Important note:
This documentation has been translated from German to English using Google language tools.
Please do not expect proper English. If something is wired or unclear, please contact me by email (ticket on FlyWood.de. If I find some spare time, I will re-write this manual in my own words… ☺

Introduction

Revision 2.21

Beautifully that it itself for a kit of the Nurflüglers *„more gritter!* "decided.

The kit is manufactured by me in a small series and completely CNC are gelasert. Optimal register accuracy and fast structure are in such a way guaranteed.

Before you begin with the building of the model, you should read this building guidance completely. With ambiguity or questions you can contact gladly me.

As additional material for the assembly you need:

- Highly liquid second adhesive (+Aktivator)
- Express Weissleim
- (Expoxy resin)
- Handle foil
- (Lacquer)
- Tesa film (as Ruderschanier)
- Lead for weighing out

Additional RC-components are:

- Brushlessmotor with max. 28mm diameter, approx. 200 Watts (e.g. Jamara 2208/08, Axi 2208/20,…, etc.)
- Brushlessregler (e.g. Jamara xenon Eco 25A)
- 3 channel receiver (e.g. Jeti)
- 2 cells Lipo accumulator, 1000 mAh
- 12mm Servos, e.g. Hitec HS-55, MEX 12 or the like (approx. 8-10g)

When building I recommend to you to begin with the trunk and to build in the aged hardening times the bearing area. Skillful model construction amateurs can assemble so the model in two evenings.

About your feedback or few photos for my side a www.flywood.de I would be pleased enormous.

Cross-beam and fractured ribs!

Jens Niemeyer
Hanover
January 2009

Building of trunks

The trunk is composed of 3mm Balsabrettchen, 2mm plywood frames as well as 10mm Balsadreiecksleisten. It does not exist a plan for the trunk, since the existing milled side parts result in the hull form automatically.

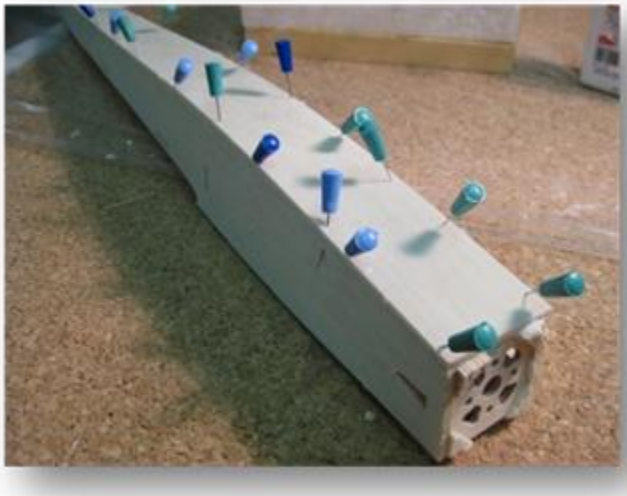
Begin to strengthen the two trunk halves at the ground and within the range of the hood cutout with the triangle border. Within the range of the hood cutout you manufacture two borders, which sharpen you properly matching by right due to the large bend. The canopy is likewise stuck together on the triangle border (not however with the side part). For the gluing I recommend express wood glue.
With the rear range of the trunk the triangle borders are stuck together only at the ground. The cover does not receive triangle borders.

In the place, in which the canopy is to be cut out later, perforate the triangle border with a thin drill or a sharp measurer. Note: Triangle border do not split!

For the surface attachment you stick now the four nylon nuts into the etsprechenden anti-twist plates from plywood. For fixing you can pivot the screws. Make sure that you stick the screws together not with!

Stick now between the two side parts the head frame as well as the surface edition with Weißleim. Make sure that the surface edition is bonded correctly around.

After that head frame and the surface edition drained, stick the engine frame. For this Expoxyharz is suitable. In order to receive an engine course, you leave the frame at the right trunk side approx. 1 mm behind the front edge fasten (projection can be sanded off later).



Now you can glue the trunk ground on. In addition you must grind the triangle borders at the fuselage end section, in order to receive a pointed process.

The canopy is glued on from a milled 3 mm of Brettchen.

Now the rear trunk cover can be glued on. The tongue of the stuck fin can serve as guidance. The fin is however only bonded after sanding and Bebügeln.

