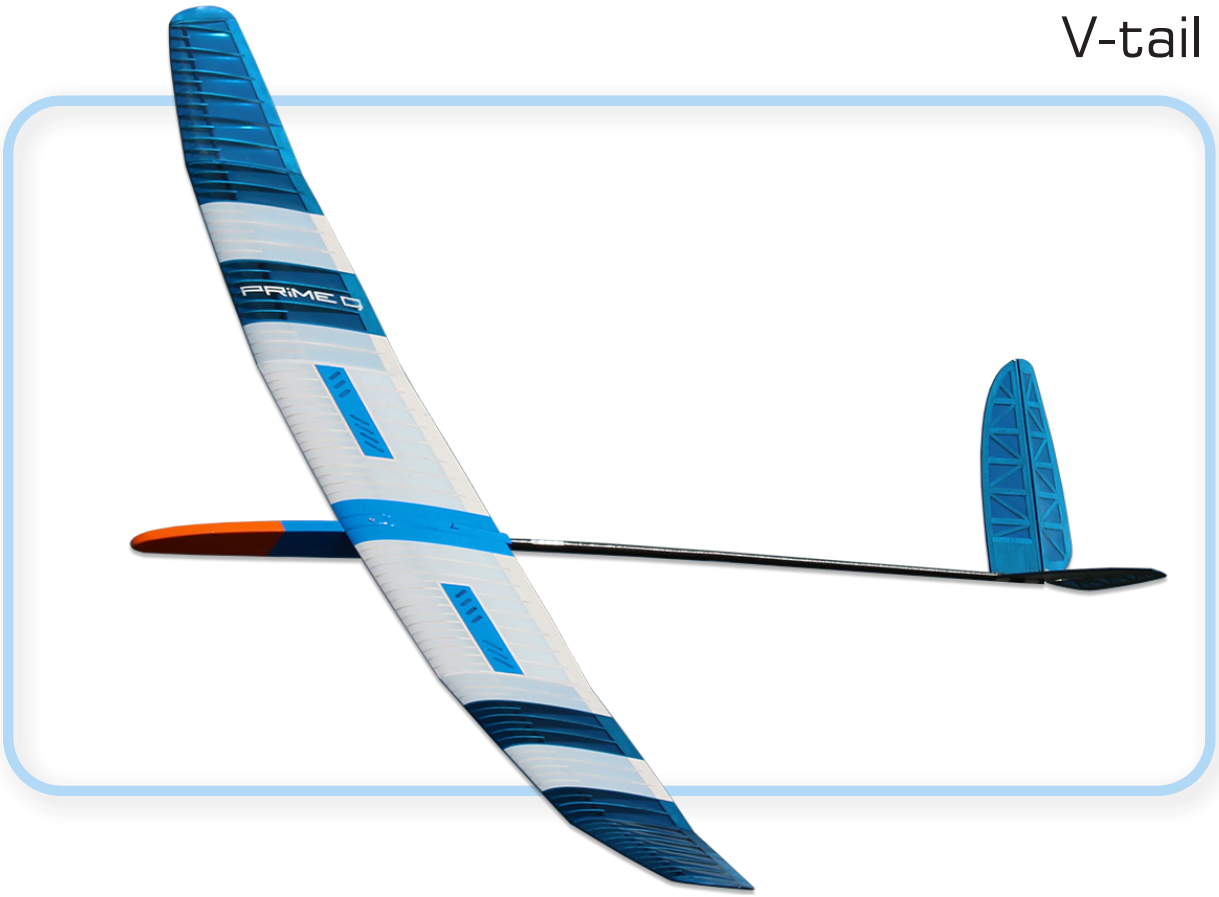
Prime Q - KIT

V-tail



glider / F3L version

Building manual

CLM Pro || www.clm-pro.com

Content:

Introducing the New High-End RES F3L Competition Model – Prime Q by CLM Pro

Following the success of the Prime III series in both F3L and F5L versions, CLM Pro has taken several steps forward to develop a superior, next-generation RES model – Prime Q. Representing the latest in model design from the well-known manufacturer CLM Pro, the Prime Q is engineered for peak performance in FAI RES F3L competitions.

The design and development of the Prime Q were once again led by the well-known designer Danko Prprović, who is also responsible for the previous Prime models. His expertise and innovative approach have been instrumental in shaping the Prime series into one of the most recognized and respected lines of RES competition models.

Optimized Performance Through Innovation

The Prime Q is the result of years of research and intensive field testing. It was designed to be a true high-end, all-round model capable of delivering excellent performance in all weather conditions, in full compliance with the FAI RES F3L rule set.

At the heart of the Prime Q is a completely new airfoil, designated DP699 – DP711. Developed over the past three years in close collaboration with a university aerodynamic lab equipped with a wind tunnel, the airfoil is the result of exhaustive testing and optimization of multiple polar curves to find the ideal aerodynamic balance.

The model has been flight-tested across the full spectrum of weather – from dead calm to extreme wind conditions up to 12 m/s – and has proven itself to be a winning design. Over the past year, it has been extensively tested by our Prime Team in competitions all across Europe, consistently proving its quality by achieving podium finishes.

