

# John.

a tribute to the joy of flying



Wingspan	2000mm
All-up-Weight	1500g
Airfoil	Aquila mod.
Center of Gravity	33-35mm
Wingload	32g/dm <sup>2</sup>
Materials	LW-PLA, PLA

What's it all about?

It was one of those cold, rainy days when I sat on my couch and thought about the good ol' days, back when some balsa, wood glue and a 2 channel RC was everything you needed for endless adventures. The Majority of RC-planemodels is all about performance today which is nice of course, but sometimes I miss the fundamental joy of flying a RC-Plane. The warm breeze in your face when you release your glider on your favourite slopespot, the conversations with your best flyingbuddy, the laughter when someone lands in a tree and of course the simple joy to fly your plane along the ridge.

All of those memories inspired me to take a pencil and start sketching a planeshape onto a random piece of paper. Out came John – a curvy, oldtimer inspired, rudder/elevator only slopeglider with a special touch and a little secret: it's 3d printed (psssst – don't tell anyone :D )

However the flightcharacteristics are perfect for those who search the simple kind of fun.

What kind of Materials do I need?

4x10mm roundmagnets Neodym	12 pcs
8mm Carbontube (1-2mm thick)	2x 500mm
4mm Carbontube (HorStab reinforce)	400mm
4mm Carbontube (rudderaxle)	195mm
2x 2mm Carbonrod	445mm
LW-PLA	ca. 1000g
regular PLA	ca. 150g
2 servos 9g – SG90 or similar	2 pcs
RX of your choice	1 pc
Battery 3000 mah 3S (motorized)	1 pc
optional Motor HK NTM Prop-Drive 28-36 1200KV / 530W + ESC	1 pc
Bowden	2 pc
Trimmingballast	ca. 400g for glider, way less for motor
CA-Glue + accellerator	best to have different viscosities!

## Printsettings

The following settings are recommendations. Your individual, perfect settings highly depend on the used Material, your printer, your ambient temperature, humidity, etc. Please see them as a guideline and feel free to experiment. Default settings were created on a Prusa i3 MK3S using 0.4 Nozzle.

Category		A	B	C
Material		LW-PLA	LW-PLA	PLA/PETG
Layer height (mm)		0,25	0,25	0,2
Bottom Layers		2	2	3
Top Layers		3	3	4
Outer Walls		2	1	3
Infill		3,00%	3,00%	20,00%
Nozzletemp		235°C	235°C	215°C
Bedtemp		60°C	60°C	60°C
Flow (%)		47,00%	47,00%	100,00%
Cooling		50,00%	50,00%	100,00%
Brim		yes	yes	none
Support		none	none	none
Linewidth		0,45	0,42	0,45

Note: „John“ is the first plane of our „Simplyfly“-series. Those planes are made to be editing-friendly and are therefore printed with Infill instead of fixed innerstructure. If you encounter problems with the infillstructure please reduce the speed for infill in your slicer as this value is very high in most default settings and foaming material will not have enough time to expand.

If you want to increase strength or decrease weight of a part – feel free to increase outer Walls, decrease infilldensity, play with the wallthickness aka linewidth!