Stick now the 8 mm pegs into the sharpening template (41 mm in diameter). For hardening you put the peg into the engine frame. Thus receives equal to template the correct engine fall/course. Note! The template in no case with the trunk stick together. This serves afterwards only to sharpen the fuselage nose beautifully approximately.

After the trunk was sanded, separate with a sharp measurer carefully the canopy out.

Sand now the interface carefully, without changing the form of the hood.

HINT!
If you should belong to the flier comrades, who land rather „hard “, it is advisable now in the leading-edge area one approx. 20mm broad CFK volume approximately to in resins. Thus the leading-edge area is stabilized

Stick the two plywood strips as guidance on the right and the left hood side as well as a further strip on the point of the hood.

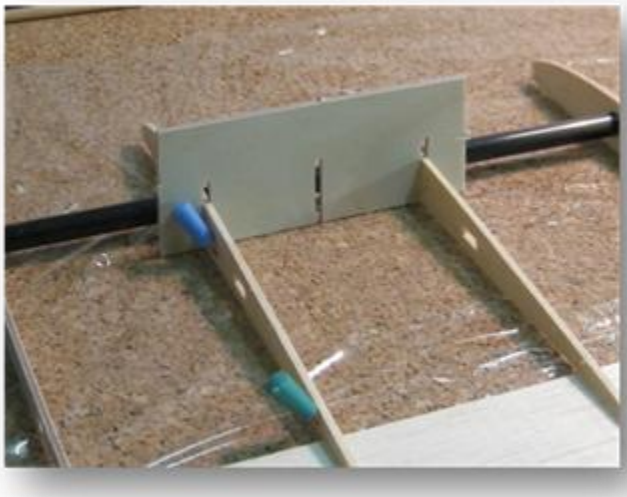
Bend they the wire around 90° and stick you it with a drop second adhesive on the plywood strips already glued to.
They receive so a beautiful and simple canopy catch

The trunk can be bebügelt now either with foil or painted simply. Parquet lacquer results in a very beautiful and firm surface. The vertical stabilizer is only put and stuck together after the finish into the recess. The trunk is thus finished.

Building of bearing areas

The bearing area consists of a coal tubing wood combination and can be developed by means of second adhesives in very short time.

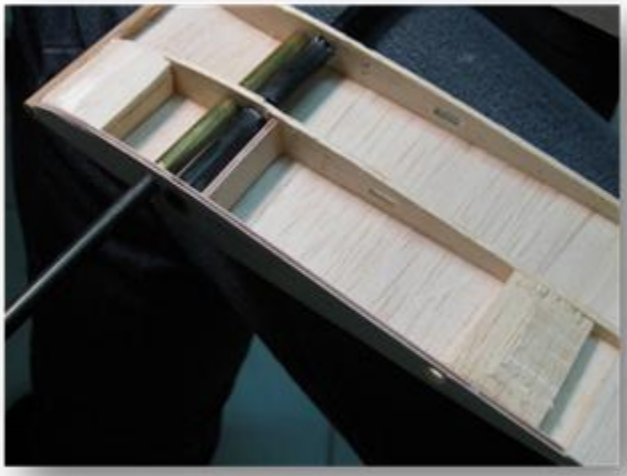
Sort the ribs of the size after and thread you these successively on the coal pipe up.



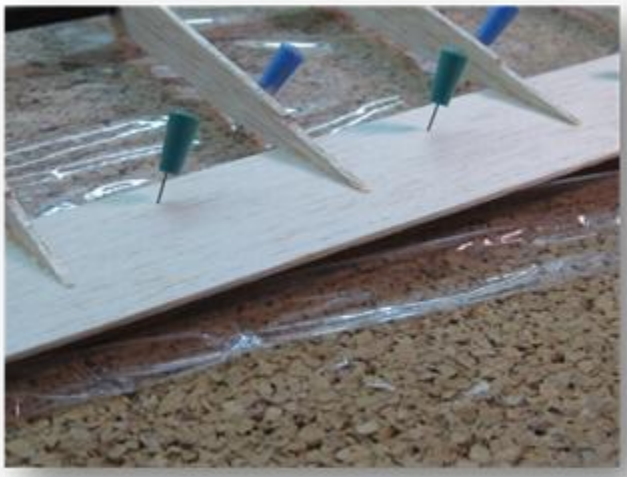
With the rib comb you can the full ribs align and successively with second adhesive fix. Begin thereby from the surface point and forge ahead you up to the Wurzelrippe. Note: The last ribs, in which the surface putting comes, have a simple distance (see illustration 1: Design of the right bearing area (without Winglets) illustration 1)

Now the ledge can be likewise fixed with needles and fastened with second adhesive. Subsequently, the rib sections with the comb are drawn up and stuck together.