Where the Prime Q truly excels is in its ability to respond to the smallest thermal signals. Even a tiny bubble of lift is enough – the model hooks in effortlessly and climbs smoothly. It's remarkably sensitive to thermals and practically wants to go up.

With the Prime Q, CLM Pro sets a new benchmark in the RES category – precision engineering, competitive performance, and thoughtful design for builders and pilots alike.

Whether you're training, competing, or simply chasing thermals on a Sunday morning, the Prime Q offers an unmatched combination of performance, handling, and build quality.

Key Specifications:

Wingspan: 1992 mm / 78.43”
Length: 1398 mm / 55.03”
Wing area: 37 dm² / 542 sq. in.
RTF weight: from 470 g / 16.60 oz
Controls: Rudder, elevator, spoiler

PRIME Q – Feature Highlights:

- High-performance all-rounder for all weather conditions
- Larger root chord and elliptical wing shape, inspired by Prime III
- Bigger, perforated spoilers for enhanced braking efficiency
- Expanded wing area – 37 dm^2
- New airfoil: DP699- DP771
Designed specifically for RES class
Improved glide ratio and energy retention
Better wind penetration
Higher launch height than Prime III
- Ballast system in fuselage (as in Prime III), but upgraded:
- Quick-release ballast hatch (no screws – swap in 1 seconds)
- Available in both X-tail and V-tail configurations
- Easier and more precise build process:
- Assembly on a laser-engraved jig – no more Styrofoam templates
- Uses a 3 mm laser-cut plywood jig for higher precision and repeatability
- Full-size 1:1 building plans included

Kit includes:

- detailed drawing in color
- detailed building manual with step-by-step images
- laser cut jig from pylwood for easier wing glueing
- laser cut ribs and all other required parts
- templates for gluing the first ribs at angles
- carbon tailboom
- carbon tube for mainspar
- set of ballast with a total weight of 90 gr. + 29 gr steel joiner
- carbon wing joiner
- steel wing joiner for more ballast
- adjustable tow hook, including all necessary parts
- rudder horns, u-nuts and various bolts for mounting
- various magnets for the canopy and spoiler
- bowdens and controls for connecting moving surfaces
- other carbon small parts and accessories

Additional details for each segment of the model can be found below.

Wing Design and Construction

For improved stability, the wing has been designed in multiple segments. It is built in two main parts that connect to the fuselage at the center. The wing features a central panel with a dihedral angle, while both the mid panels and the tip panels are also angled. Each segment—tip, mid, and center—has its own angle, including the two halves that join the fuselage, resulting in excellent flight balance.

The wing maintains an elliptical shape throughout its entire span, giving the model outstanding stability and smooth, easy handling in all flight conditions. The two wing halves are joined with precision carbon joiners, or steel joiners when ballast is needed. Pre-fitted pins ensure that all parts align perfectly during assembly.

To further strengthen the connection and optimize load transfer from the mid panels to the center panel, the kit includes a specially angled carbon joiner. A carbon tube is also provided as the main spar, reinforced with Kevlar at the joints where the wing segments connect. For easier assembly, a laser-cut plywood jig is included, allowing precise alignment during gluing.

The main wing structure is built with full balsa ribs and a pre-shaped balsa trailing edge, with reinforcements in critical areas. Composite materials are used for the leading edge and main spar, all in accordance with FAI F3 RES rules. Every part is laser-cut for a precise fit, requiring minimal finishing – you only need to assemble and bond the parts following the manual.

The center panel is equipped with two separate spoilers, each featuring built-in magnets that ensure they close perfectly flush when not in use.

Fuselage Design

Like all of our fuselages, this one is carefully crafted with an aerodynamic shape and smooth transitions. All parts are precisely laser-cut from high-quality balsa and aviation-grade plywood, with reinforcements placed in strategic areas to provide additional strength without adding unnecessary weight.

A key innovation in this design is the special ballast bay mechanism. No more screws or difficult access – with a simple slide of the dedicated part, the ballast compartment can be opened or closed instantly, making adjustments quick and effortless even in the field.

The ballast itself is neatly integrated inside the fuselage pod, positioned directly at the model's center of gravity between the wings. This ensures perfect balance and easy handling. The system includes interchangeable ballast modules that can be swapped in seconds without disassembling the model. The total ballast capacity is 119 g, consisting of four steel blocks (10x10 mm, length 29 mm, each weighing 22.5 g) for a total of 90 g, plus an optional 29 g steel joiner. For finer adjustments, matching balsa inserts are provided so that the ballast box always remains compact and secure, regardless of load configuration.

Another standout feature is the adjustable tow hook. Built from multiple components, it allows quick forward-backward position adjustments directly on the field, giving pilots maximum flexibility in different launch conditions.

The canopy is designed with practicality in mind, offering plenty of space to install and access all onboard components. The battery can be inserted and connected with ease, significantly improving usability at the flying site. A magnetic locking system ensures that the canopy closes securely and remains firmly in place during flight.
Finally, the tapered carbon tailboom is manufactured using several types of carbon fibers, with the material orientation optimized to deliver maximum strength at the lowest possible weight. It is further reinforced at strategic points, allowing it to withstand even the rough landings often required when aiming for precision spot landings in competitions. This ensures both durability and precise handling in every flight.

