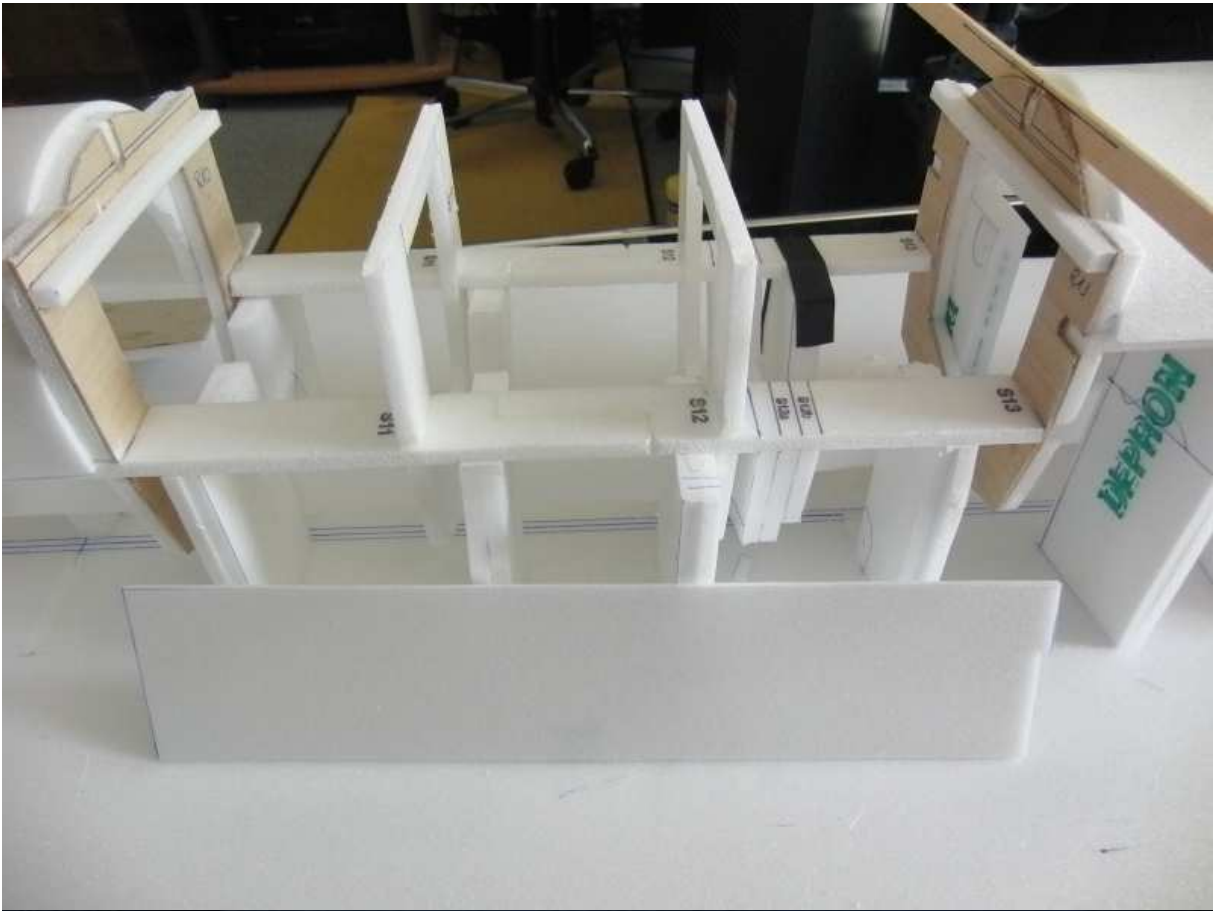


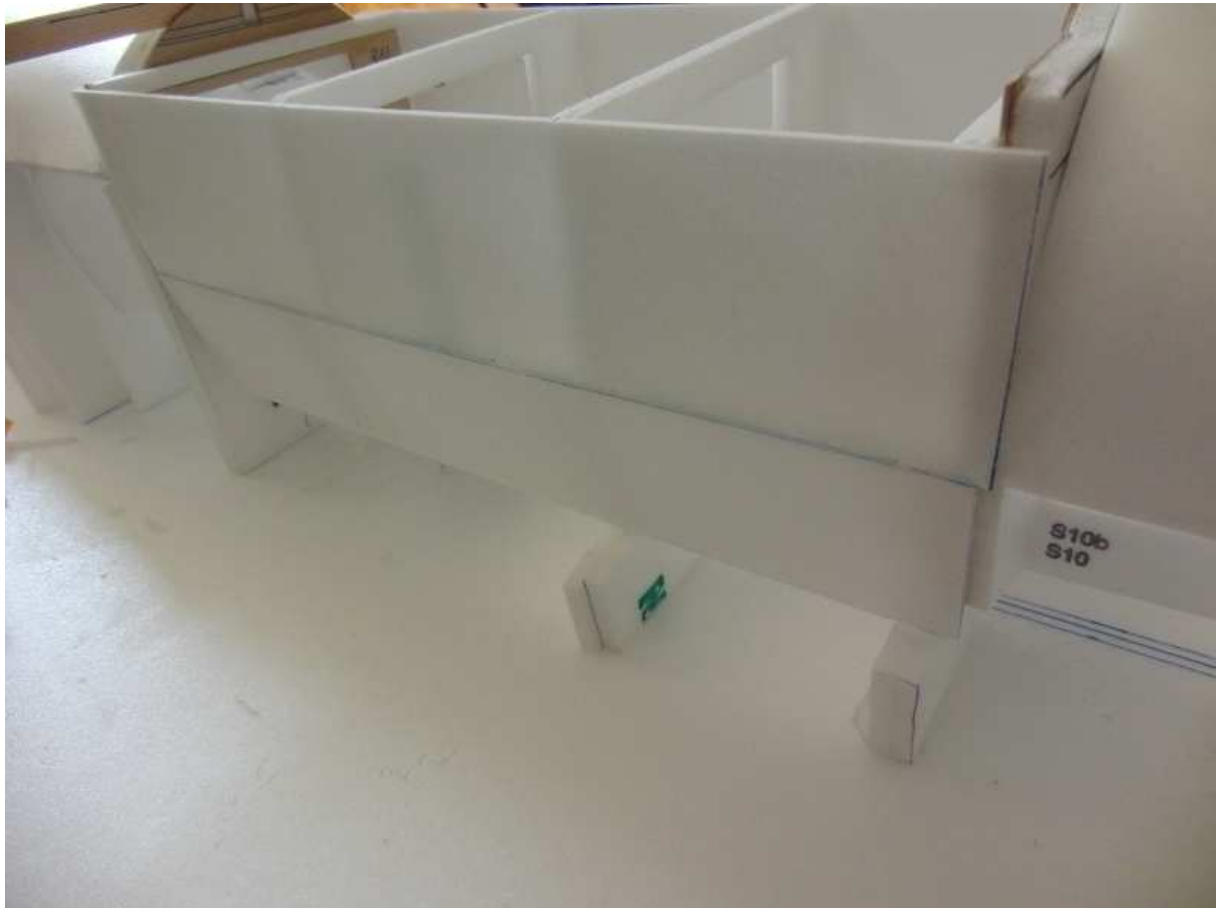


15. 6X6 Depron R8 for a better hold

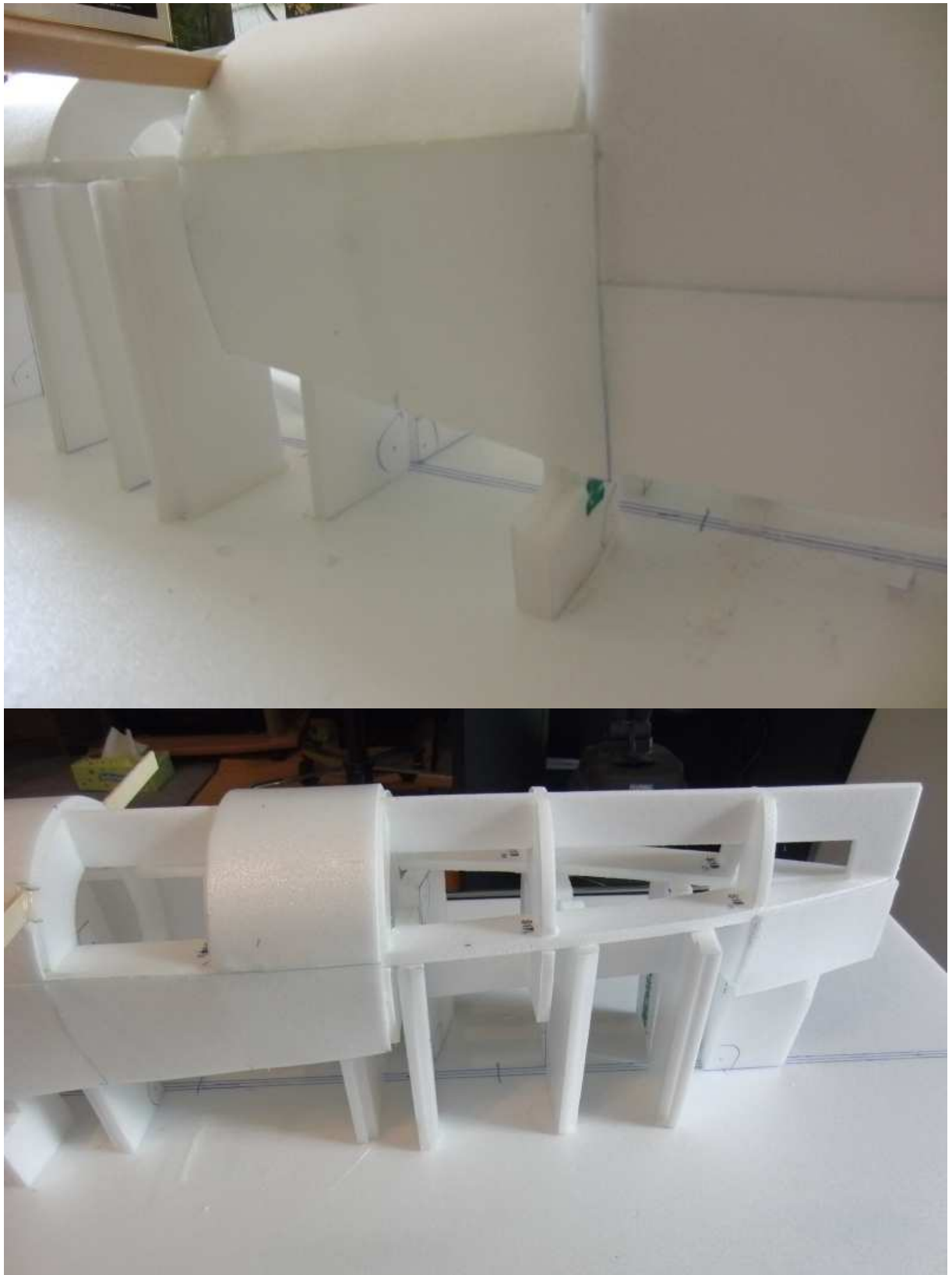


16. Planking for the side, ready to fix.





17.

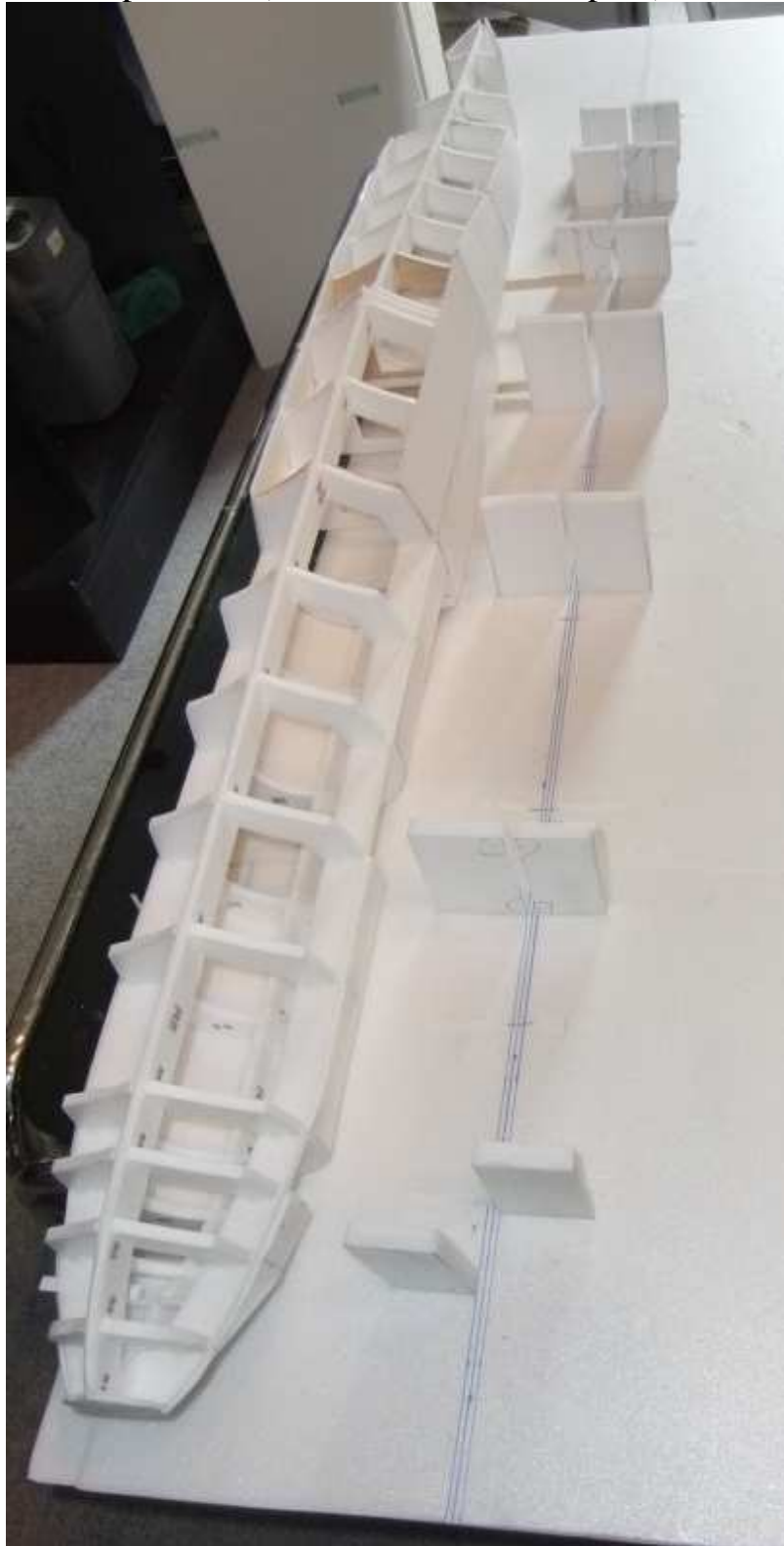




18. Ready to turn the Hull on the Top.



19. And now you need follow spacer to hold on: Front 120,5 mm und aft part 88 mm. Please wait for planking on this lower side on four segments to turn again in the normal position. (front, middle and aft part)



Here you see a Picture from the finished hull, You see the part No.R30 like a surf Step. Without this, its very difficult to start from the water.



BERIEV Be200

CONSTRUCTION MANUAL PART 2





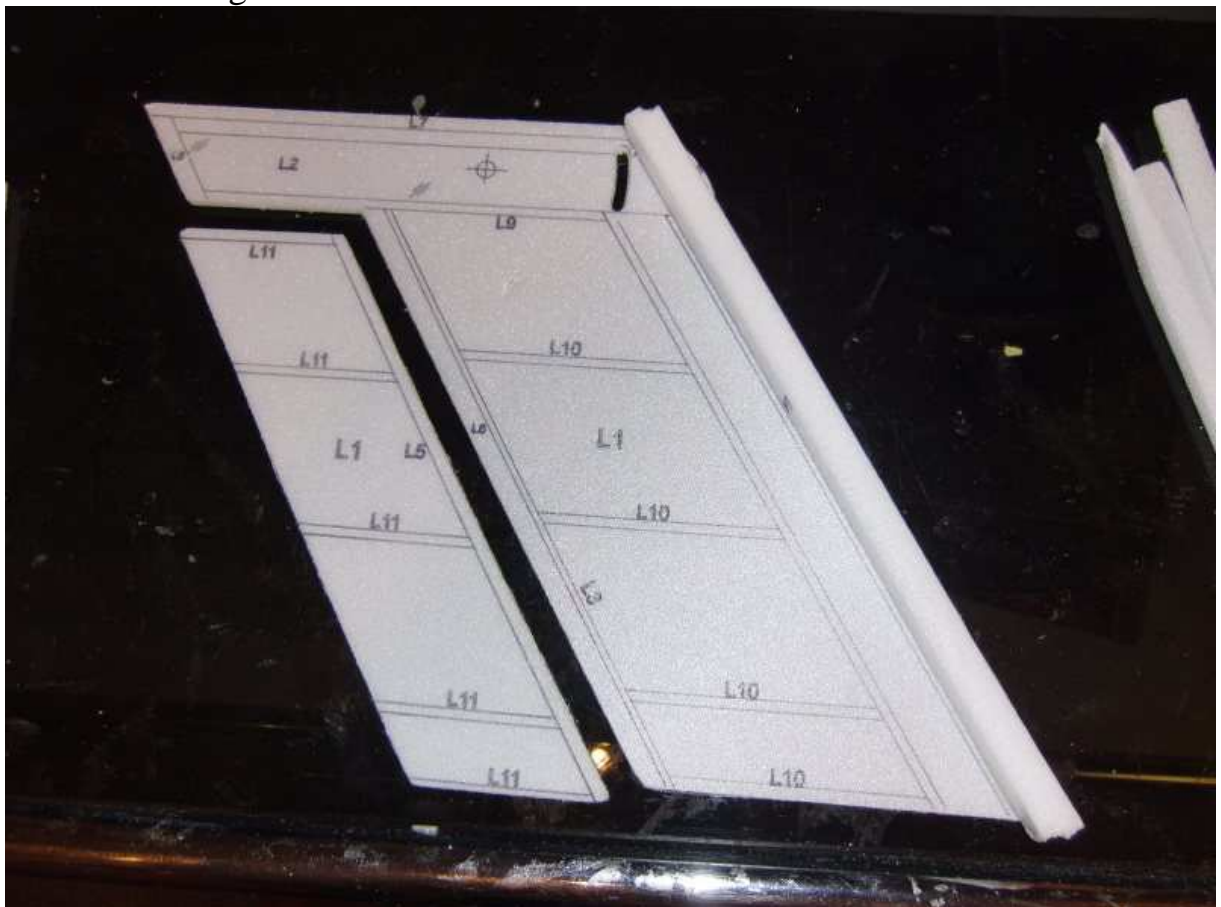




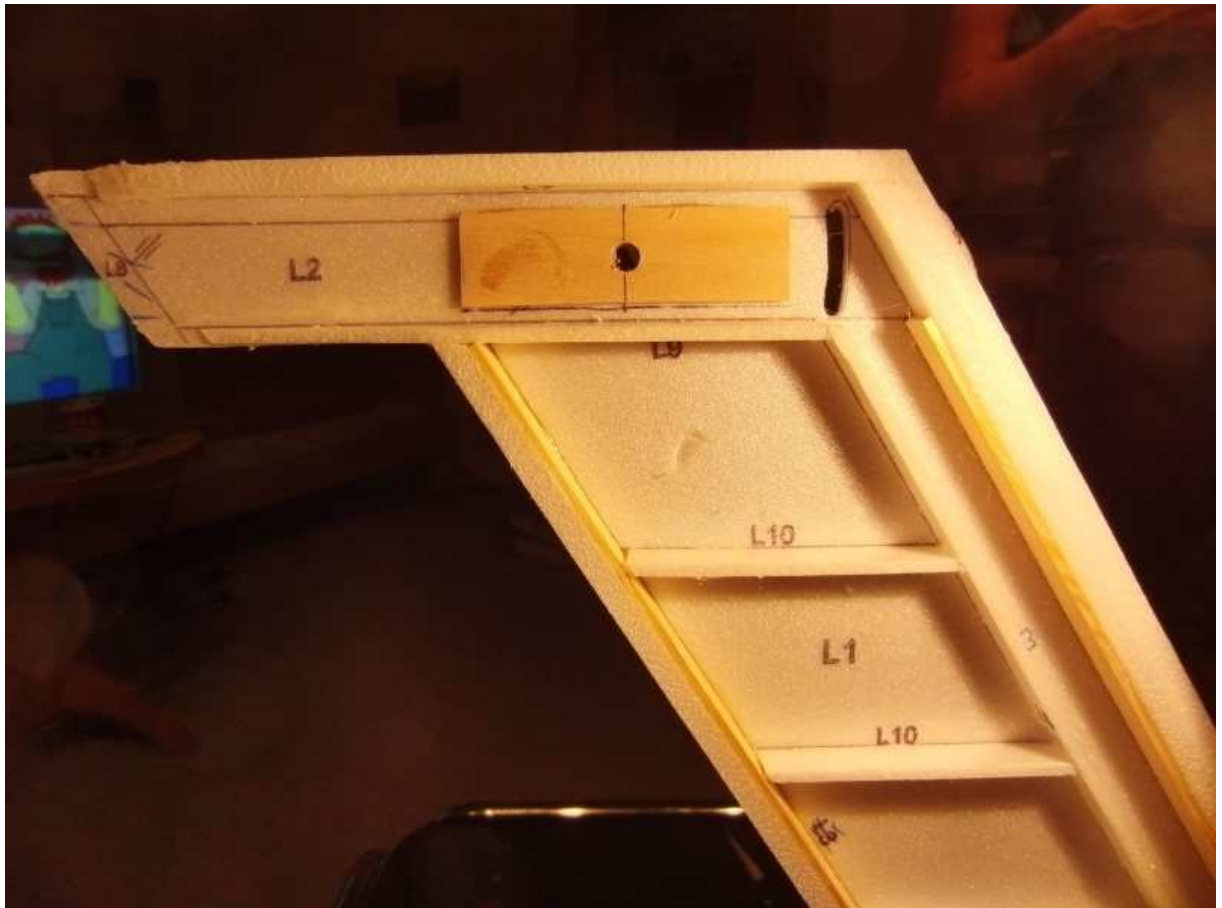
20. Turn back the Hull in first position.

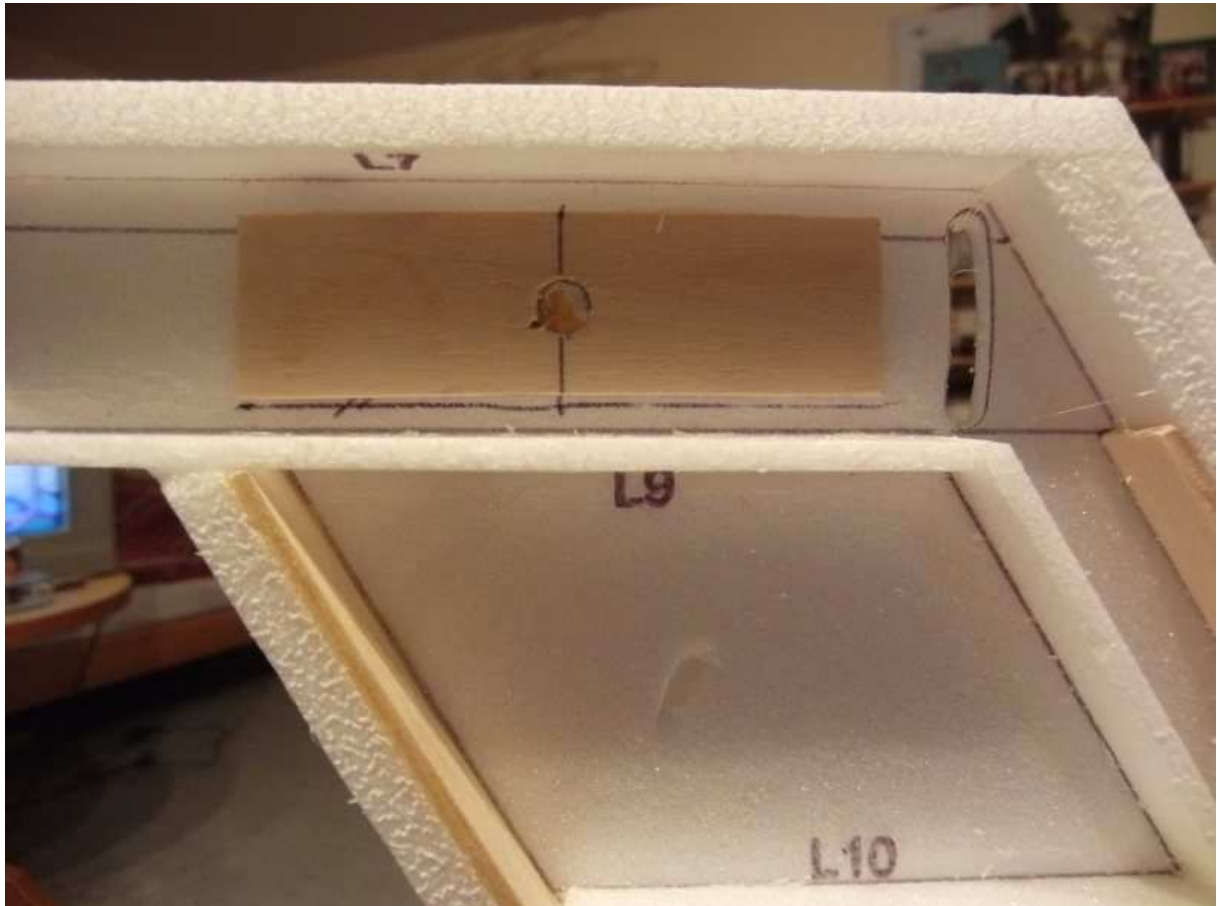


21. Tail Montage:



22.

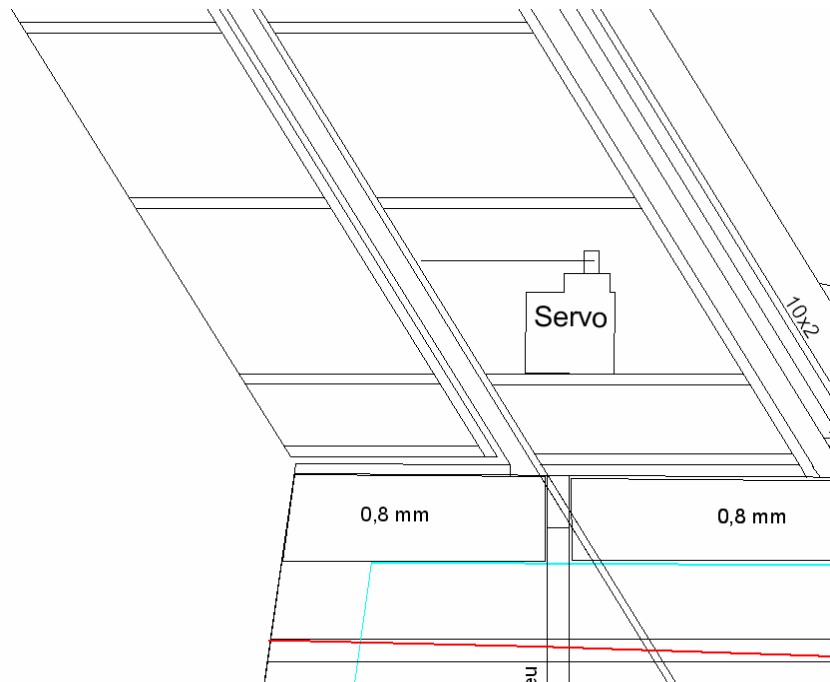




23. Please cut both Hull Frames (up and low) to fit the Tail. Check before the perfect geometric position.

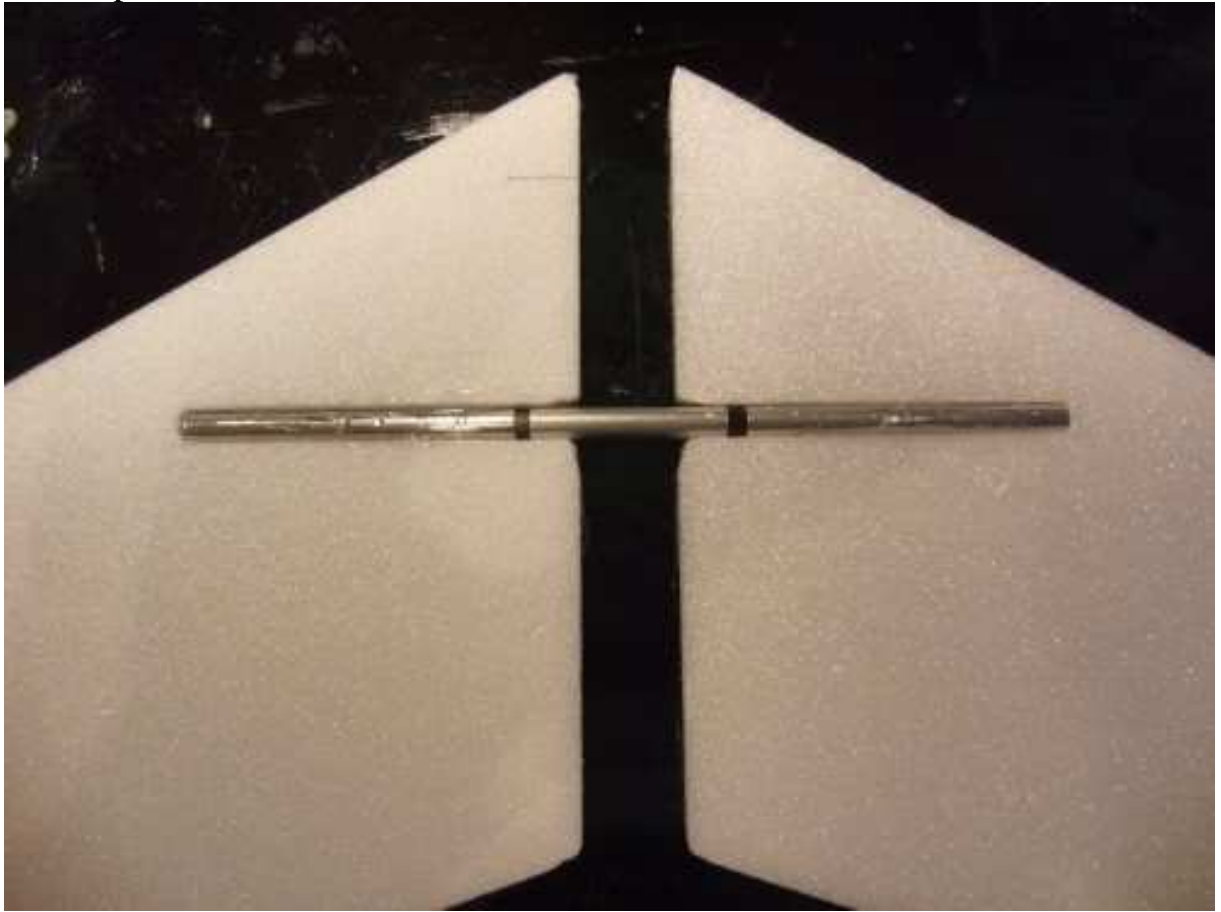


Behind them, please put in again the cut Part from the Hull Frames. Put inside the Servo for Rudder and Check function before a montage. Here you see a water protect cover.