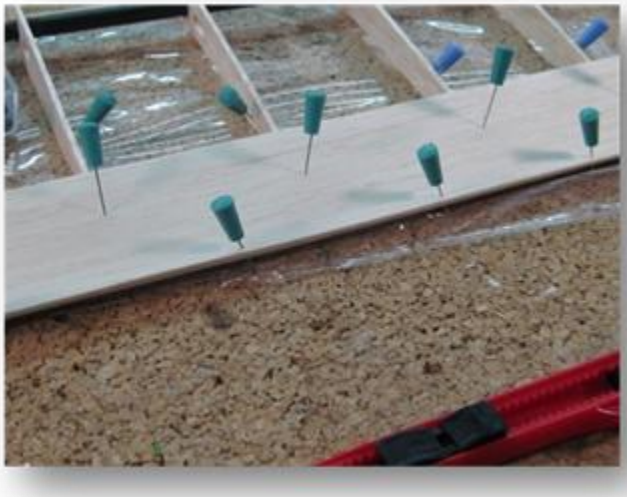
Subsequently, with the rib comb the remaining rib sections are glued on.



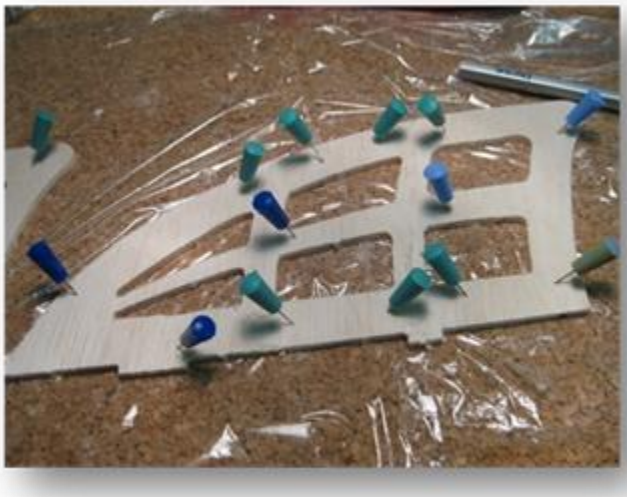
The first three ribs get from downside and above a skin with 1.5mm Balsa. The Wurzelrippe is winkelig glued on by means of the plywood angle and a tube with plentifully resin is stuck together.
Note! In each case a side of the tubes must be up-filed with a suitable Schlüsselfeile, so that the 6mm spring steel fits! The Wurzelrippe is bonded diagonally. The ribs 2 and 3 must become easily conical polished in the place, in which the brass tube goes through, with a rat tail file, so that the tube has place. The rib comb angeformt in addition a suitable angle.
In the places, where the screws are perforated later, the cavity with Balsaresten is filled up and sanded suitably



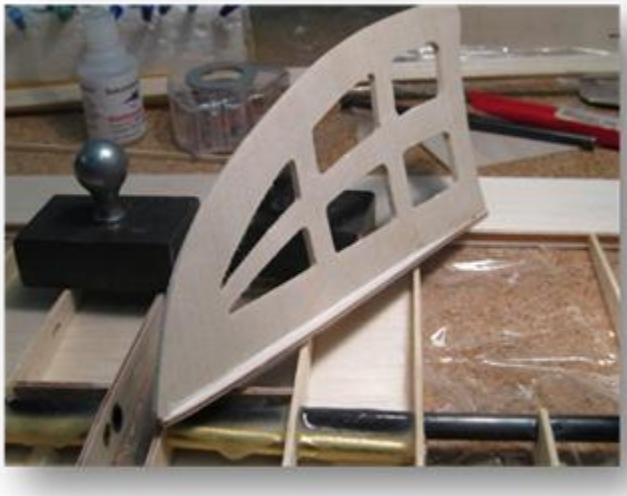
Cut two 1.5mm Brettchen on approx. 800mm off (the projections are cut off later and sanded). Subsequently, you halve the two Brettchen in the center (full length), so you 4 Brettchen A 800x50 received.
End rails in such a way provide first rib for rib from downside with second adhesive on the ribs are stuck.
Put under the end rail a 5mm broad strip from 2mm Balsaresten around a little a S-form to receive