## Printsettings

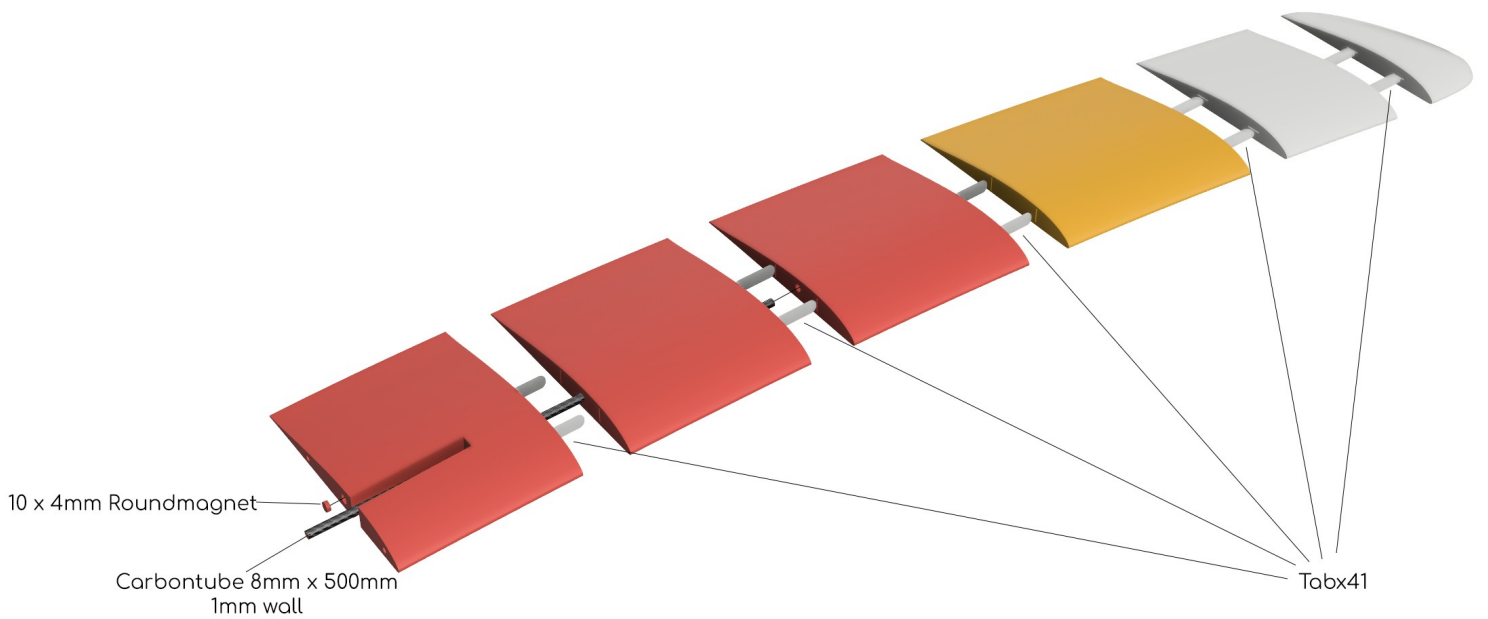
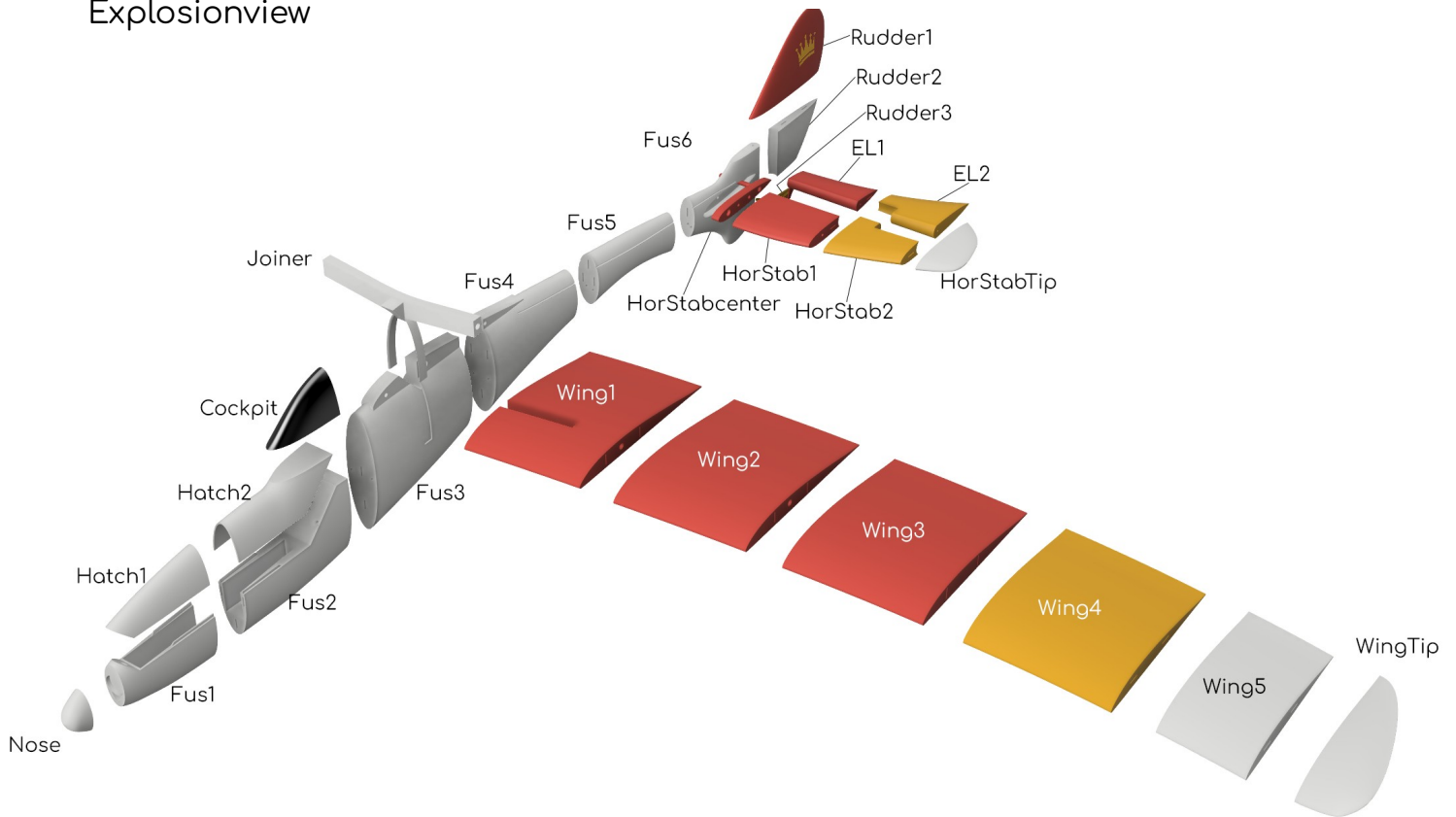
After defining the A, B and C – profiles in your slicer you can beginn slicing the parts. We recommend to print the LW-PLA parts one by one if you use active foaming LW-PLA!

