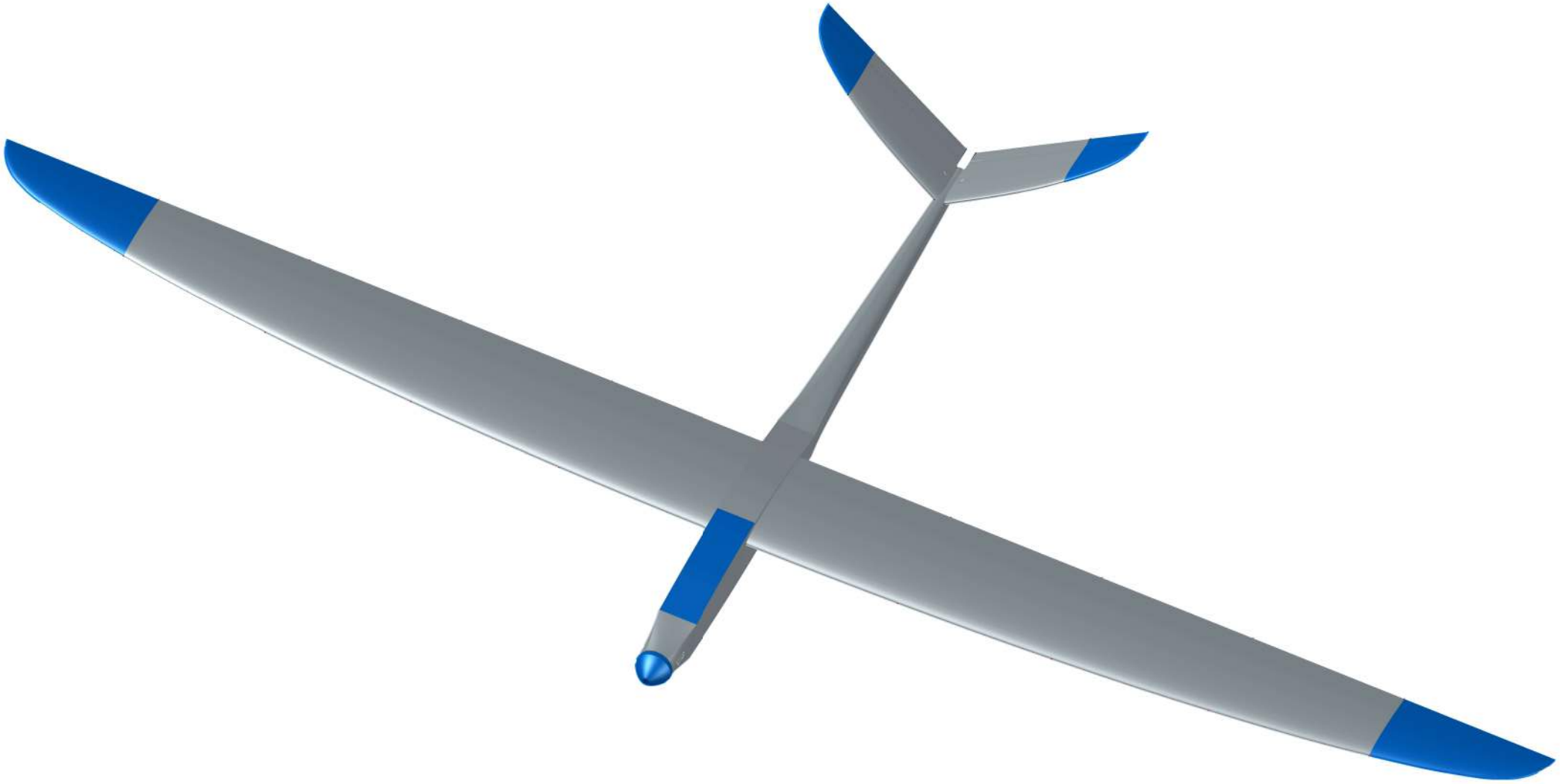


MALOJA version 1.0	2026
Generally	AeroPrint3D

MALOJA:

Technical Specifications:

Wingspan:	2500mm
Length:	1260mm (including spinner and tail assembly)
Weight ready to fly:	~2550g (depending on equipment and filament)
Wing Loading:	~55g/dm²
Wing A:	Airfoil MH32
Wing B:	Airfoil HS16
Root Depth:	Wings A+B 210mm
Center of Gravity:	73mm
Incidence:	1.5° (adjustable)
Diffusion:	2.0° per side
Joiner and Bearing:	11mm brass tube with 10mm carbon rod
V-Tail:	110° opening - symmetrical airfoil
Motor:	ROXXY BL Outrunner C35-48-06-700kV
ESC:	SunriseModel ICE 60A BEC 7.4V/6A
Spinner:	55mm Aero-naut for 5mm motor shaft
Folding propeller:	12 x 6.5
Battery:	ROXXY LiPo Evo 4S/30C/3000

Motor mounts 75mm and 85mm:

Side thrust:	1.5°
Motor downthrust:	2.0°

Controls:

Ailerons and brakes:	2 servos in the fuselage for wing control KST BLS825 V8.0
Elevator and rudder:	2 servos KST X10 Pro B V8.0

Fuselage:

The fuselage can be built in two versions.
Parts R5a, R6a, and R7a are designed for two walls, and parts R5b, R6b, and R7b for one wall. For version B, two sub-parts (SUB1 and SUB2) are absolutely necessary in the slicer software.
Two motor mounts are provided to optimize the center of gravity: one 75mm long and one 85mm long.
The motor mount and tail boom are screwed to the fuselage center section. This allows for the replacement of the damaged part in the event of a crash. The wing control unit is also screwed to the fuselage.

Emulator:

The control surfaces of the empennage can be attached with film hinges (LW1a and LW1b) or adhesive hinges (LW2a and LW2b).
No carbon fiber parts are required, as sufficient bulkheads are already present. The empennage surfaces can also be removed.

Wings:

There are no servos in the wings.
Control is achieved via bellcranks, which translate the wing rotation into the horizontal movement of the servo arms. A gauge is provided for each wing type to set the incidence angle and measure the deflections. Carbon fiber tubes are integrated into the wings for added strength.

Gluing:

PLA can be glued with cyanoacrylate adhesive. Ideally, use a CA glue labeled "smokeless." This type of adhesive will not leave white marks on the part. PP filament must be primed before gluing. After the primer has set (3-5 minutes), cyanoacrylate adhesive can be applied. This should be done within the next 12 hours. The control unit is bonded with two-component epoxy resin (e.g., UHU Plus Endfest).

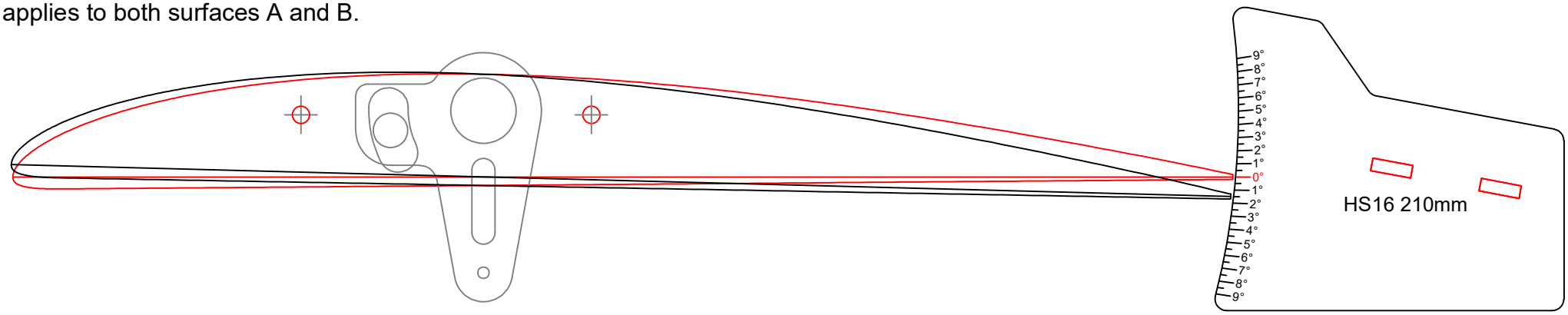
To set the incidence angle and control surface deflections, attach the appropriate gauge to the wing profile and screw it in place.

The angle measurements always refer to the scale on the gauge where the center of the trailing edge should be located.

Mount the servo arms vertically onto the servos. The radio control system should be switched on to check the control travel. The incidence angle is adjusted by changing the length of the pushrods. Mount a clevis on the servo end and a clevis with a ball end on the control horn. The pushrod should have at least an M2 thread. Alternatively, the chord line can be set to 0° using the pushrod, and the incidence angle can be programmed in the transmitter using the servo center position.

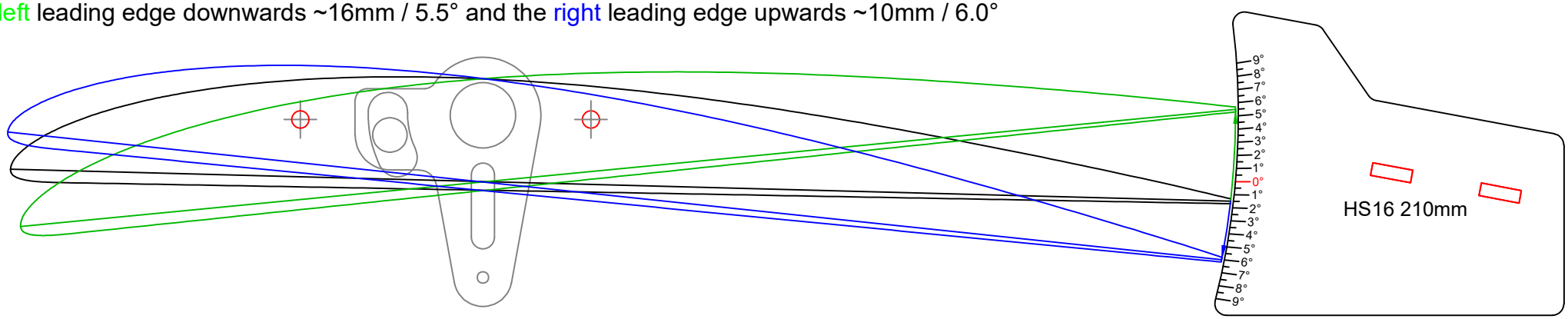
Incidence Angle:

Set the incidence angle to 1.5°: On both wing surfaces, point the leading edge upwards and the trailing edge downwards.
This applies to both surfaces A and B.