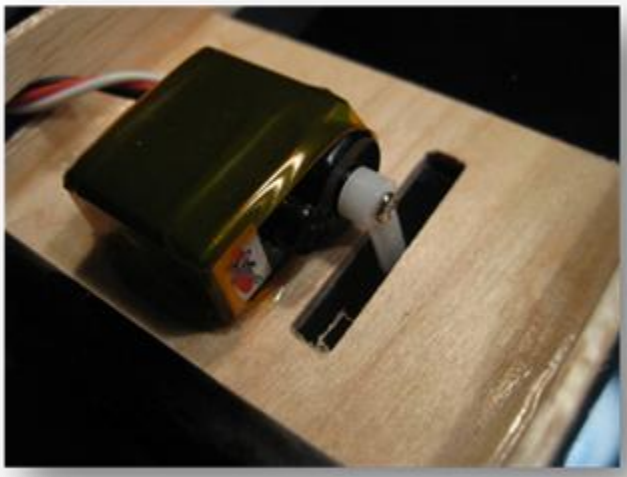
The upper strips are stuck together afterwards with Weißleim on the lower border.



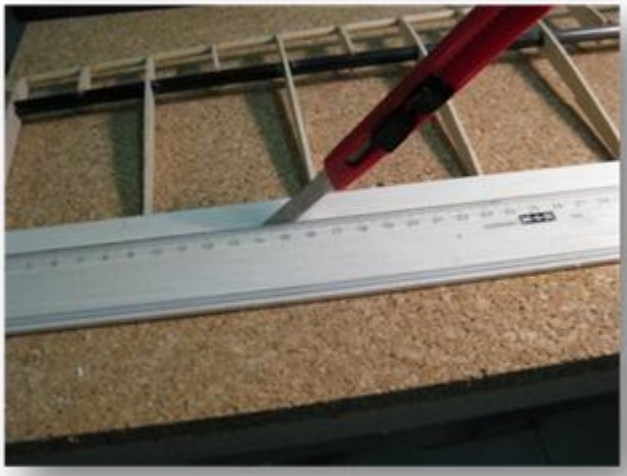
The Winglets is stuck together from the individual parts.



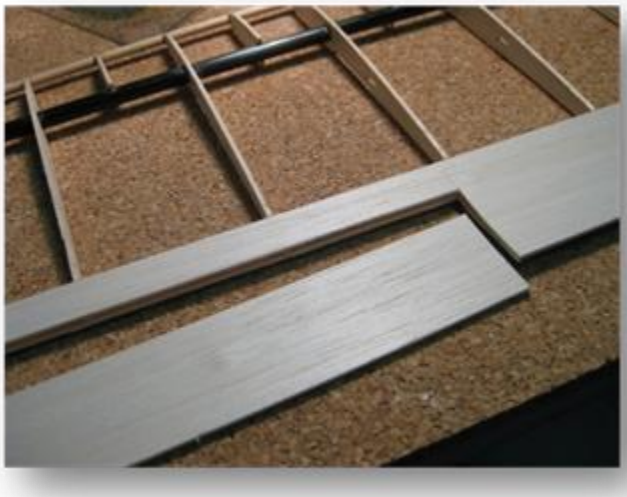
Subsequently, the Winglets with the plywood ribs is stuck together.
The Winglets is only fastened AFTER the Bebügeln with Tesa film to the wings!



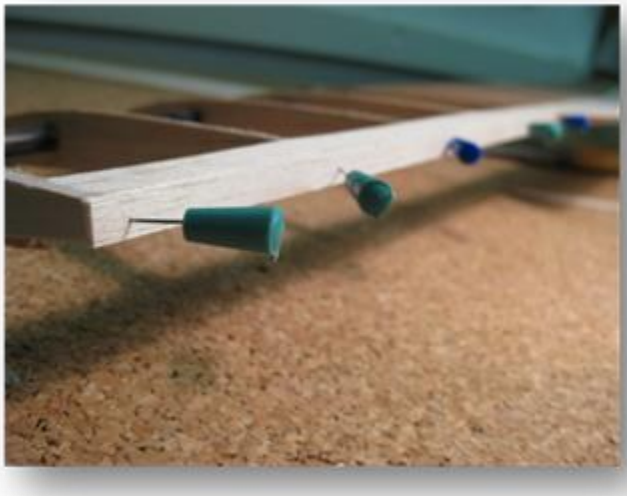
The Servos is stuck BEFORE the Bebügeln by means of Epoxy on the bonded Sperrholzbrettchen.