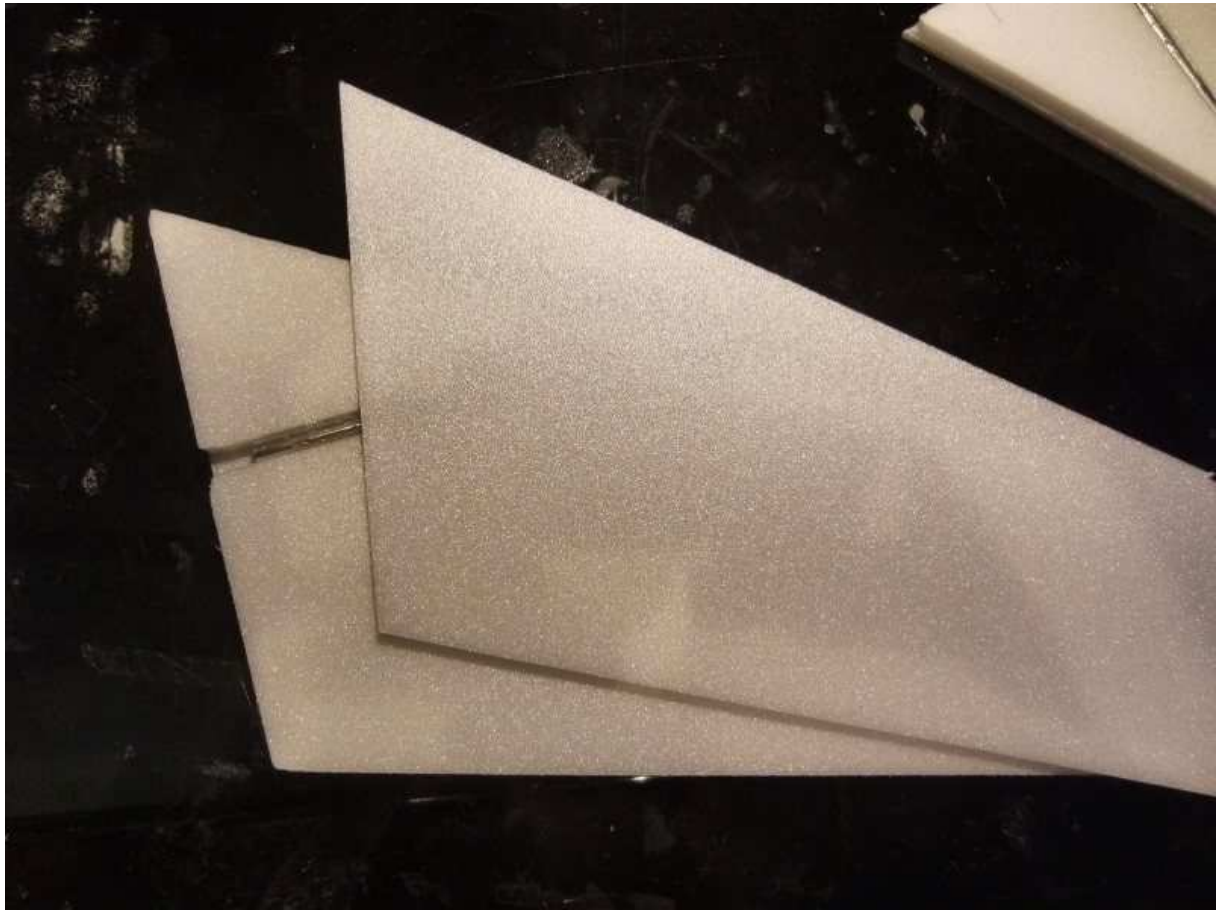


24. Elevator Montage:

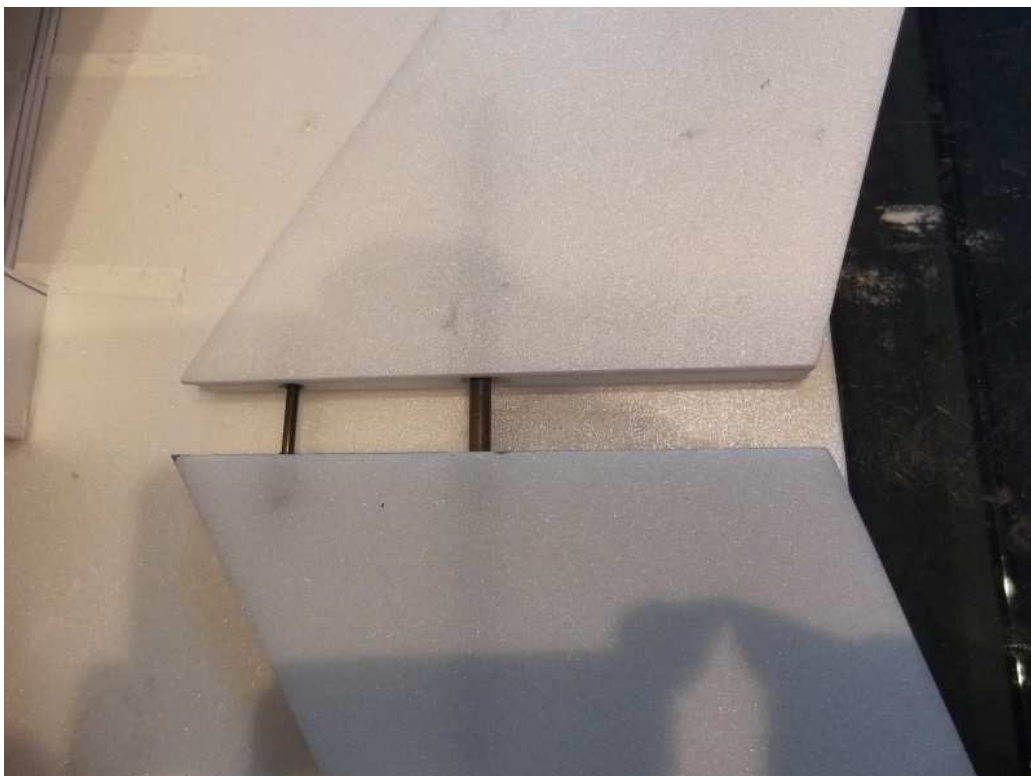
You need a 160 mm Carbon pipe (diameter 5 mm). Outside is a Aluminium 6 mm Pipe (inside 5 mm) to fix the Elevator. The Middle Part is fix in the Tail. Outside Pipes are fix in the Elevators. Alu: 2 X 60 mm, one Part 15 mm.



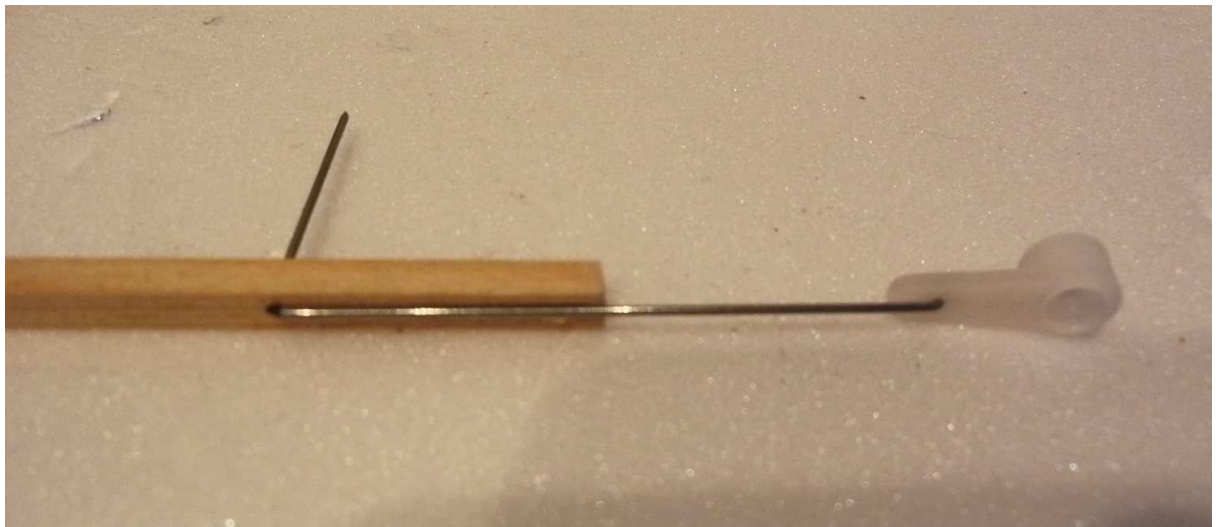
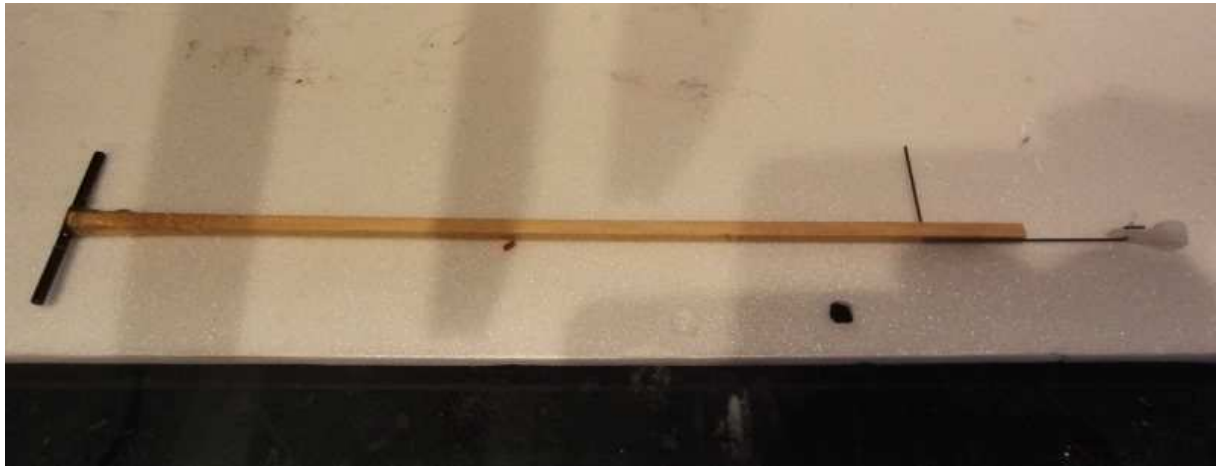
25. Outside Parts L13 put of construction.



26. To move the Elevator, take a 4 mm Carbon or Aluminium Pipes (Inside 3 mm) in the Elevator. A 3 mm Full material Carbon Pipe in the Rudder bar move the Elevator.



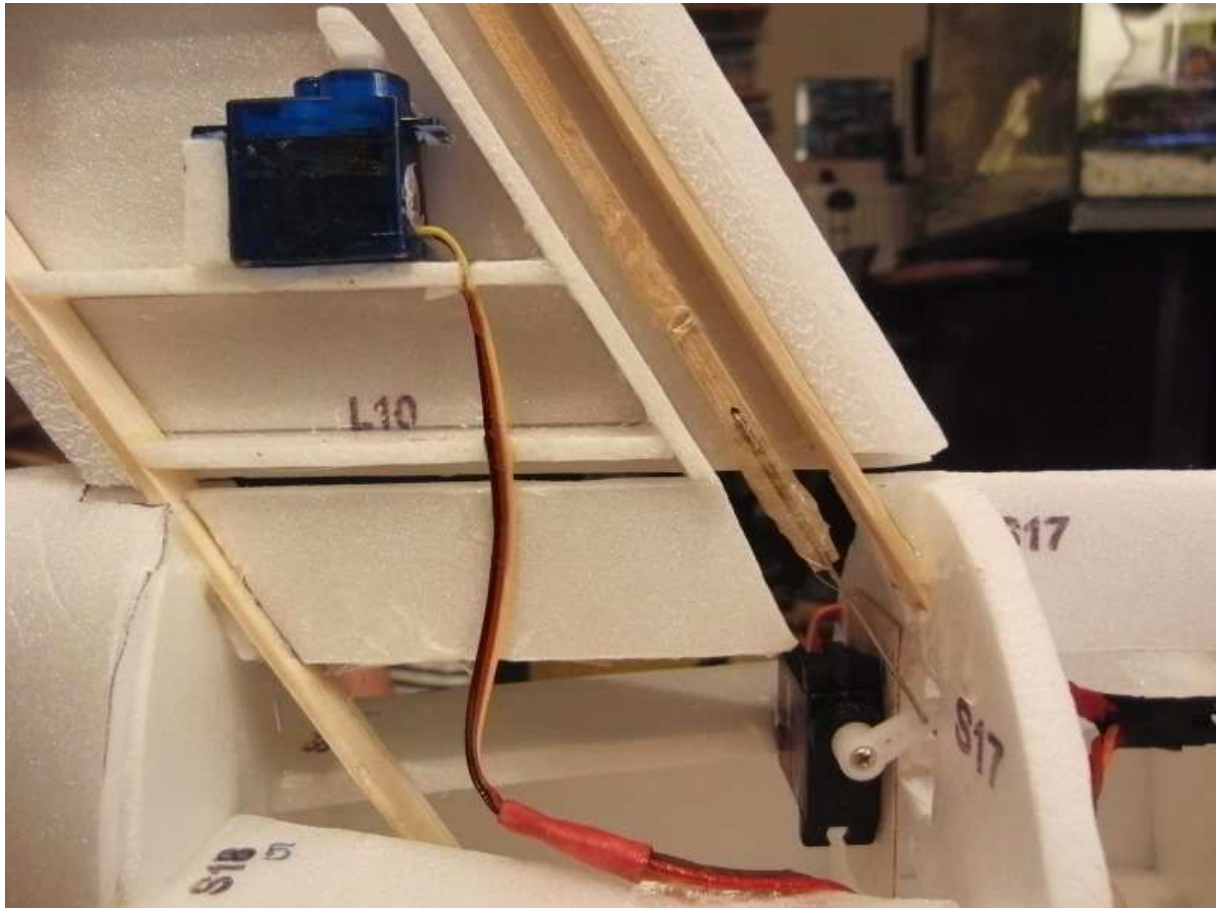
27. Servo Rudder bar please construct it see template by all Kits and blueprint.



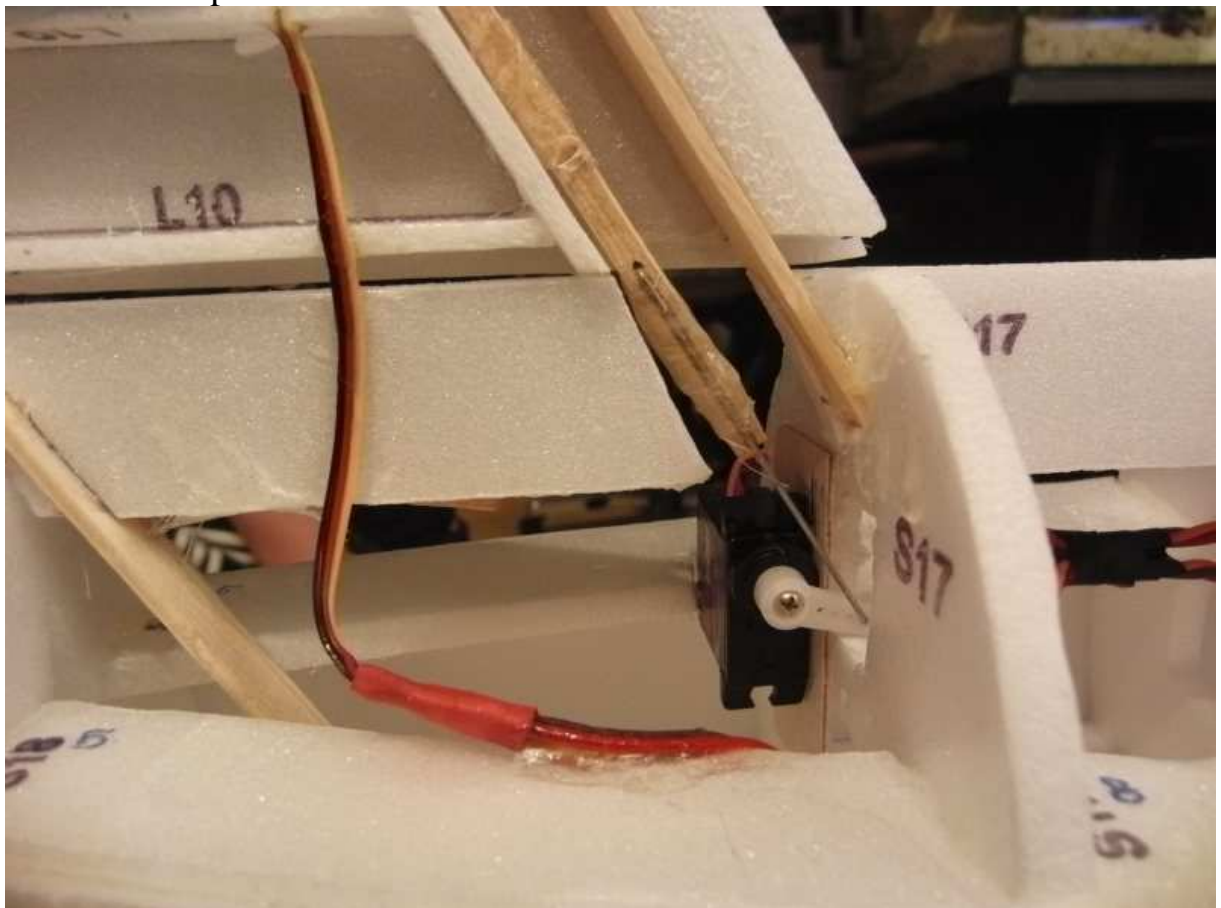


28. For a better fixing, please take outside a roof mate with glas fiber.

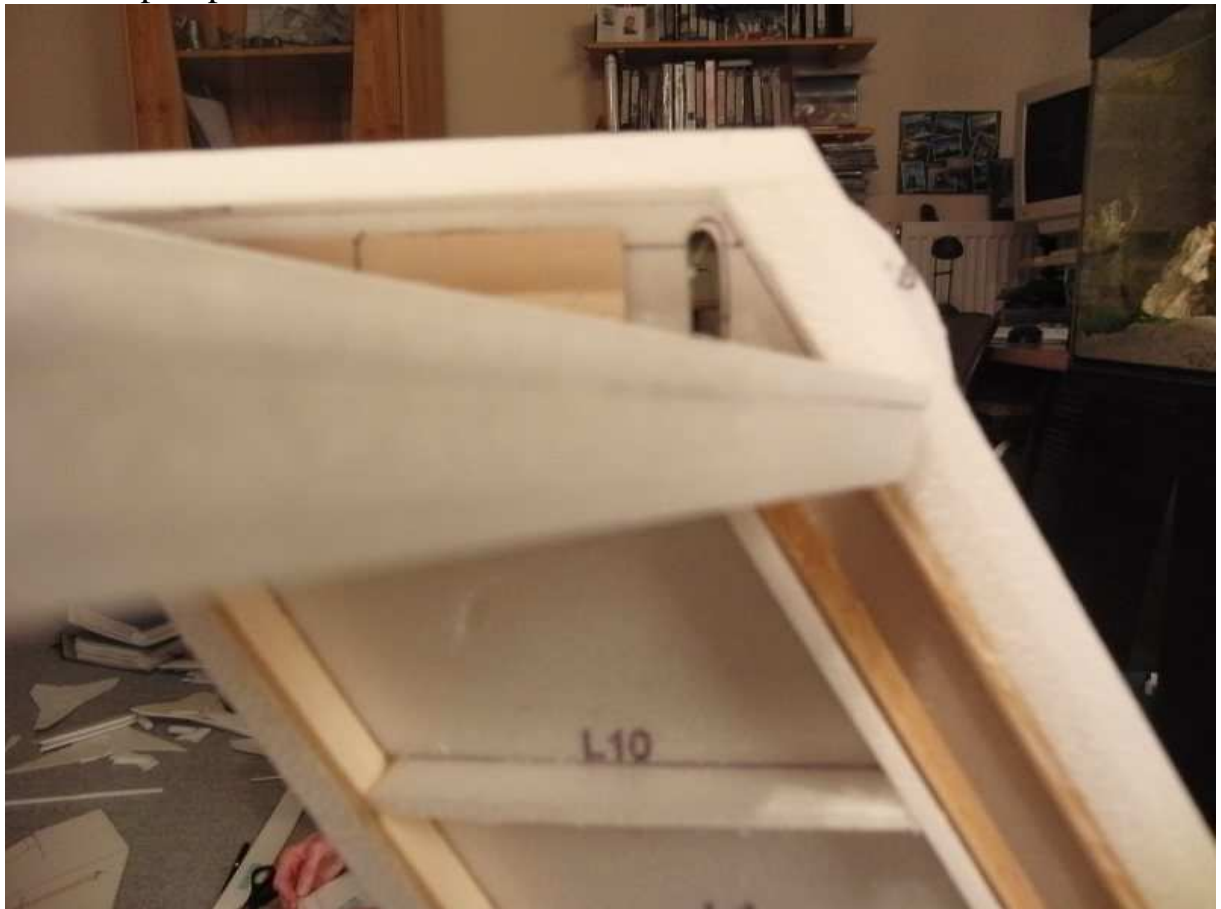
29. Servo for Elevator please pu in the hull and test the Roof bar for a perfect way in all positions.