Part	Category	additional Settings
Cockpit	C	0% Infill!
Fus1-4	A	
Fus5+6	B	
Glidernose	C	
Guide_x2	C	
Hatch1+2	A	
Nose	C	
EL1L+R	B	6 Bottom Layers!
EL2L+R	B	
HorStab1L+R/2L+R	B	
HorStabTipL+R	B	
Rudder1+2	B	
Rudder3	B	6 Bottom Layers!
EL_Link	C	
HorStabCenterR/L	B	15% Infill!
Joiner	C	
Wing1-5 L/R	A	
Wingtip L/R	A	
Tab_x41	C	print 41 pcs!

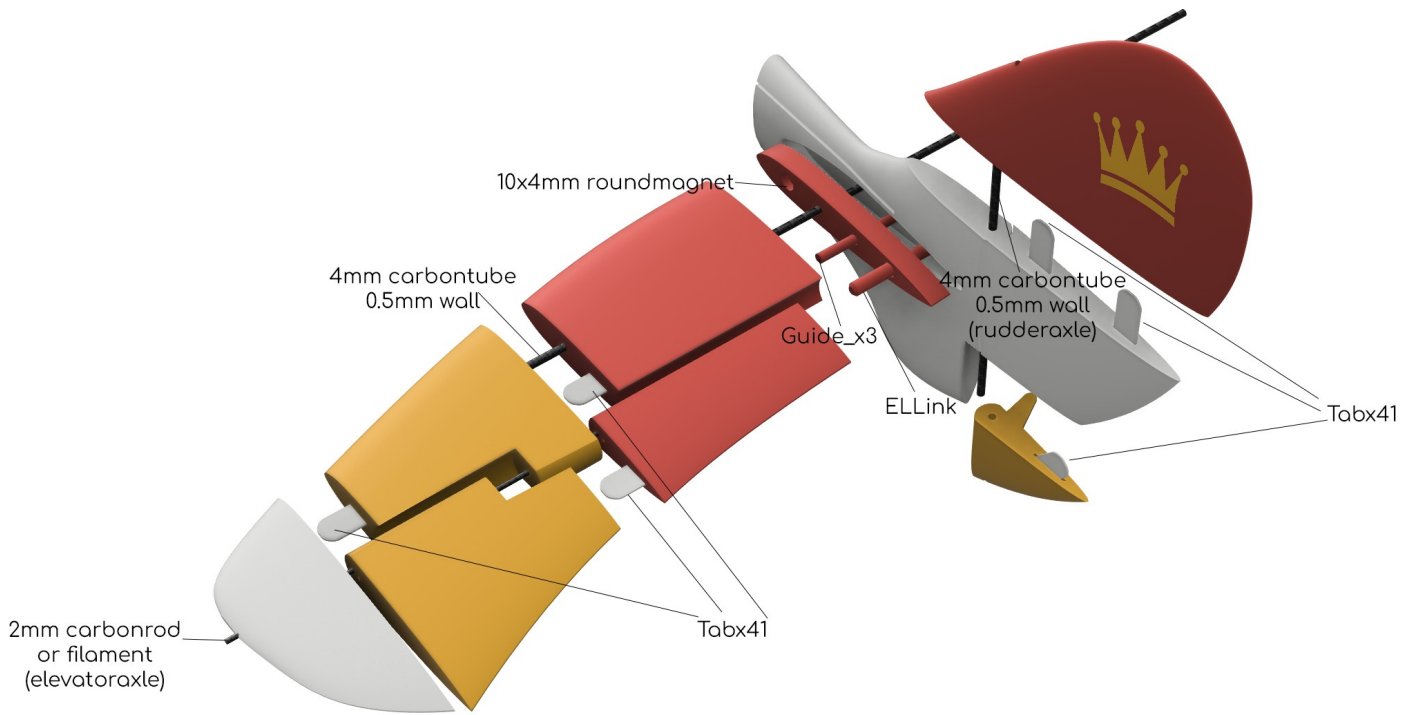