Mark with a ruler the later ailerons. They should
35 mm deeply its and up to the servo pit extend.



With a sharp measurer you separate now from both sides the rudders out. Mark the rudders as well as the upper/lower surface!

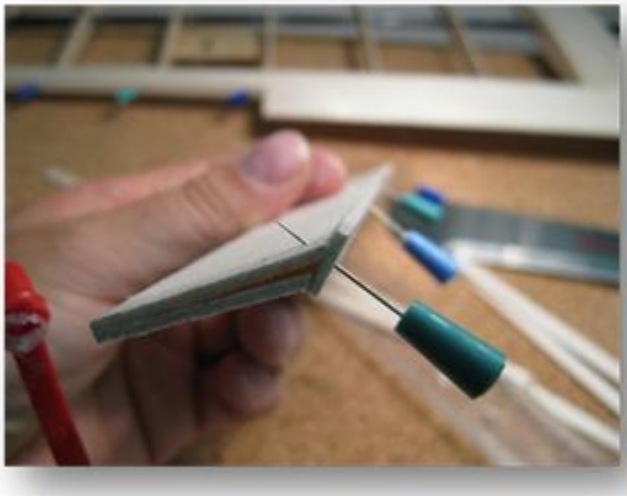


After the rudder cutout with a sharpening slat became polished straight, this is verkastet with a 1.5 mm of Balsastreifen.

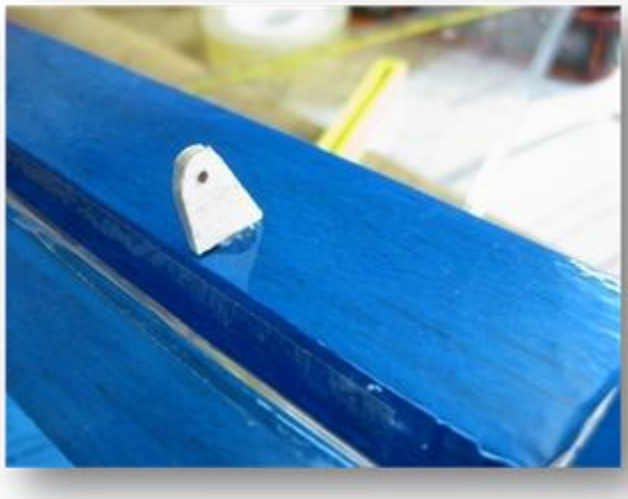
Cut now from the rudder ABOVE a 4 mm off of strips, DOWN a 8 mm of strips.

Taper with a measurer the rib points.

Sharpen the level with a sharpening slat, developed in such a way, carefully flat.

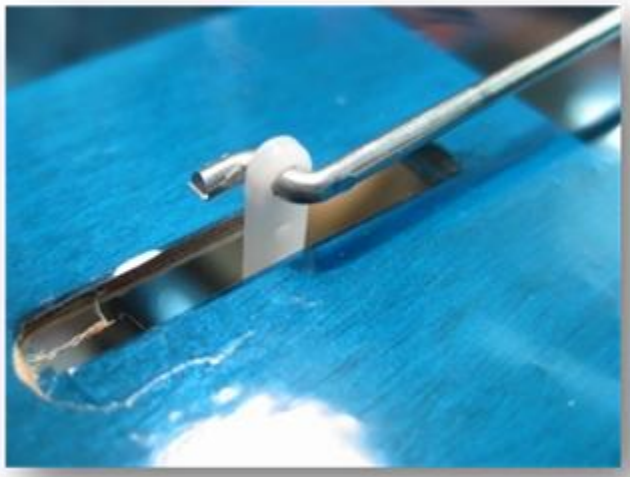


Box it the front edge of the rudders likewise with a 1.5 mm of Balsastreifen.