Tail Design

A completely new tail design, optimized for minimum weight and maximum strength, with smooth aerodynamic lines for superior performance.

The tail is constructed from precisely laser-cut balsa components, carefully selected to provide the best possible strength-to-weight ratio.
The elevator is additionally reinforced with a spruce strip for extra stiffness, allowing it to withstand higher loads in strong wind conditions.

Both the rudder and elevator come with pre-installed carbon pins that fit directly into pre-drilled holes in the carbon tailboom, making assembly simple and secure. The carbon tailboom itself is factory-prepared with the necessary holes for mounting, ensuring accurate alignment and strong attachment of the tail surfaces.

Materials & Covering

We use aerospace-tested resin, certified for aircraft construction, for all composite components. In addition, only aero-certified composite parts are used throughout the build to ensure the highest standards of strength and reliability.

Note: You can also order covering film for the model. We use only the highest-quality Oralight covering from the German manufacturer Lenitz Prena / Oracover.

Available colours can be viewed here: https://www.clm-pro.com/store-detail/covering-material

Recommended glider setup:

Rudder / Elevator Servos: KST 08, CHA DS09, EMAX ES08MA II
Spoiler Servos: KST X06H V6, EMAX ES9051, CHA DS06
Battery Options: Li-ion 1S / 2600 mAh; 2S LiPo 300–850 mAh; NiMh 300–700 mAh
Receiver: 5-channel receiver compatible with your transmitter

Prime Q Control Movements:

Rudder: 20 mm each way, expo 10–20%
Elevator: 14 mm each way, expo 10–20%
Spoiler: 80° up

Prime Q specification:		
Wingspan:	1992 mm	78.43”
Length:	1398 mm	55.03”
Wing area:	37 dm2	542 sq. in.
Airfoils:	DP 699 - DP 711	
Weight structure:	310 g	10.93 oz
Weight covered:	345 g	12.20 oz
Flying weight from:	470 g	16,60 oz
Control surfaces:	RES	
CoG:	82-84 mm from wing leading edge	

Prime Q weight of parts:		
Fuselage:	52g	1.83 oz
Carbon tailboom:	17 g	0.59 oz
Rudder / vert stab:	8 g	0.28 oz
Elevator / hor stab:	10 g	0.35 oz
Center panel - half:	50 g	1.76 oz
Middle wing panel	30 g	1.05 oz
Tip panel:	12 g	0.42 oz
Bolts:	5 g	0.17 oz
Carbon joiner:	6 g	0.21 oz
Accessories	10 g	0.35 oz

If you have any questions, don’t understand something, or get stuck on a step while assembling the model, please contact us—we’ll be happy to help, even with the smallest detail.

Contact info: // info@clm-pro.cm //

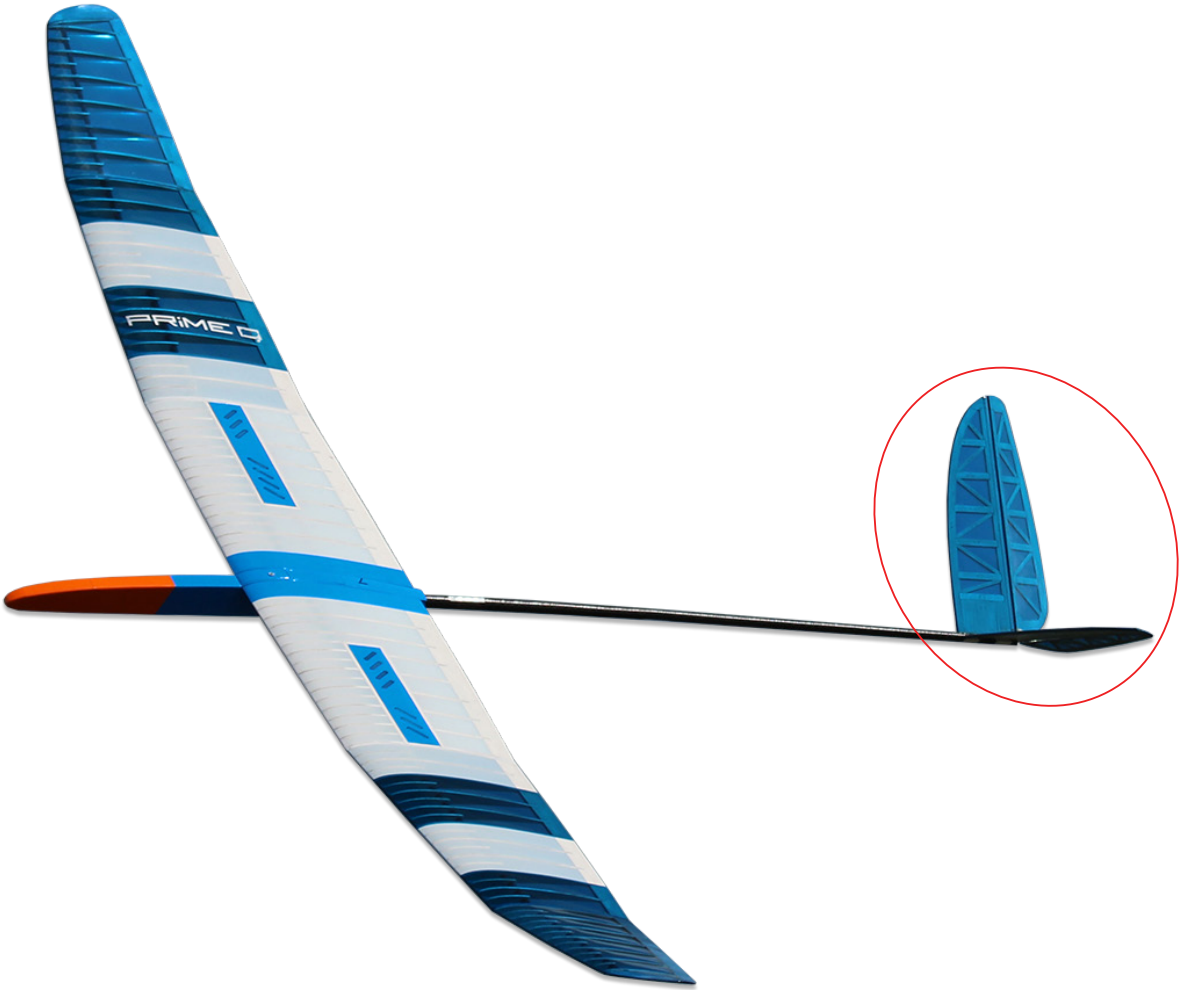
Parts list:

