

WING TIPS MODELS EYECATCHER MK2

ELECTRIC GLIDER PART 1

WORDS: COSMO MOURTZIOS

I've been a fan of the glider designs of Robert Schweißgut of www.wing-tips.at for some years now and I've finally got my hands on one of his exceptional kits.

Before I even get started, I have to mention his website and if you're a fan of flying wing designs as much as I am, you'll love the range of kits he has on offer.

So lets get started. My choice was the Eyecatcher Mk2. An unusual, yet elegant design slightly reminiscent of the nostalgic Bird of Time glider.

The box arrived quickly and well packed. I was very excited to get started on this build.

The first thing I noticed upon opening and examining the contents was the exceptionally high quality balsa wood. Seriously, this would have to be the most even grained balsa wood I have ever seen.

Whether it's luck or consistency, the soft sheet was soft, smooth and consistent in grain and quality from one end to the other. Same with the harder sheet and the specifically selected quarter grain for parts like the trailing edges and control surfaces.

I've been doing this long enough to know quality when I see it, the plywood too, so consistent in quality over the entire sheets supplied.

Ahh, the instructions are in German... no worries, there is a PDF version on his website which in about 30 mins with the help of Google translate, I had an English version printed out.

Yes, it did loose a bit in the translation, but with scratch building experience you'll be able to work your way through it from start to finish relatively easily like I did.

The kit is all CNC cut, no laser burn marks anywhere to be seen. And

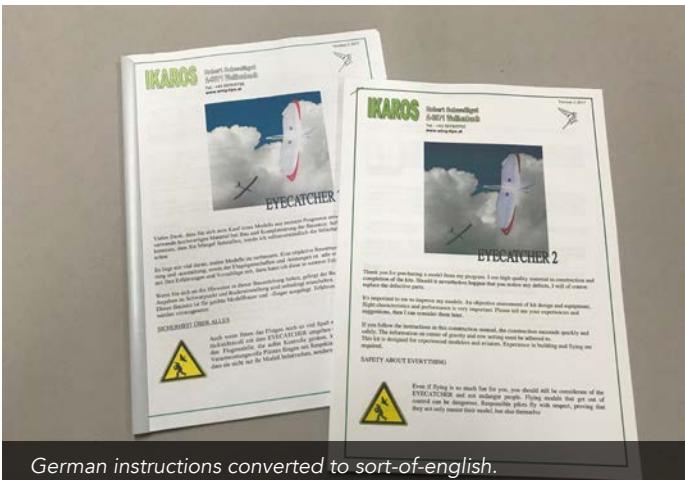
much like the high-quality balsa wood included, he must have had a brand new router bit because the CNC cuts where all crisp and very clean.

A quick nick with the X-ACTO knife or a fine toothed hand saw and the pieces were free, just needing a light sand.

The fuselage sides are first, reinforced either side and brought together with a few formers, it comes together easy and square. Doublers the entire length and tristock in the nose allow the traditional 'rounding-off' of the fuselage.

There's a few nice touches added to the contents like the option of a 3D-printed nose former and vertical fin box inside the fuselage.

I chose to use the 3D-printed nose former as the tapered side gave the motor wires a little more clearance. However stuck with the built up balsa fin mount. Which by the way uses small rare-earth magnets to keep the fin in place.



German instructions converted to sort-of-english.



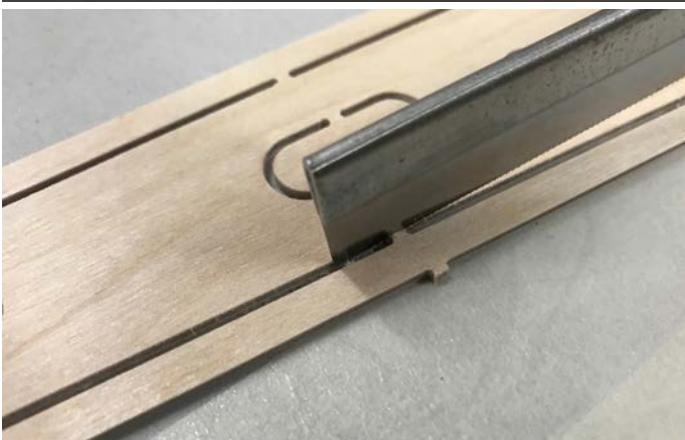
A very complete, high-quality kit.