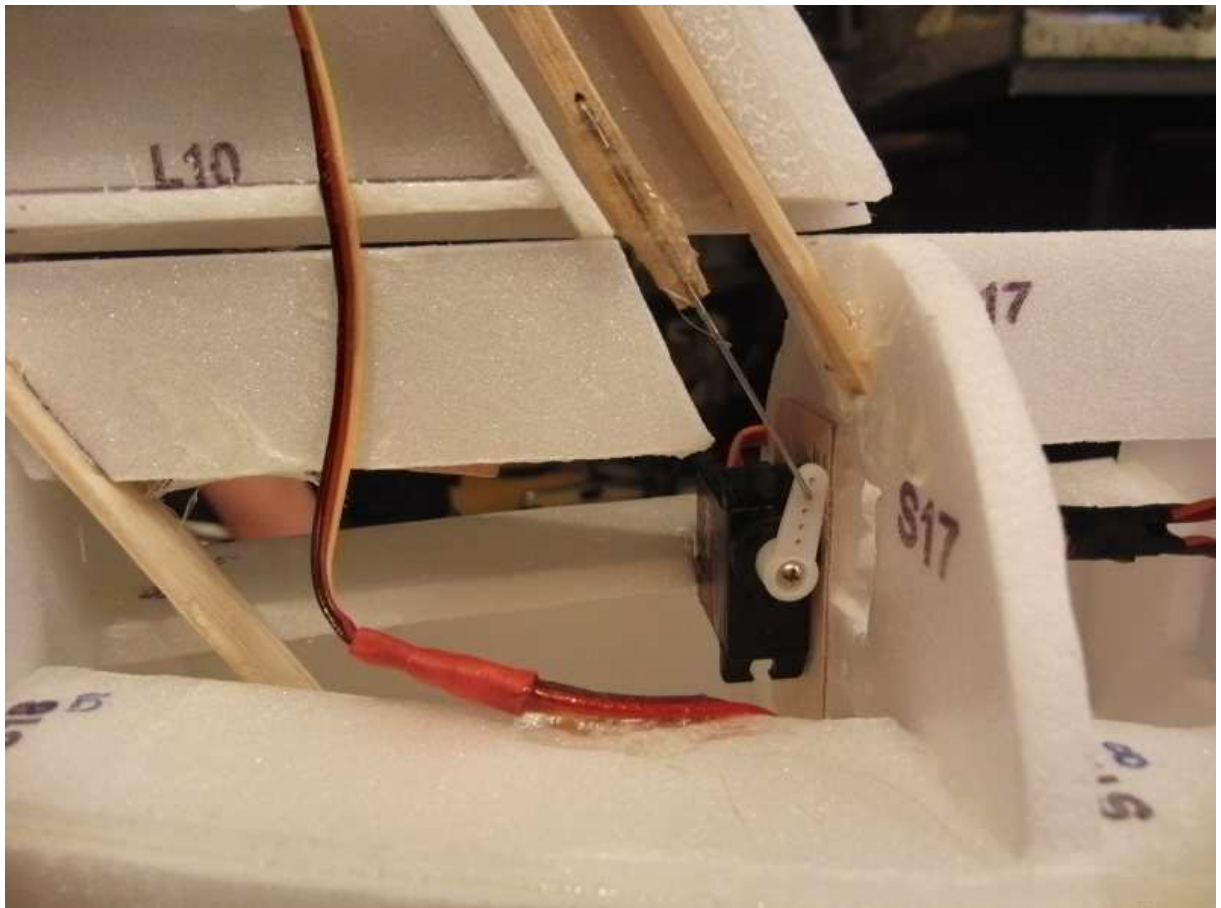


Servo neutral position
Servo in Pull position



Servo in pull position





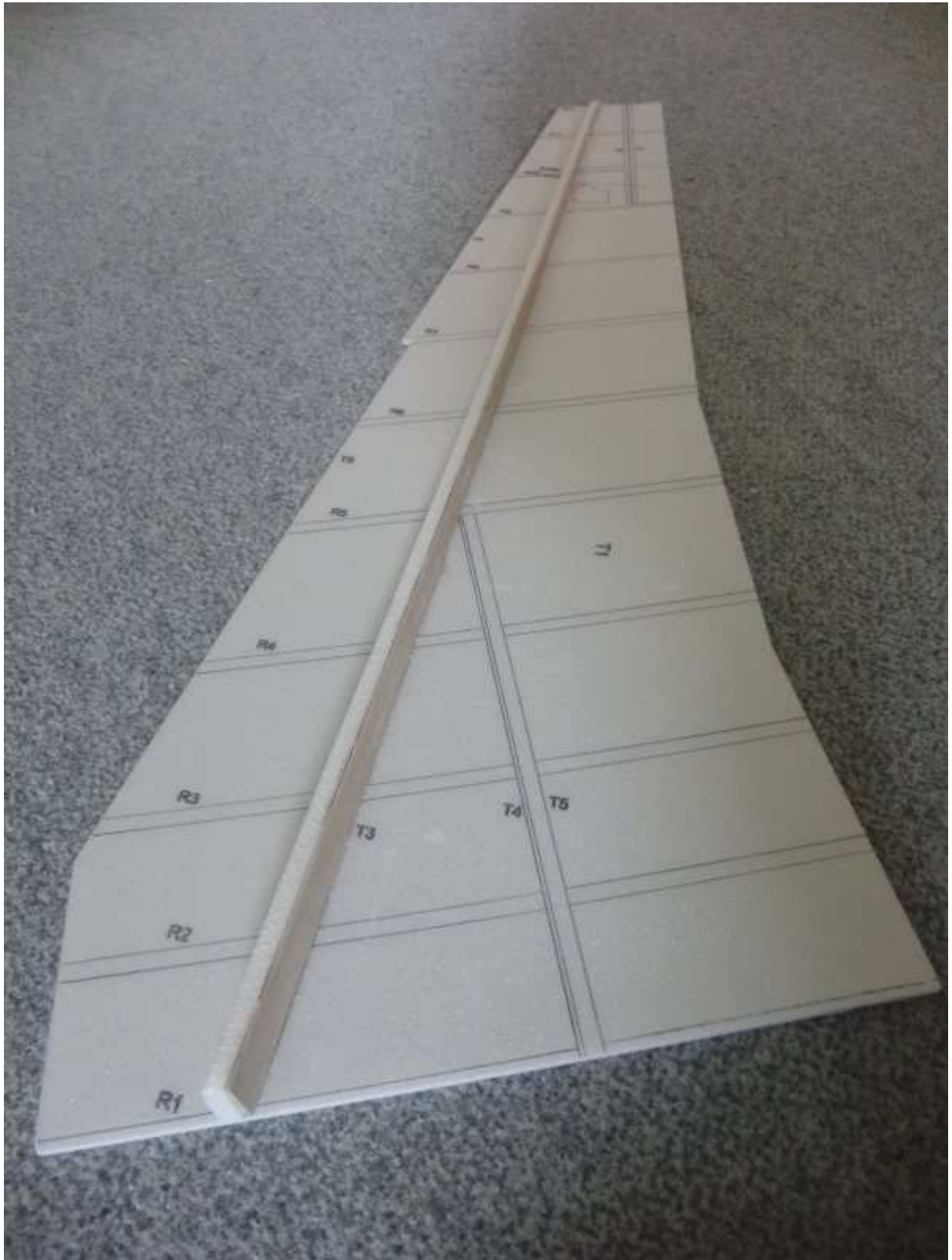
Servo in push position



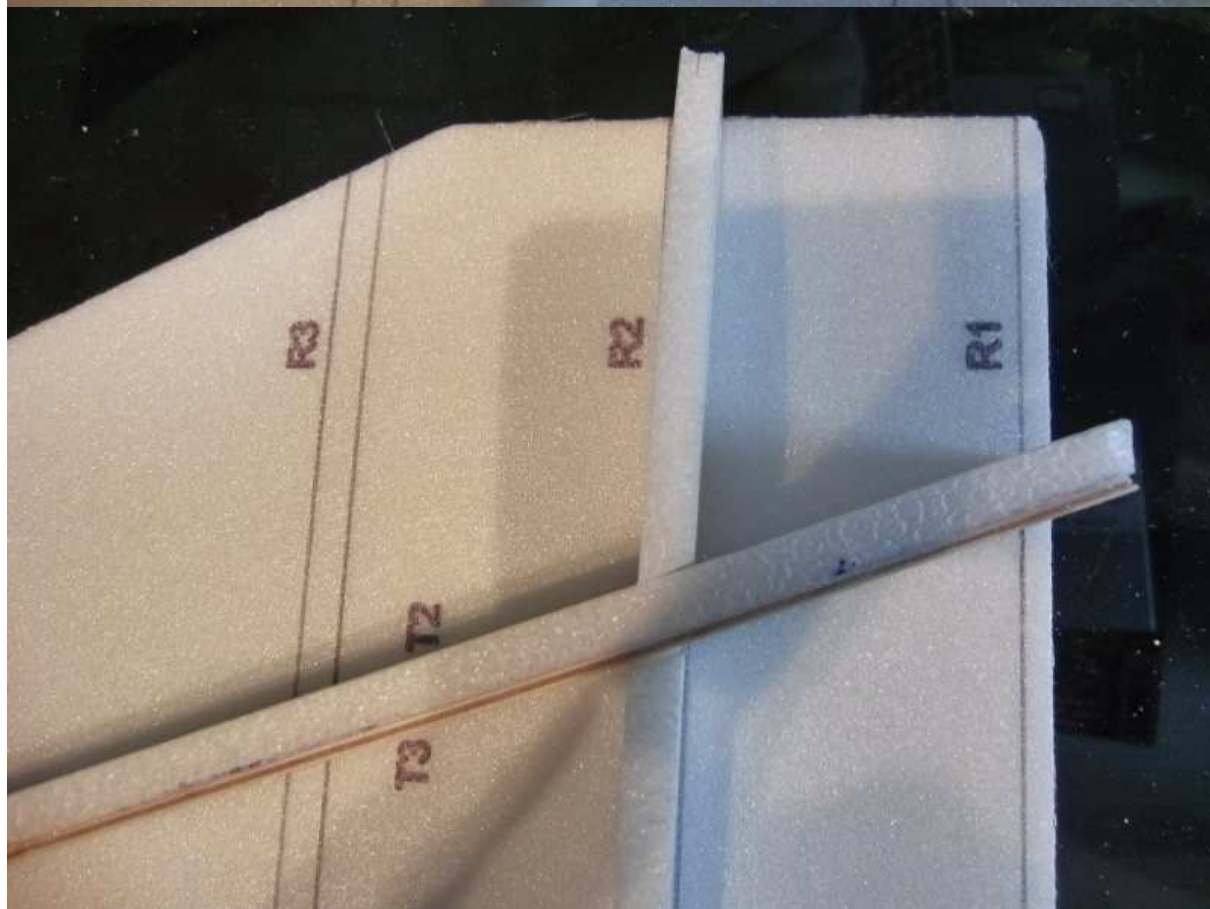
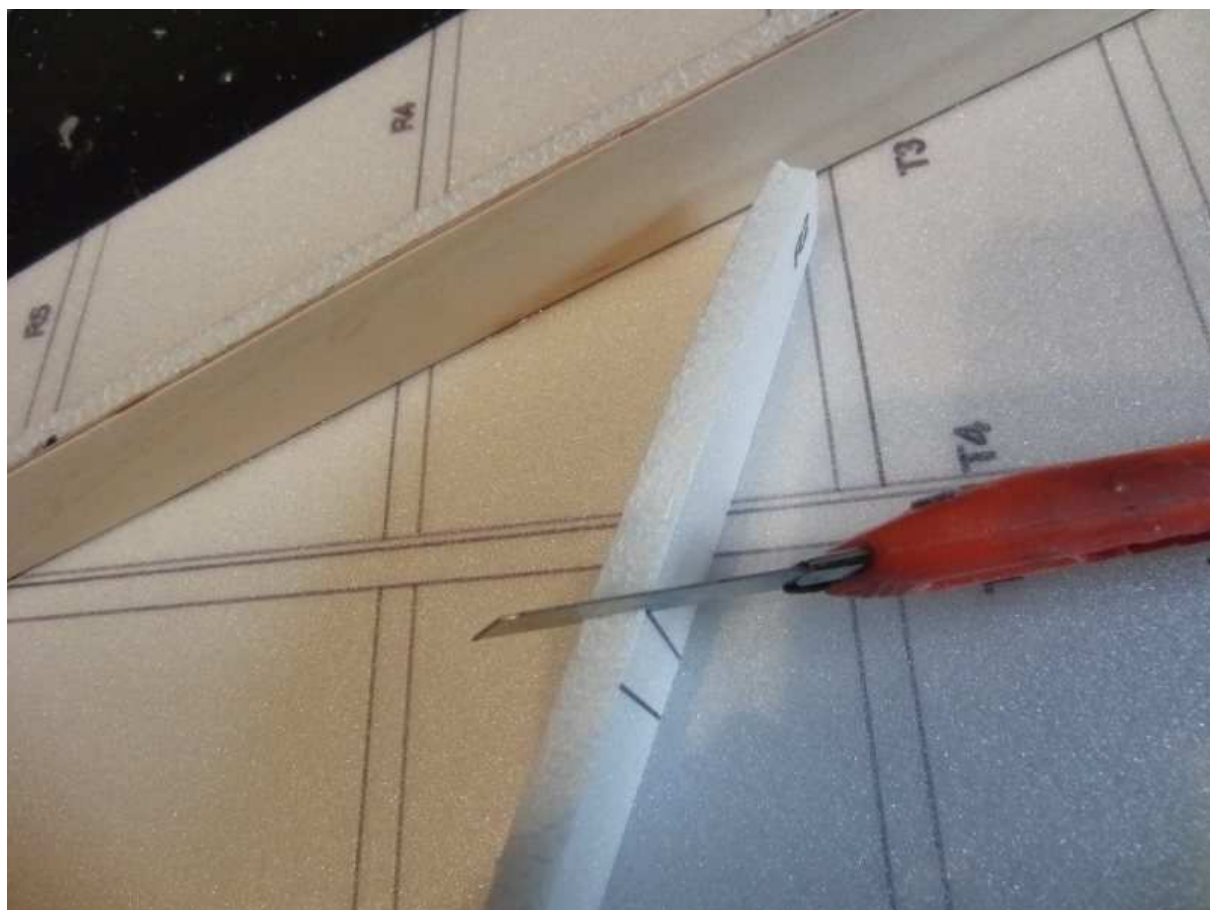
Now you can close the second Tail Cover.

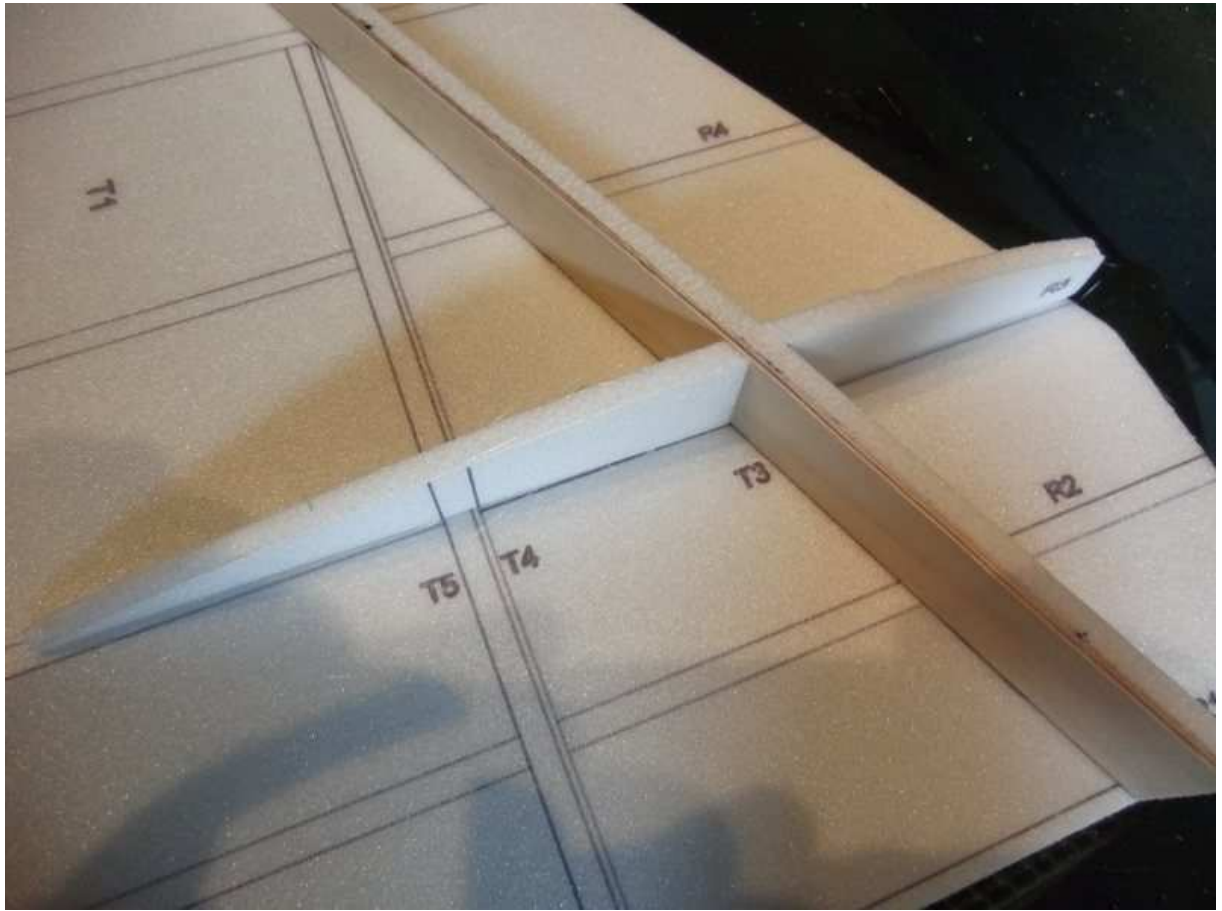


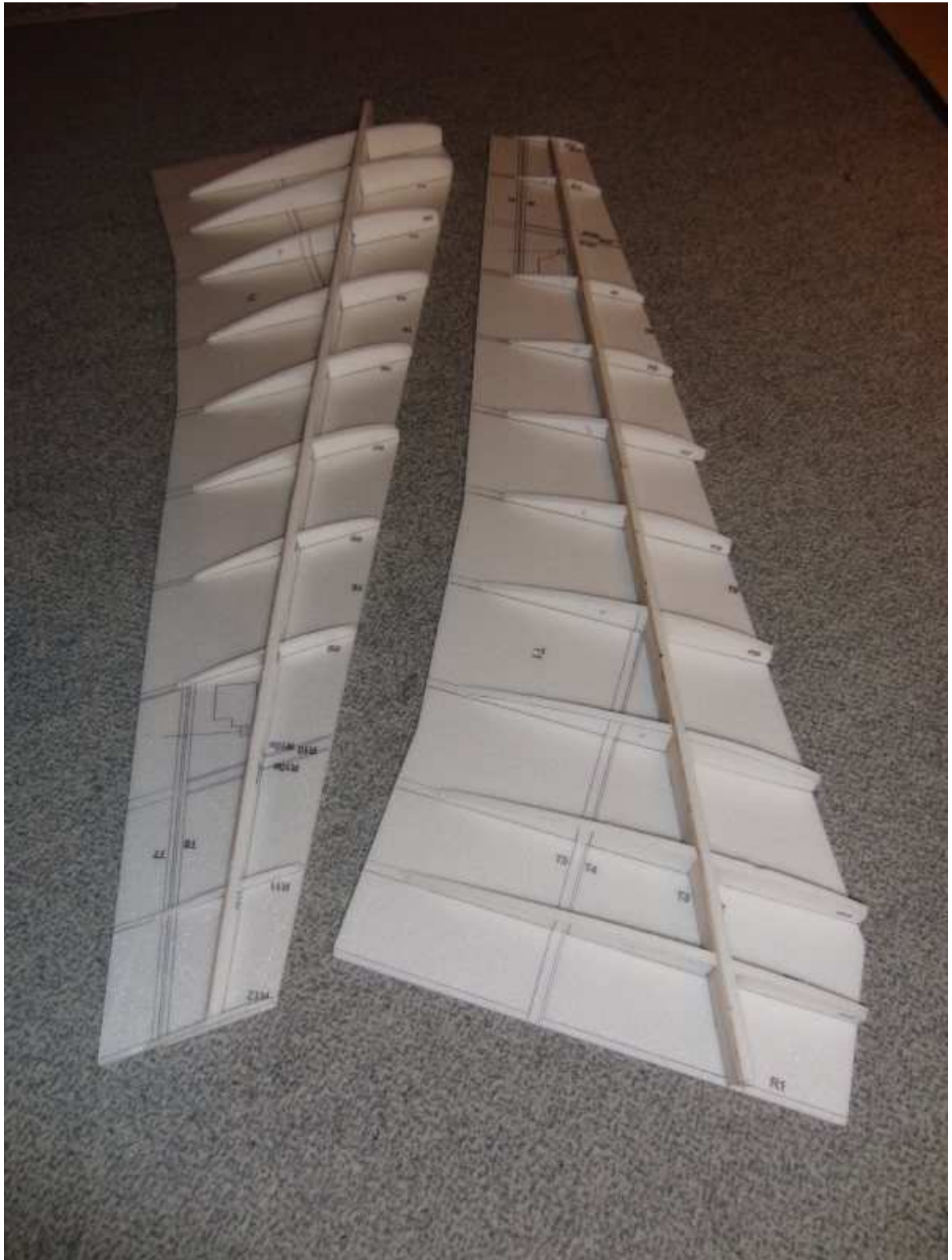
30.Beginning the construction of the Wing:
Put on T1, Wing ground Main Support T2 / T3.



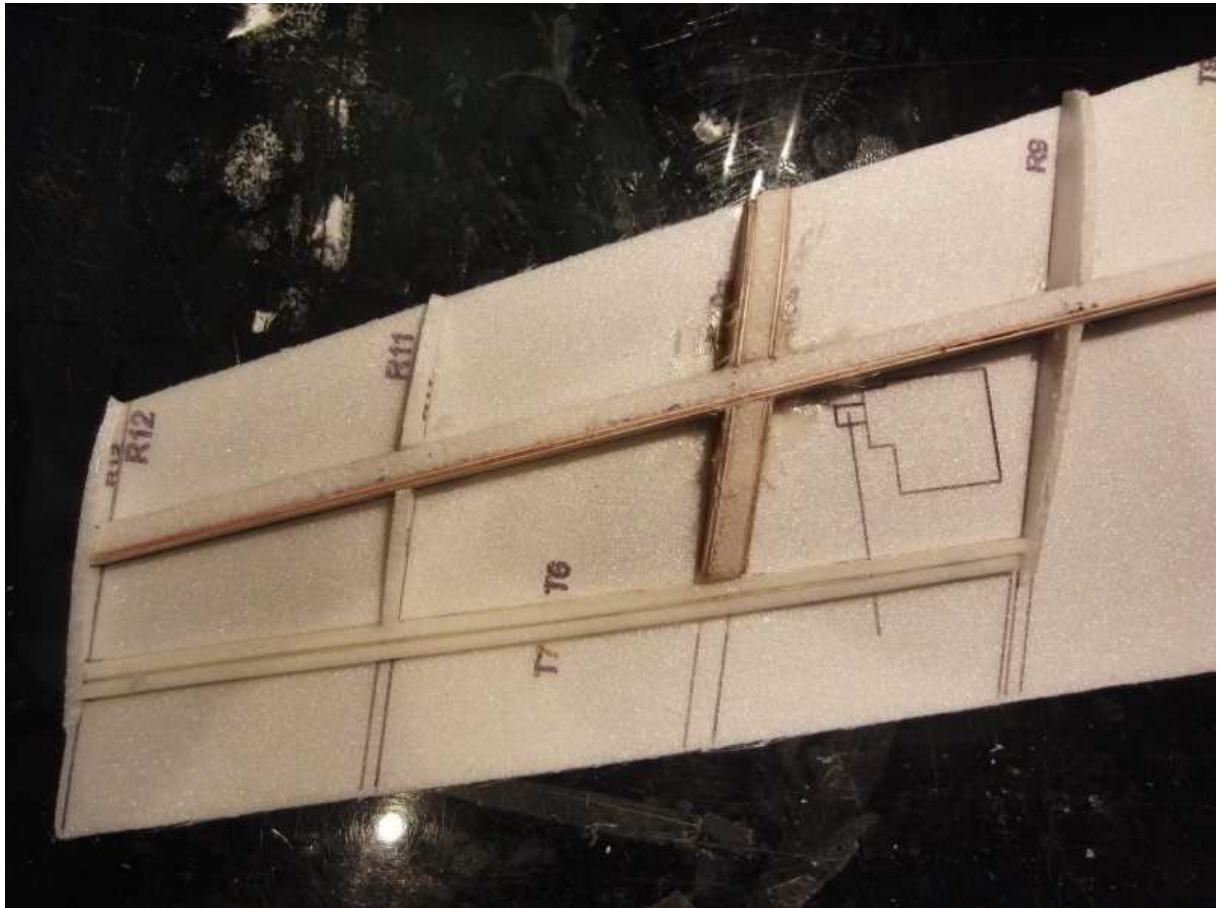
31. Please cut Ribs in the position of the Main Support.