LEFT Aileron:

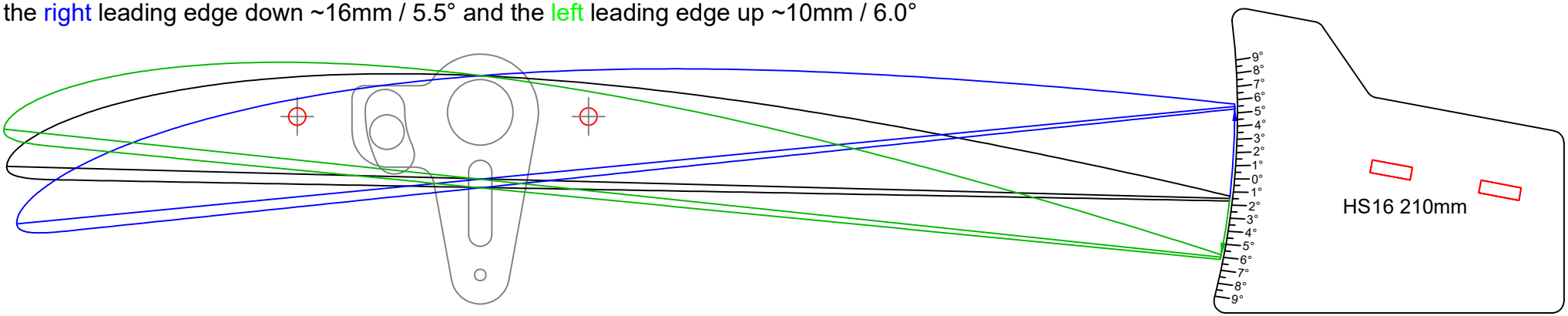
The left leading edge downwards ~16mm / 5.5° and the right leading edge upwards ~10mm / 6.0°



MALOJA version 1.0	2026
Generally	AeroPrint3D

RIGHT Aileron:

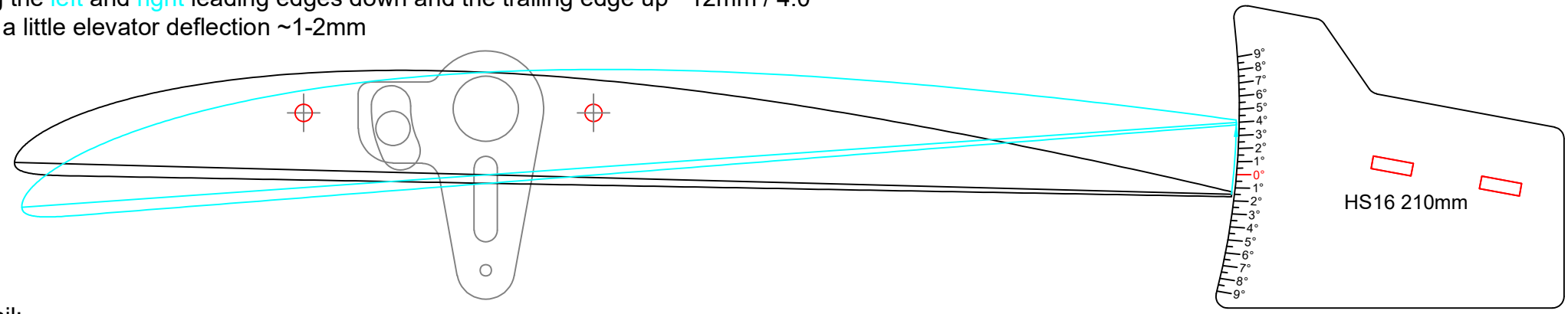
Drag the right leading edge down ~16mm / 5.5° and the left leading edge up ~10mm / 6.0°



Brake:

Drag the left and right leading edges down and the trailing edge up ~12mm / 4.0°

Add a little elevator deflection ~1-2mm



V-Tail:

Drag ~10mm up and down on each side

Construct the pushrods from 4/2mm carbon tubing with M2 threaded rods glued in (total length 40mm, 15mm inside the carbon tubing). Drill out the carbon tubing if necessary. Mount a clevis on the servo side and a clevis for a 5mm ball joint on the control surface side. A jig is included for making the control horns from 2mm steel wire and ball joints.

Shopping List:

Fuselage:
1pc solid carbon rod 10mm 363mm
1pc carbon tube 6mm / 4mm 640mm
2pcs carbon tube 4mm / 2mm approx. 750mm - control linkage for v-tail
1pc brass tube 11mm / 10mm 60mm
2pcs neodymium magnets 20x5x2mm - canopy
18pcs M3 long threaded inserts 5.7mm bore 4.0mm
2pcs M3 short threaded inserts 3.0mm bore 4.0mm
2pcs M2 long threaded inserts 4.0mm bore 3.2mm
18pcs M2 short threaded inserts 3.0mm bore 3.2mm
8pcs M3 10mm socket head cap screws
4pcs M3 10mm countersunk screws - control lever fixing
2pcs M3 5mm socket head cap screws - Tailplane Mounting
2pcs M2 10mm socket head cap screws - movable control lever
4pcs M2 40mm threaded rods - tailplane linkage
2pcs M2 35mm threaded rods - control lever linkage
2pcs M3 5mm set screws - movable control levers

Tailplane:
2pcs 2mm steel wire 35mm
2pcs 5mm ball joint with 2mm bore
6pcs 0.2mm Kavan foil hinge 28x20mm - tailplane halved

Wing A with MH32 airfoil:
2pcs brass tubing 11mm / 10mm 150mm
2pcs 6mm round steel 75mm
2pcs 4mm / 2mm carbon fiber tubing 1098mm
2pcs 4mm / 2mm carbon fiber tubing 491mm
2pcs 6mm / 4mm carbon fiber tubing 979mm
2pcs 6mm / 4mm Carbon tube 735mm

Wing B with HS16 airfoil:
2pcs brass tube 11mm / 10mm 150mm
2pcs 6mm round steel 75mm
2pcs 6mm/4mm carbon tube 1170mm
4pcs 4mm/2mm carbon tube 1000mm

Shipping Accessories:

2pcs milled aluminum control levers including M4 grub screws
1pc brass tube, 11mm/10mm diameter, 60mm length
2pcs brass tubes, 11mm/10mm diameter, 150mm length
2pcs stainless steel round bars, 6mm diameter, 75mm length
2pcs neodymium magnets, 20x5x2mm

Shipping is via a C5 padded envelope.

3D PRINTING:

Build volume:	220 x 220 mm - Height 240 mm
Nozzle:	0.4 mm
Temperature:	up to 250°C
Heated bed:	up to 100°C
Filament:	PLA PolyAir 1.0 from 3DLabPrint
Filament:	PP Bavafil® Olefin from Bavaria

To achieve a smooth surface, the print bed should be free of texture (e.g., glass plate or Bambu Lab Cool Plate SuperTack). For better adhesion to the print bed, use an adhesive (e.g., SmartStick or DimaFix). The EWD gauge can be printed with two colors for the text. Bambu Lab AMS or Creality CFS are ideal for this.

Filament and process settings are available as a JSON file.

Each part is delivered as an STL file.

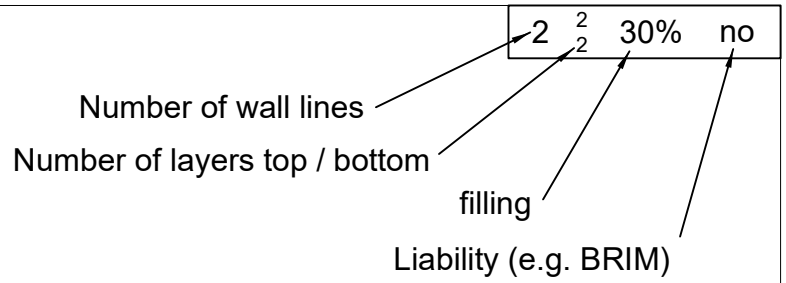
Bambu Studio includes 3MF files with build plates and all settings for printing with a BambuLab X1C.

The terminology used in this guide and the filenames of the STL files are identical.

Bambu Studio:
If this error occurs in Bambu Studio, DO NOT attempt a repair. If you have already repaired an STL file, and, for example, the inner ribs are missing, then reload the STL file (right-click on the STL part).

Error: ** non-manifold edges (Repair)

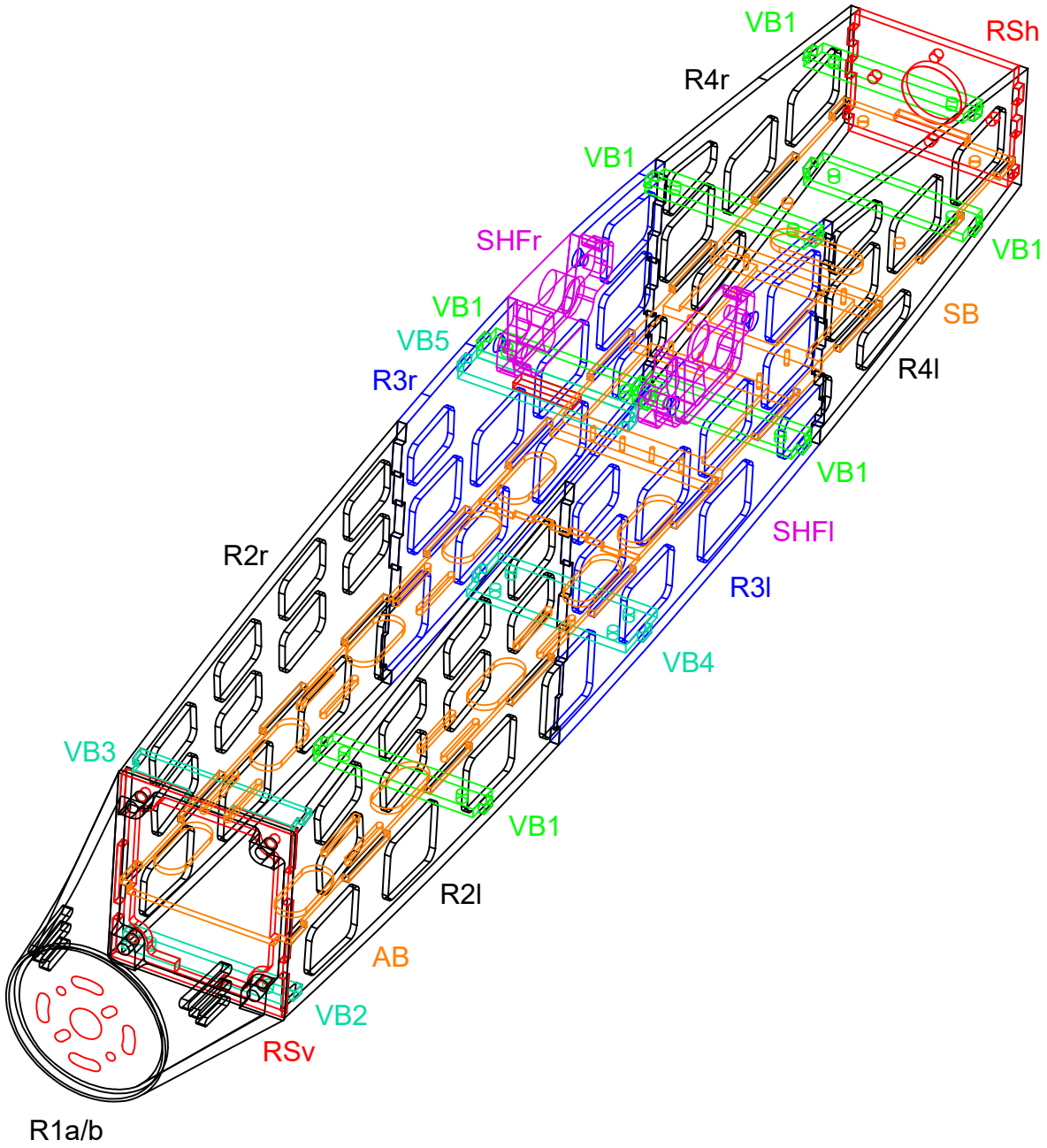
Explanation:



General slicer settings for a 0.4mm nozzle:

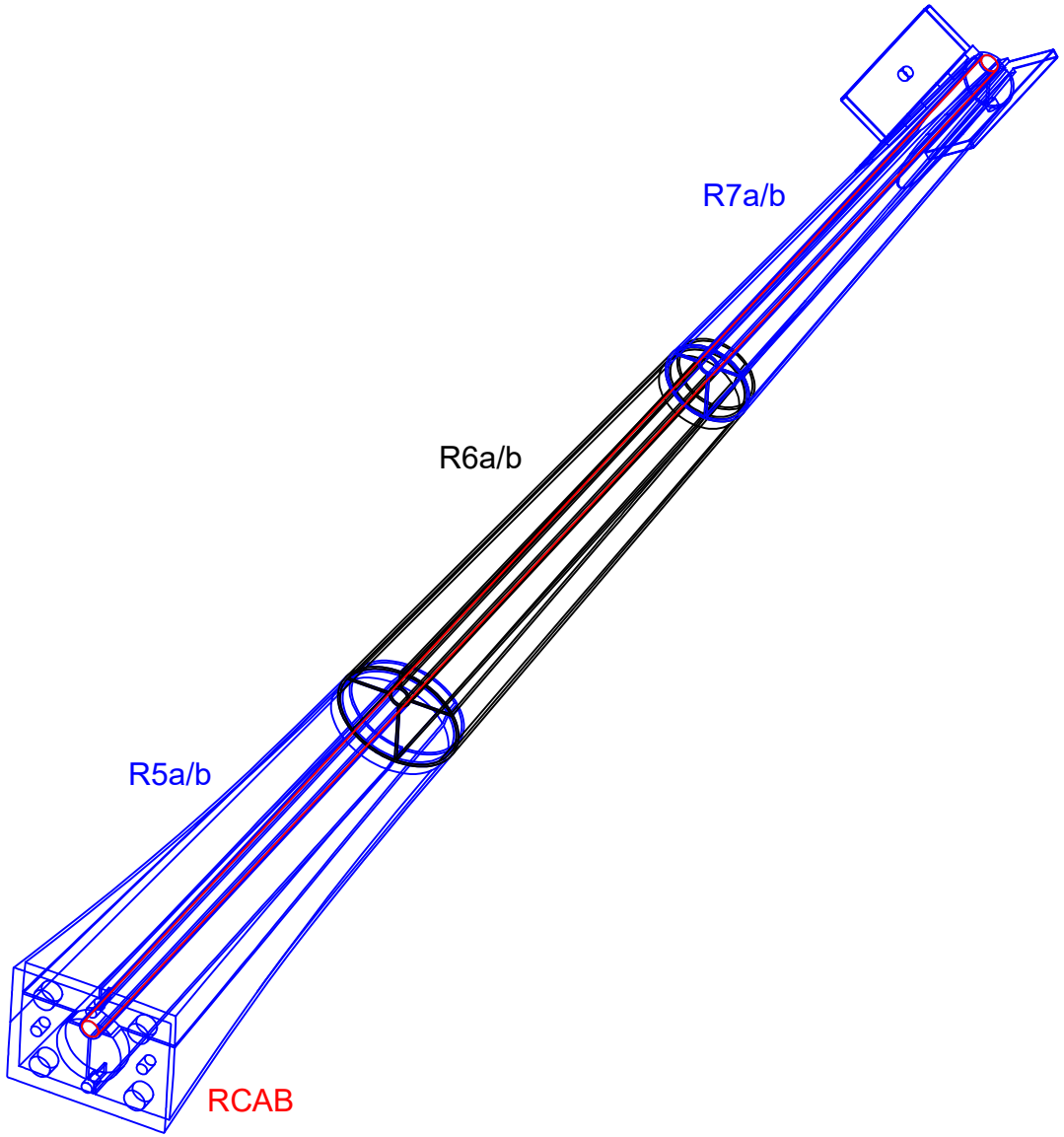
Layer height:	0.2mm
First layer height:	0.2mm
Line width:	0.42mm
Seam position:	Back side
Slice gap closing radius:	0.001
Resolution:	0.012
Smoothing:	No smoothing
Wall generator:	Classic
Outer wall speed:	100mm/s
Inner wall speed:	200mm/s

MALOJA version 1.0	2026
3D printing	AeroPrint3D



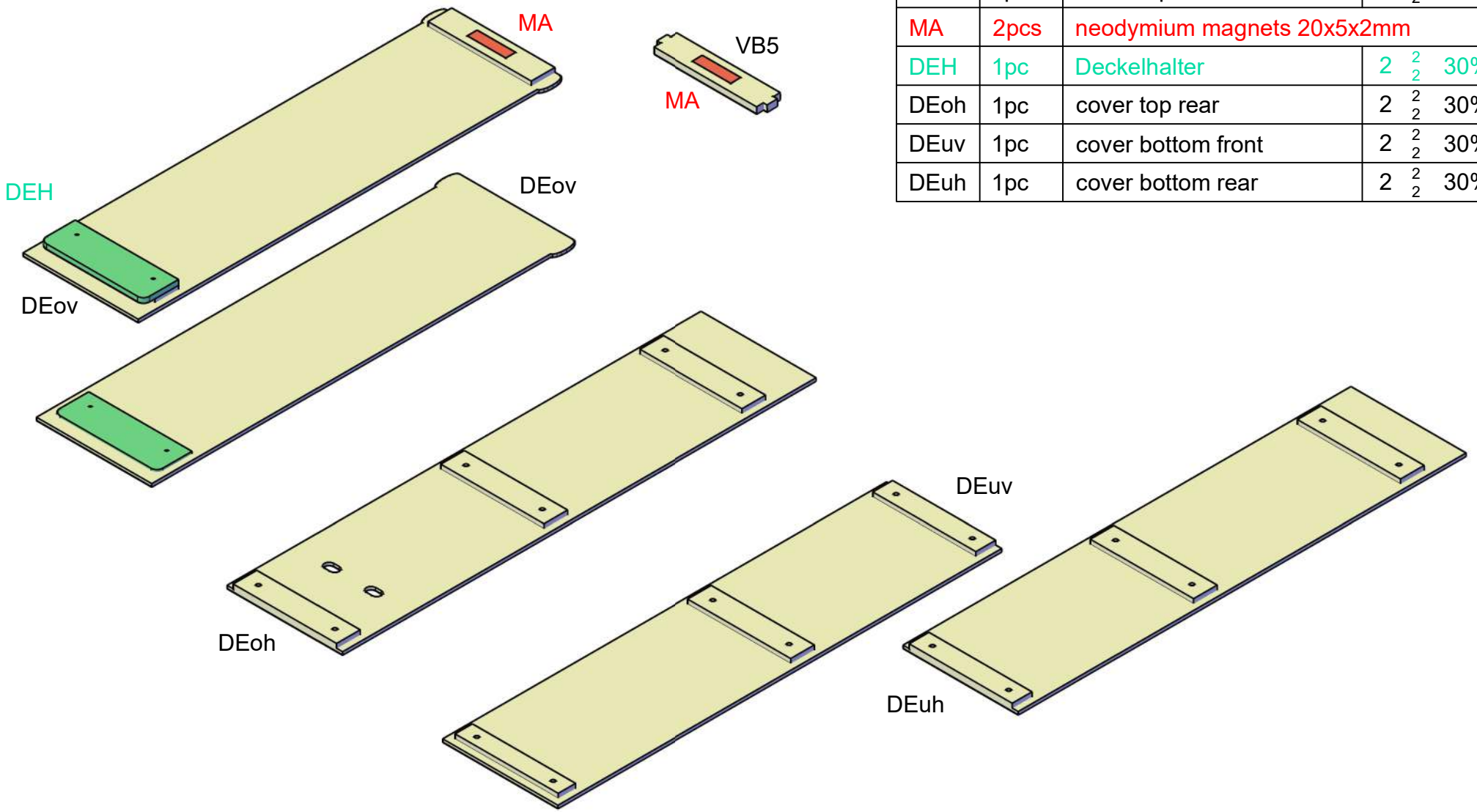
R1a	1pc	engine mount 85mm	4	4/4	35%	no
R1b	1pc	engine mount 75mm	4	4/4	35%	no
R2r	1pc	right side panel 2	2	2/2	30%	no
R2l	1pc	left side panel 2	2	2/2	30%	no
R3r	1pc	right side panel 3	2	2/2	30%	no
R3l	1pc	left side panel 3	2	2/2	30%	no
R4r	1pc	right side panel 4	2	2/2	30%	no
R4l	1pc	left side panel 4	2	2/2	30%	no
RSv	1pc	fuselage frame front	2	2/2	30%	no
RSh	1pc	fuselage frame rear	2	2/2	30%	no
AB	1pc	battery board	2	2/2	30%	no
SB	1pc	servo board	2	2/2	30%	no
SHFr	1pc	control lever firmly right	5	5/5	70%	no
SHFl	1pc	control lever firmly left	5	5/5	70%	no
VB1	6pcs	connector 1	4	4/4	35%	no
VB2	1pc	connector 2	4	4/4	35%	no
VB3	1pc	connector 3	4	4/4	35%	no
VB4	1pc	connector 4	4	4/4	35%	no
VB5	1pc	connector 5	4	4/4	35%	no

MALOJA version 1.0	2026
Fuselage	AeroPrint3D



R5a	1pc	rear section 5a	2 $^{2}_{2}$	60%	no
R5b	1pc	rear section 5b	1 $^{0}_{0}$	0%	no
SUB1		subpart to 5b	3 $^{2}_{2}$	60%	no
R6a	1pc	rear section 6a	2 $^{0}_{0}$	0%	Brim
R6b	1pc	rear section 6b	1 $^{0}_{0}$	0%	Brim
R7a	1pc	rear section 7a	2 $^{2}_{2}$	10%	no
R7b	1pc	rear section 7b	1 $^{0}_{0}$	0%	no
SUB2		subpart to 7b	1 $^{2}_{2}$	25%	no
RCAB	1pc	carbon tube length 640mm 6mm / 4mm			

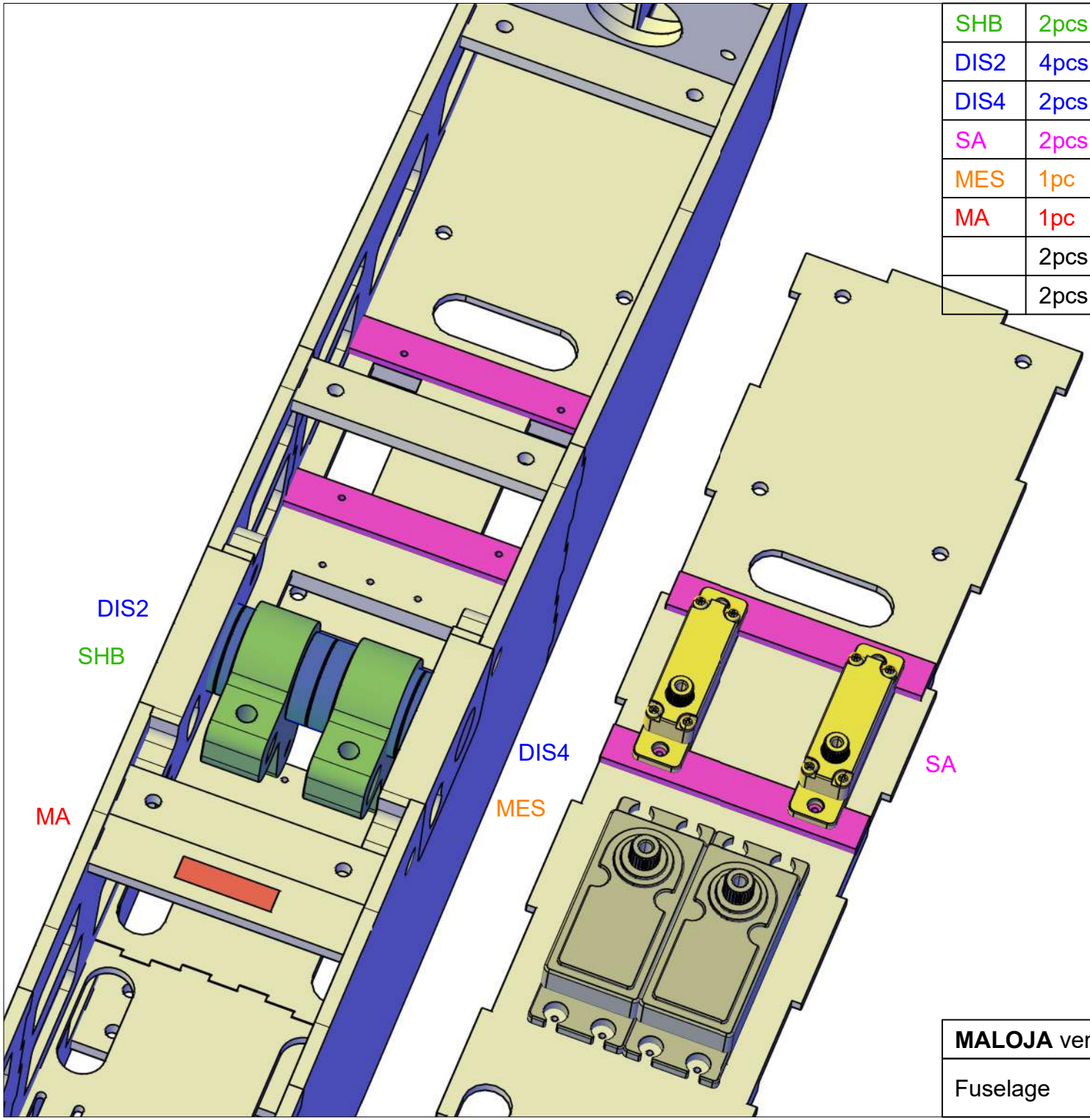
MALOJA version 1.0	2026
Fuselage	AeroPrint3D



DEov	1pc	cover top front	2 $^{2}_{2}$	30%	no
MA	2pcs	neodymium magnets 20x5x2mm			
DEH	1pc	Deckelhalter	2 $^{2}_{2}$	30%	no
DEoh	1pc	cover top rear	2 $^{2}_{2}$	30%	no
DEuv	1pc	cover bottom front	2 $^{2}_{2}$	30%	no
DEuh	1pc	cover bottom rear	2 $^{2}_{2}$	30%	no

Glue neodymium magnet MA into VB5 and DEov, ensuring correct polarity. Glue the DEH holder onto the top front cover of the DEov (cabin canopy). The two holes are for alignment using a 0.8mm steel wire. Remove the steel wire in time.