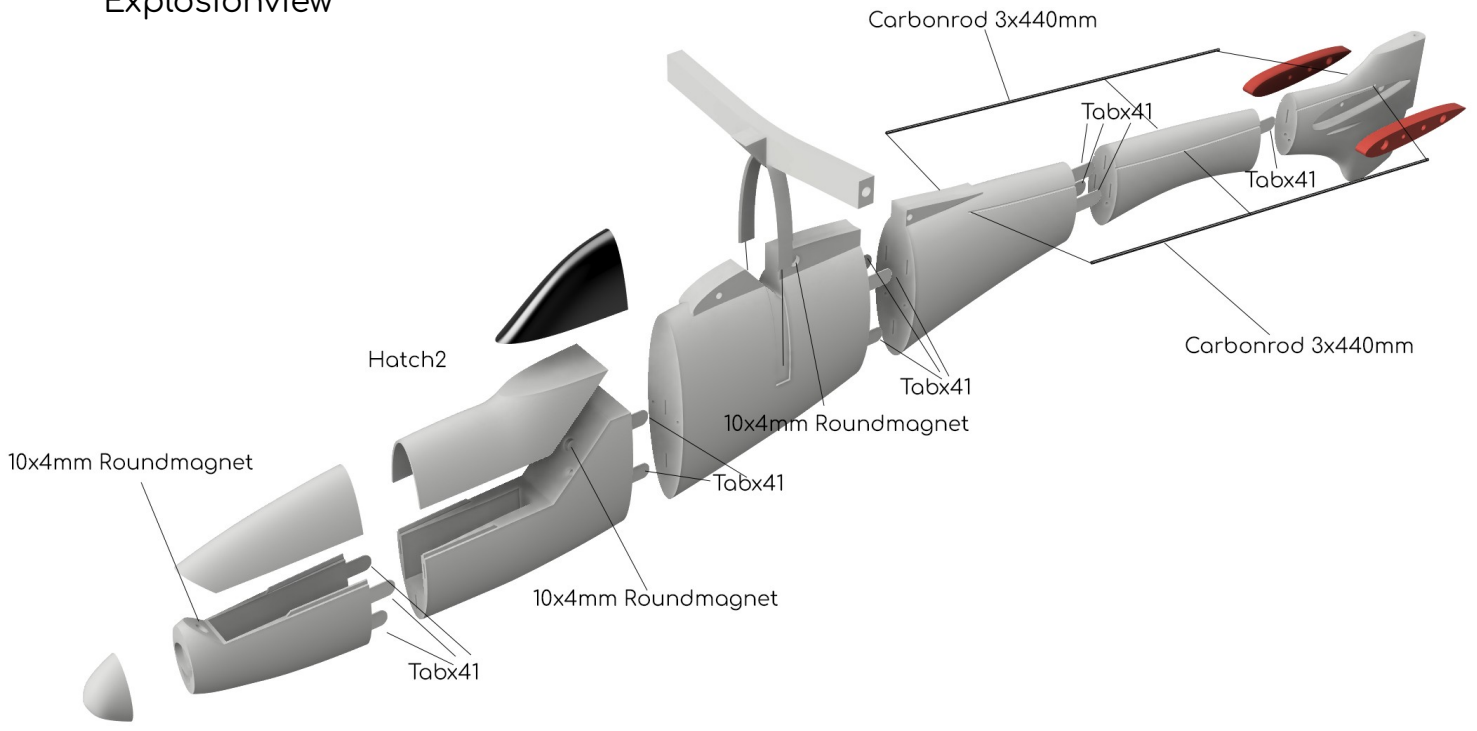
The STLs are already oriented in the right way in which they print perfect without supports!

Note: don't forget the additional settings for some of the parts! If you feel the need to reinforce certain areas feel free to use some meshmodifiers or individual processes. Our Testplanes have been printed with the above settings without further reinforcement!