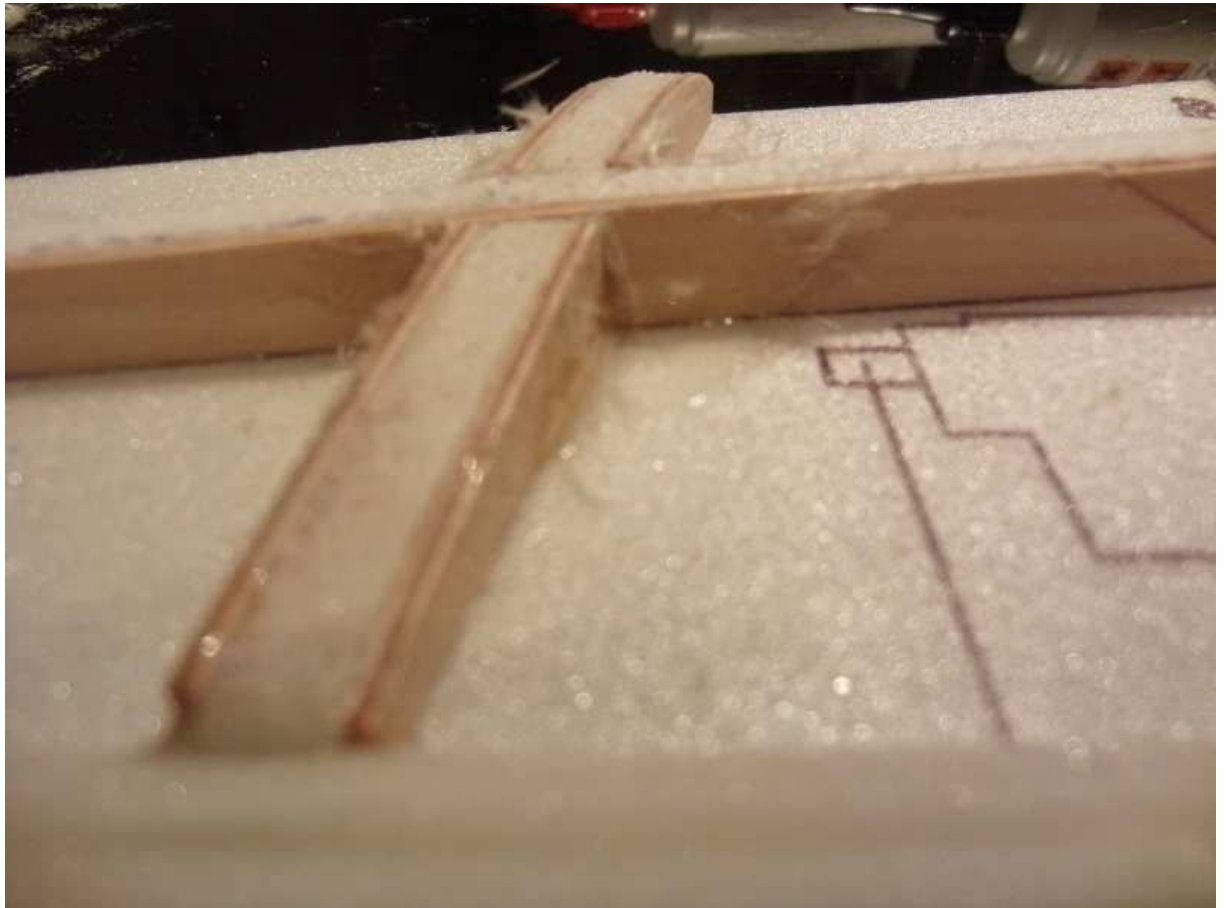


32. By Rib R10 put on reinforcement R10a. For Aileron flaps, take T7/T8 on the position.

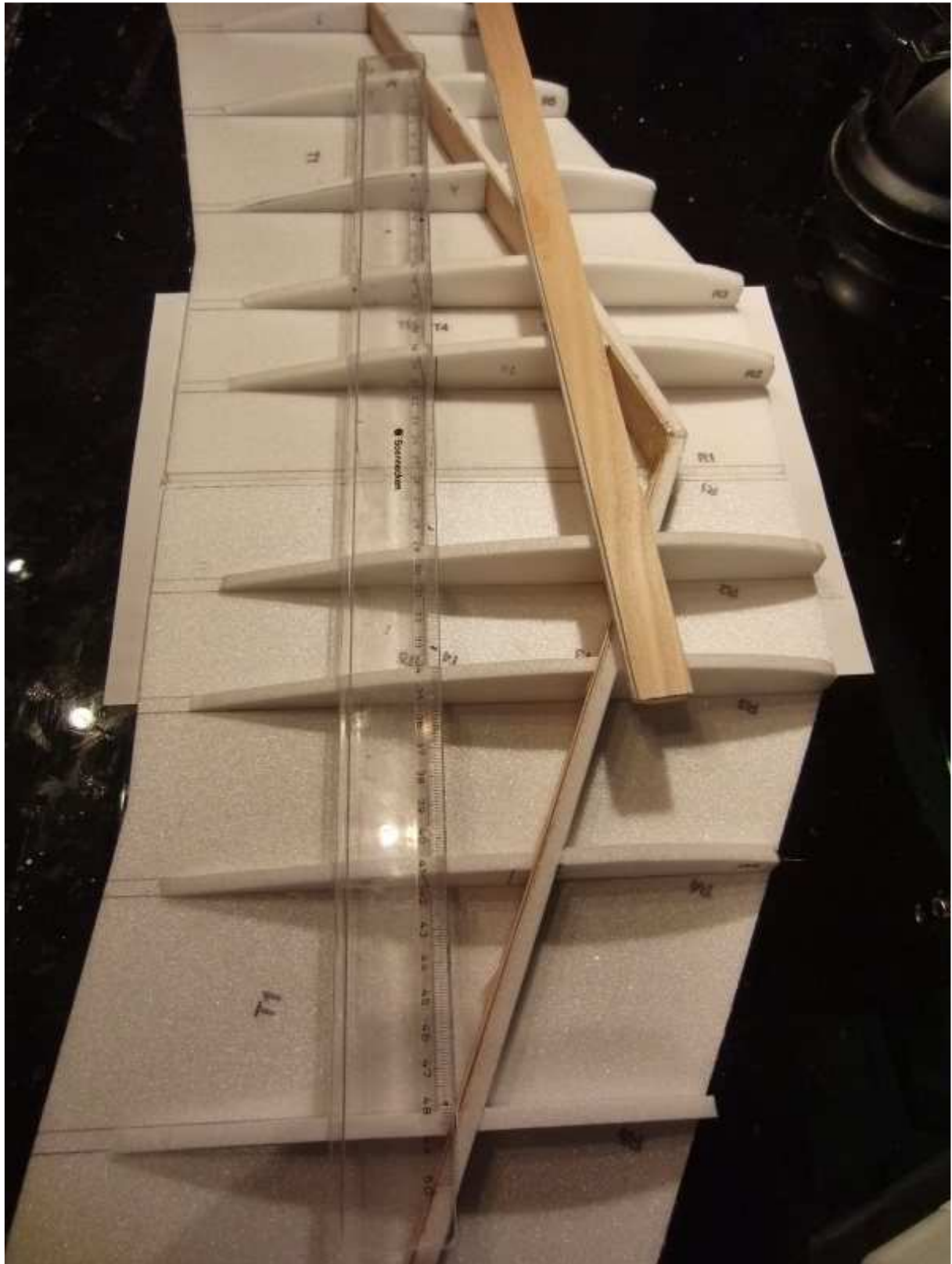


33. Both Wing Parts take it together. Fix the Main Support with Glas fiber.
The same case by Rib R10.

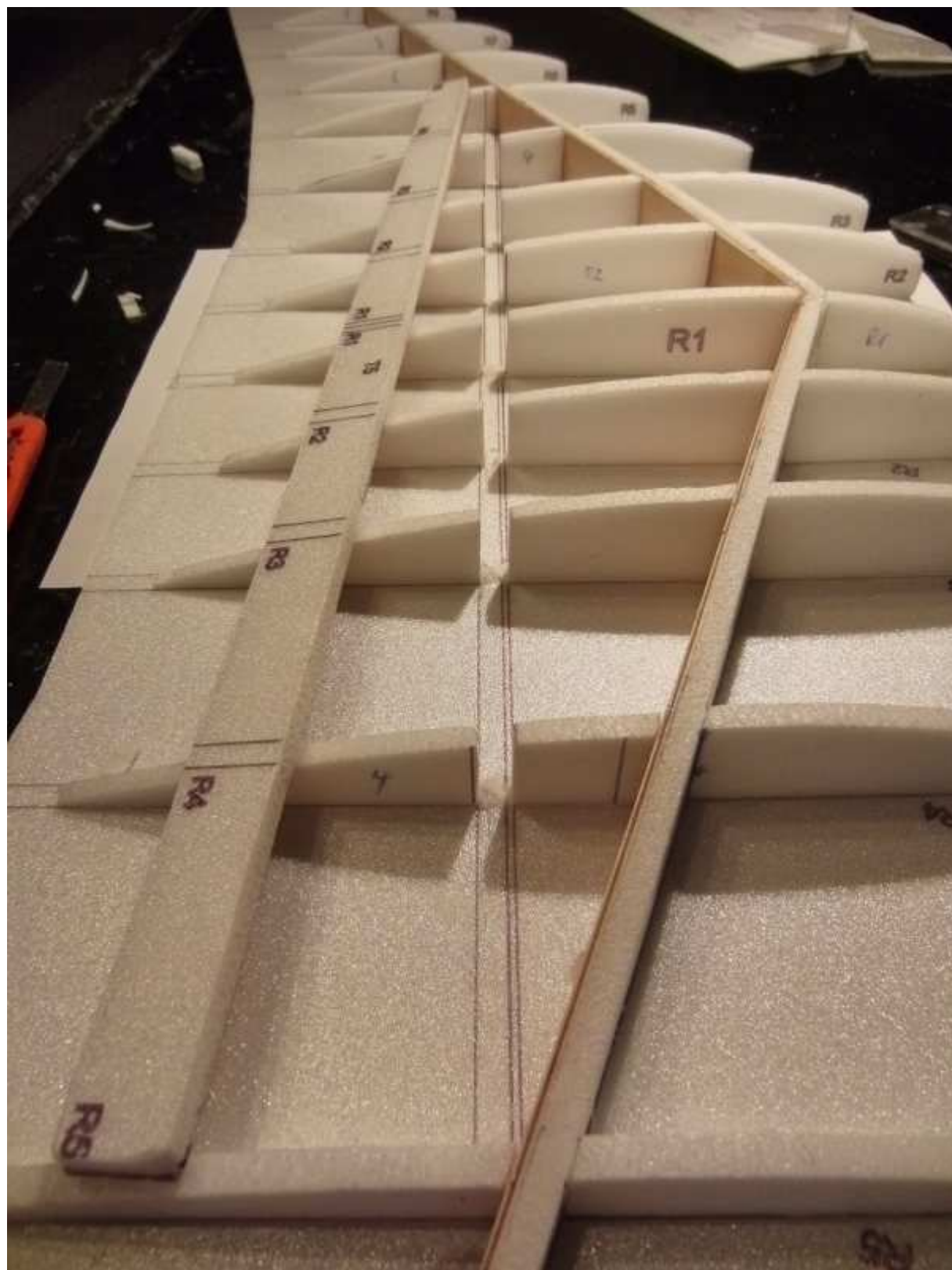


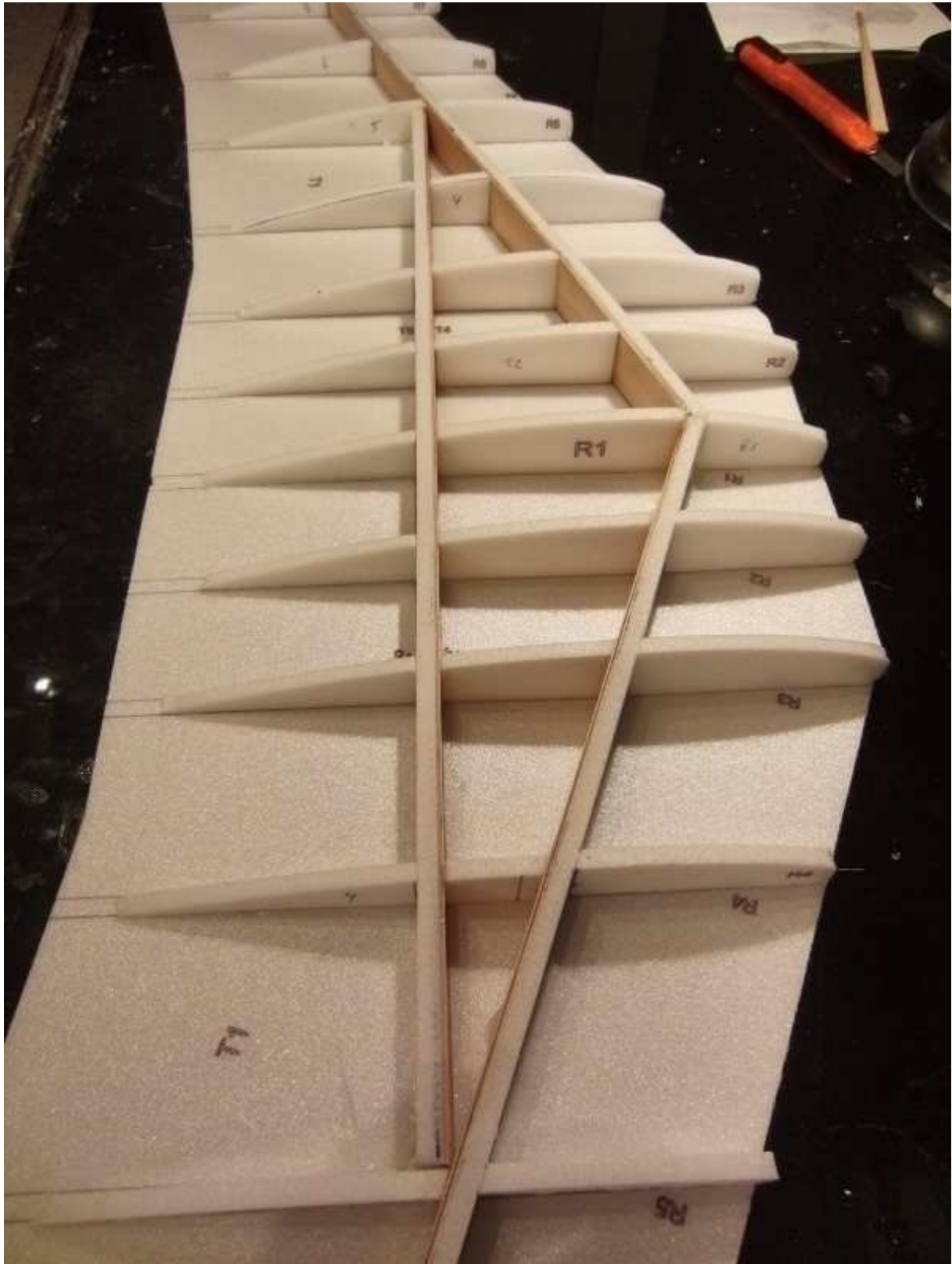


34. Second Support with wood take into construction. Before, please cut the Ribs out.

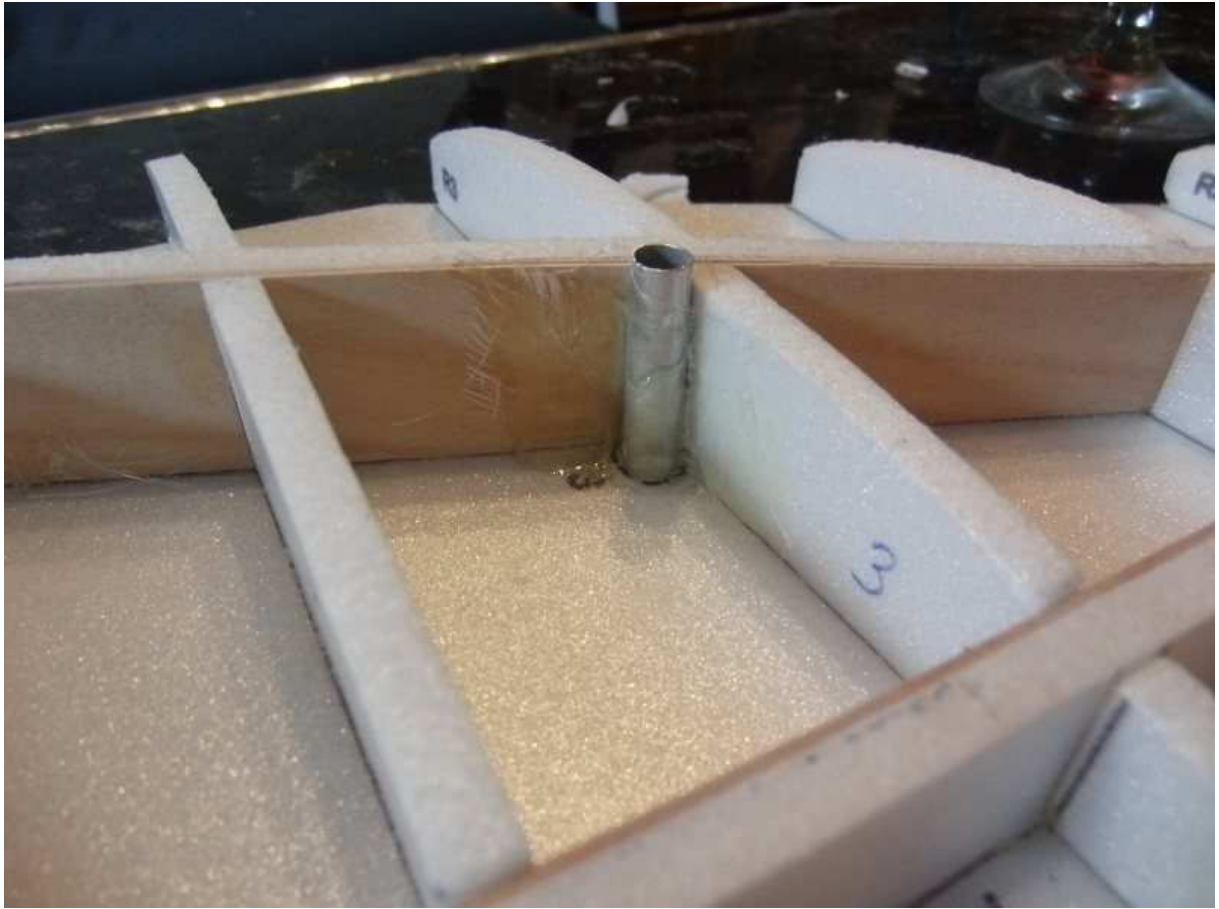






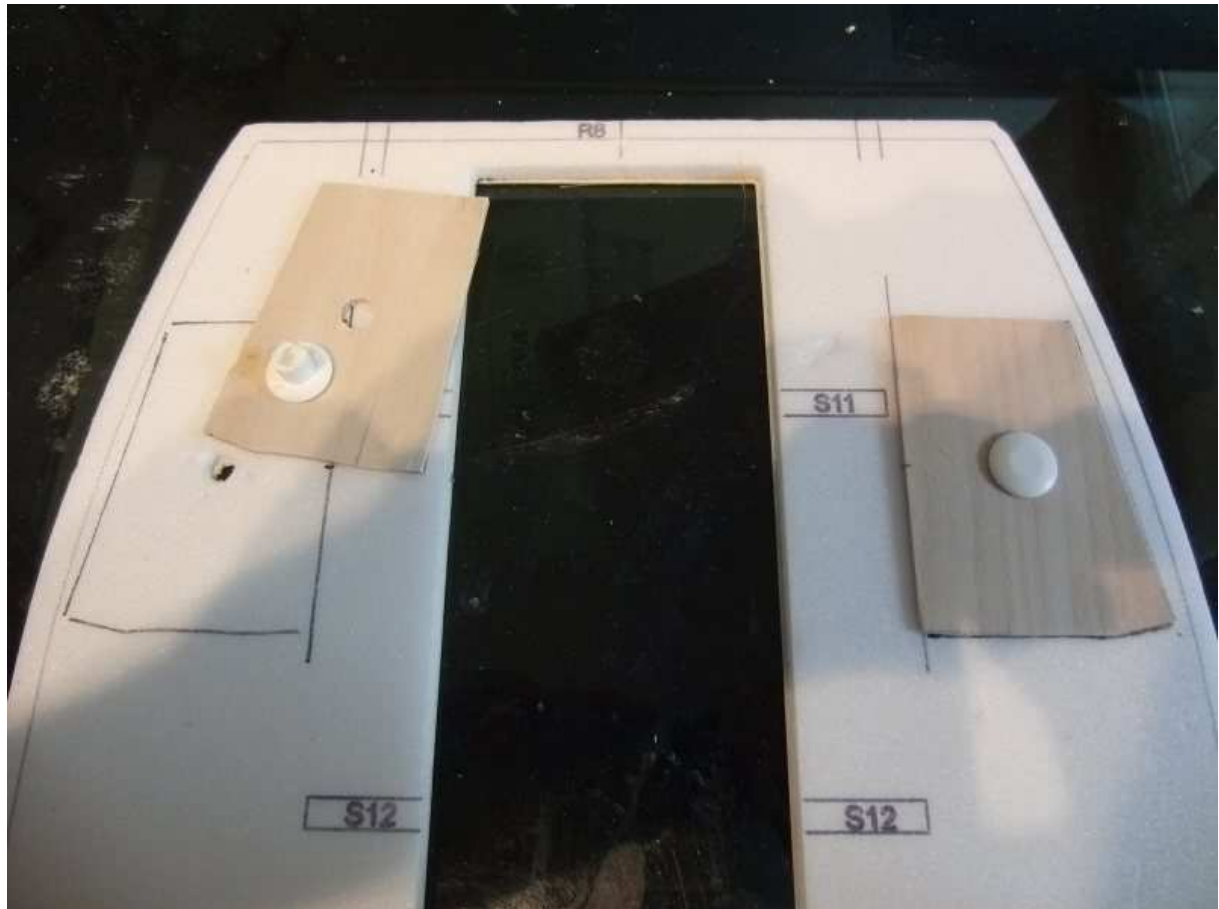


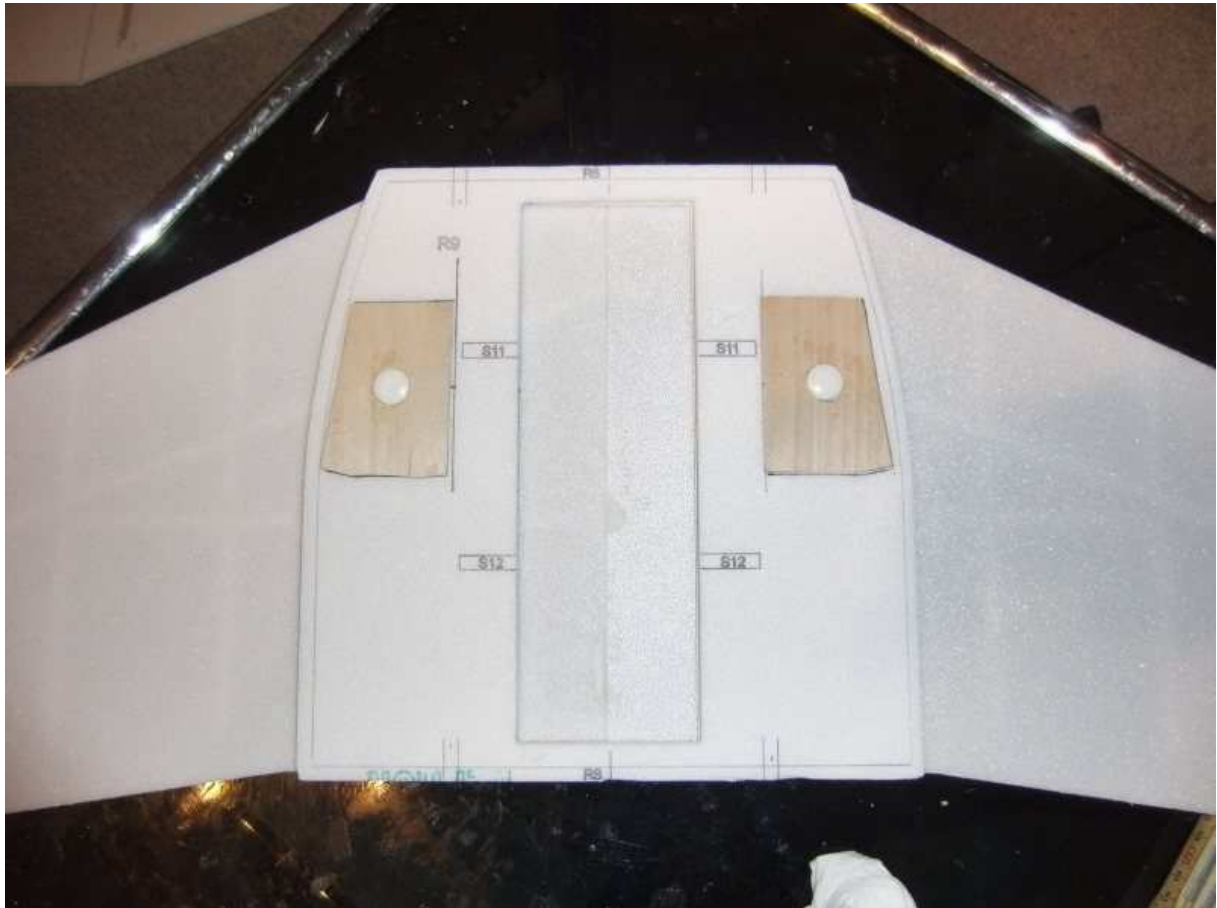
35. To fix the Wing later on the Hull, take two Aluminium Pipes (7 mm outside, 6 mm inside for 6 mm Plastik screws) in the Wing ground. Fix it with fiber glas and roof. Please see on picture, on the up side of the Pipe, it is 3 mm higher than the Support (for Wing Cover)



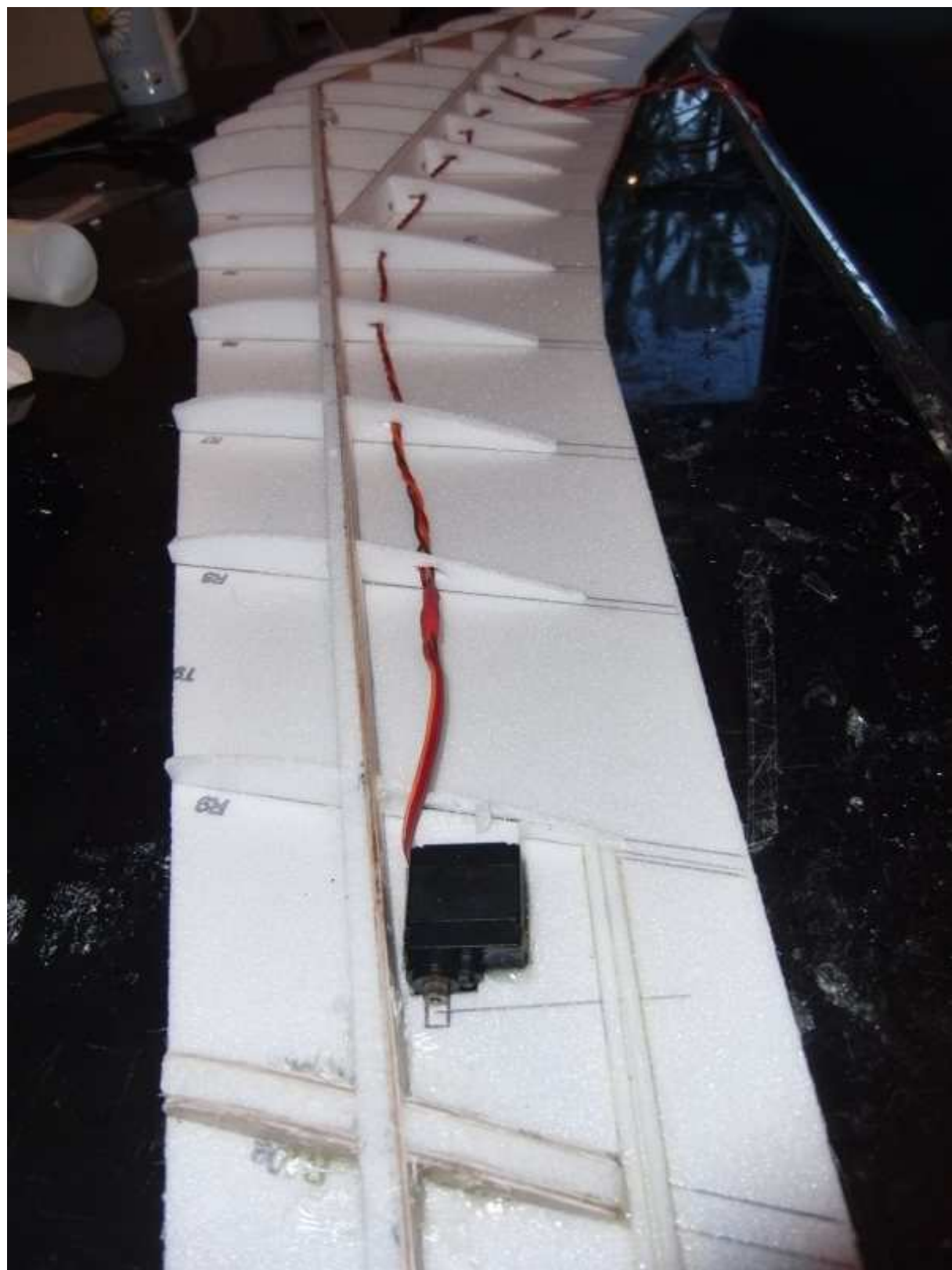
36. Overlay for Wing R9 and Reinforcement R10 put together.

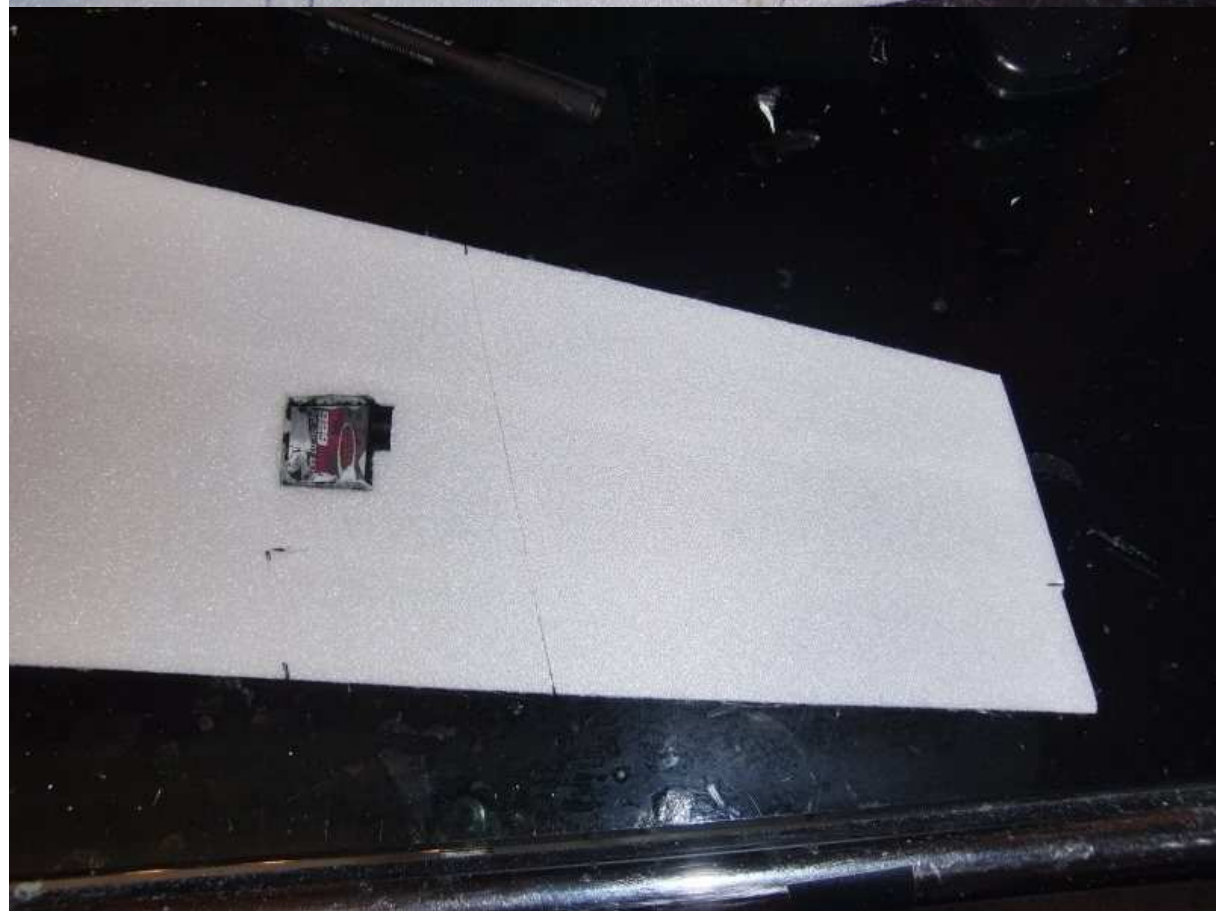
37. Take any wood (1,5 mm) to fix the Plastik Screws on the lower side of R9/10. For the correct geometric position, please take this part with the Wing on the Hull and check the correct hole see Aluminium pipes in the Wing.





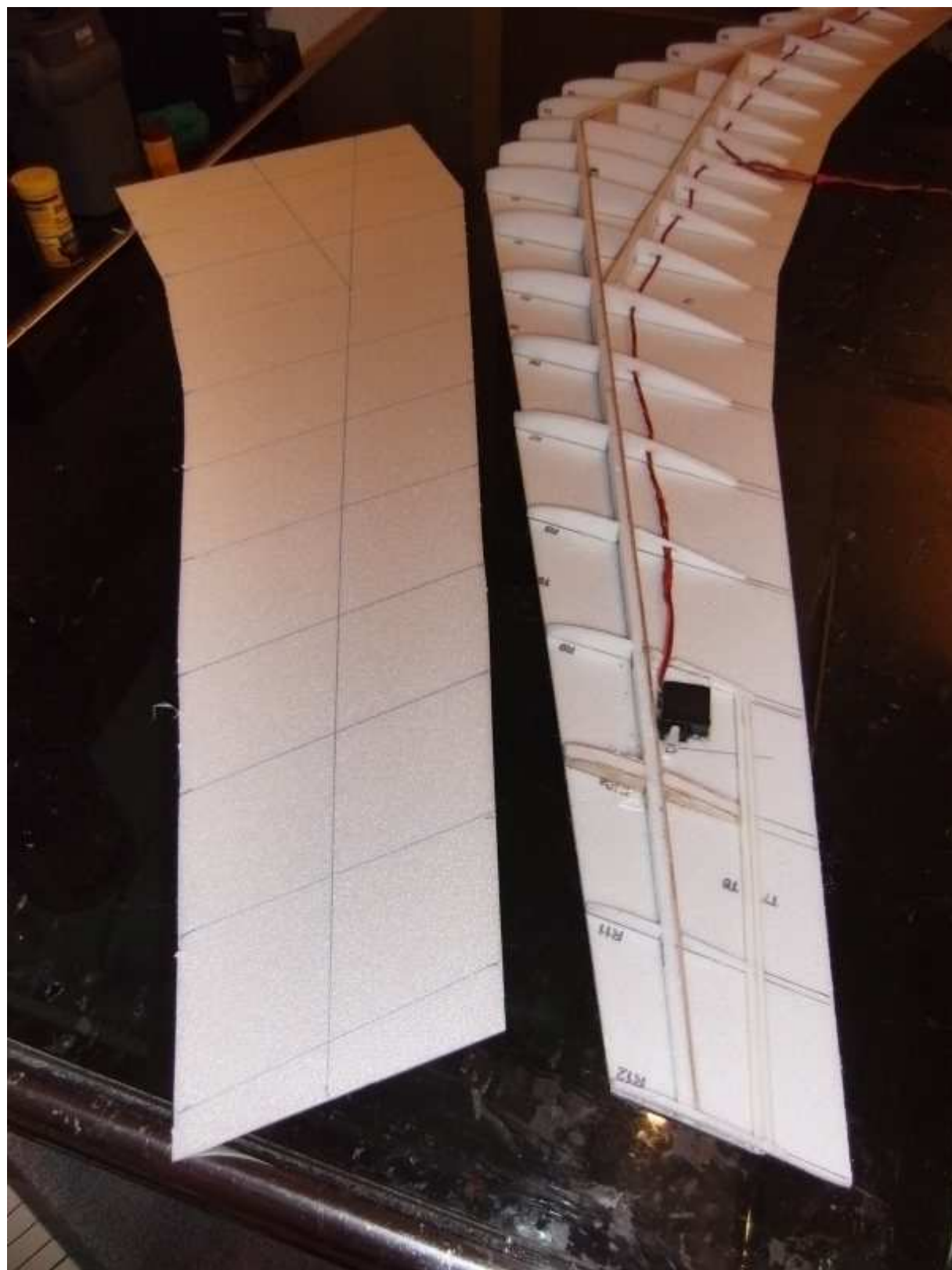
38. Put in the Servo for both Elevators.