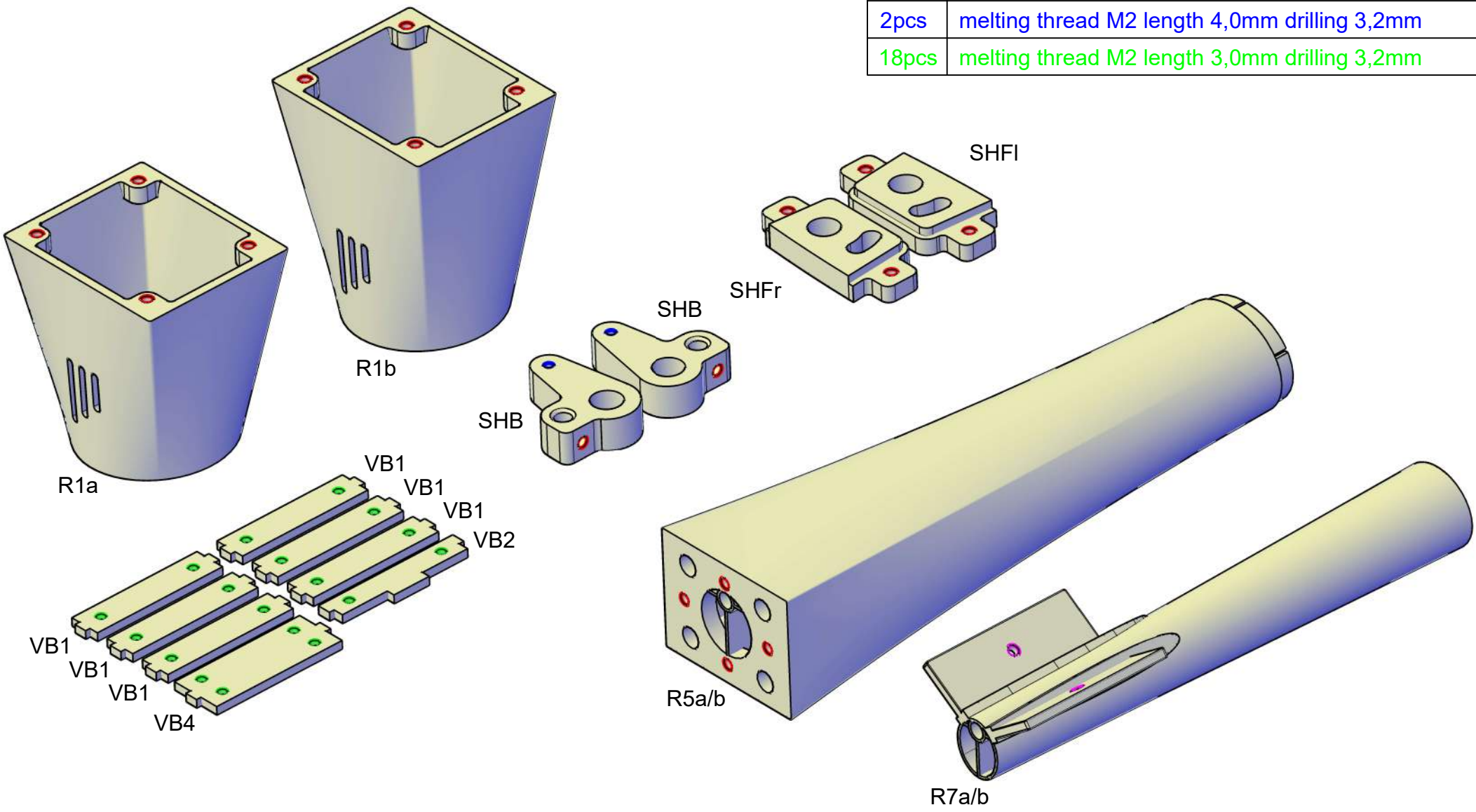
MALOJA version 1.0	2026
Fuselage	AeroPrint3D



SHB	2pcs	control lever movable	5	5/5	70%	no
DIS2	4pcs	distance 2mm	5	5/5	70%	no
DIS4	2pcs	distance 4mm	5	5/5	70%	no
SA	2pcs	servo support top v-tail	2	2/2	30%	no
MES	1pc	brass tube length 60mm 11mm / 10mm				
MA	1pc	neodymium magnets 20x5x2mm				
	2pcs	Servo KST X10 Pro B V8.0				
	2pcs	Servo KST BLS825 V8.0				

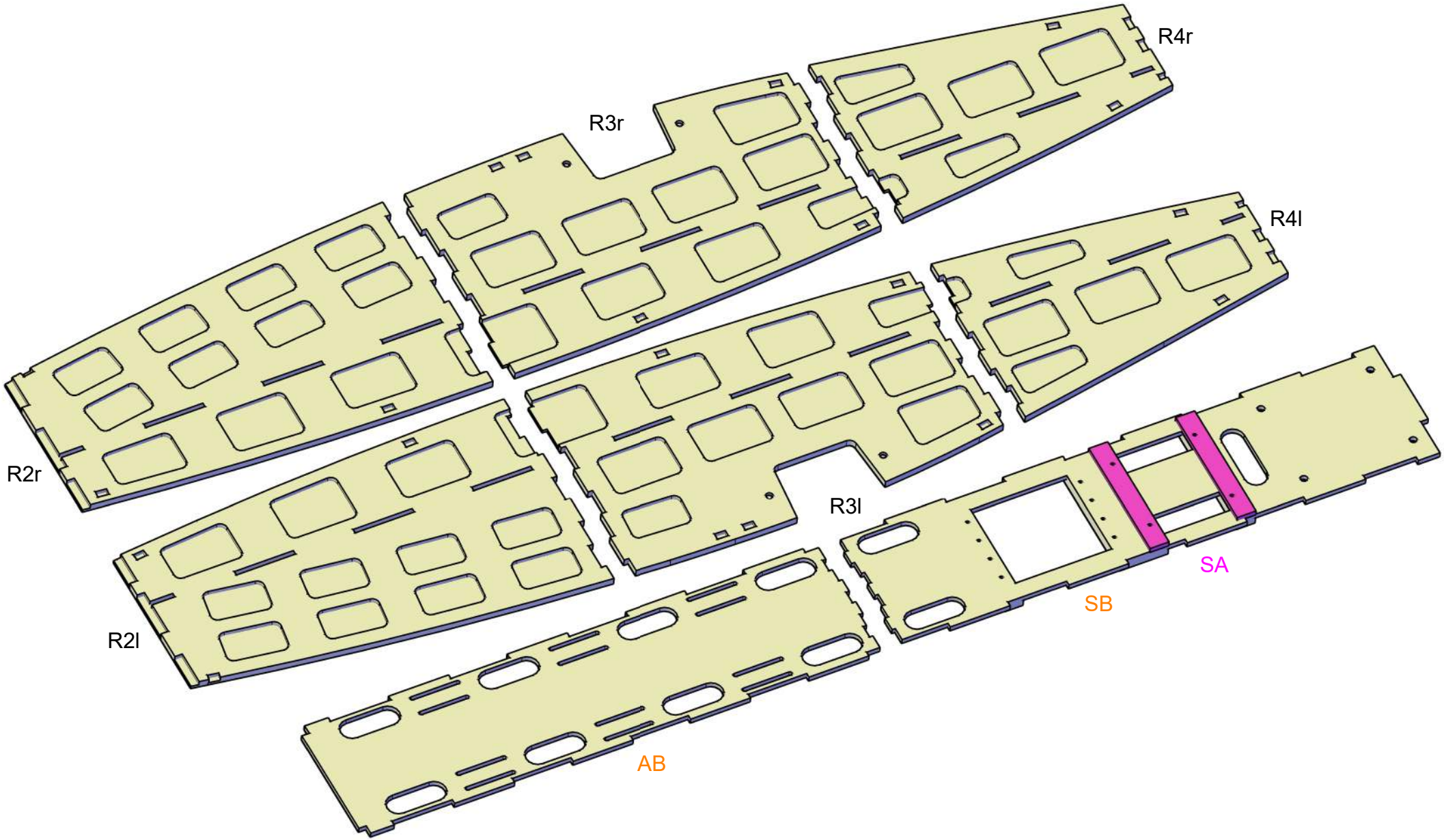
MALOJA version 1.0	2026
Fuselage	AeroPrint3D

18pcs	melting thread M3 length 5,7mm drilling 4,0mm
2pcs	melting thread M3 length 3,0mm drilling 4,0mm
2pcs	melting thread M2 length 4,0mm drilling 3,2mm
18pcs	melting thread M2 length 3,0mm drilling 3,2mm