28-30 980kv, 25amp ESC, micro digital servos and 10x6 folding prop.



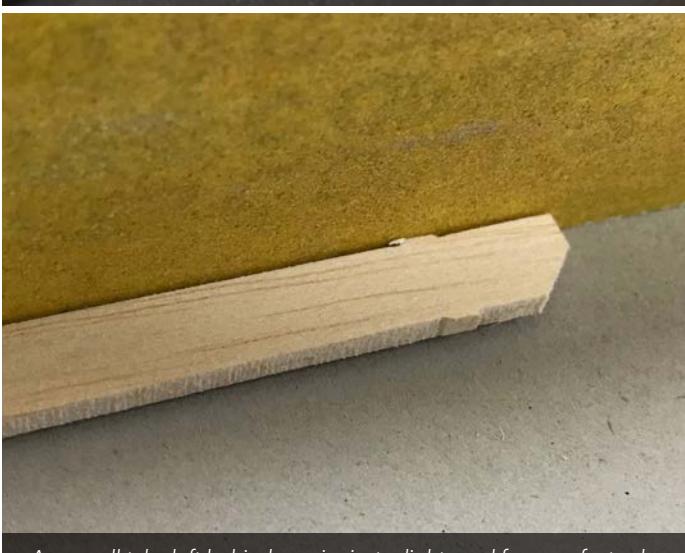
The balsa included is some of the best quality I've ever seen.



A fine razor saw makes light work of the ply and trailing edges.



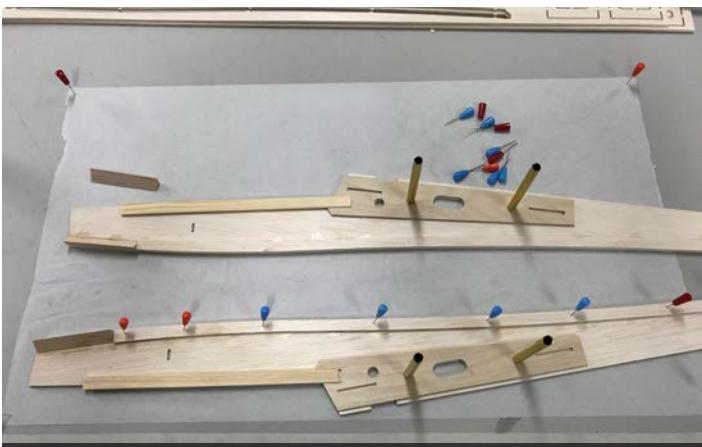
CNC cutting is exceptionally clean and precise.



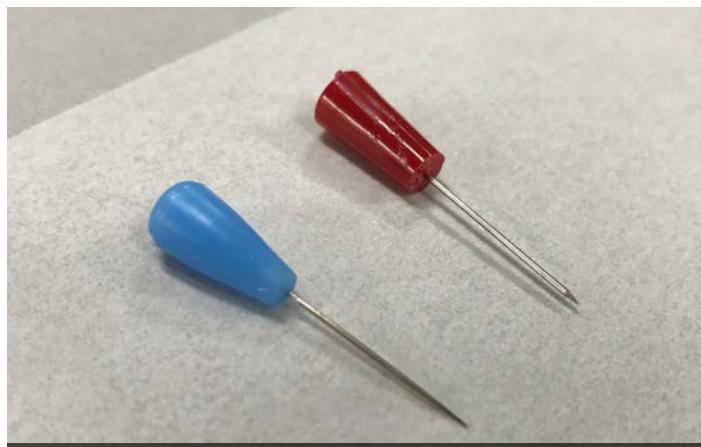
Any small tabs left behind require just a light sand for a perfect edge.