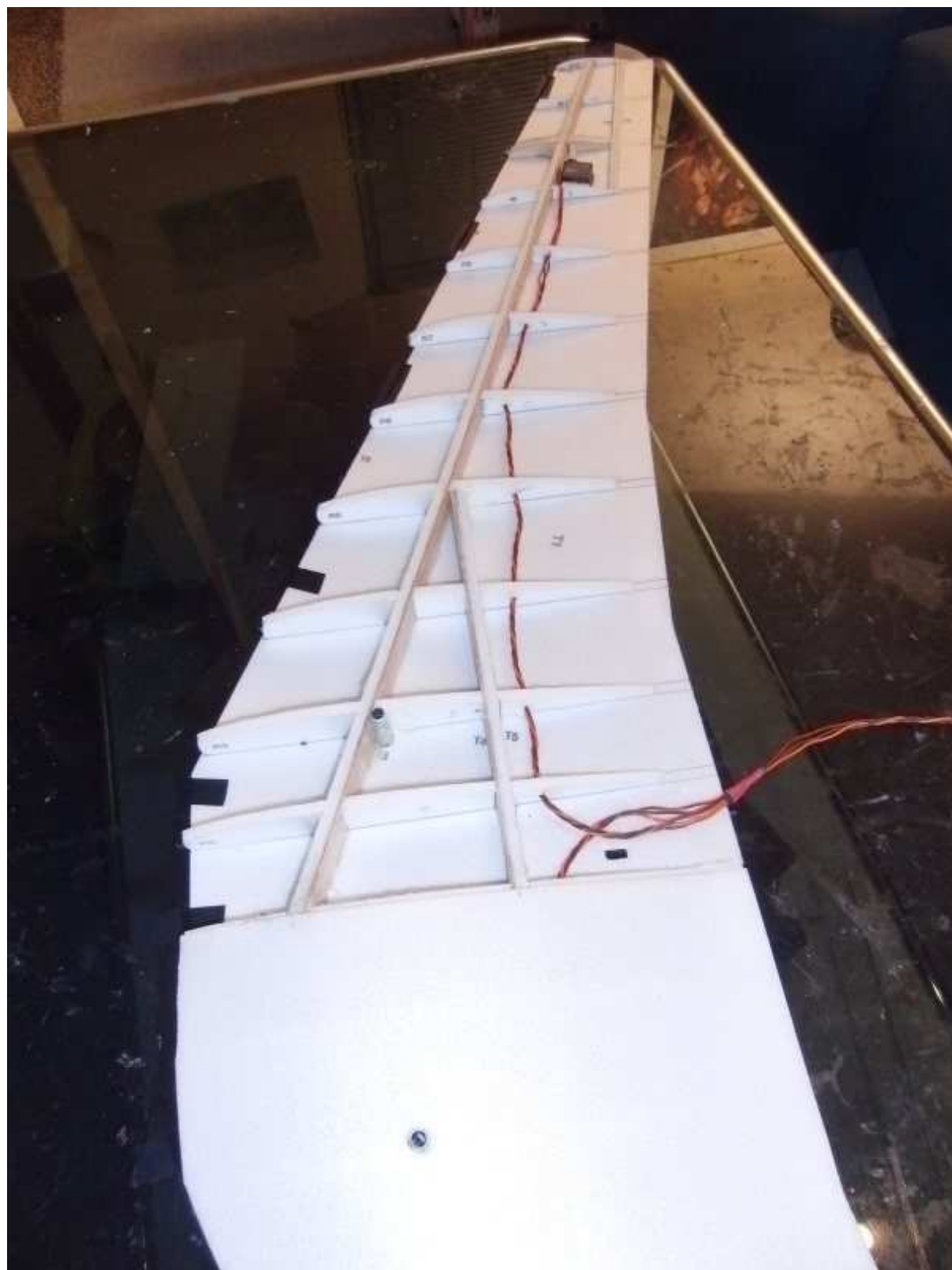






39. Prepare the Wing Cover T28:

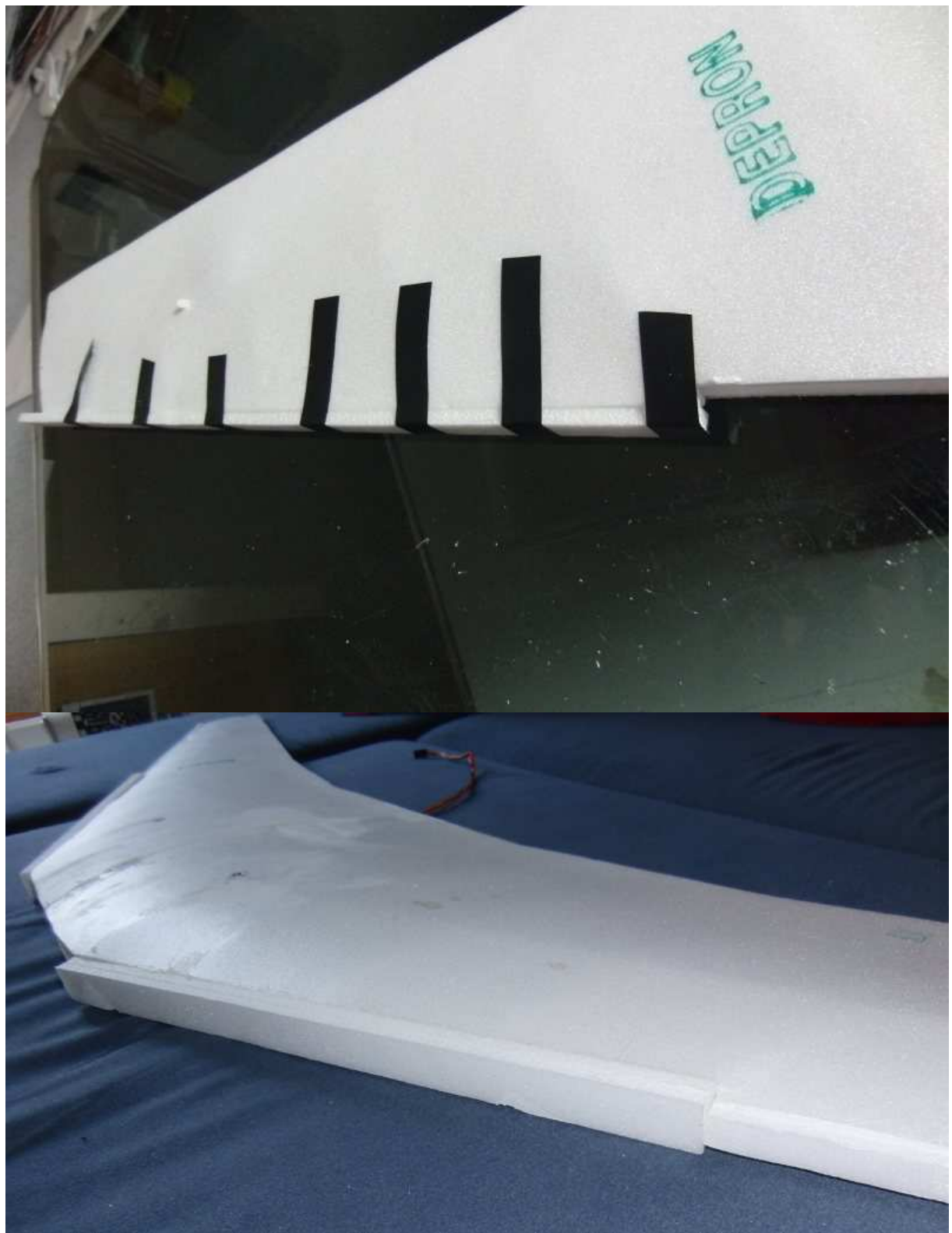




40. cut all material over wing part.

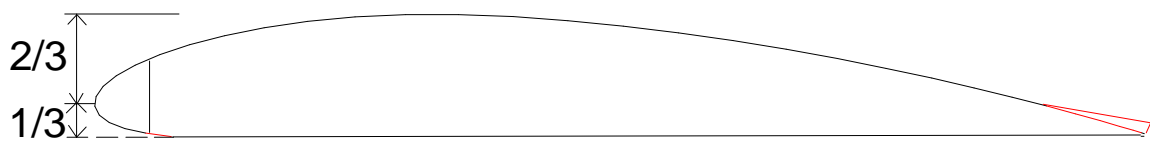


41. Nosestrip T8 / T9 put on.





42. A perfect shape is urgent for good flight conditions. The middle of the Nose you see in this scheme. Measurement by R1 ist 10 mm, by R7 6 mm and R11: 4 mm.

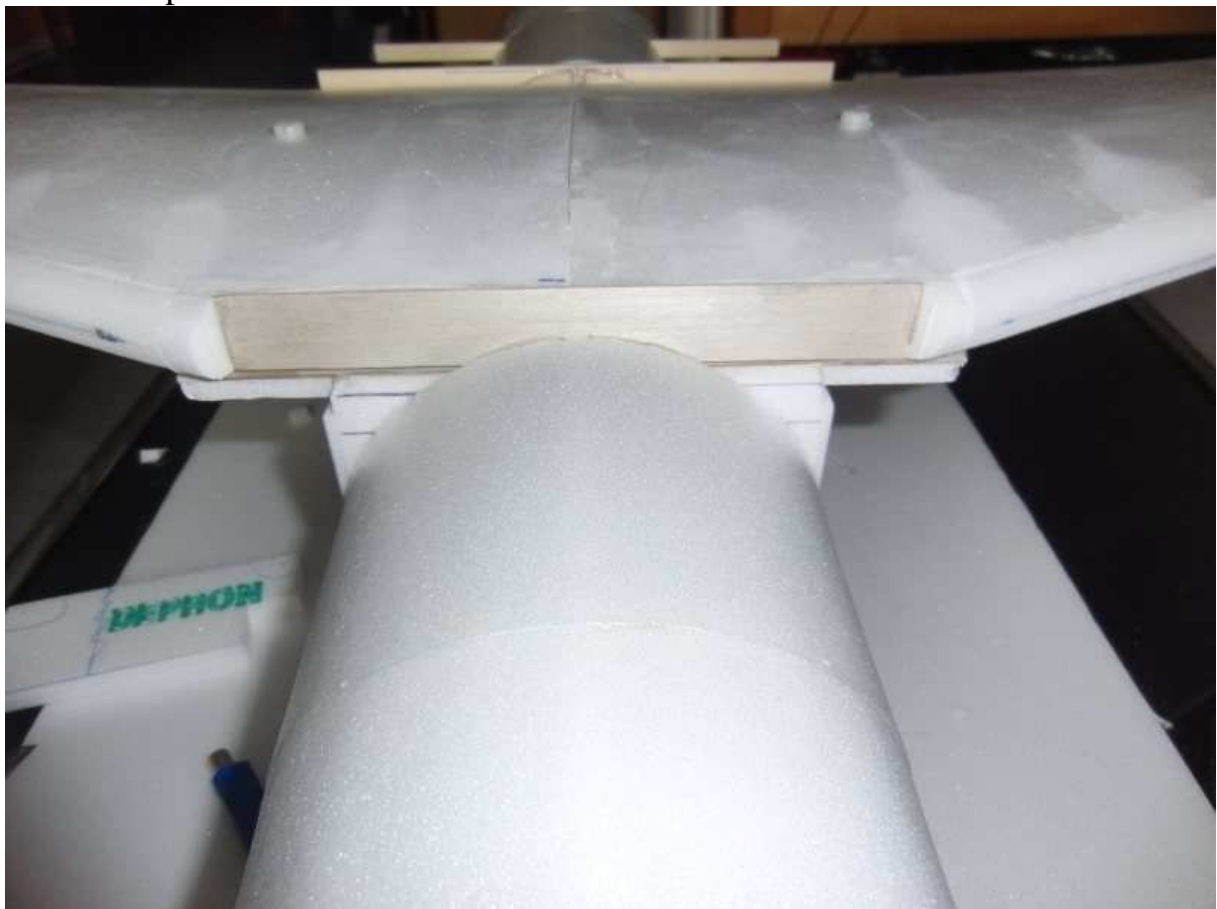


Nose strip lease grind in correct shape.





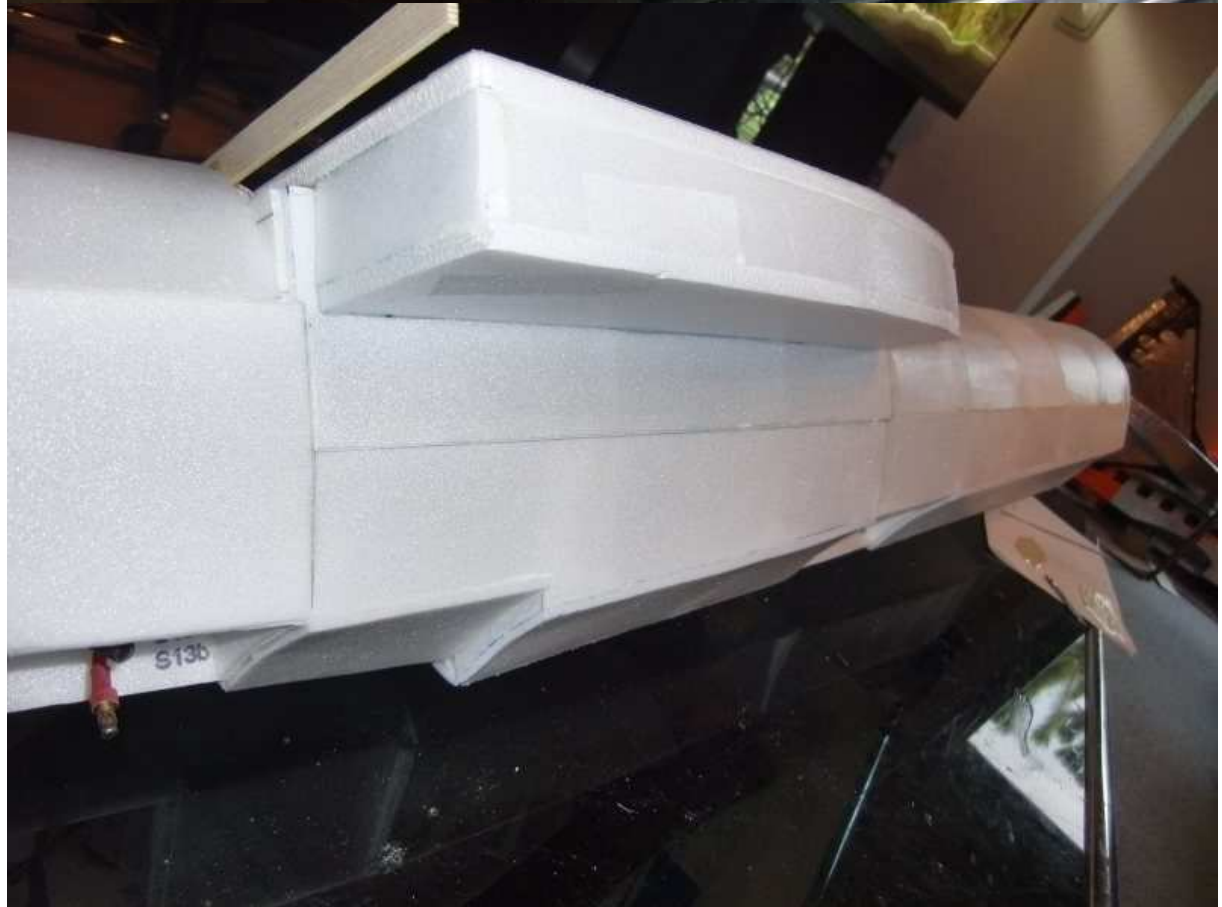
43. Overlay R9/R10 screw on Wing. Both together on the Hull to fix the correct position. Then you can fix R9/R10 on the Hull.
The wood part in the front.



44. Now you can cut the Depron see here from the Hull.



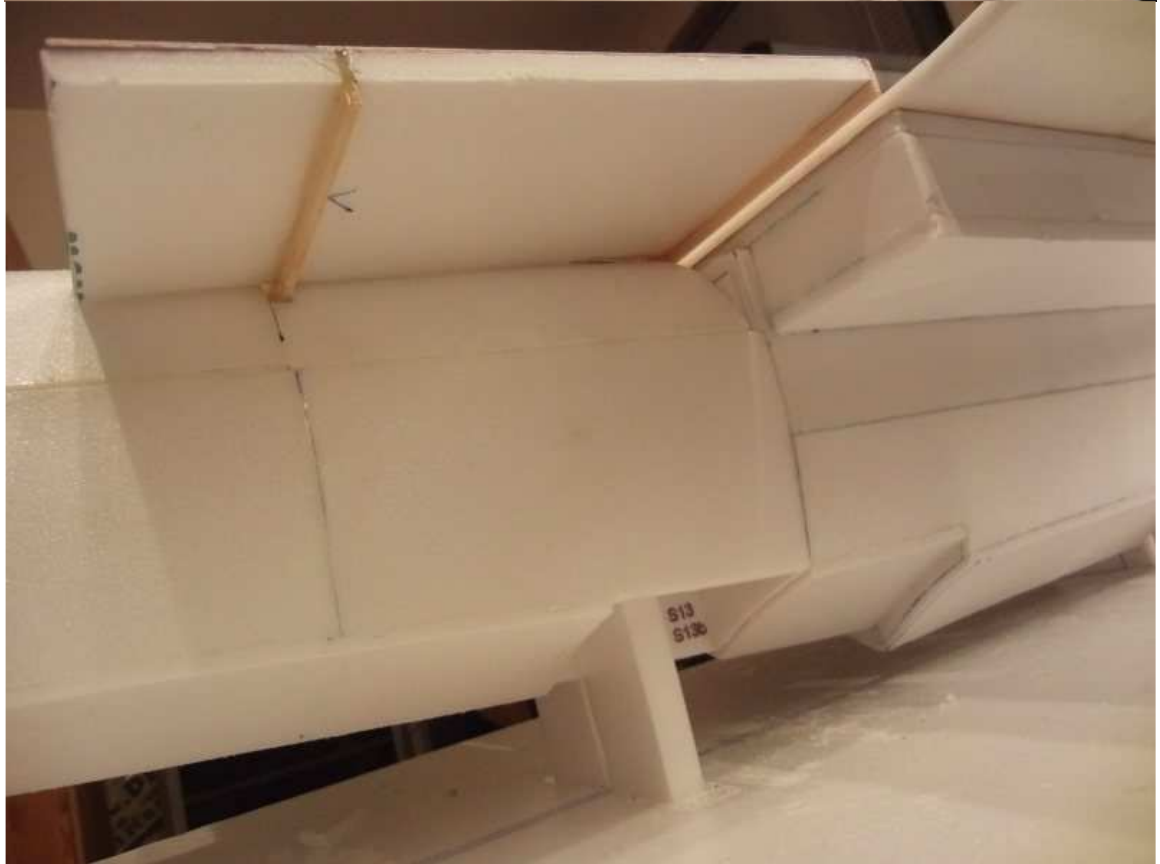
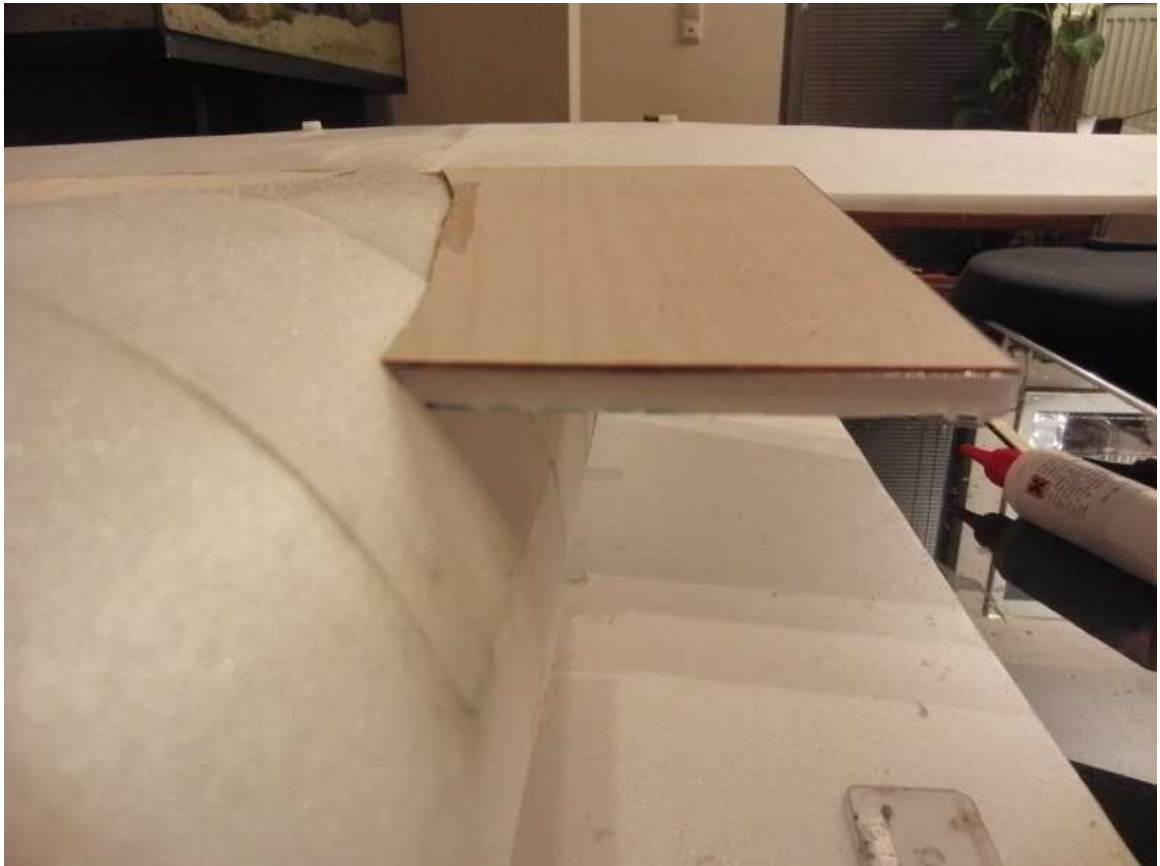
45. Landing Gear box please prepare see picture. Parts (R11-R15). Put it under the lower side of the Wing Overlay.



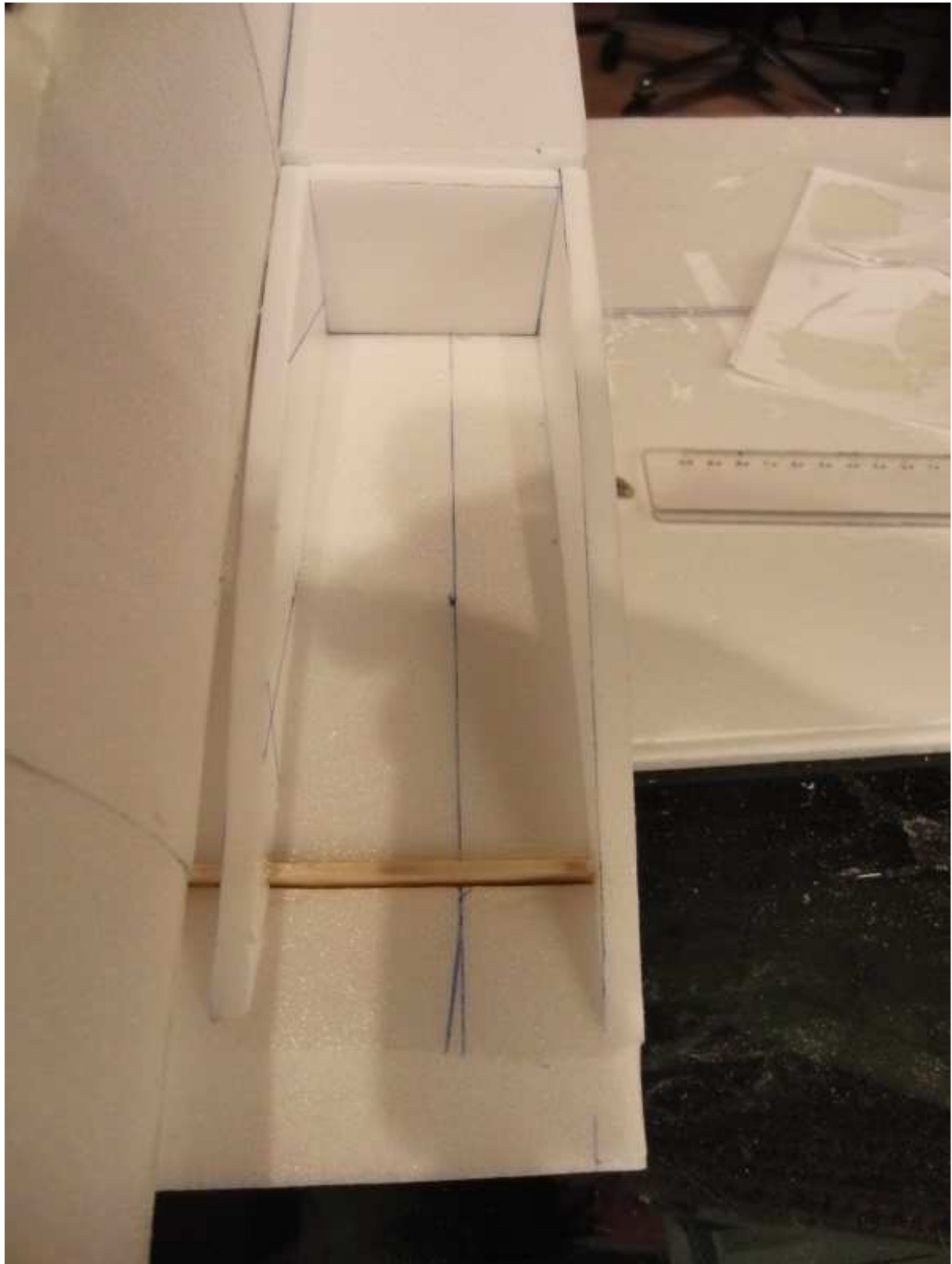
46. Take R16 with R17 together. (Wood on the up side). Take a small cut into Depron, by the position for pine wood R18.