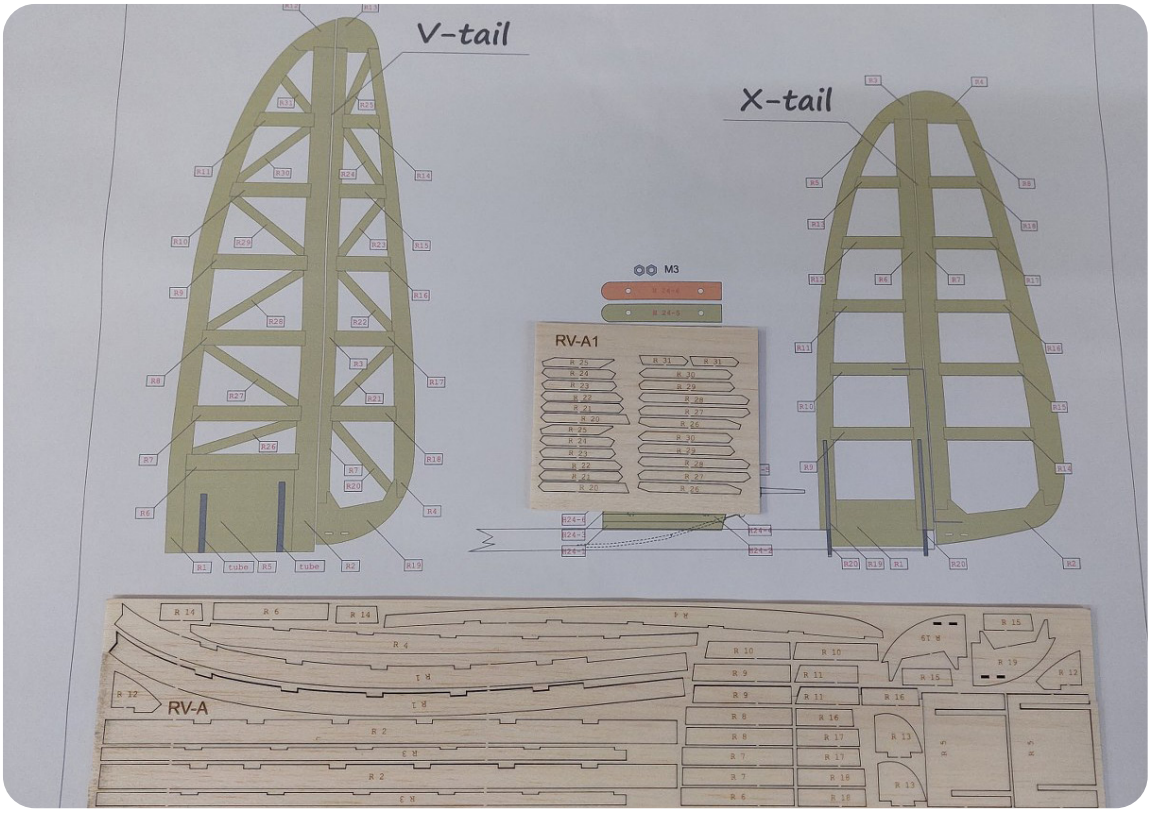
No.	Part description	Size	Material	Prime Q X-tail	PrimeQ V-tail	Part
Wings						
1	1A - laser cut		Balsa 4 mm	1	1	
2	1B - balsa trailing edge		Balsa 3 mm	2	2	
3	1C - laser cut		Balsa 3 mm	1	1	
4	1D - laser cut		Balsa 2 mm	1	1	
5	1E - balsa trailing edge		Balsa 4 mm	2	2	
6	1F - laser cut		Balsa 3 mm	2	2	
7	1G - laser cut		Balsa 2 mm	1	1	
8	1H - laser cut		Plywood 1 mm	1	1	
9	1I - laser cut		Plywood 1.5 mm	1	1	
10	1J - laser cut		Plywood 3 mm	1	1	
11	1K - laser cut		Balsa 1 mm	1	1	
12	1L - laser cut		Balsa 2 mm	1	1	
13	1M - laser cut		Balsa 2 mm	1	1	
14	1N - laser cut - spoiler		Balsa 3 mm	2	2	
15	1O - laser cut		Balsa 3 mm	2	2	
16	1P - balsa trailing edge		Balsa 5 mm	2	2	
17	1R - laser cut		Balsa 3 mm	1	1	
18	S1 - plywood wing template		Plywood 3 mm	1	1	
19	S2 - plywood wing template		Plywood 3 mm	1	1	
20	S3 - plywood wing template		Plywood 3 mm	1	1	
21	Drawing 1:1		Paper	1	1	
22	Carbon rod - leading edge tip panel	**ø 2 x 250**	Carbon rod	2	2	
23	Carbon tube - mainspar tip panel	**ø 6 x 250**	Carbon tube	2	2	
24	Carbon rod- leading edge MW panel	**ø 2.5 x 400 mm**	Carbon rod	2	2	
25	Carbon tube - mainspar MW panel	**ø 8 x 400 mm**	Carbon tube	2	2	
26	Carbon rod- leading edge center panel	**ø 2.5 x 350 mm**	Carbon rod	2	2	
27	Carbon tube - mainspar center panel	**ø 8 x 350 mm**	Carbon tube	2	2	
31	Sticker Prime Q		Plastic foil	1	1	
32	Wing joiner carbon	**ø 6 x 190 mm**	Carbon rod	1	1	
33	Steel wing joiner - ballast	**ø 6 x 190 mm**	Steel	1	1	
34	Joiner carbon	**ø 6 - 6°**	Carbon rod	2	2	V4
35	Joiner vitroplast		Vitroplast	2	2	V2
36	Alu tube	**ø 7x1 mm x 90 mm**	Aluminium	2	2	V4
37	Carbon rod	**ø 3 x 30 mm**	Carbon rod	2	2	V4
38	Magnet - spoiler	**ø 3 x 2 mm**	Magnet	8	8	V5