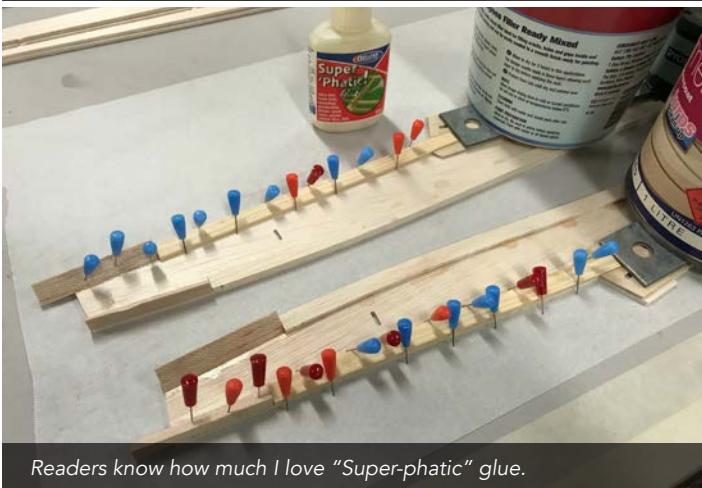
Every part had a light sand with 120-220 grit sandpaper.



The build starts with the fuselage sides.



My new Graupner (blue) pins are thinner, with a longer sharper point.



Readers know how much I love "Super-phatic" glue.



The 3D option allowed a little more clearance for the motor wires.



The right wing panel begins.



Carbon rod easily slides down every rib for a very clean, snug fit.

Thus, the fin is removable for transport. Hardly necessary, but a nice touch. You could easily omit the magnets and just glue the fin in place.

While we're on the fin - there is an optional built up fin available for an extra 15 euros. I opted for this, it looks so much better than the included sheet version. I think Robert should just include the built up fin and raise the price of the overall kit a little.

The wing root is next, three ribs make the root area that holds the brass tubes to connect the wings. Albeit with very heavy solid 6mm steel rods. I'm substituting these with heavy-walled

6mm carbon tubes. In fact, let's get onto the wing build and I'll get back to the weight of the model shortly.

So it's been smooth sailing so far, let's build the wings.

They come together easily, the Google translated pages need to be read twice and you should take the time to sand accurately and test fit a lot of the parts, especially around the servo bays.

The balsa again, is excellent quality and all pieces lock together exceptionally well. The root area is taped to the fuselage to provide the correct dihedral for the outer ply rib. Once dry, it's

removed from along the fuselage and added to the rest of the wing. Servo bay supports, carbon spars, leading and trailing edges are added. Lastly the tips are constructed and added - the whole wing (half) is built flat which is a great convenience.

So, here's what you've been waiting for. The right half is built, I unpin it from the work surface to start the left panel and it seems a little on the heavy side!

Firstly, the ribs are 2mm balsa, no big weight gain but they could easily be 1.5 or 1mm balsa. And the two square carbon tubes seem to add a fair bit of weight. I question whether they could



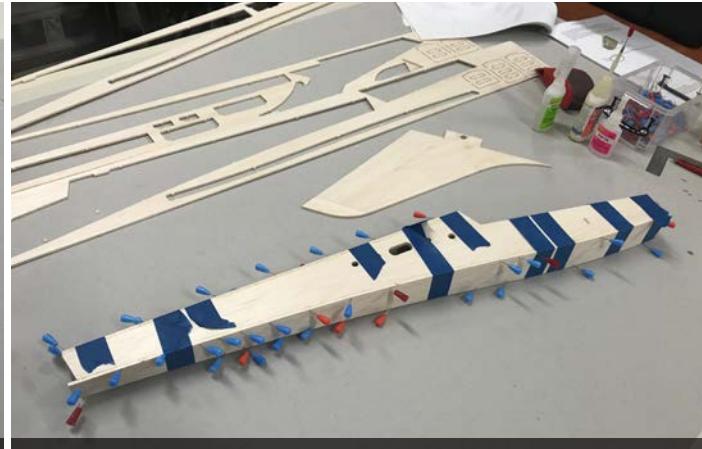
Matching the right tool for the right job.