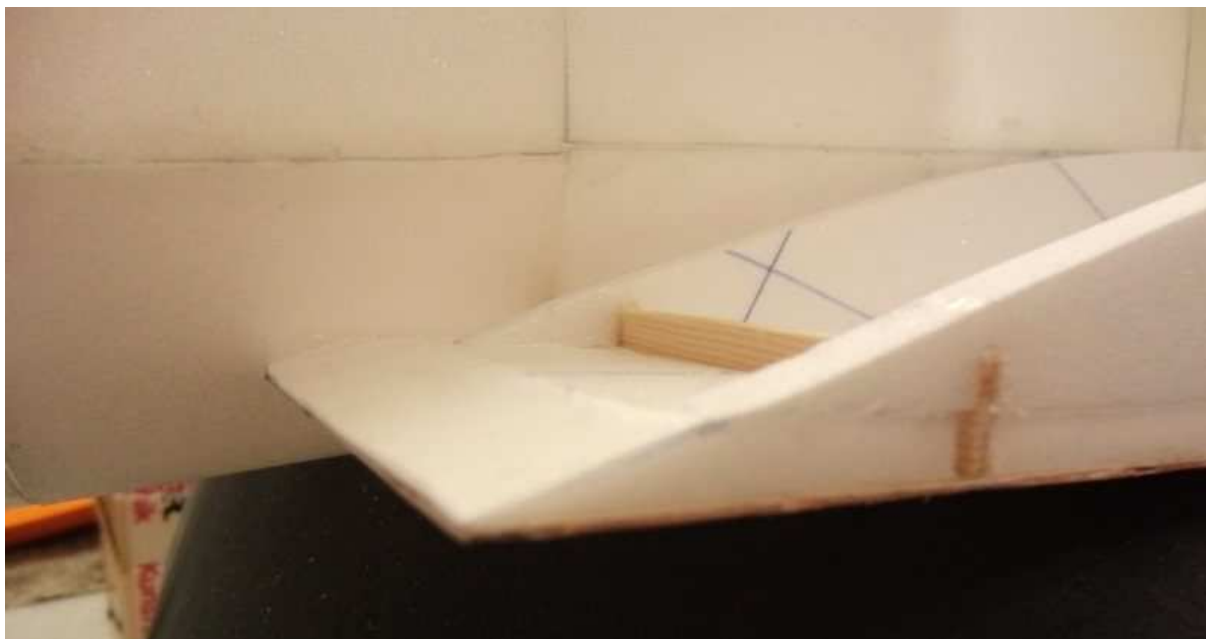




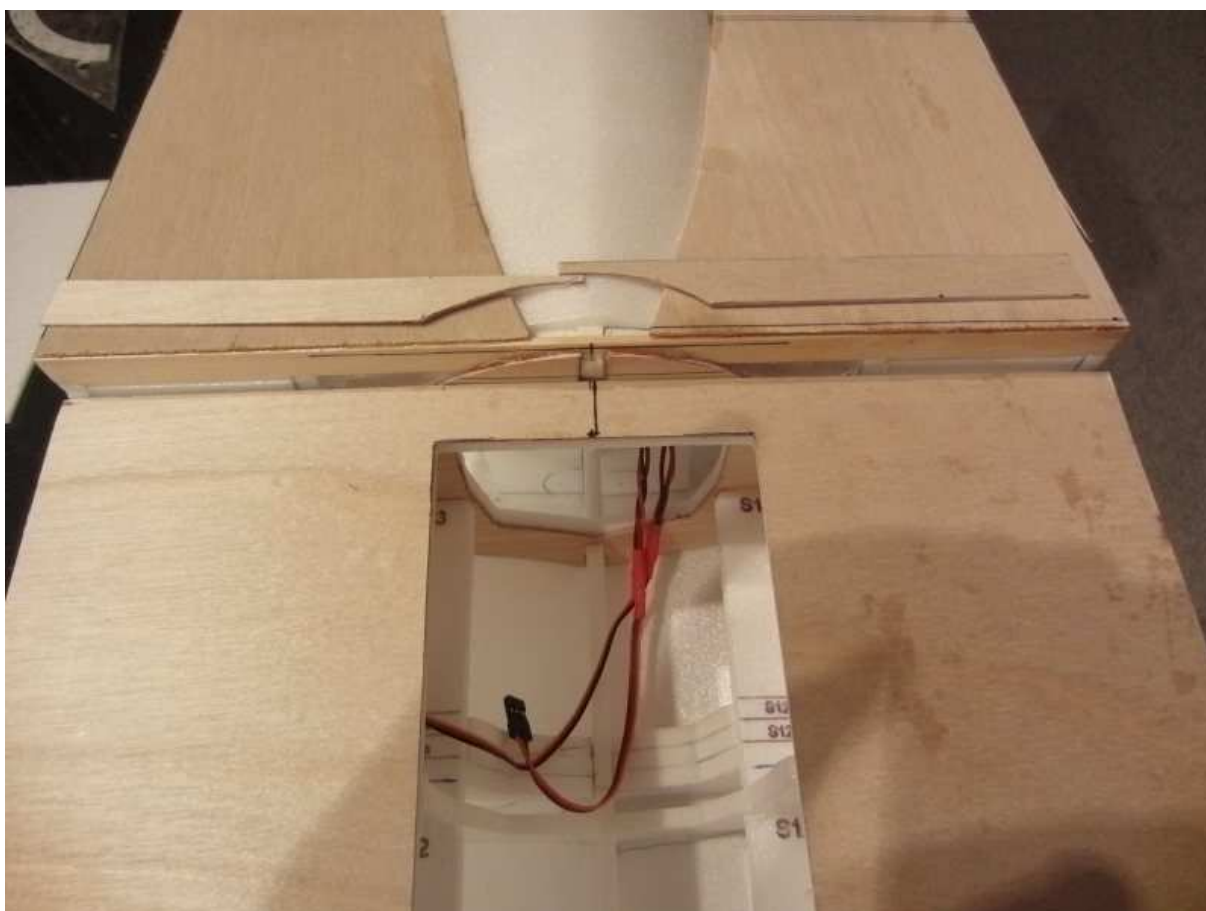


47. Lower side, put on R20 / and R21.





48. WoodCover R22 take it in the Corner of Wing Overlay.



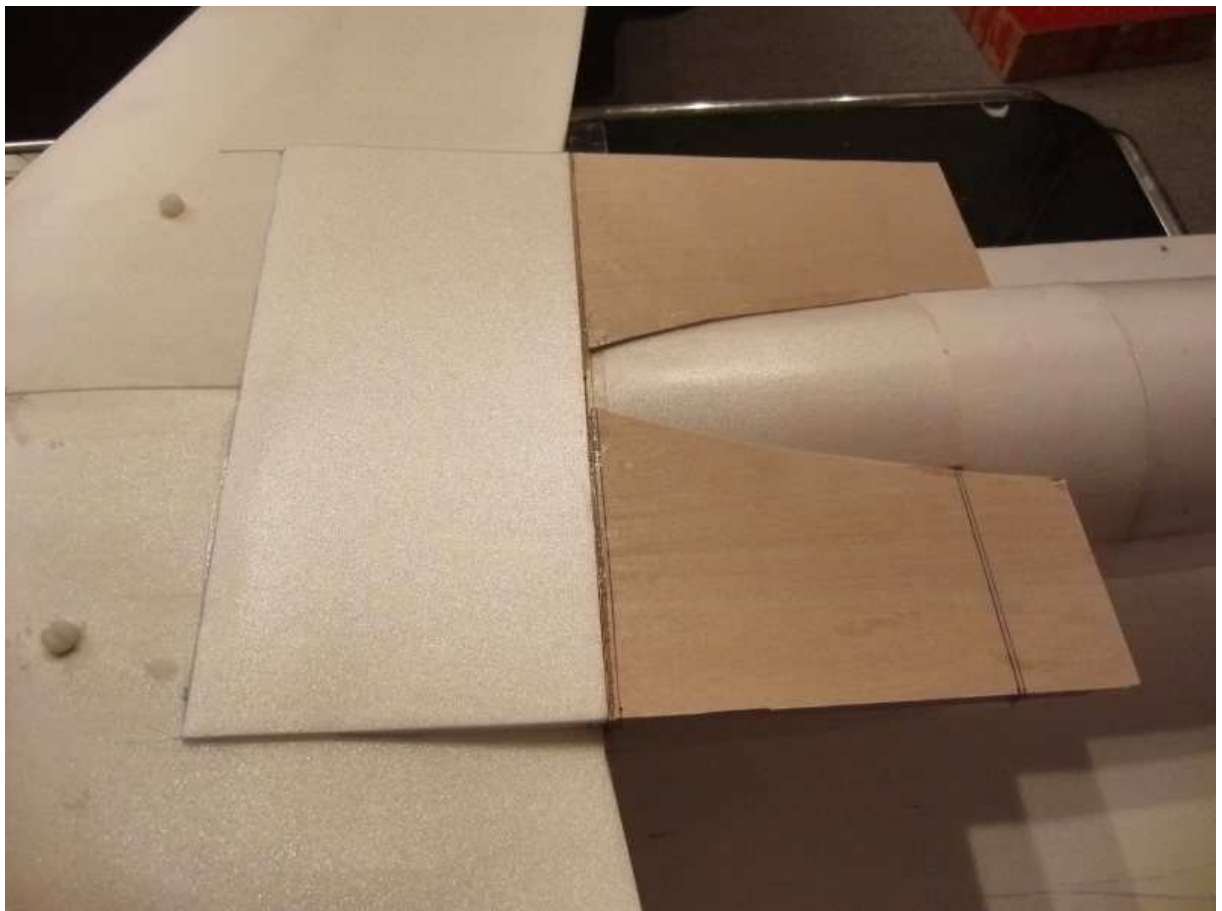
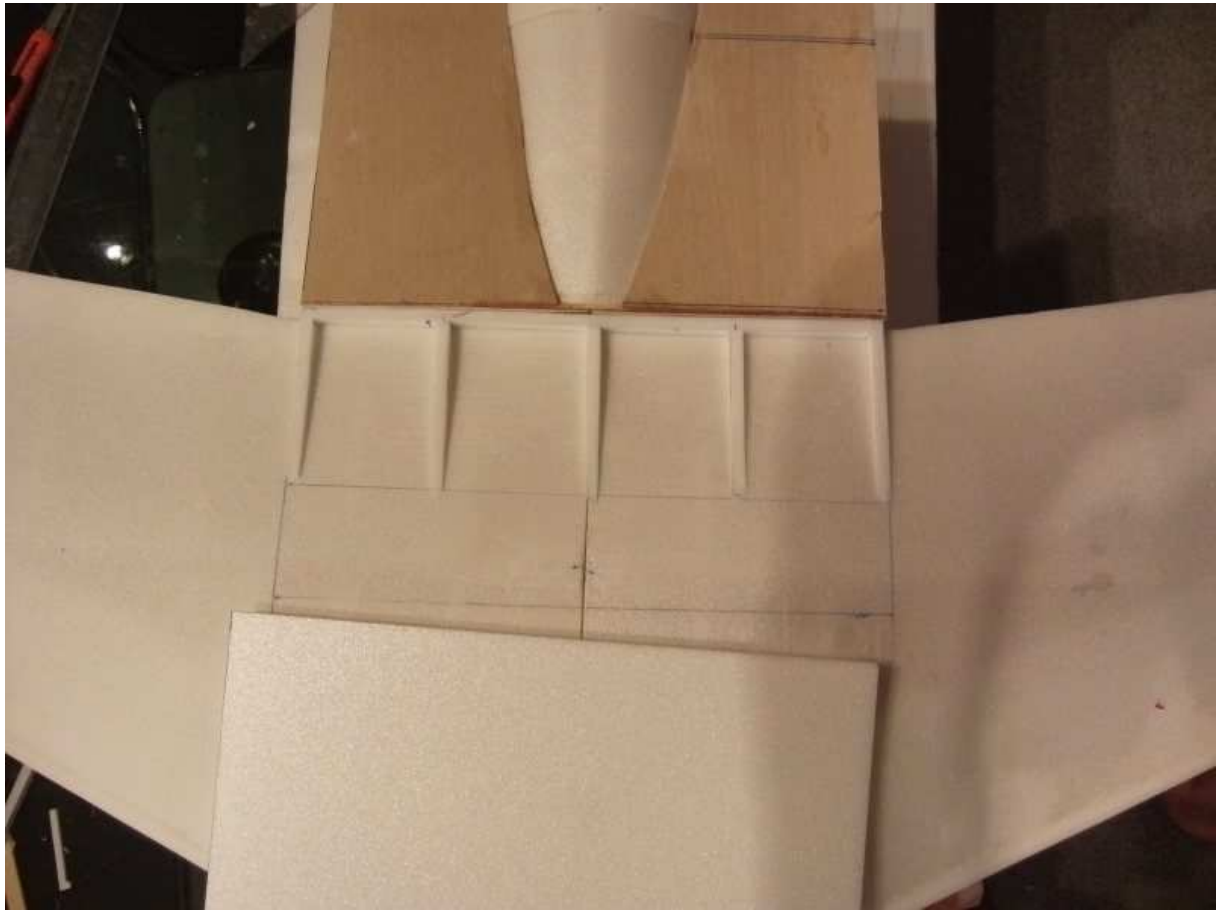


49. Wing mount it again on the Hull.
Parts T24 / T25 on the Hull, and with the Cover T27 close it.

BERIEV Be200

CONSTRUCTION MANUAL PART 3







50. R23 / R24



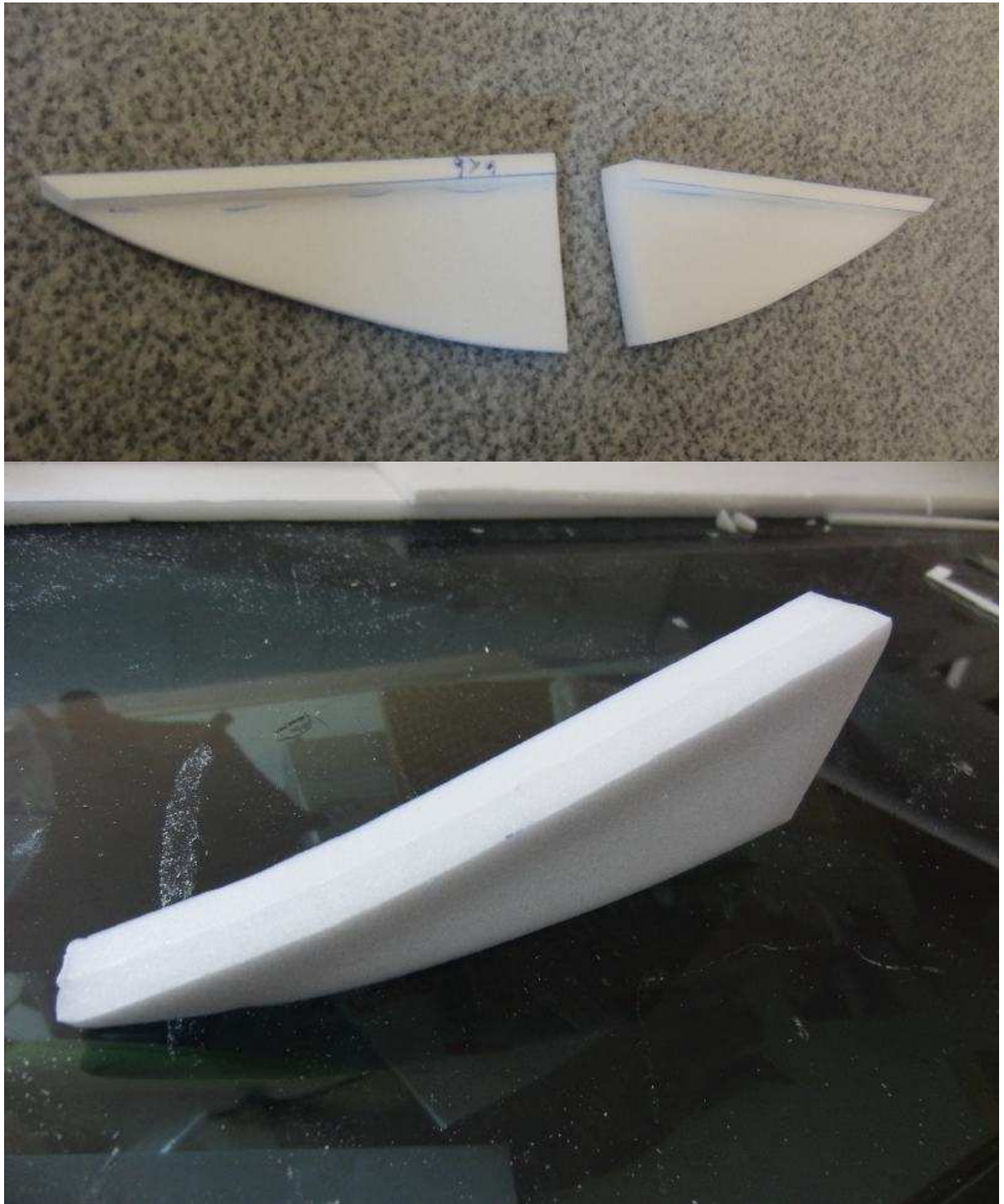
51. Cover R25



52. Cover (Wing side) T22

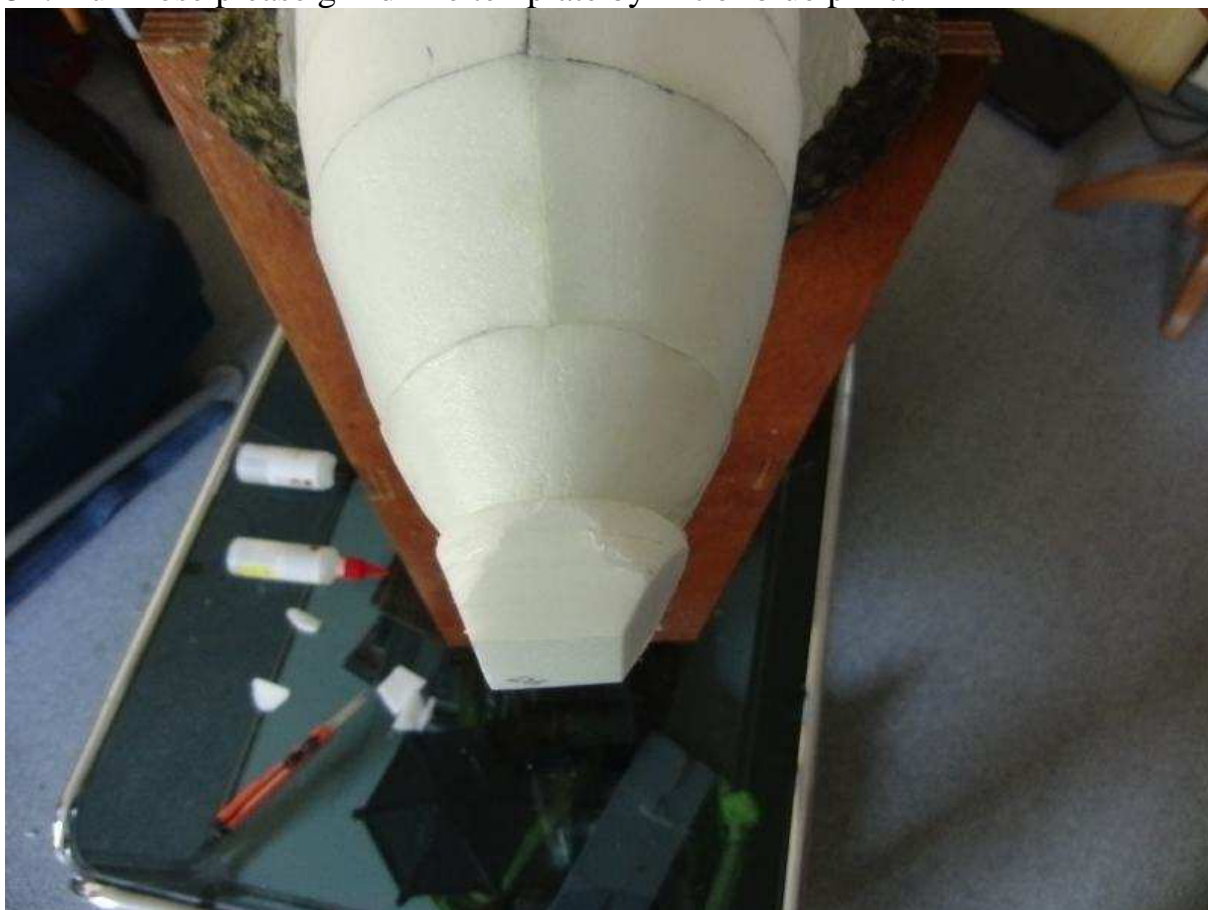


53. R26 in a round shape with R25 and put on R27. Take Parts by Cover R25. The same system for part R28.



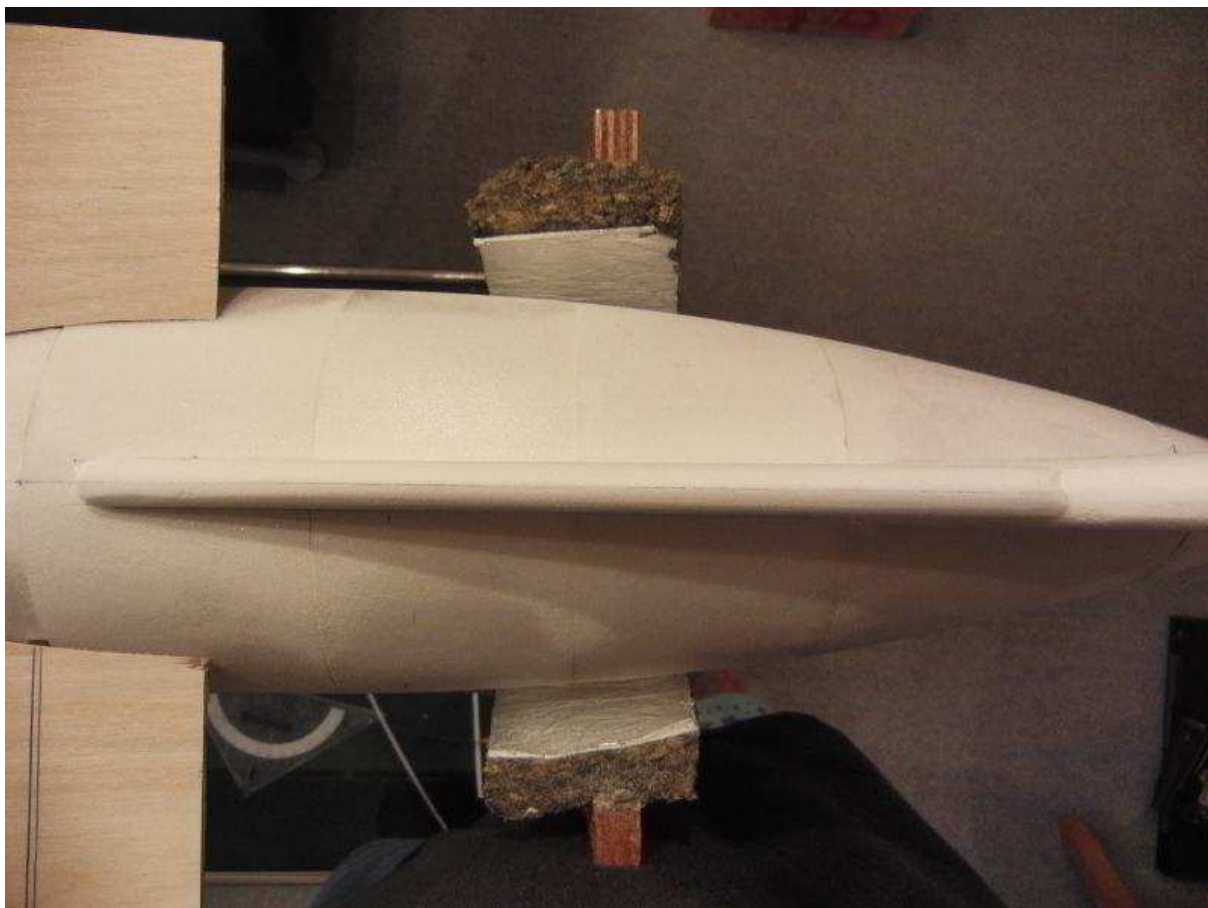


54. Hull nose please grind like template by Kit or blue print.



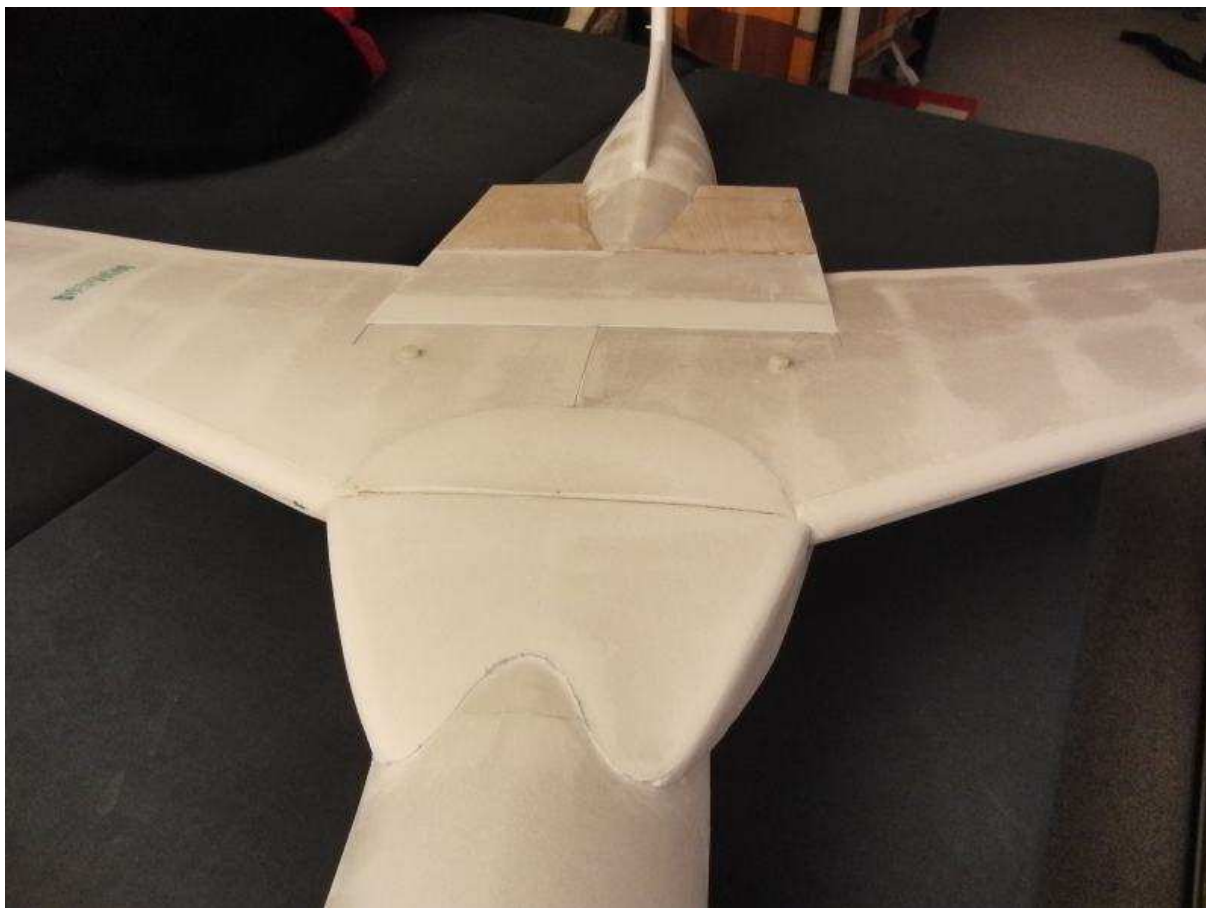
55. L14 between Hull and Tail.





Situation Now.





56. Turbine Pipe R29 please turn around to a Pipe.



57. The Template R31 show you the correct shape. Pull over the Template over R31 and put it together with Epoxy. You can put in the EDf Fan for a correct shape.



58. Same situation with R30 in 6mm.



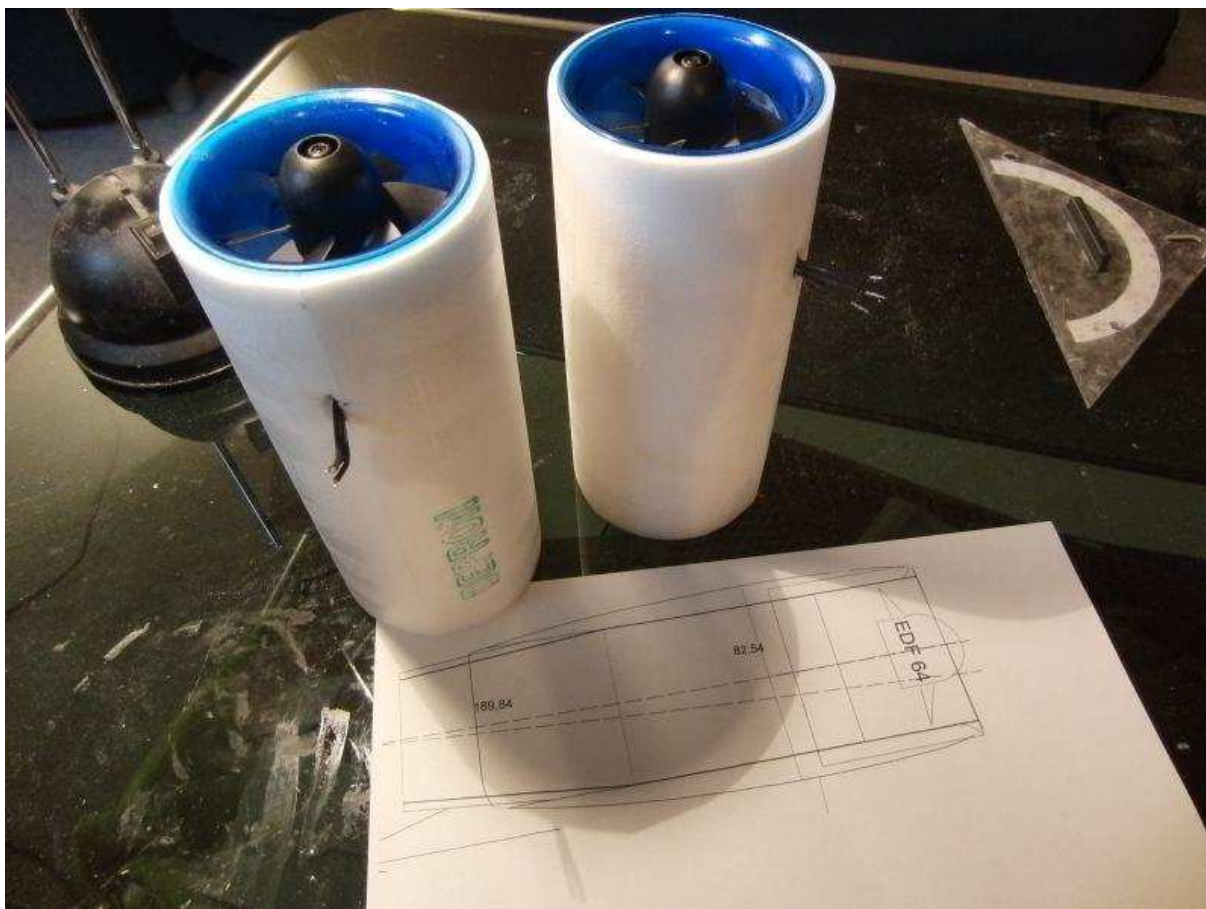
59. Take EDF Fan out, Tamplate R32 inside and stick together.