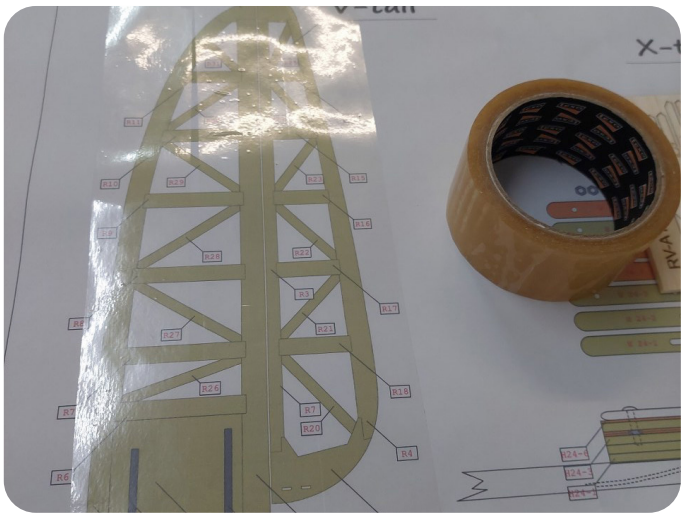
Parts list:

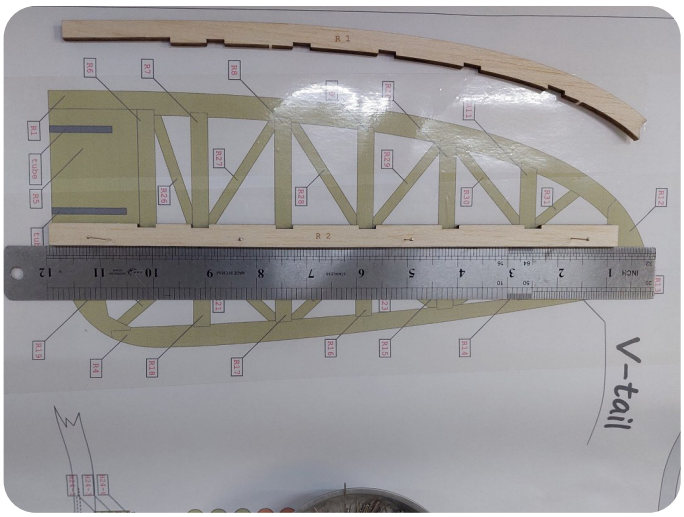
No.	Part description	Size	Material	Prime Q X-tail	PrimeQ V-tail	Part
Fuselage						
39	1A-f laser cut	75 x 30 mm	Plywood 3 mm	1	1	
40	1B-f laser cut	500 x 100 mm	Balsa 1.5 mm	1	1	
41	1C-f laser cut	200 x 100 mm	Balsa 1.5 mm	1	1	
42	1D-f laser cut	200 x 100 mm	Balsa 3 mm	1	1	
43	1E-f laser cut	460 x 100 mm	Plywood 1 mm	1	1	
44	1F-f laser cut	470 x 100 mm	Plywood 1.5 mm	1	1	
45	1G-f laser cut	250 x 21 mm	Balsa 4 mm	1	1	
46	Magnets - canopy + cover	**ø 4 x 1.5 mm**	Magnet	6	6	V5
47	Wings nuts	M4	Steel	1	1	V3
48	Wing attachment screw	M4 x 12 mm	Plastic / Steel	1	1	V3
49	Steel hook		2 mm steel	1	1	
50	Spring		Spring	1	1	
51	Carbon tailboom	**920 mm**	Carbon	1	1	
52	Stainless wire 0.30 mm	**300 cm**	Steel	1	1	
53	Ballast - Steel	**10 x 10 x 29 mm**	Steel	4	4	V6
54	Ballast - Balsa	**10 x 10 x 29 mm**	Balsa	3	3	V6
55	Hex key	2.5 mm	Steel	1	1	V1
56	Drawing M1:1		Paper	1	1	
57	Tow hook		Steel	1	1	V1