The rudders become with one strip each Tesa film from downside and above (in the order!) to the wing scharniert. In the place, to which the rudder horn is to be fastened, bore a 3 mm hole, fill this with 5 minutes of Epoxy and fix you the rudder horn.

The yoke at the rudder horn hung up…



… the other end with that
Z-connection is hung up into the servo arm.

RC installation

To the RC installation is not to be said much, the Servos sits already at the place, only the engine must be installed. Please make sure that with an external runner this does not scrub at the cables. If necessary you mill out the triangle borders a little with a Dremel. The accumulator should be quite far in front. The receiver comes in the back into the trunk.

First flight

To the first flight I recommend to proceed as follows:

- A cradles of the model. The emphasis lies between 40-50mm behind the ledge. To the first flight it is simpler, the model out rather head than weighing nose-up.
- Place the rudders into the Strack
- The excursions of the rudders adjust it to approx. + - 10mm
- Please absolutely program Expo on the elevator! 60% cannot harm there. *More gritter! reacted* very sensitiv to height. If you should not possess Expo mixer, then I recommend to reduce you the rudder outer impacts clearly.

If you stopped the model accordingly, you should the first flight as well as an aide would drive through. With running engine you become the model strong easily upward. *More gritter!* should constantly rise afterwards in this angle, so that you can already turn the engine off after some seconds, in order to test the sail characteristics.

During the approach flight (engine is switched off!) note please that *more gritter!* a very good gliding angle has and you from there the approach flight spaciously to concern should. With a little practicing succeed to you in addition, with *more gritter!* „with foot landings “.