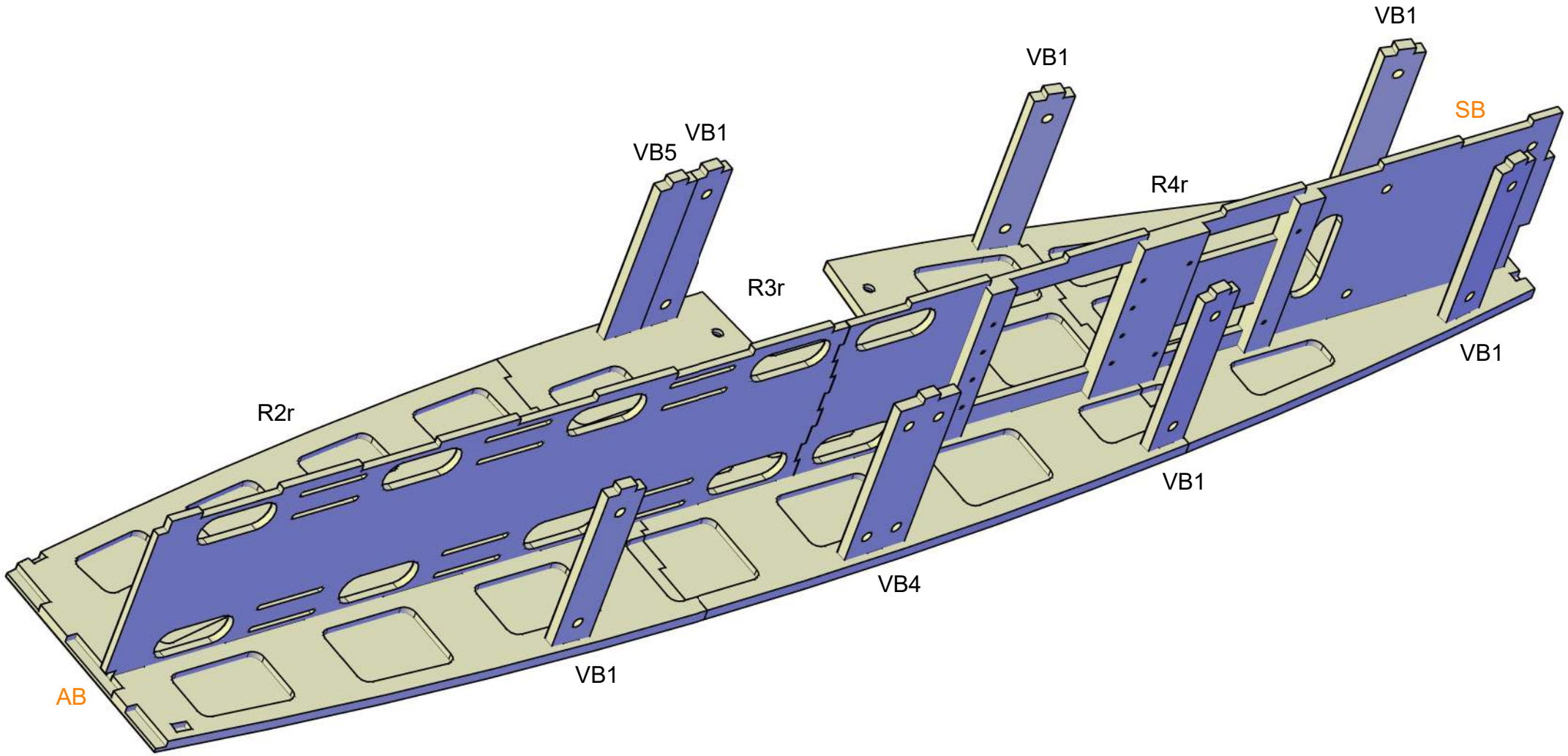
Check the threaded sleeves for fit before melting them in and re-drill if necessary.

MALOJA version 1.0	2026
Fuselage	AeroPrint3D



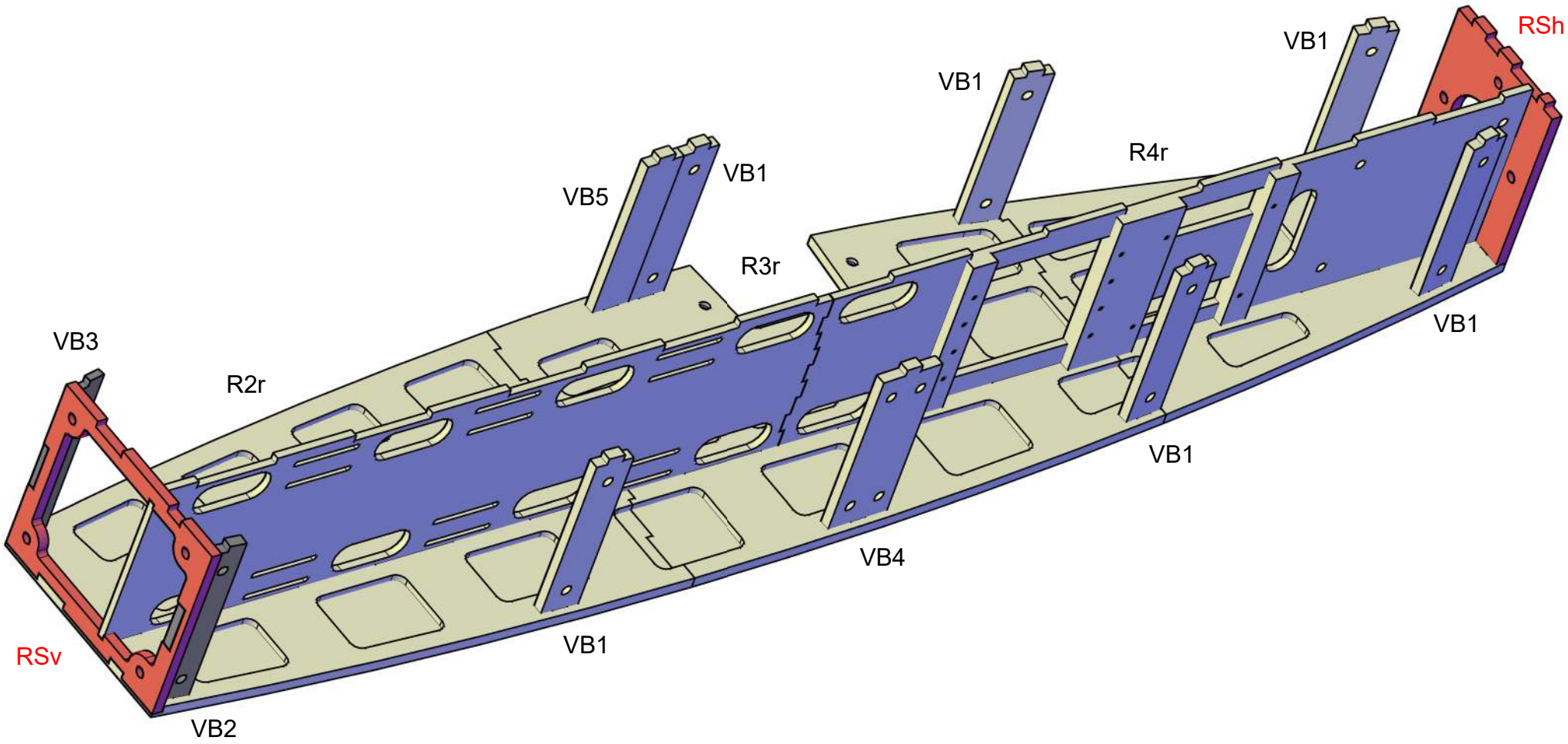
Glue the right side panel R2r to R3r and R4r – weight recess inside.
Glue the left side panel R2l to R3l and R4l – weight recess inside. Glue servo mounts SA to servo tray SB on the top side – smooth side up. Glue battery tray AB and servo tray SB together.

MALOJA version 1.0	2026
Fuselage	AeroPrint3D



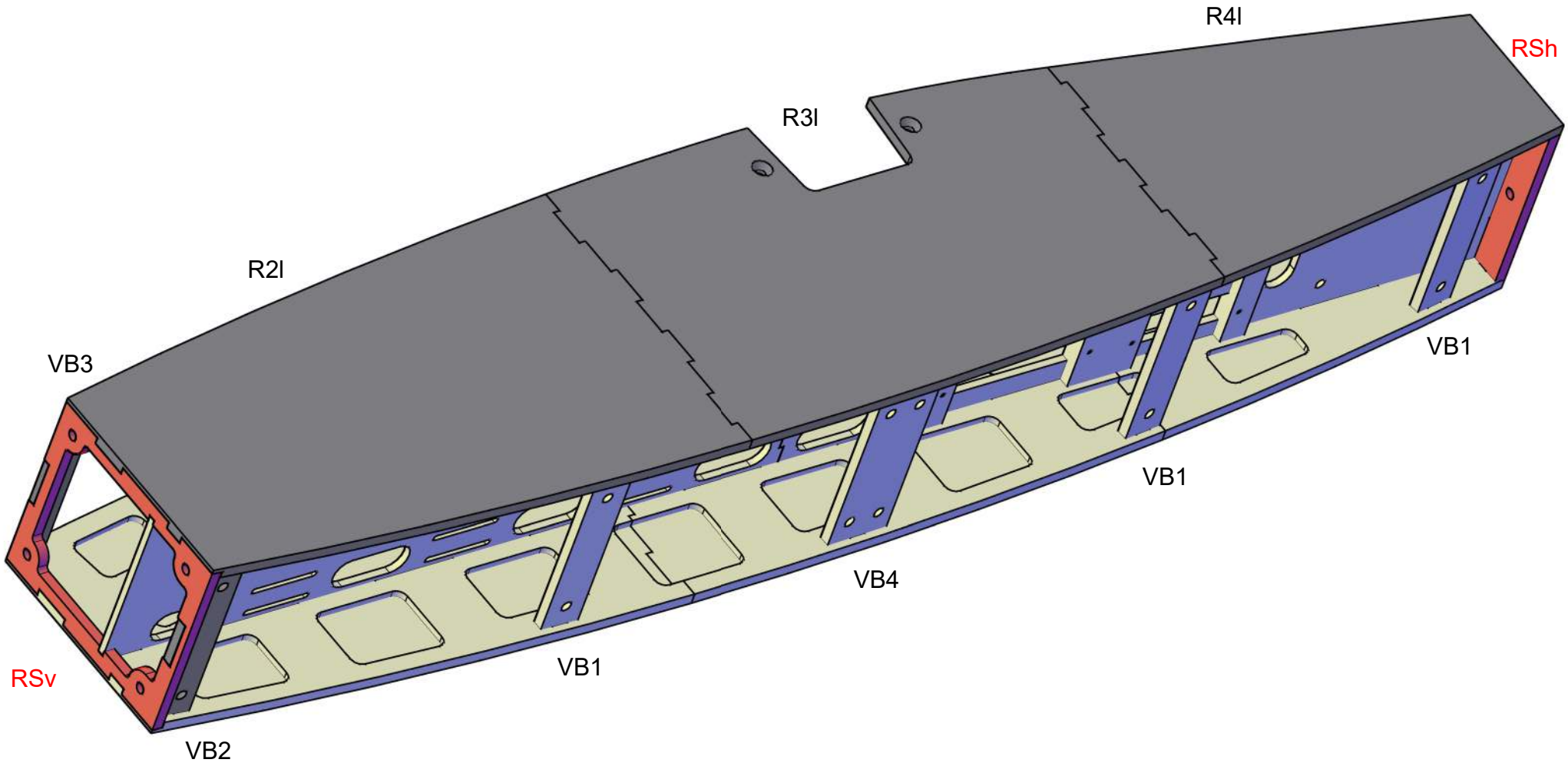
In the right side panel, glue connector VB5 with neodymium magnet facing upwards, 6 connectors VB1, 1 connector VB4, and battery tray AB to servo tray SB vertically and at a right angle.
Check the fit with the left side panel beforehand.