58	Tow hook - plywood Ah2, Ah3, Ah4		Plywood	3	3	V1
59	Tow hook - nuts M4	M4	Steel	2	2	V1
60	Tow hook - nuts M3	M3	Steel	1	1	V1
61	Tow hook - screw	M3 x 12 mm	Steel	1	1	V1
Tail						
62	Nuts	M3	Steel	1	x	
63	Pine strip	**4x2 mm**	Pine strip	2	x	V4
64	Carbon rod	**ø 2 x 65 mm**	Carbon	2	4	V4
65	Carbon rod	**ø 2 x 30 mm**	Carbon	2	x	
66	Carbon tube	**ø 3 x 50 mm**	Carbon	2	4	
67	Plywood strips	0.4 mm x 50 mm	Plywood	4	8	
68	Rudderhorn vitroplast		Vitroplast	2	2	V2
69	Elevator attachment screw	M3 x 30 mm	Plastic	1	x	
70	Drawing M1:1		Paper	1	1	
71	RV-A laser cut	500 x 100 mm	Balsa 4 mm	x	1	
72	RV-A1 laser cut	120 x 100 mm	Balsa 4 mm	x	1	
73	R-A laser cut	420 x 100 mm	Balsa 4 mm	1	x	
74	R-B laser cut	250 x 100 mm	Balsa 4 mm	1	x	
75	Steel wire - torsion spring	100 mm	Steel wire 0.5 mm	2	2	
						9

V-tail









Prework:

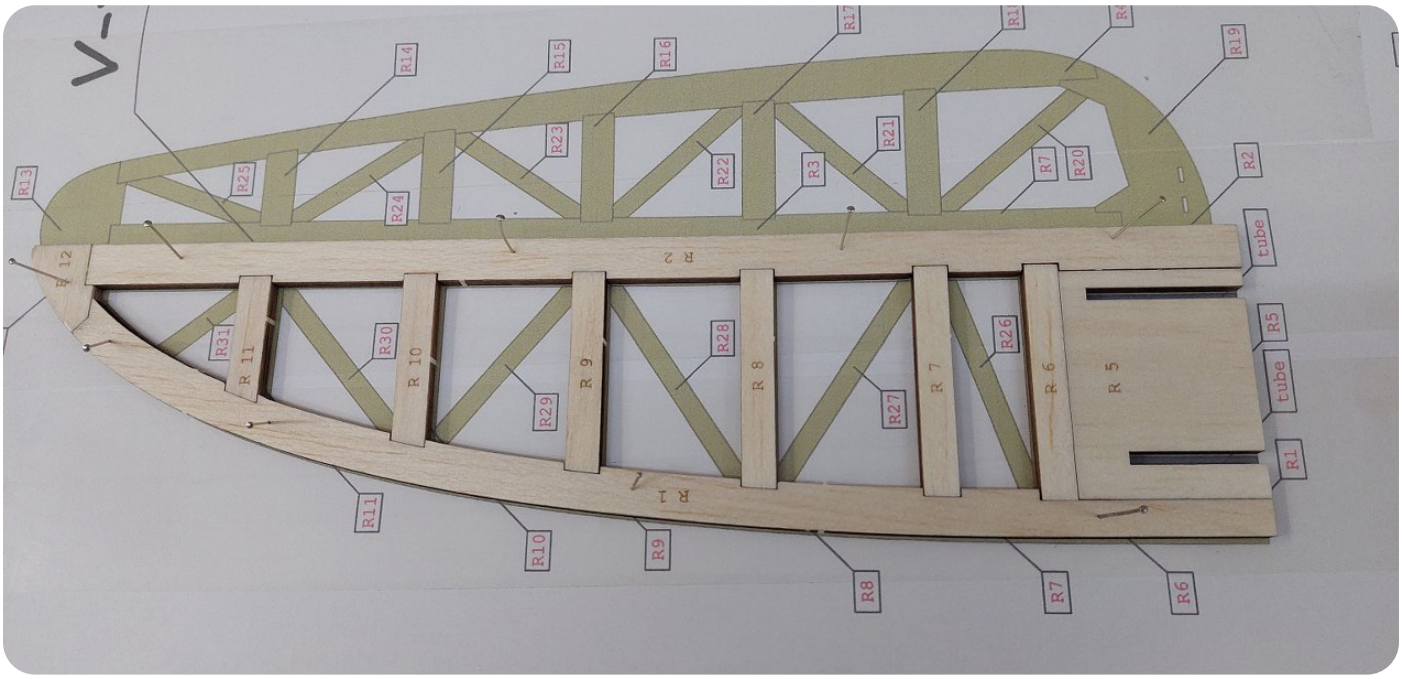
- place the drawing on a rigid, flat building board and cover it with transparent tape or plastic film to prevent parts from sticking to it during bonding