Rare-earth magnets hold the vertical fin in place.



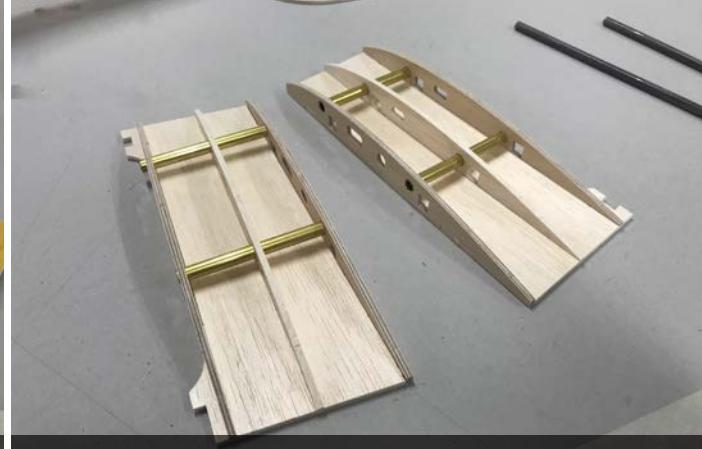
Included sheet fin and the built up option, much better in my opinion.



Completed fuselage held together while the glue dries.



Left and right wing root parts to kick off the wing build.



Complete dry fit first.

stop shorter, maybe around the 5th rib and spruce spars could run the entire length to provide strength.

Just an observation from experience, I'd personally like to see the wings a little lighter, however having said that Robert does offer a similar sized gliders that are lighter on his website, one being the "Zorro light".

So while the left panel is pinned down and glued up, I sand and shape the right wing panel.

The more I sand it I'm thinking to myself "it's actually not *that* heavy". My focus is on the square carbon tubes - that's

where the weight is coming from. Maybe they could be substituted for thinner round tubes to save a little weight?

Regardless, the wings build quickly and very straight. You will like looking down through all the holes cut for the carbon tubes before sliding them in. And they do slide through all ribs perfectly - and I glued all the ribs down first!

Wing tubes are glued in with thick CA, take the time to clean them thoroughly and sand them lightly where they will contact the wood.

Once dry, the top of the wing root area is sheeted with 2mm balsa.

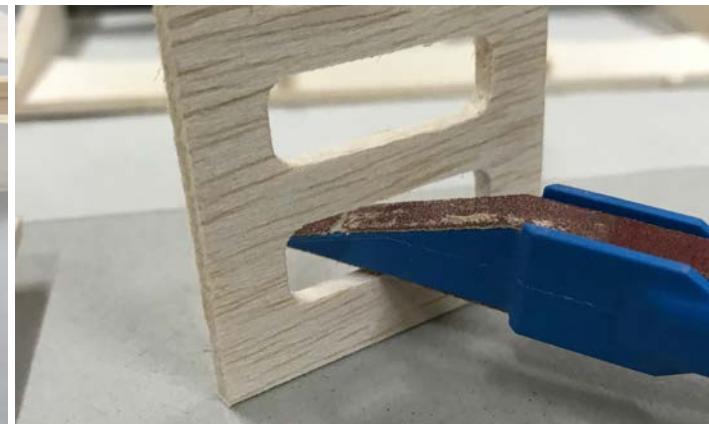
Also include are handy little gauges to set the correct angle for the trailing edges. Where the flat sheet meets the edge stock, there is some careful sanding required to meet at the perfect compound angle. Take your time and you'll be rewarded with a clean join. The hatch is held on with the traditional tongue up front and a rare-earth magnet at the back.

After the first magnet was secured to the fuselage former., I stuck a second magnet to it and a dot of thick CA on the back of the second magnet and then brought the hatch down in position.

This left me with a magnet glued



Then tape to the fuselage to set the dihedral angle and glue.



Again, the right tool for cleaning up the CNC tabs.



Everything fits so well, just a drop of thin CA is all that's needed.



Remember to clean the carbon and brass tubes before gluing.



Carbon and brass tubes were held in place with medium CA.