MALOJA version 1.0	2026
Fuselage	AeroPrint3D



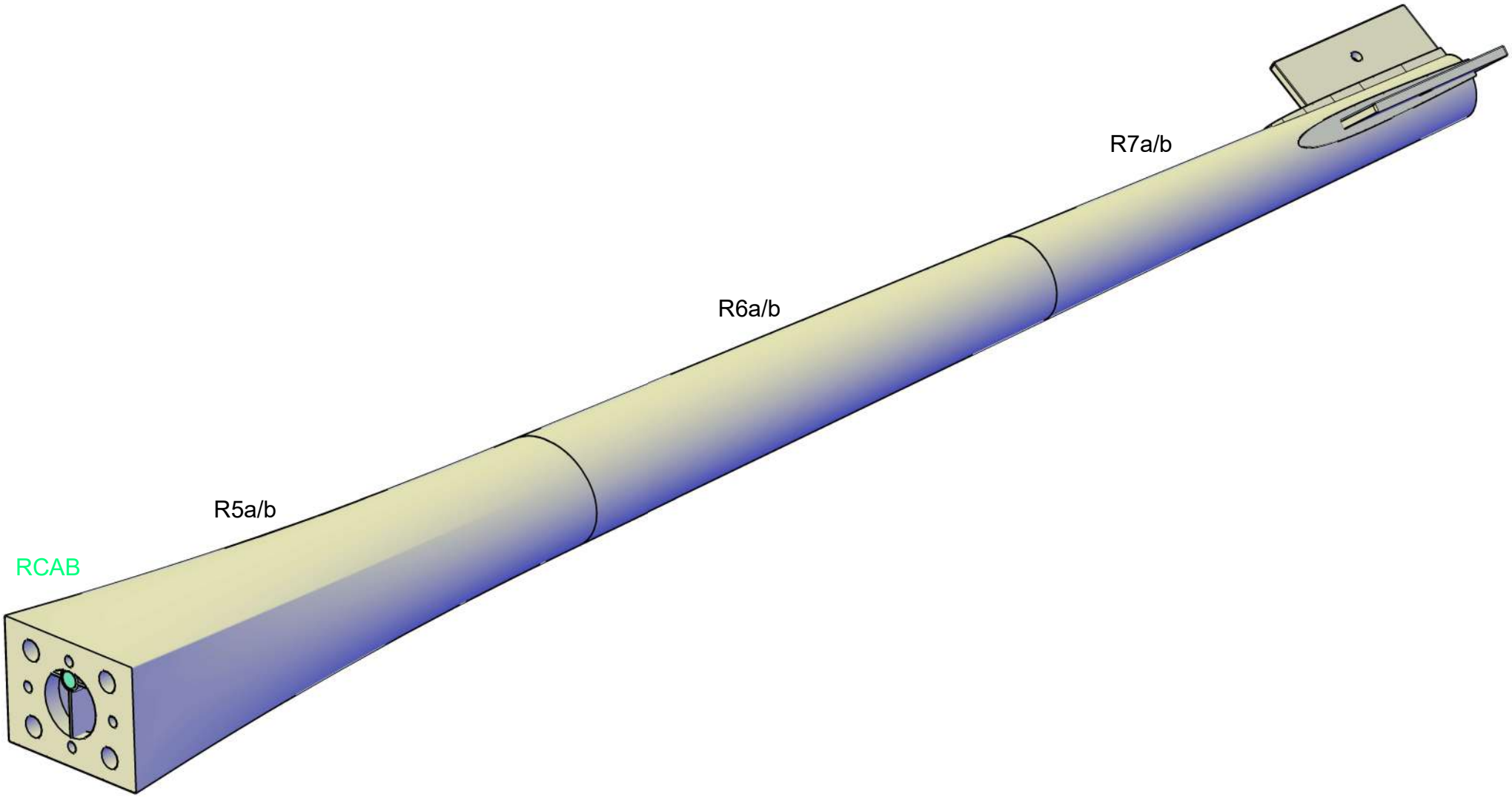
Fit and glue connectors VB3 and VB2, fuselage bulkhead RSv and fuselage bulkhead RSh into the right side panel.
Check the fit with the left side panel beforehand.

MALOJA version 1.0	2026
Fuselage	AeroPrint3D



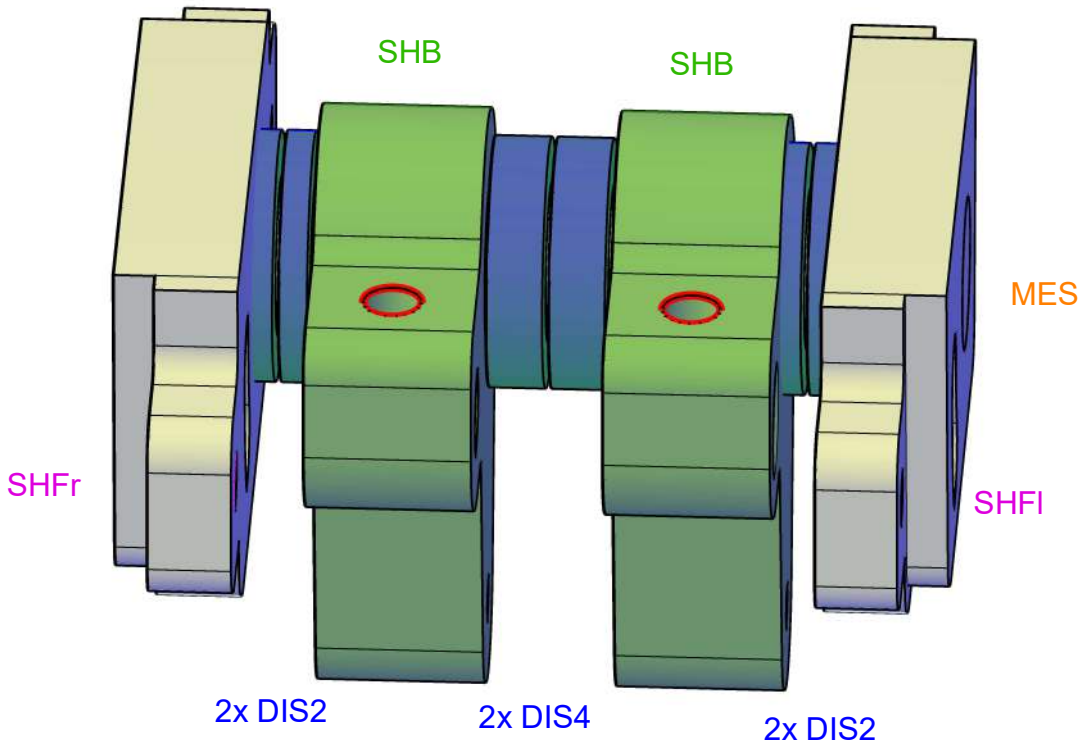
Now attach the left side panel and glue it in place.
Check for fit beforehand (fuselage width 60mm).

MALOJA version 1.0	2026
Fuselage	AeroPrint3D



Glue fuselage section R5a/b to R6a/b and R7a/b
Glue in carbon tube RCAB 640mm 6/4mm

MALOJA version 1.0	2026
Fuselage	AeroPrint3D

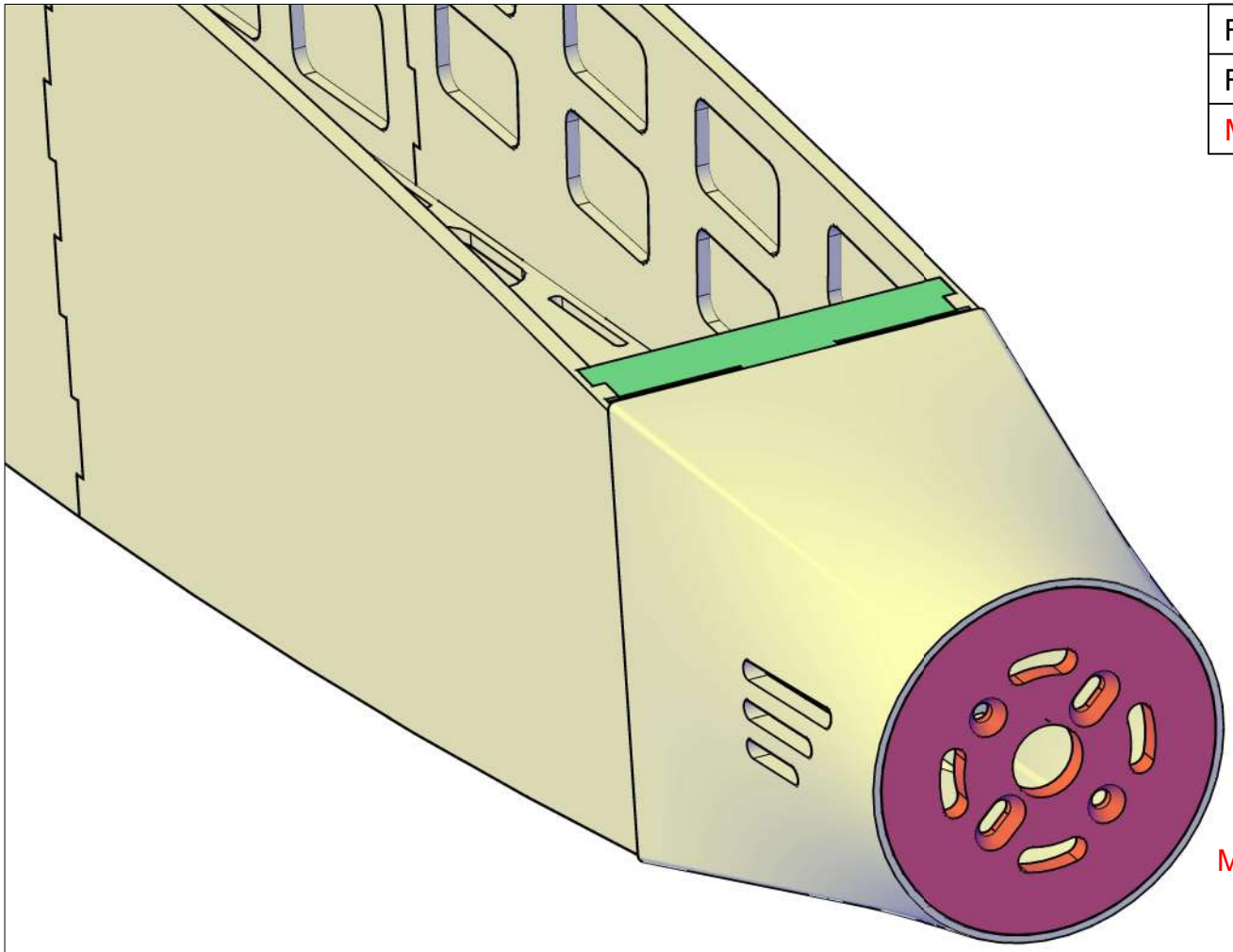


SHB	2pcs	control lever movable	5	5/5	70%	no
DIS2	4pcs	distance 2mm	5	5/5	70%	no
DIS4	2pcs	distance 4mm	5	5/5	70%	no
SHFr	1pc	control lever stuck right	5	5/5	70%	no
SHFl	1pc	control lever stuck left	5	5/5	70%	no
MES	1pc	brass tube length 60mm 11mm / 10mm				

After melting the threaded inserts and gluing the fuselage, the control unit can be assembled.

Slide the spacers and the movable control levers onto the 60mm brass tube as shown in the drawing and check for smooth operation.
*The **M3** threaded inserts of the movable control levers should point forward.*
Glue the two fixed control levers, SHFr and SHFI, to the brass tube, using a 2mm spacer on each side (left and right).
The chamfered side of the fixed control levers should face inwards (glue gap).
Sand the brass tube beforehand. While the glue cures, fit the control unit into the fuselage and screw it in place.
Ensure that the movable control levers and the other spacers are NOT glued. There should be a 1-2mm gap between the parts (for thermal expansion).

Use a two-component epoxy resin for gluing (e.g., UHU Plus Endfest).