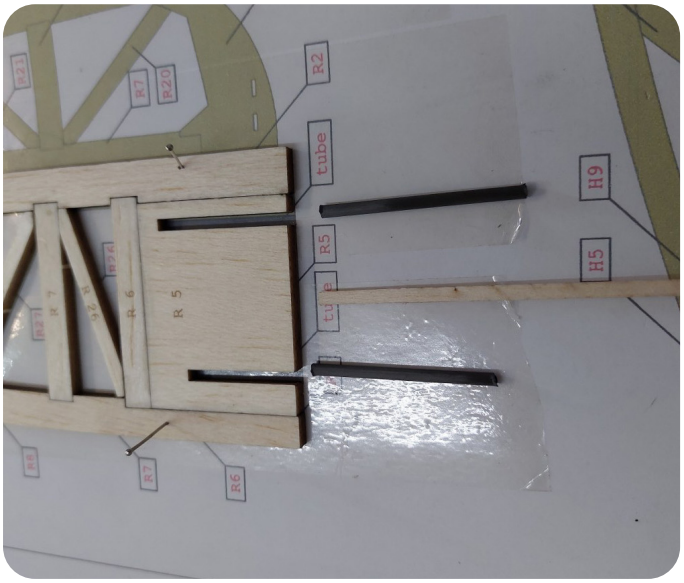
Step 1:

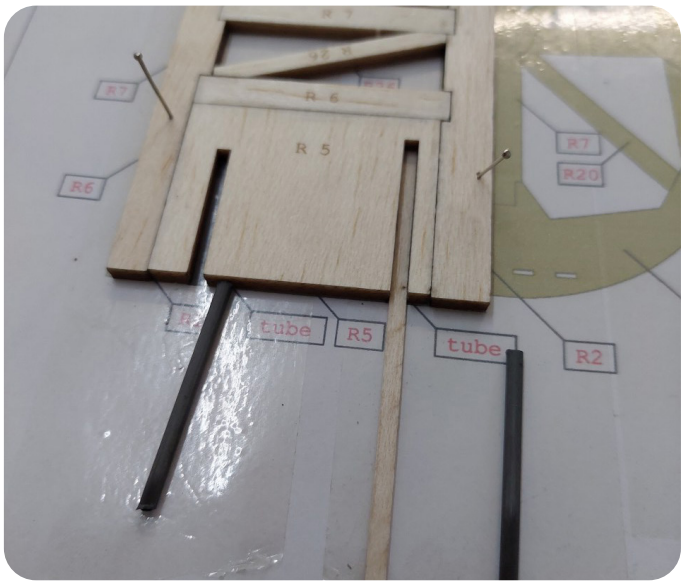
- place Pos. R2 (card RV-A) onto the drawing

Note:

- pin the hinge at both ends first
- use a ruler or another straight edge to align the hinge, then pin it in place along its length







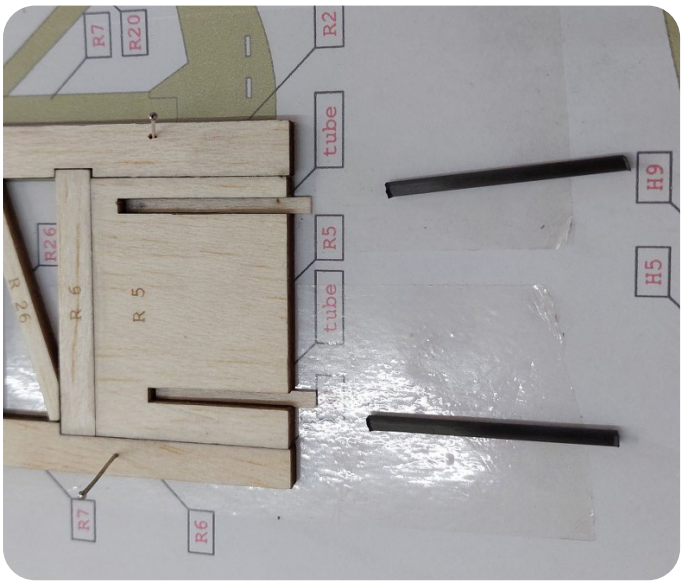
Step 2:
- place Pos. R1 (card RV-A) onto the drawing and fix with pins