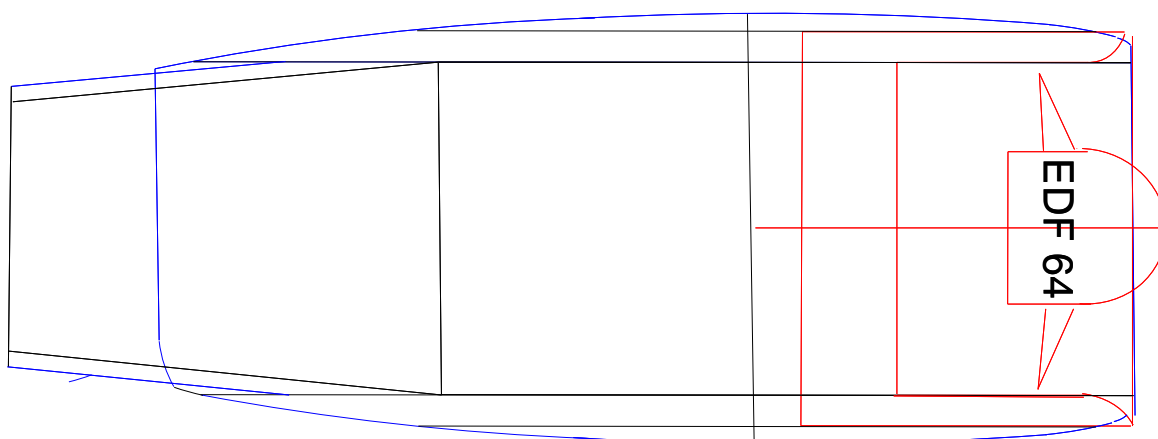
Fix by Tape

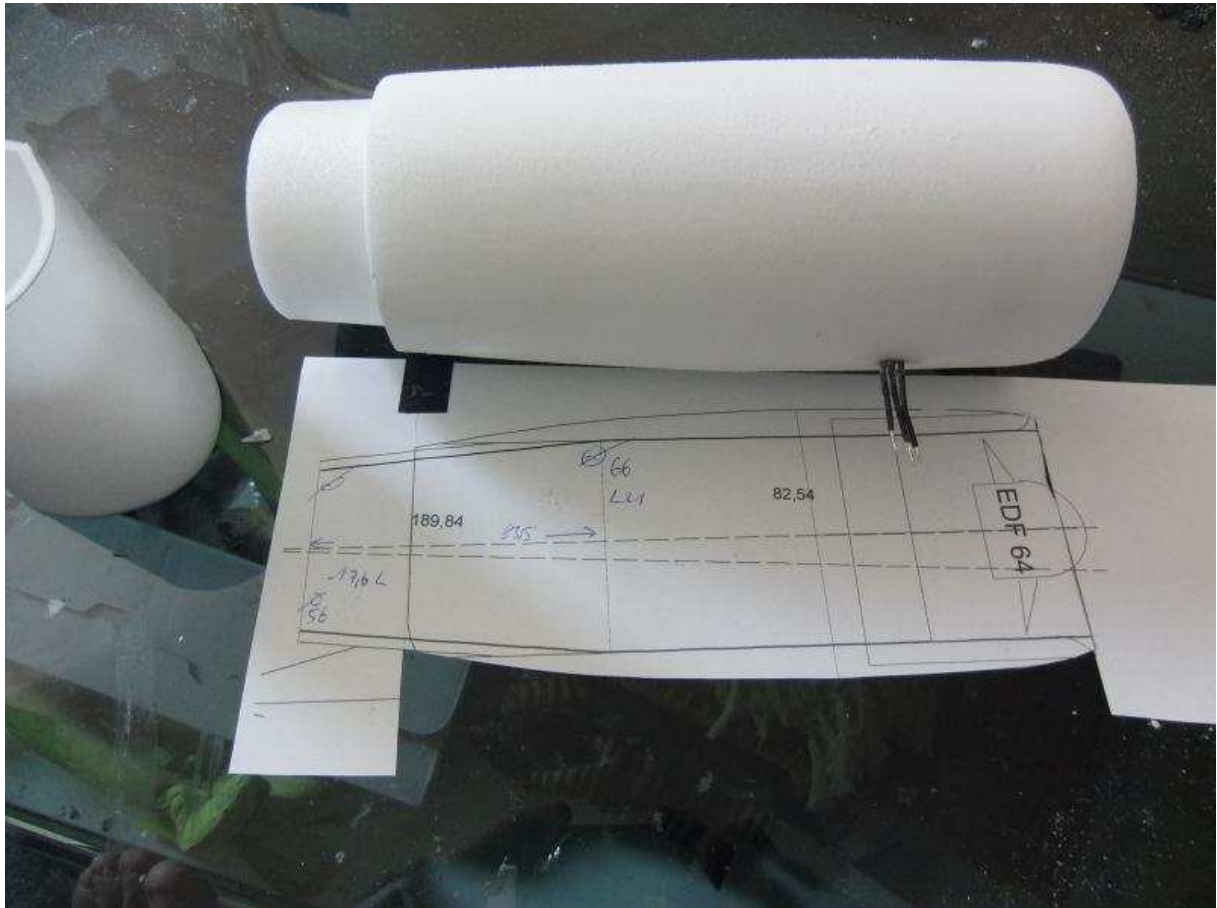


60. EDF Fan stick in, cable goes outside.



61 Grind the Fan see scheme.

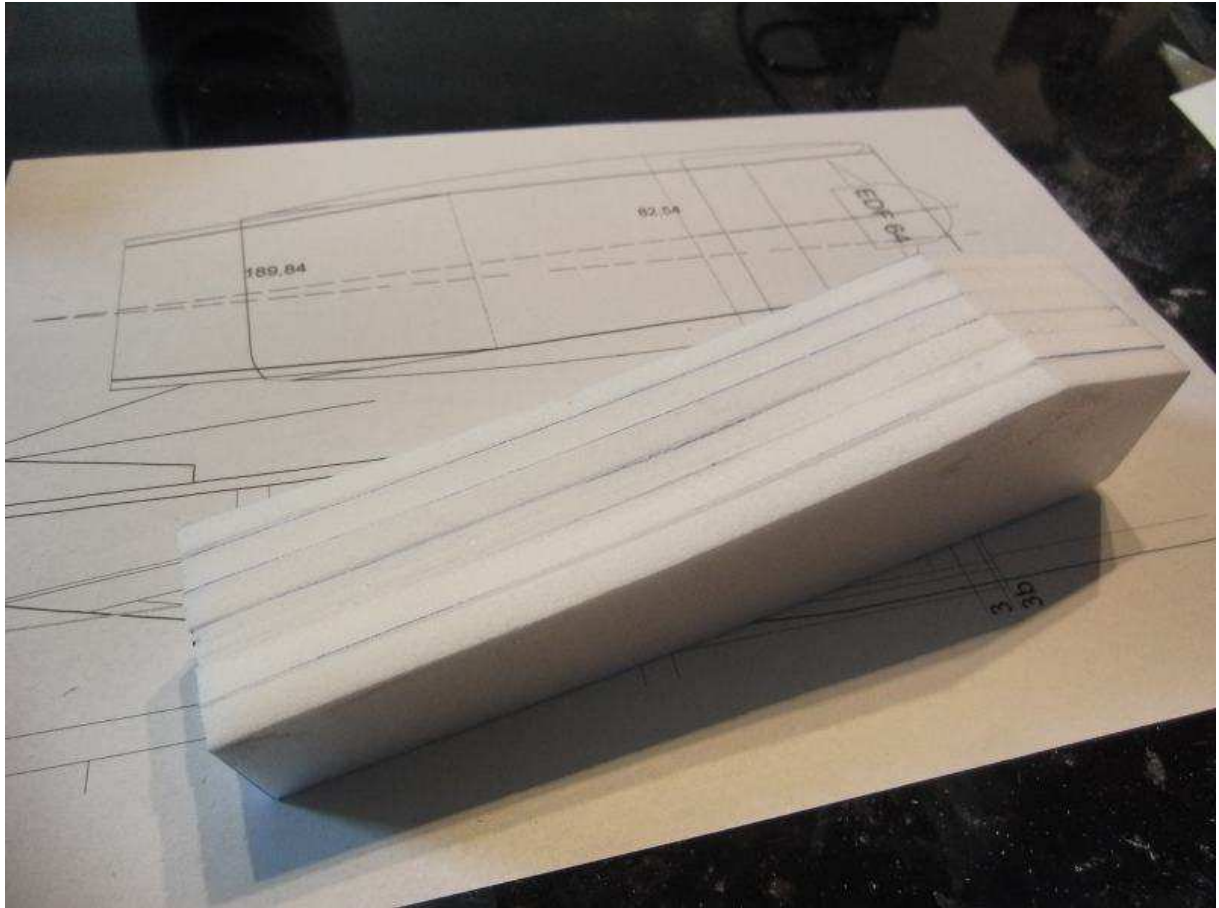


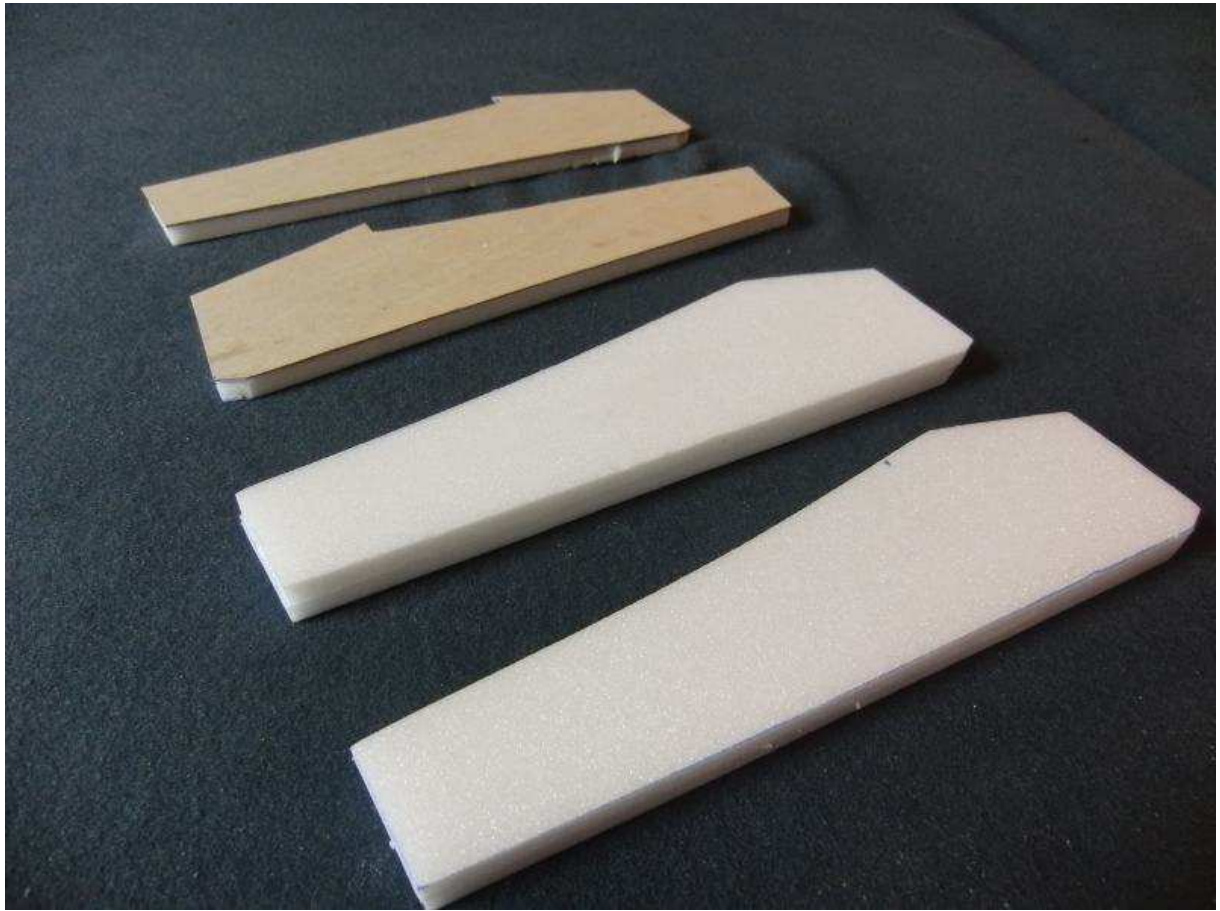


61. Turbine outlet R33 turn it to an cone and stick in the aft part.

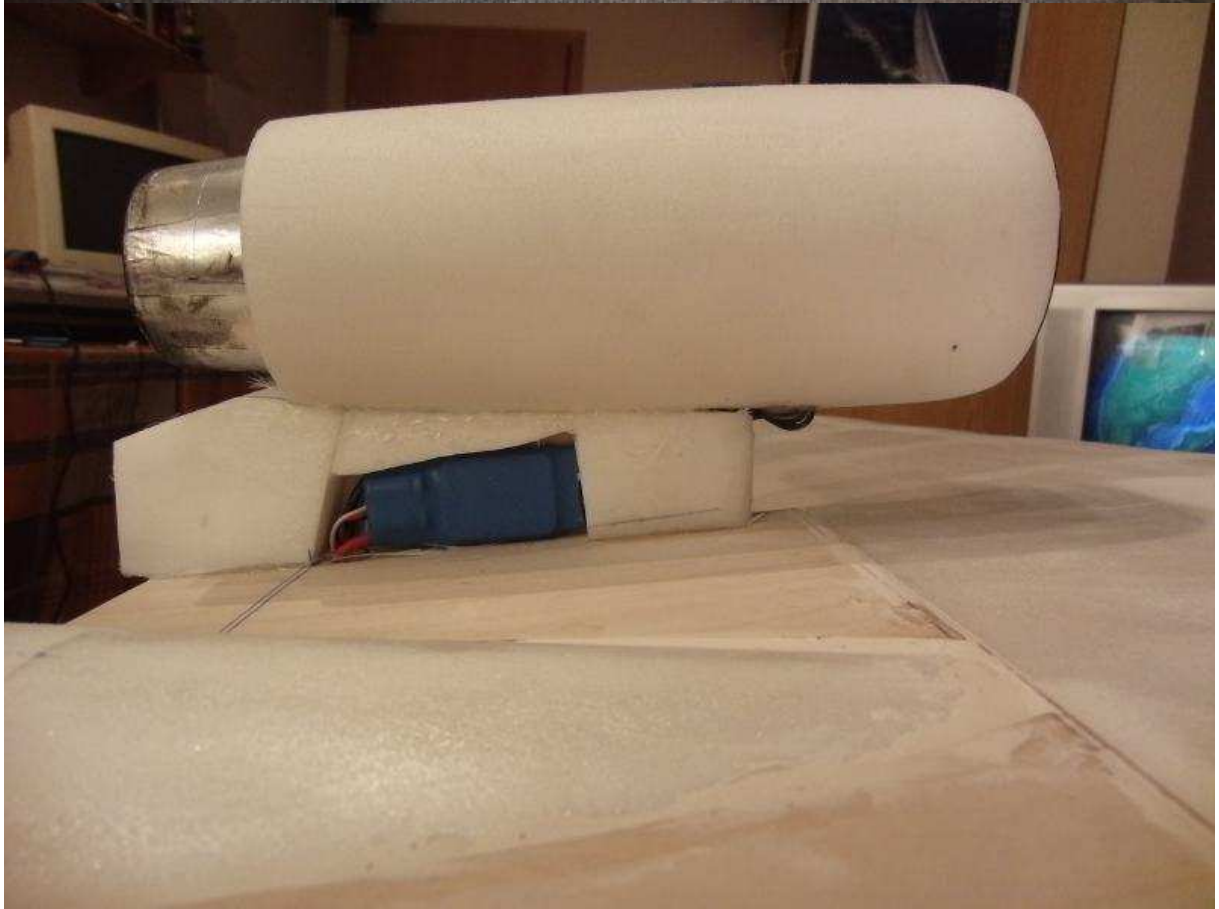
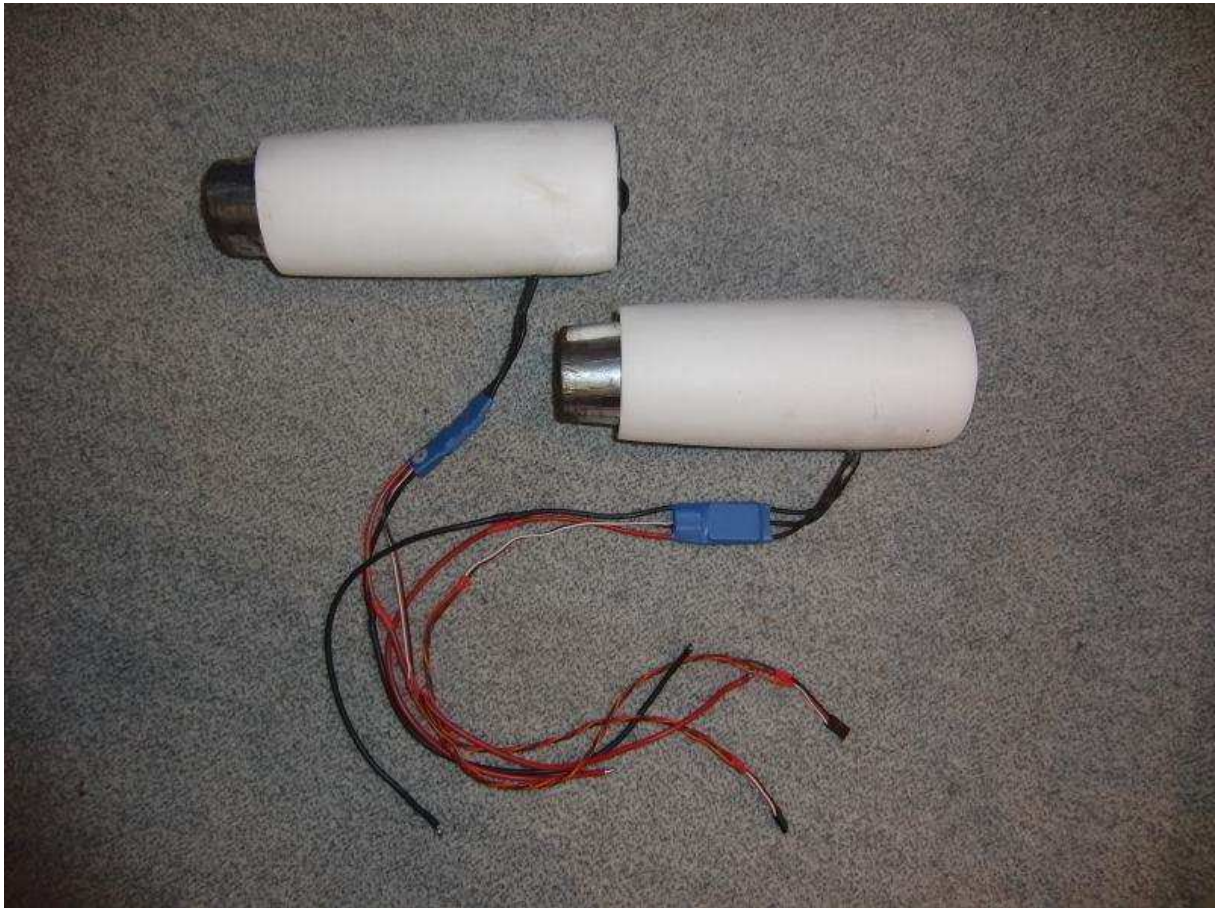


62. One of the Engine Support R34 take it together with reinforcement R35. Two of R34 take it together too. Take it in a angle of 90° degrees of the Hull. Please take a reinforment like glas fiber and roof mate for a better hold. Next step, you can stick on the side the two R34 parts.

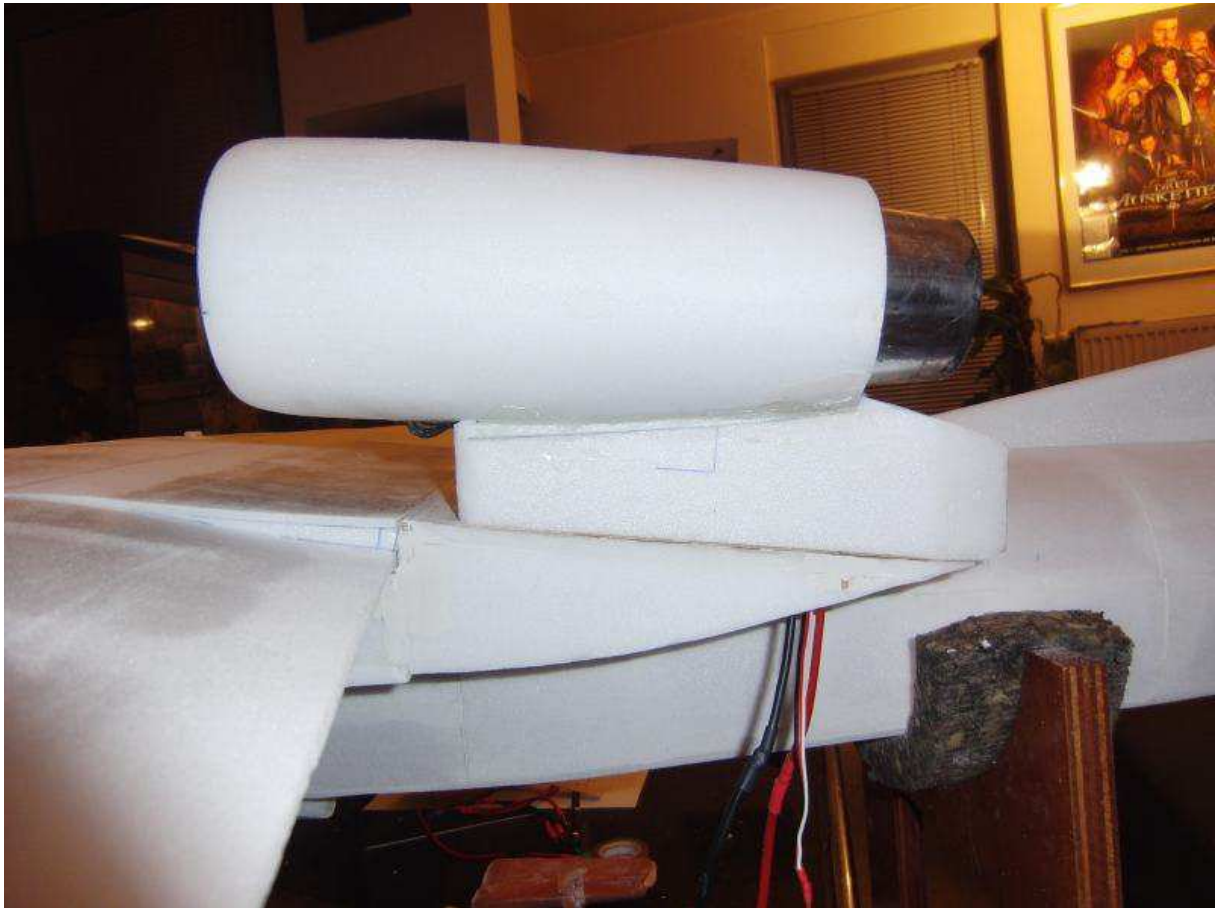




Ist your opinion to found the position for Controllers. In this picture, the Controller are in the Parts R34. I have put my Controller in the Hull to save for any Water. Urgend: Please cut one of the red cable for BEC. Your Receiver need only one signal. Two red cables can damage your receiver.







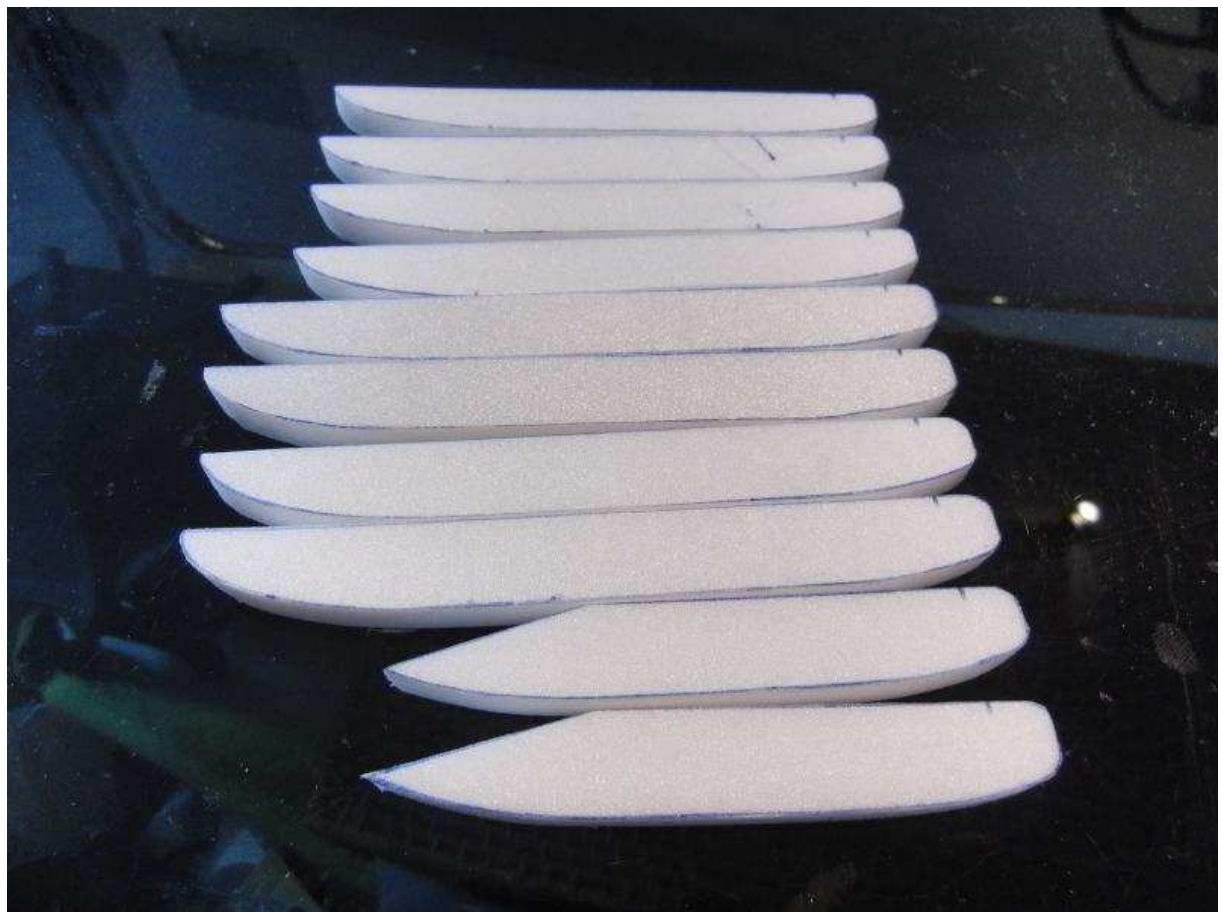
63. cable goes in the Hull, see Pictures.

64. When you are finish, close the Gear Box with Part R19.

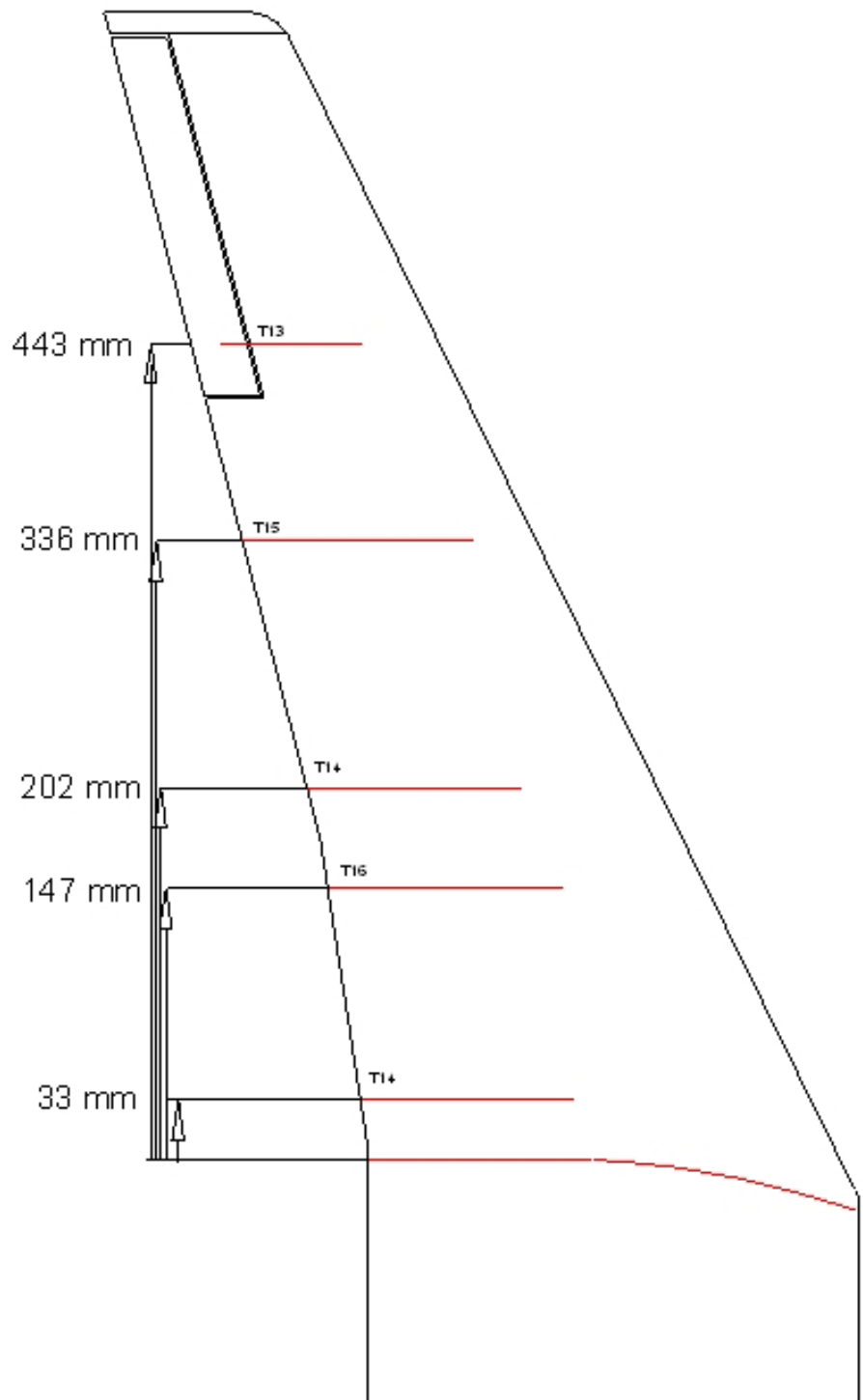


65. Flap Casing T13 until T16 preparing:

You need a 9 mm Casing, so we use a 6 and a 3 mm Depron Part. Please stick by all 6 mm Depron Parts a 3 mm Part off. Grind the reday part into a aerodynamic shape and stick in the lower side of the Wing ground.