A fine razor saw along the rib trims the training edge flush.

perfectly in position on the back of the hatch lining up with the magnet in the fuselage former.

Looking at the sanded wings on the bench I definitely prefer a CNC cut kit over laser cut. The fit and lack of burn marks you get from laser cutting make this so much more rewarding to look at and how could you cover it in anything other than transparent covering!

In fact, I have a tub of balsa filler open and a small amount on the end of a stick and I'm struggling to find something to fill. This really is an exceptionally good quality kit that I'm really pleased with. I always find the carving and shaping of

a model quite therapeutic. Whether its the wing tips, fuselage or in this case the canopy. I like taking the time to carve a little off each side, checking for symmetry and then the final sanding for shape.

Actually, I found a little raised grain here so I was happy to finally use a little filler!

Earlier I had ordered the recommended 10x6 folding prop from Graupner USA. It came complete with a "cool-nose" spinner that matched up perfectly with the nose and canopy profile. And even though the canopy is solid, there's plenty of room in the fuselage for the motor, esc and 2200mAh battery.

As with the optional fin offered, there is no moulded canopy offered, but can be easily be done.

I have since carved a second canopy, removed it a sanded it a little further (smaller in size) that I'll now use to create a canopy from.

Alternatively, if your feeling adventurous with a Dremel tool you could carve the canopy out to save a little extra weight.

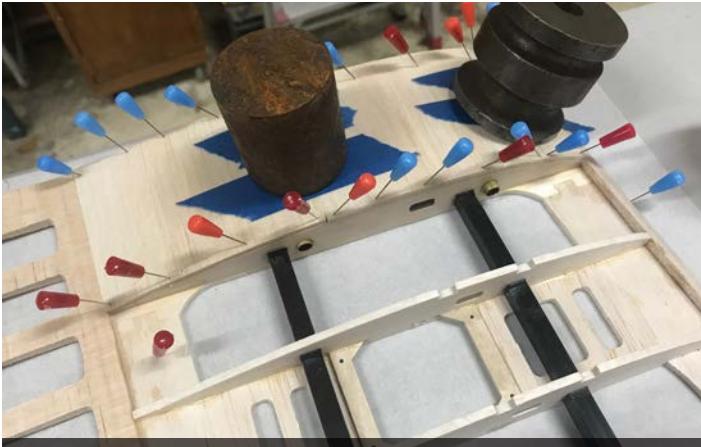
Overall, the build of the Eyecatcher Mk2 has been a very happy experience so far. The balsa and ply included is A-grade quality. The hardware is also of high quality and very complete. There are



The edge strip has three compound angles for a clean, snug fit.



Pushrod exits the top. Hinge is open from the top too, not ideal!



Root area sheeting in place and under weight while the glue dries.



Flat bottom airfoil means the whole wing is built pinned down.



Balsa block front and main canopy prior to shaping...



... and after. Still a little more to go, but looking great!

even tiny self-tapping screws for holding on the servo hatches.

The carbon tubes are cut to the exact length needed. The brass tubes are supplied slightly longer than needed which is perfect. Once they are glued in place they are easily filed and sanded to a perfect flush fit with the balsa sides and ribs.

I'm very impressed that there is obvious attention and care taken to select the right type of balsa for the right parts. Something that is often overlooked in a mass produced kit.

If you're not inspired to visit Robert's

website and order one yourself, then at least consider all the small manufacturers out there keeping this wonderful hobby alive with honest quality over mass production.

I've already got my eye on another and I haven't finished this one yet.

And while I'm taking about Roberts website, www.wing-tips.at, one look at the glorious snow-capped mountain locations you'll see why he's so inspired to produce these magnificent kits.

So it's all coming together nicely at this stage. It's feeling lighter now that's its sanded smooth and begging for a

transparent covering which we'll cover next time along with the maiden flight.

I'll go into the electrics in the next part of this build, there wasn't much on the forums, but his website has enough information regarding power setups.

It's winter now, perfect for building indoors and we'll soon be coming into spring so like all the beautiful picturesque photos on Robert's website I think I'll have to search for a mountain location here for the maiden flight to do it justice.