MS

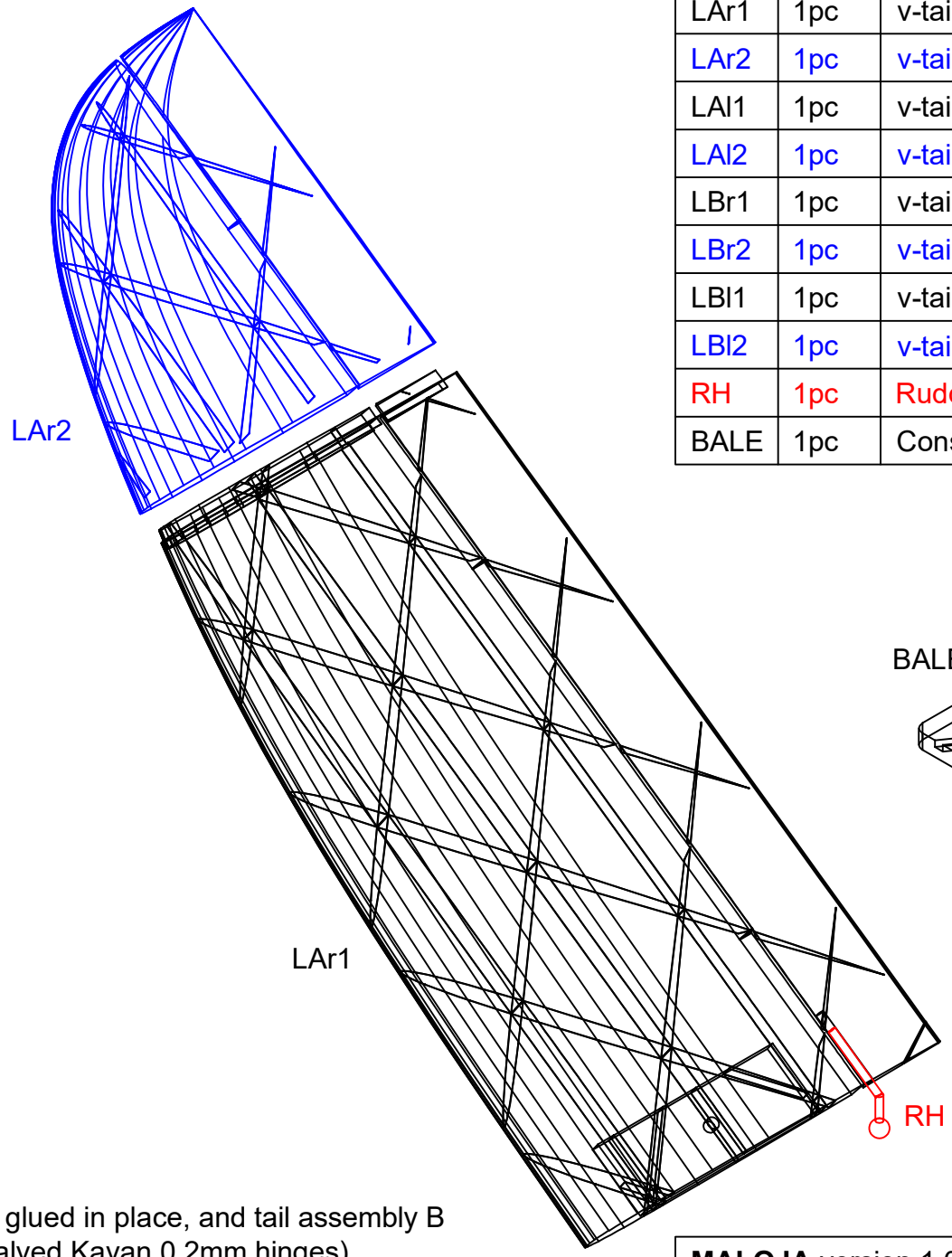
R1a / R1b

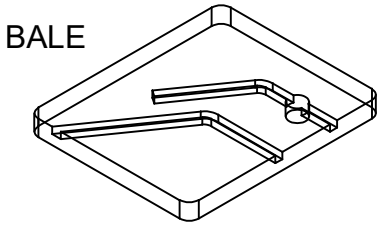
R1a	1pc	motor mount 85mm	4	4/4	35%	no
R1b	1pc	motor mount 75mm	4	4/4	35%	no
MS	2pcs	motor bulkhead	4	4/4	35%	no

After melting the threaded sleeves, the engine frame can be glued into the engine mount
Use 2-component epoxy resin for gluing (e.g. UHU-Plus Endfest)

MALOJA version 1.0	2026
Fuselage	AeroPrint3D

LAr1	1pc	v-tail A right part 1	1	0/2	0% Brim
LAr2	1pc	v-tail A right part 2	1	0/0	0% Brim
LAl1	1pc	v-tail A left part 1	1	0/2	0% Brim
LAl2	1pc	v-tail A left part 2	1	0/0	0% Brim
LBr1	1pc	v-tail B right part 1	1	0/2	0% Brim
LBr2	1pc	v-tail B right part 2	1	0/0	0% Brim
LBl1	1pc	v-tail B left part 1	1	0/2	0% Brim
LBl2	1pc	v-tail B left part 2	1	0/0	0% Brim
RH	1pc	Rudder horn 2mm steel wire with 4mm ball			
BALE	1pc	Construction theory	2	4/4	25% no

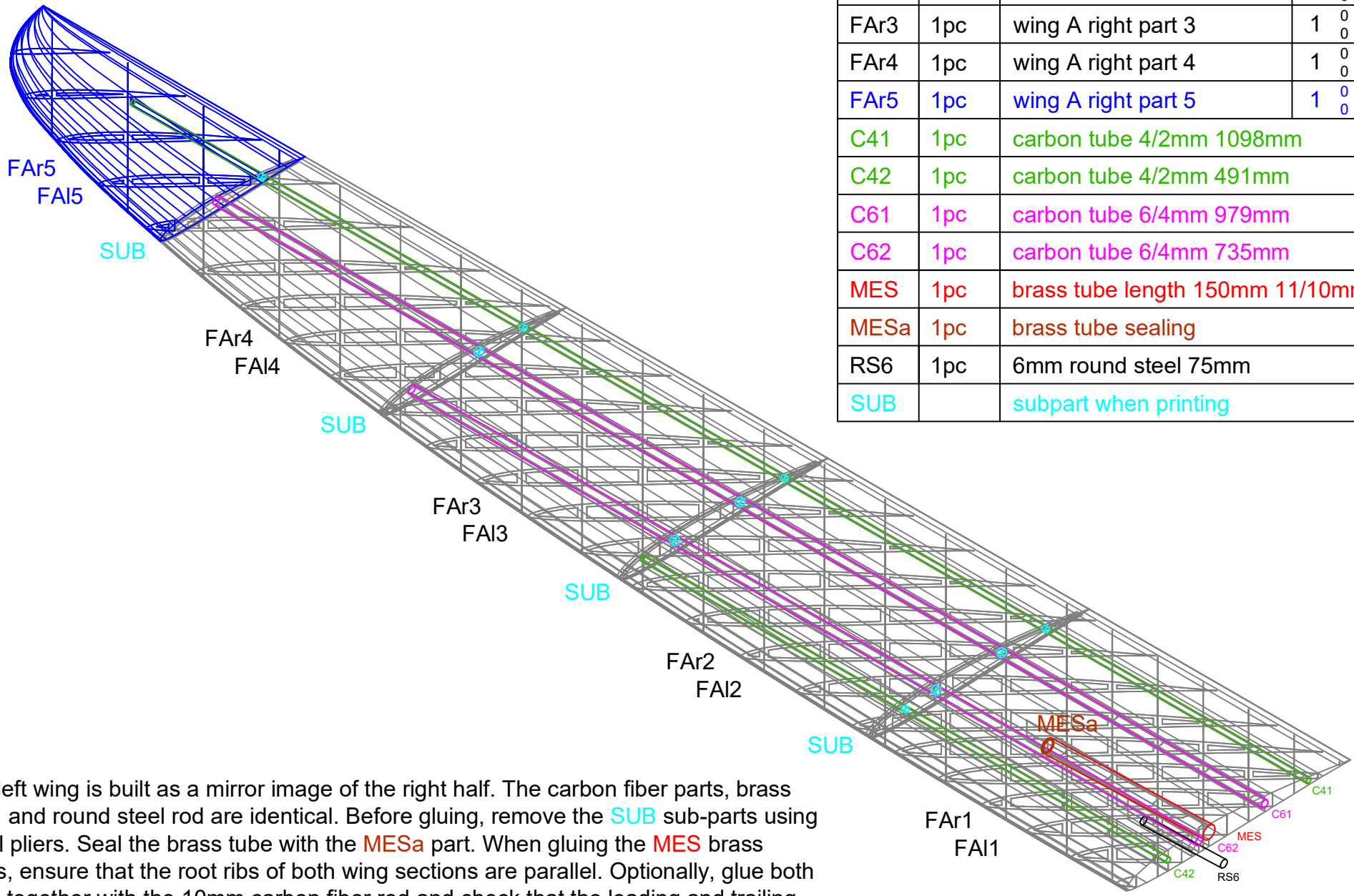




The hinges on tail assembly A are glued in place, and tail assembly B is constructed with foil hinges (3 halved Kavan 0.2mm hinges).
A bent 2mm steel wire with a 4mm ball end is used as the control horn.
A BALE jig is available for making the control horns.

MALOJA version 1.0	2026
V-Tail	AeroPrint3D

FAr1	1pc	wing A right part 1	1	0 6	0% Brim
FAr2	1pc	wing A right part 2	1	0 0	0% Brim
FAr3	1pc	wing A right part 3	1	0 0	0% Brim
FAr4	1pc	wing A right part 4	1	0 0	0% Brim
FAr5	1pc	wing A right part 5	1	0 0	0% Brim
C41	1pc	carbon tube 4/2mm 1098mm			
C42	1pc	carbon tube 4/2mm 491mm			
C61	1pc	carbon tube 6/4mm 979mm			
C62	1pc	carbon tube 6/4mm 735mm			
MES	1pc	brass tube length 150mm 11/10mm			
MESa	1pc	brass tube sealing			
RS6	1pc	6mm round steel 75mm			
SUB		subpart when printing			

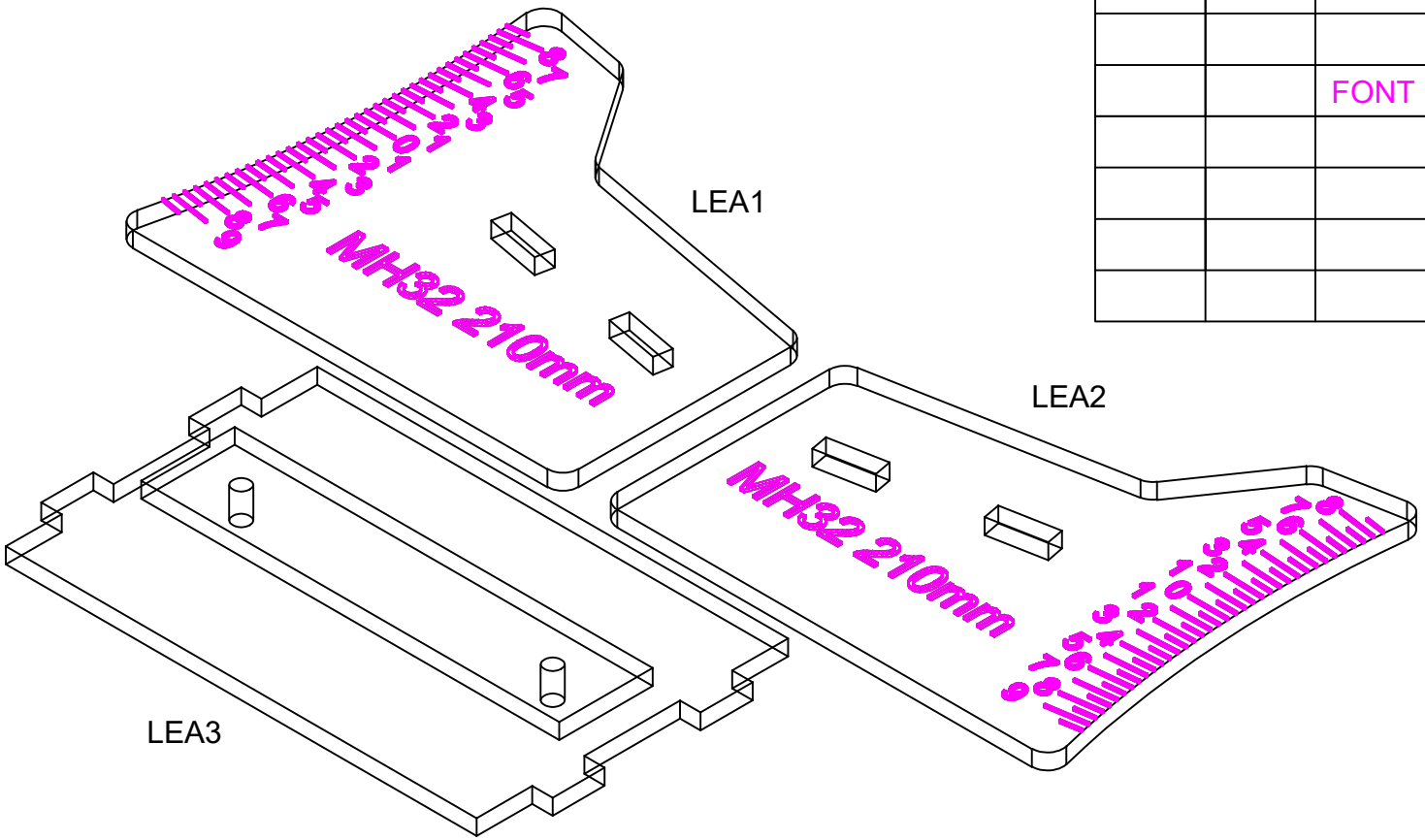


The left wing is built as a mirror image of the right half. The carbon fiber parts, brass tube, and round steel rod are identical. Before gluing, remove the SUB sub-parts using small pliers. Seal the brass tube with the MESa part. When gluing the MES brass tubes, ensure that the root ribs of both wing sections are parallel. Optionally, glue both parts together with the 10mm carbon fiber rod and check that the leading and trailing edges are aligned. Ensure that the carbon fiber rod is not glued in place.