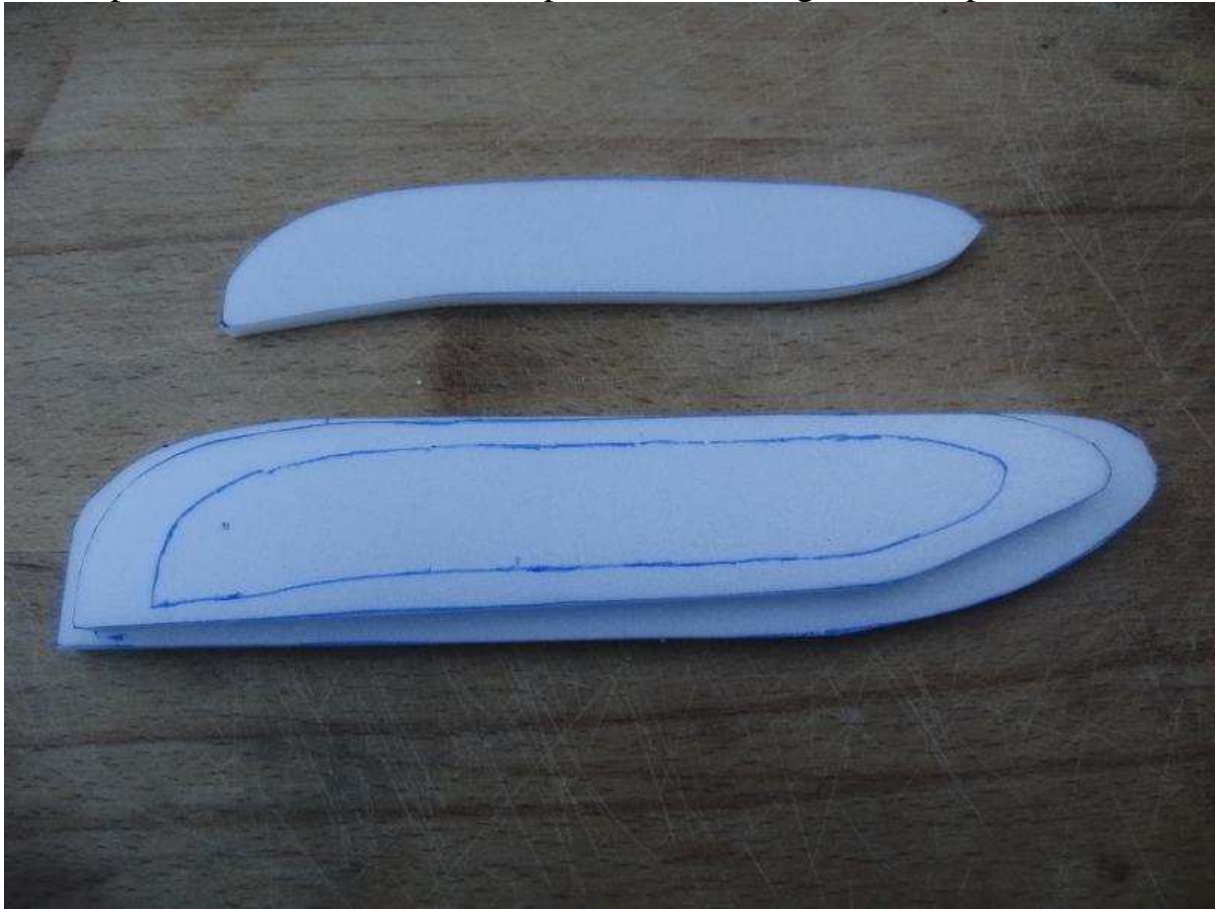


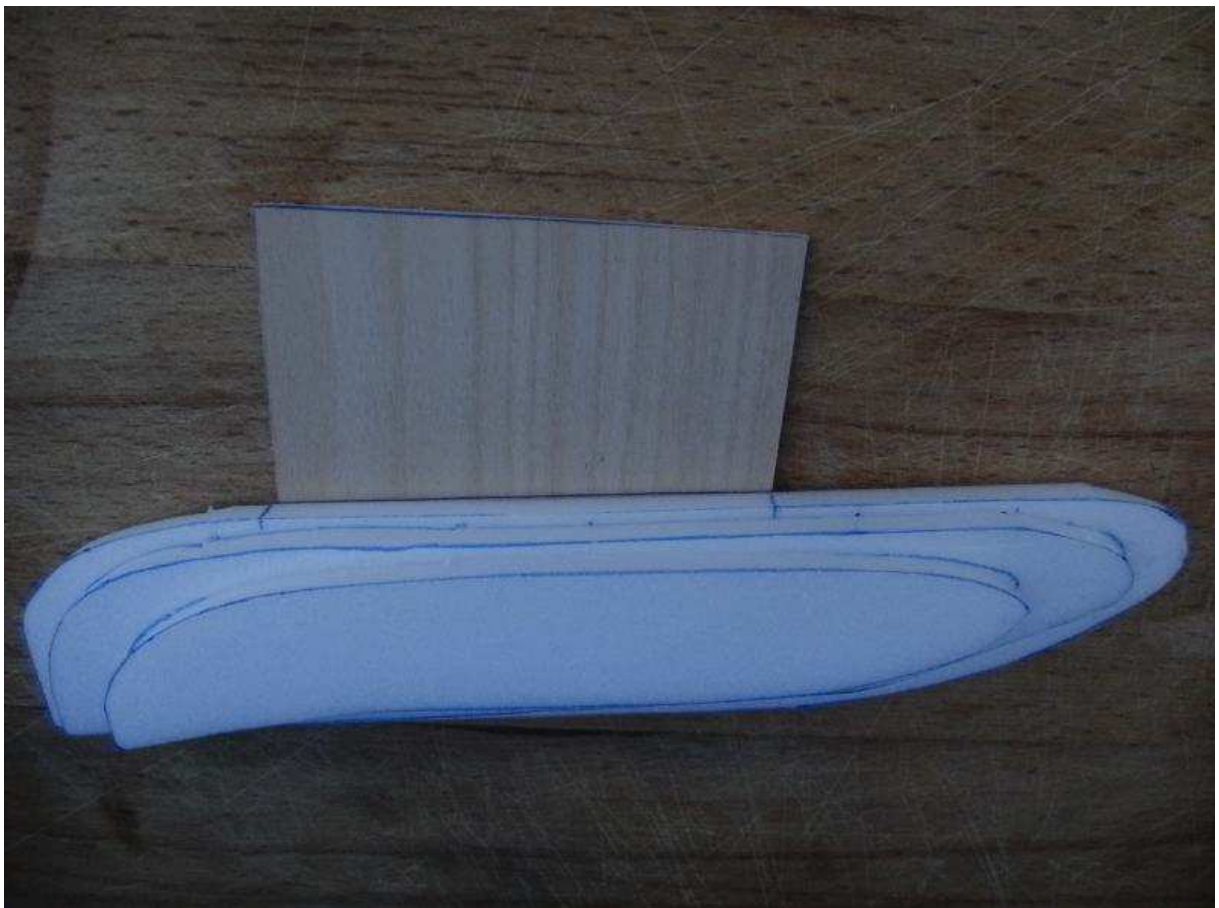
Position of all Flap Casing parts.



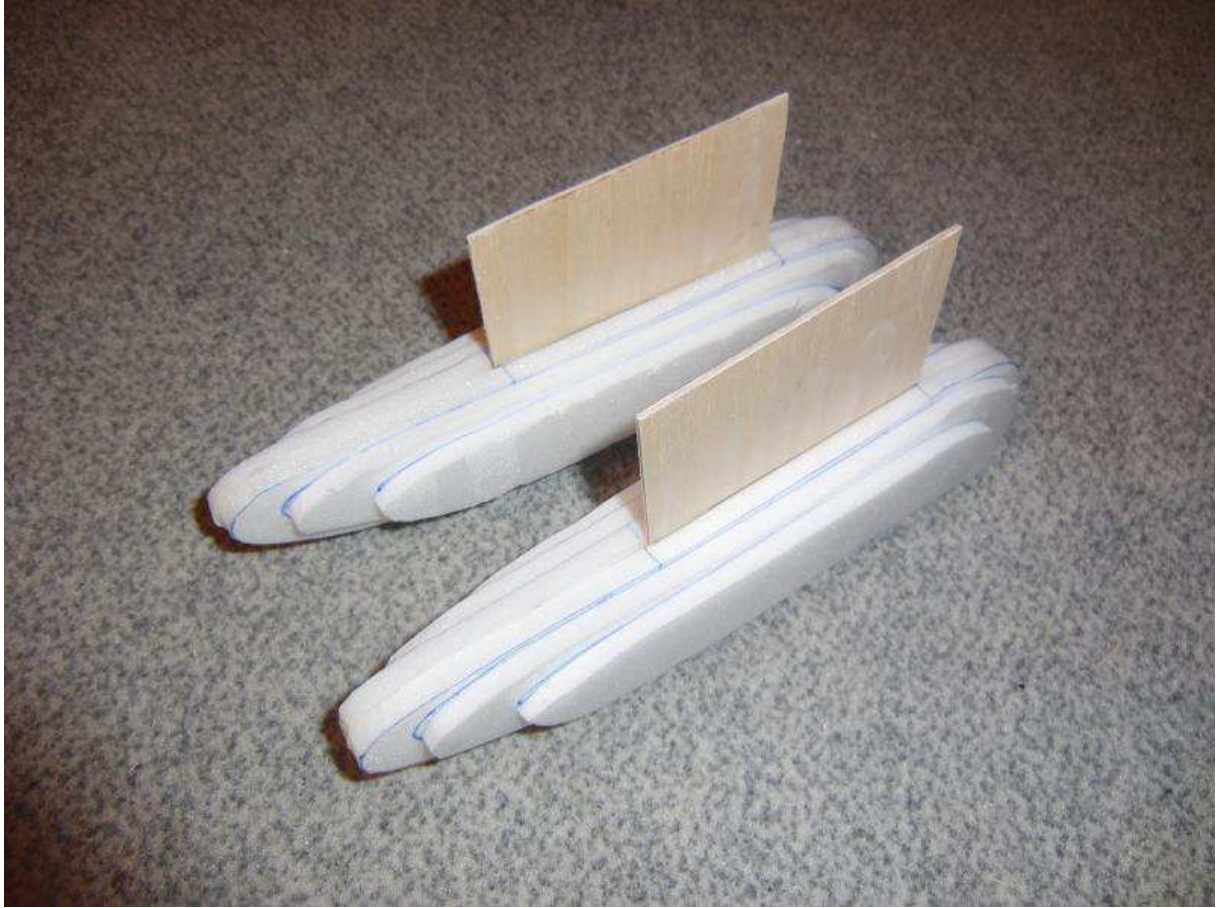


66. Prepare all Floaters: stick on all parts T19-T21 together, see pictures.





67. In the middle take wood part T17.



68. grind the floaters.







69. Stick on position R10, see attached Picture. Take fiber-glass with roof to fix.



70. For all Servos, you can built a Box with pipes to protect all Servos. Please spray all Servos with Wet protect too.

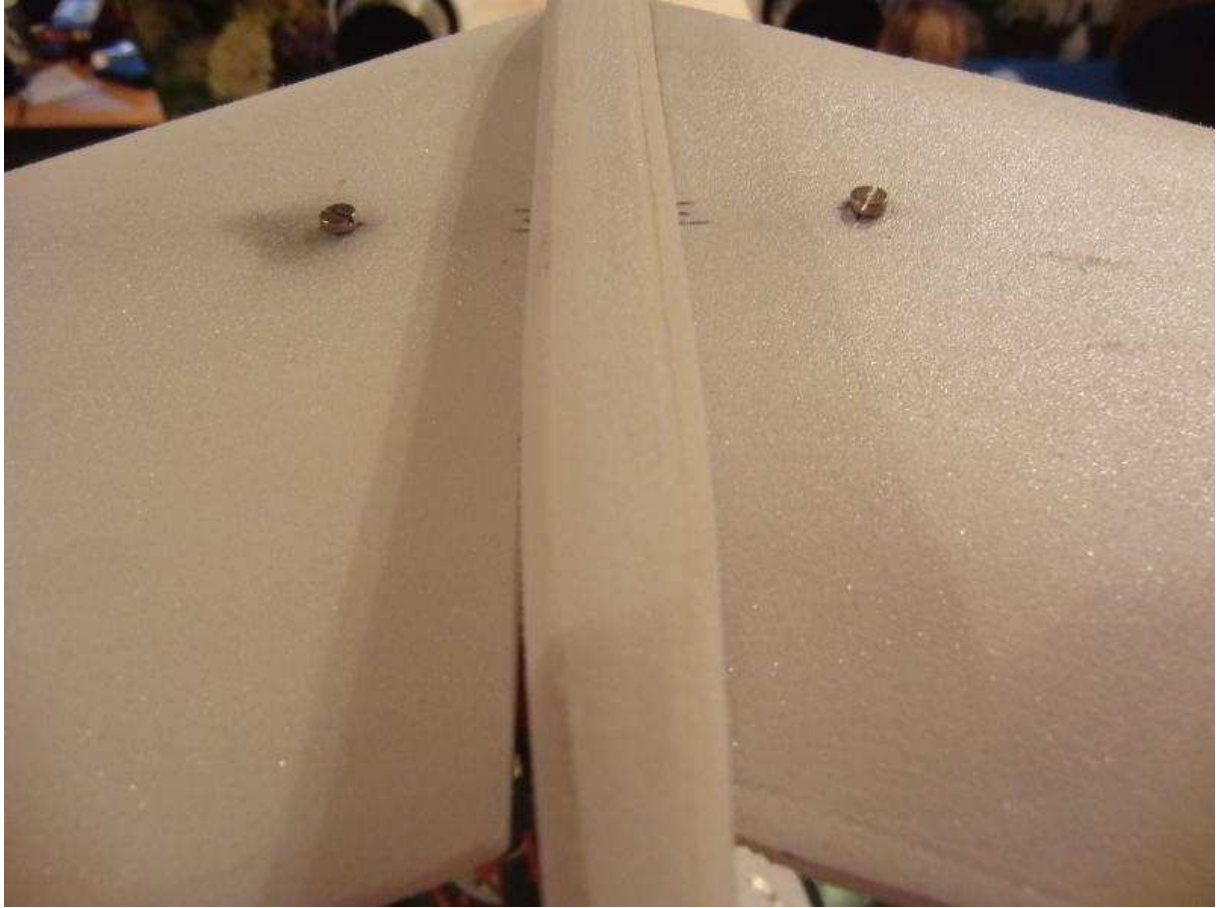
Rudder:



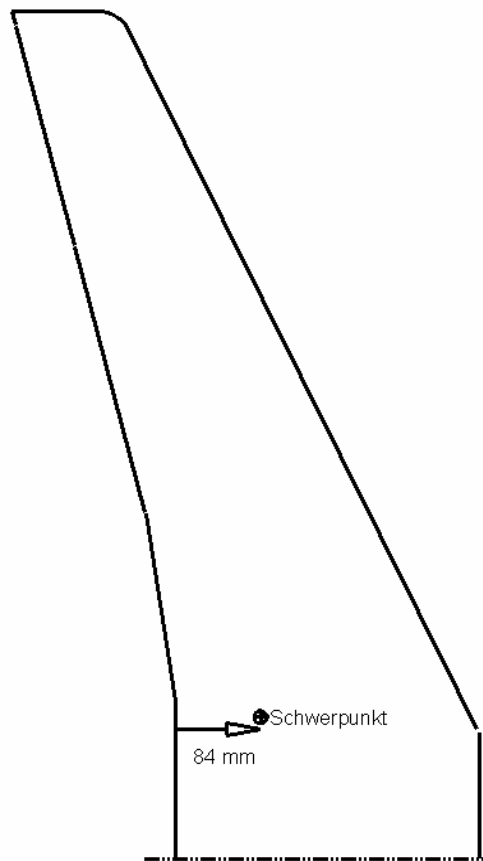
Elevator:



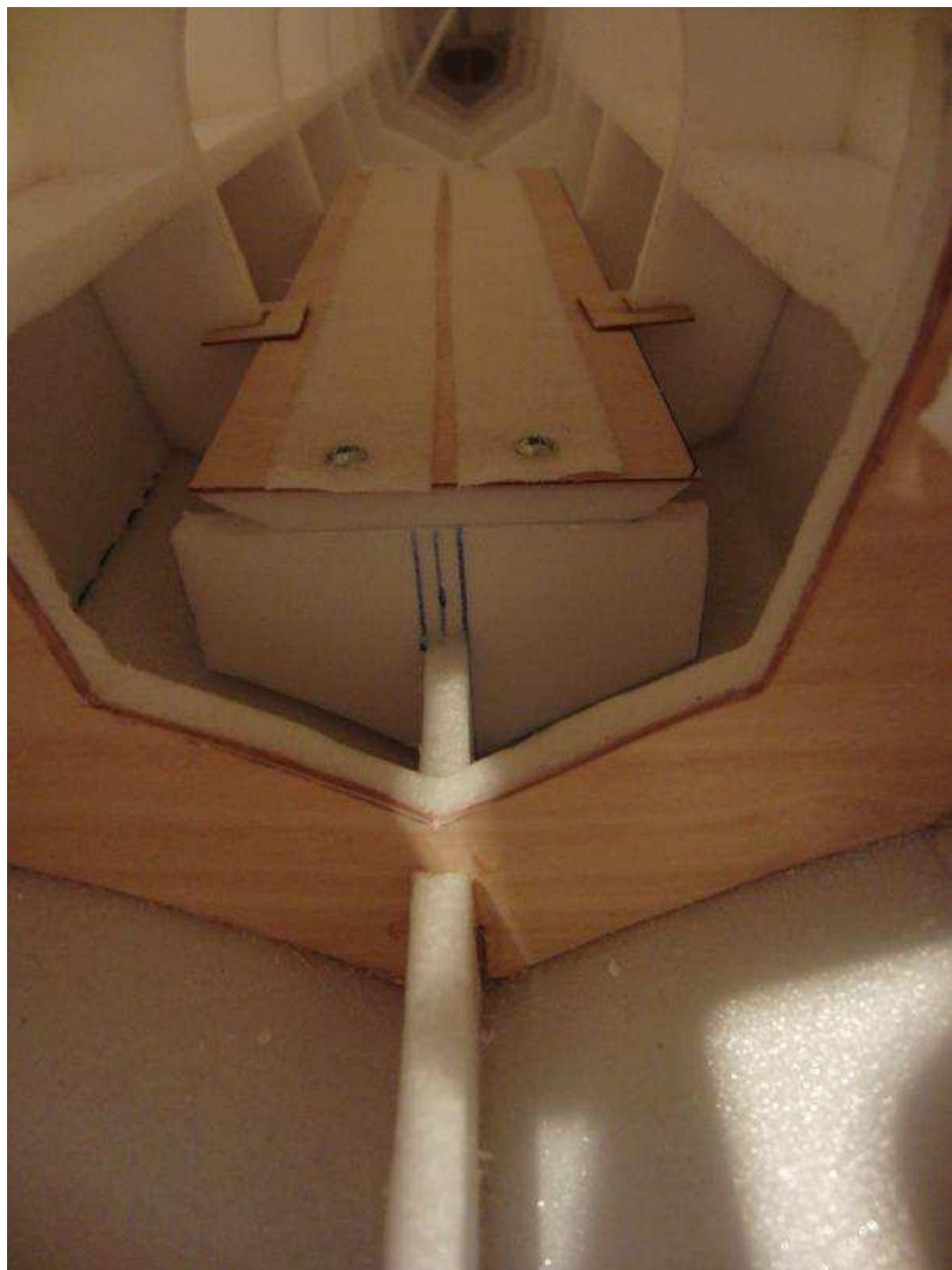
71. fixing aileron with small screws. (2 mm Hole in Alu and Carbon Pipe)

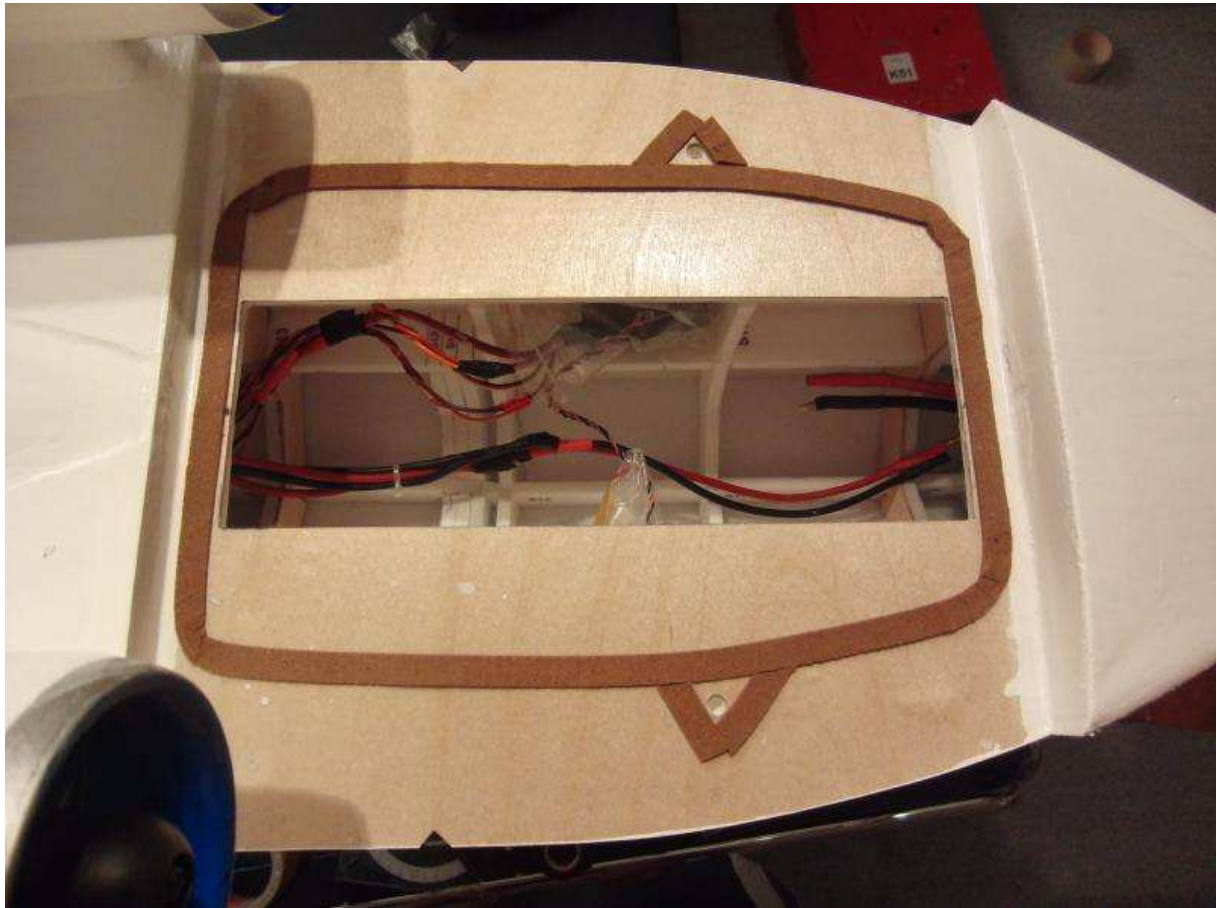


72. The Center of Cravity is 84 mm before aft Border see Scheme.



73. Lipo Position is in the front of the opening place in the Hull.
Recommendation for kapazity is 3 S 3500 – 5000 mAh.



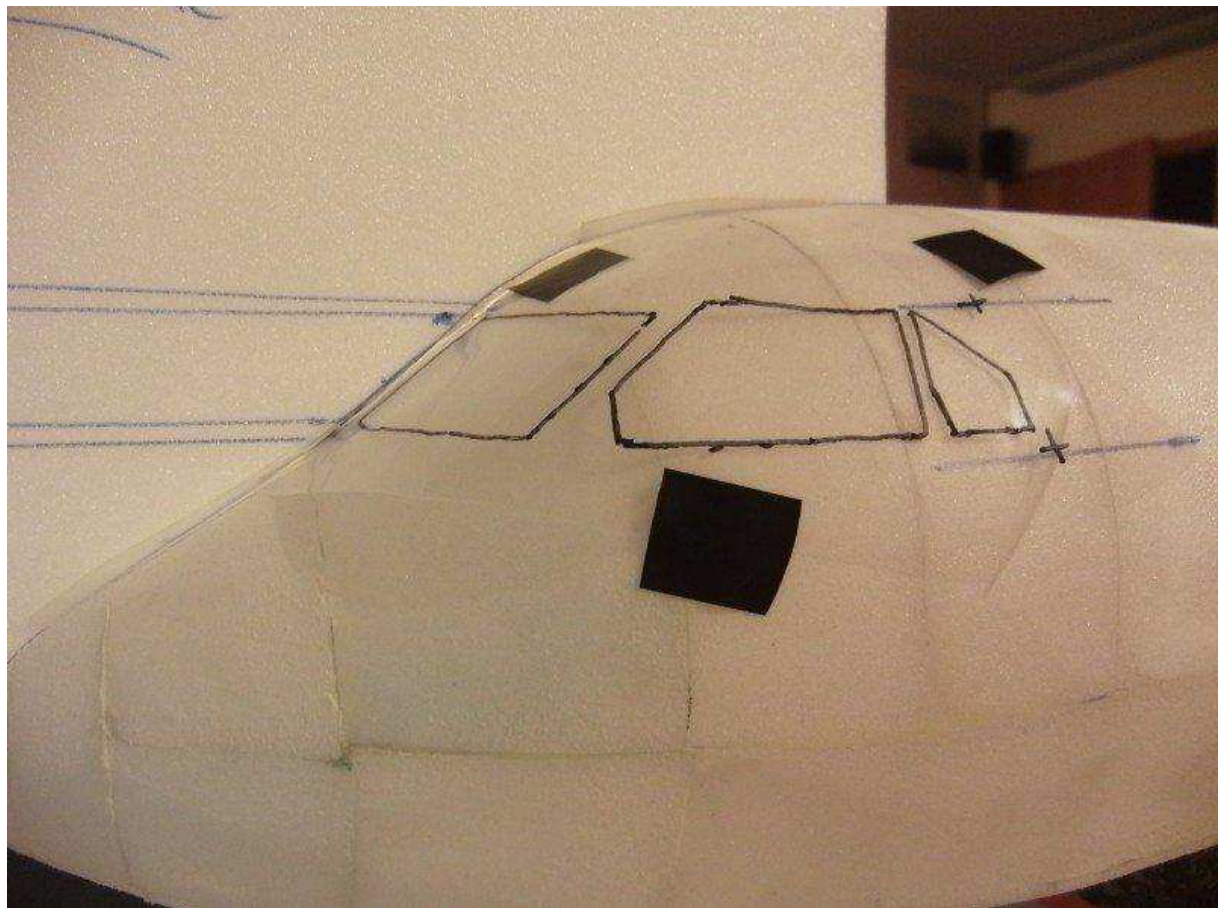


74. Both Controller please take 40A or more.

75. a small Rubbertape (1 mm) please stick on one of the Overlay.

76. Finish:

To found the corrcet position fort he Window, take both templates from the blueprint to fix it on the Hull, see picture.





77. For Finish take only colours without solvent glues.



78. RC Controll:

Servo way:

- Elevation: complete way you see in Depron Tail
- Rudder: 15 mm both side.
- Aileron: 12 mm both side.

For the best Control on the Water, mix a engine differentiaton in your RC Transmitter. So you can separate control both engines for all course on Water. When you will start, please mix both engines together synchron.

79. First flight:

- Check Be200 for any Water in Hull.
- all Flaps in neutral.
- engine differentiation on, off?
- Center of Gravity ok?



[Any Questions for build or Flight?](#)

Please contact me by any questions.

Im happy to see some pictures from your Modell by Email.

Have a pleasure time with your new Waterplane.

Frank Seuffert

info@scale-parkflyer.de

www.scale-parkflyer.de

Warning!!

Before you fly the R/C model it is essential to read the operating and building instructions in full. This sheet is part of the operating instructions. Please keep it in a safe place for further reference. If you ever sell the model make sure to pass on this sheet to the new owner together with the model. A remote controlled model aircraft (model plane) is not a toy. It is not suitable for children under 14 years of age unless they fly under strict supervision of a knowledgeable adult. Since the manufacturer and his agents have no control over the proper assembly, operation and maintenance of their products, no responsibility or liability can be assumed for their use. Correct assembly, safe operation and proper maintenance are the responsibility of the builder and the flyer.

Attention: Any rotating components on model aircrafts (propeller, main and tail rotor blades) are an ever present danger of injury to operators and spectators. This radio-controlled model aircraft is a technically complex device, which must be built exactly in accordance to the building instructions and operated and maintained with care by a responsible person. Failure to do so may result in a model incapable of safe flight operation. All fasteners and attachments must be secured for safe operation. Do not make any alterations.

General Safety Rules for flying an R/C model aircraft

NEVER ignore the local and national regulations for operating model airplanes. Contact local authorities, hobby shops, R/C clubs or the Academy of Model Aeronautics.

NEVER fly without appropriate liability insurance.

NEVER get near the model airplane with the propeller or main rotor spinning. Keep a safe distance of at least 10 ft. Ask spectators to clear the scene and stay away at least 35 ft. Be aware that rotating propellers and rotor blades are very dangerous and can cause serious injury.

NEVER fly your R/C model near or over crowds, playgrounds, streets, rail roads, airports, power lines or hospitals/radiology practices.

NEVER start and fly with unsafe and questionable equipment.

NEVER fly if you don't feel confident with your equipment, your location or your capabilities.

ALWAYS fly at approved flying fields and obey field regulations.

ALWAYS follow frequency control procedures. Interference can be dangerous to all. Prior to turning on your R/C equipment at the flying site make absolutely sure that the frequency you are going to use is not being occupied by someone else. In such case make appropriate arrangements with the others flyer(s).

ALWAYS perform each time before your first flight a range check of your radio equipment. With the transmitter switched on and its antenna collapsed, the receiver need to receive full signal at least over a distance of 30 yards.

ALWAYS familiarize yourself with your radio equipment. Check all transmitter functions before each flight. Do not only make sure that the servos move, but that their movements are correctly coordinated and are moving in the proper direction as well.

ALWAYS keep a safe distance from the propeller or rotor while starting the motor.

ALWAYS stay behind your model airplane when the engine is running.

ALWAYS keep in mind: Safety First! Loosing your model airplane will cost you some money for replacement parts, but your and others health is not replaceable.

ALWAYS ask an experienced R/C pilot for assistance in trimming the model and in receiving flight training under his supervision.

ALWAYS follow all recommended maintenance procedures for model, radio and motor.

ALWAYS check your R/C model for any worn, broken, damaged or loose parts. You are ultimately responsible for the maintenance of your R/C model and its accessories.

ALWAYS follow carefully the instructions, which have been supplied with your batteries, in particular, when you are using Lithium-Ion or Lithium Polymer batteries.

ALWAYS use the motor/engine recommended for the aircraft and do not exceed the revolutions per minute (rpm) it is designed for. Otherwise the propeller or the main and tail rotor blades may exceed their maximum permissible rpm and may get torn apart. Fragments of the propeller/rotor may get ripped off, flying away at high speed.

ALWAYS make sure that your batteries have been fully charged, otherwise proper function of your equipment will not be guaranteed.

ALWAYS avoid abrupt movement of the control stick while the model is in flight

ALWAYS use only the specified number of battery cells. Otherwise the motor and/or speed controller may be overloaded, may get damaged and/or causes radio interference or fire hazard.

ALWAYS have an eye on the wind and weather conditions and changes.

ALWAYS look for a wide and open flying area, especially if you are a beginner. You will need the space.

ALWAYS keep an eye on your co-flyers.

ALWAYS be considerate of the environment you are guest in.