Much fun with flies!
Jens Niemeyer
Hanover, January 2009

Appendix

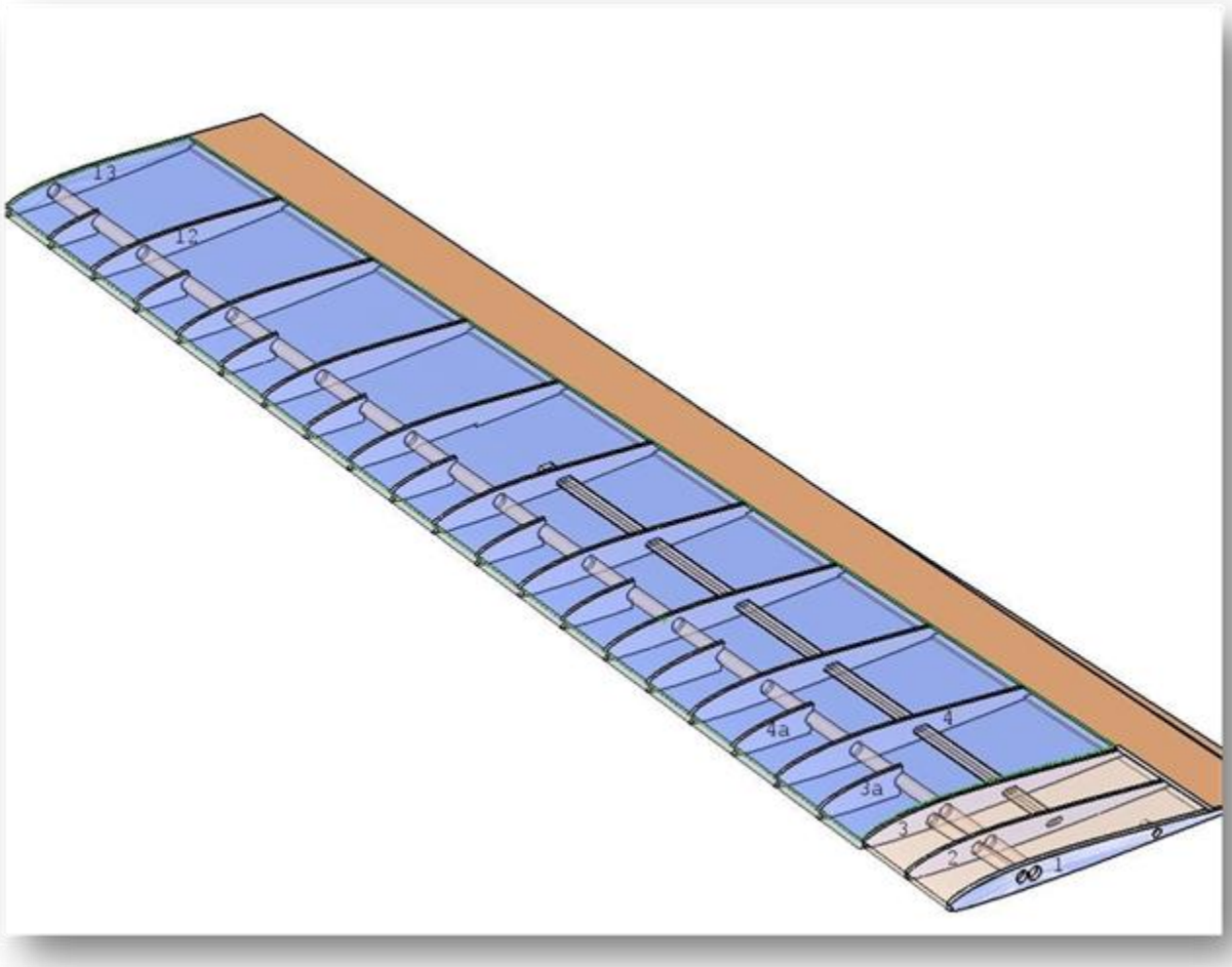


Illustration 1: Design of the right bearing area (without Winglets)

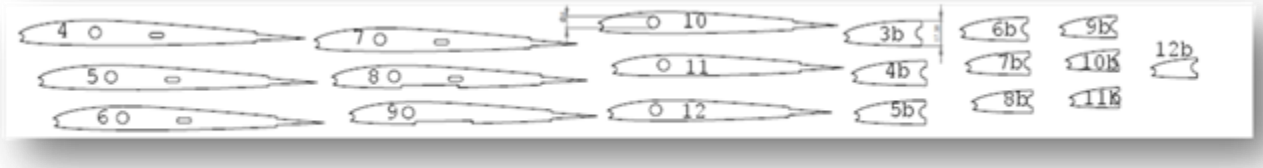


Illustration 2: Overview of the 2mm ribs (Balsa)

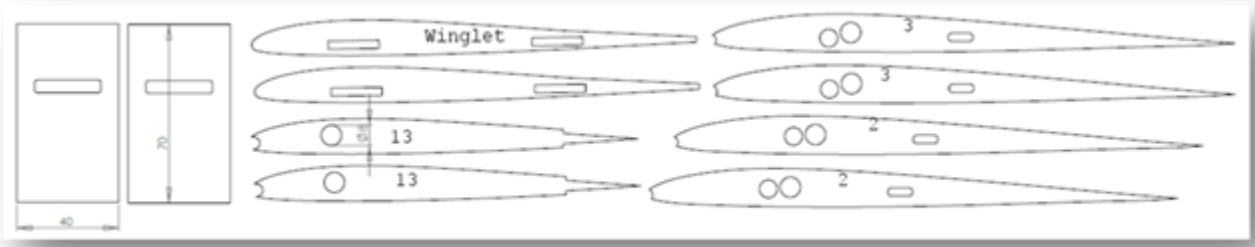


Illustration 3 construction units on Sperrholzbrettchen

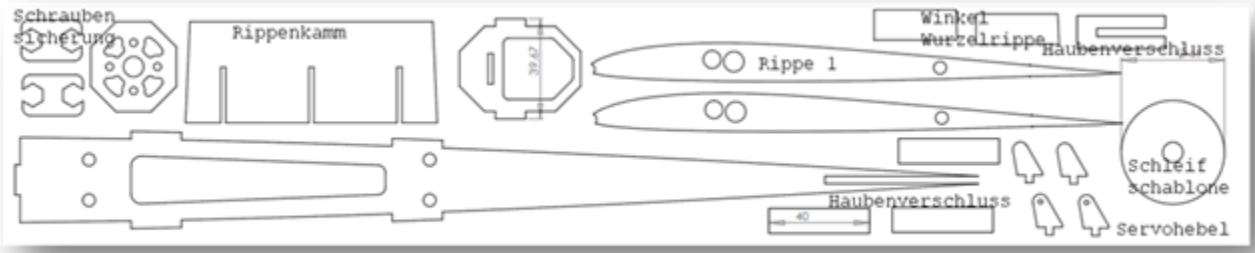


Illustration 4 construction units on Sperrholzbrettchen