If using olefin filament, remember to prime all bonding surfaces.

MALOJA version 1.0	2026
wing A airfoil MH32	AeroPrint3D

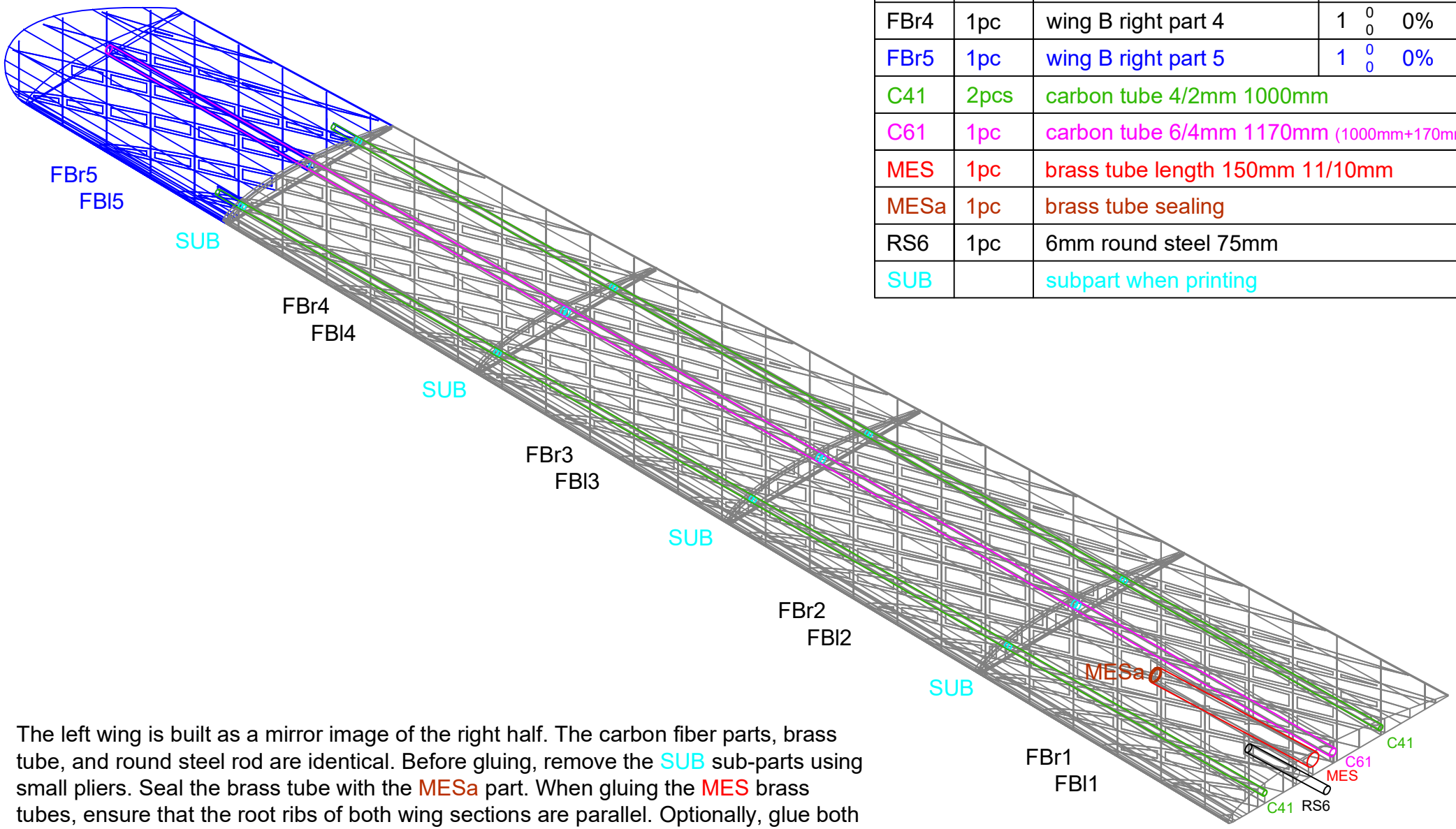
LEA*	1pc	teach wing A	2 4/4 30% no
		Layer height	0,1
		Line width	0,4
		Wall generator	Arachne
		Speed	40mm/s
		FONT	1 0/0 0% no



The jig consists of the STL files "LEA1.stl", "LEA2.stl", and "LEA3.stl".
The text is located in the last 0.3 mm and can be printed in a different color.
Please refer to the slicer settings on this page.

MALOJA version 1.0	2026
wing A airfoil MH32	AeroPrint3D

FBr1	1pc	wing B right part 1	1	0 6	0% Brim
FBr2	1pc	wing B right part 2	1	0 0	0% Brim
FBr3	1pc	wing B right part 3	1	0 0	0% Brim
FBr4	1pc	wing B right part 4	1	0 0	0% Brim
FBr5	1pc	wing B right part 5	1	0 0	0% Brim
C41	2pcs	carbon tube 4/2mm 1000mm			
C61	1pc	carbon tube 6/4mm 1170mm (1000mm+170mm)			
MES	1pc	brass tube length 150mm 11/10mm			
MESa	1pc	brass tube sealing			
RS6	1pc	6mm round steel 75mm			
SUB		subpart when printing			

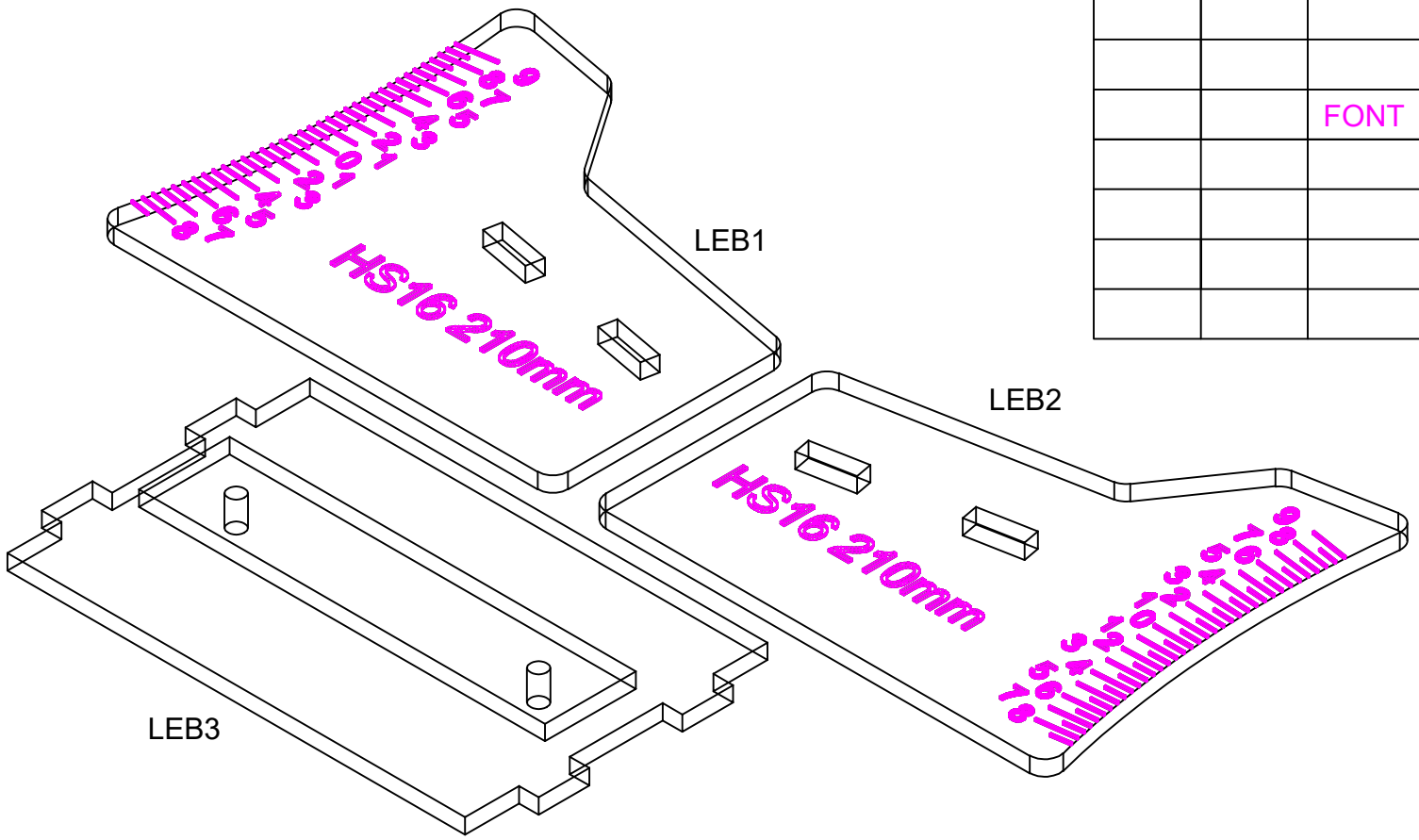


The left wing is built as a mirror image of the right half. The carbon fiber parts, brass tube, and round steel rod are identical. Before gluing, remove the SUB sub-parts using small pliers. Seal the brass tube with the MESa part. When gluing the MES brass tubes, ensure that the root ribs of both wing sections are parallel. Optionally, glue both parts together with the 10mm carbon fiber rod and check that the leading and trailing edges are aligned. Ensure that the carbon fiber rod is not glued in place.

If using olefin filament, remember to prime all bonding surfaces.

MALOJA version 1.0	2026
wing B airfoil HS16	AeroPrint3D

LEB*	1pc	teach wing B	2 4/4 30% no
		Layer height	0,1
		Line width	0,4
		Wall generator	Arachne
		Speed	40mm/s
		FONT	1 0/0 0% no



The jig consists of the STL files "LEB1.stl", "LEB2.stl", and "LEB3.stl".
The text is located in the last 0.3 mm and can be printed in a different color.
Please refer to the slicer settings on this page.

MALOJA version 1.0	2026
wing B airfoil HS16	AeroPrint3D

Disclaimer and Copyright:

The files and information provided have been carefully compiled based on experience and insights gained from test flights. Failure to follow the printing recommendations may result in the model not meeting expectations, or only partially meeting them. Despite meticulous implementation of a 3D-printed model aircraft idea, design flaws can never be completely ruled out. This is especially true when using a slicer other than "Bambu Studio," different print settings, or filaments.

We assume no liability for the production (3D printing) and operation of any model aircraft purchased from AeroPrint3D.

In Austria, liability insurance is mandatory for operating model aircraft with a takeoff weight exceeding 250g (https://aeroclub.at). Furthermore, registration with Austro-Control and passing the "drone license" exam are required (https://www.dronespace.at/modellflug/allgemeine_informationen).

The copyright for all supplied files (3mf, PDF, STL, etc.) remains with AeroPrint3D even after purchase. The files may not be modified or distributed.

You can reach us using the following contact information:

Website: https://aeroprint3d.at

Email: support@aeroprint3d.at