# Explosionview



# Explosionview





## Assemblyinstructions

Use the explosionviews for proper assembly. The steps are self explanatory and there's not a special order of steps. You can either start with the fuselage, the wing or the stabilizer.

### General

Use the „Tab\_x41“ part to testfit the parts, then glue them with CA and join the pieces also with CA.

### Stabilizer

When assembling the stabilizer keep in mind, that the moving parts mustn't be glued – the axles must be able to turn freely. The horizontal stab is removable and held by 4 pcs roundmagnets. „Ellink“ can be glued to one side of the horizontal stab, but not on both, otherwise it won't be a removable stab, same for „Guide\_x3“. „HorStabcenter“ parts are glued into the fuselage!

### Fuselage

Fuse4 – Fuse6 are reinforced with a 3mm carbonrod which is beeing glued into a corresponding recess.

### Wings

The Wings are removable and fit into the „Joiner“ with 8mm carbontubes and the two „Guide\_x3“ sticks for the wings. Make sure to orient the magnets the right way before glueing them! The gluejoint between „Joiner“ and „Fuse3“ is obviously very important – doublecheck it!



## CG, throws, first flights

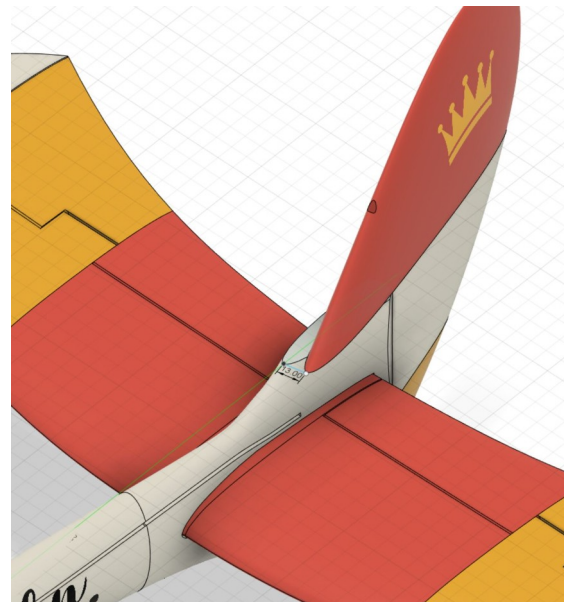
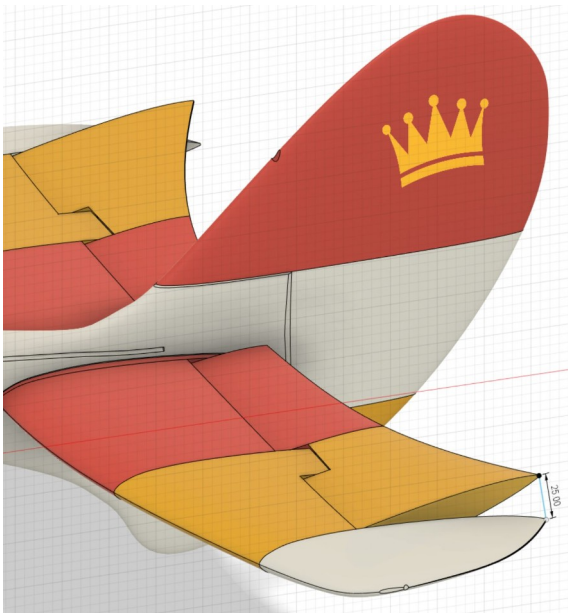
### Center of Gravity

For maidenflight dial in the CG at around 33mm behind the leading edge where the fuselage joins the wings! Depending on the used material, your print settings and motor option you will need more- or less lead to reach this CG. The recess in the very front of the fuselage fits regular 5g weights and the „glidernose“ is hollow so you can also use this space if you make a pure glider!



### Throws

Make sure to choose a powerful link-setup from the servo to the rudder and elevator! We found out, that the throws are fine when using the 2nd outermost hole of the servo arm (fits for most servos) and an outermost position on the rudder and elevator arm!



That makes a pretty strong link and throws should be fine. Handling is fine with a throw of 15°-20° for elevator (25mm) and 10°-15° (13mm) for rudder (it's a big area).

### First flights

When CG is dialed in and rudder and elevator are centered you can take „John“ for a first flight. Choose a day with moderate wind and (if possible) a nice slope. Avoid testflights in the flat without motor- they mostly cause more trouble than anything else. Just give „John“ a gentle toss and enjoy :)

Wish you a lot of good airtime :)