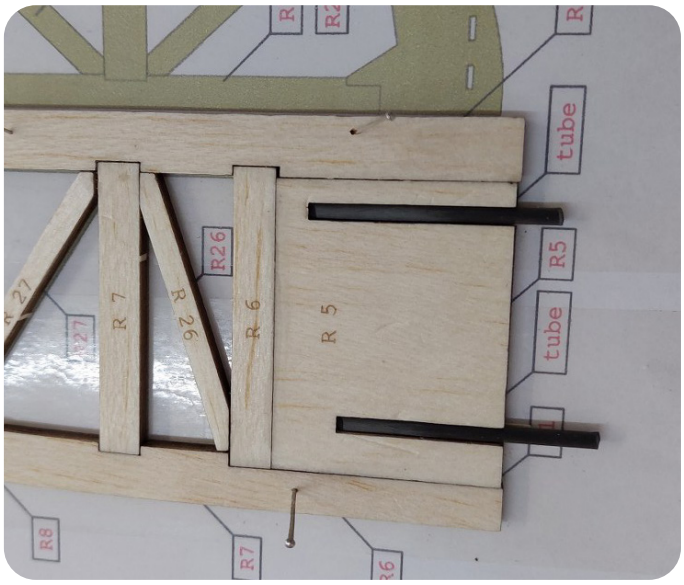
Step 2.1:
- place Pos. R5–R12 (card RV-A) onto the drawing
- place the diagonals Pos. R26–R31 (card RV-A1) onto the drawing

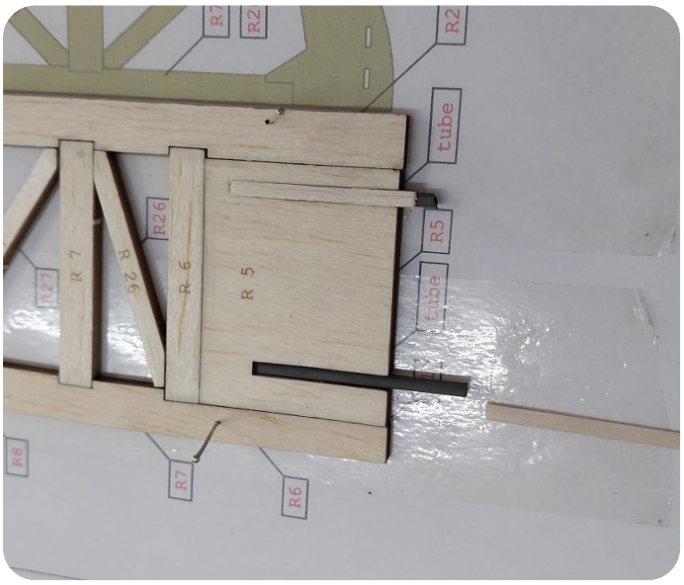
- bond all joints where the parts make contact

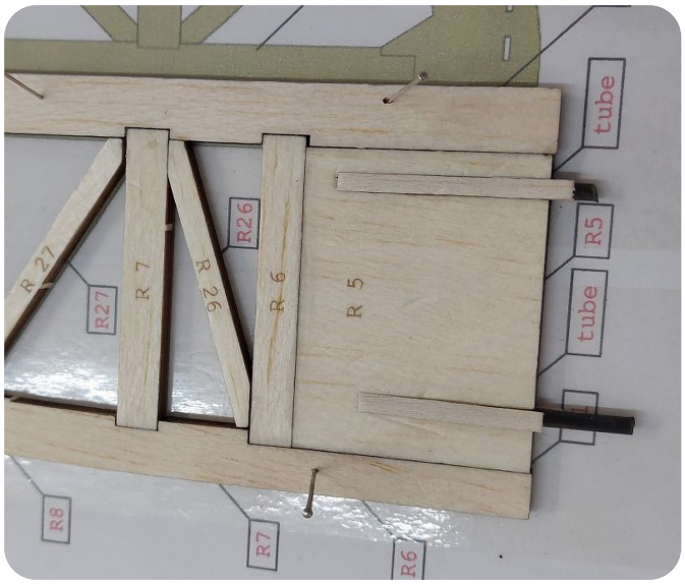
Note:
- make sure all parts are firmly pressed down on the plan/template during bonding

- prepare four 3 mm carbon tubes
- prepare eight 0.4 × 3 mm plywood strip









Step 3:

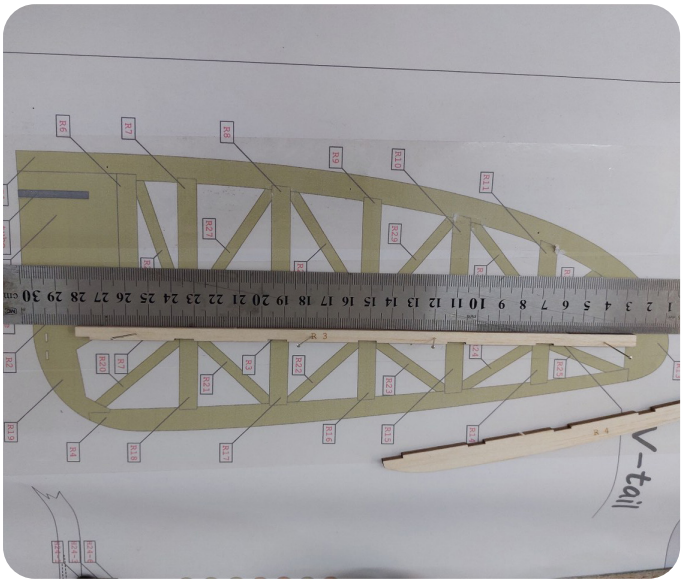
Making the mount used to attach the tail to the tailboom - Later, a 2 mm carbon rod—glued to the tailboom—will fit into this section.

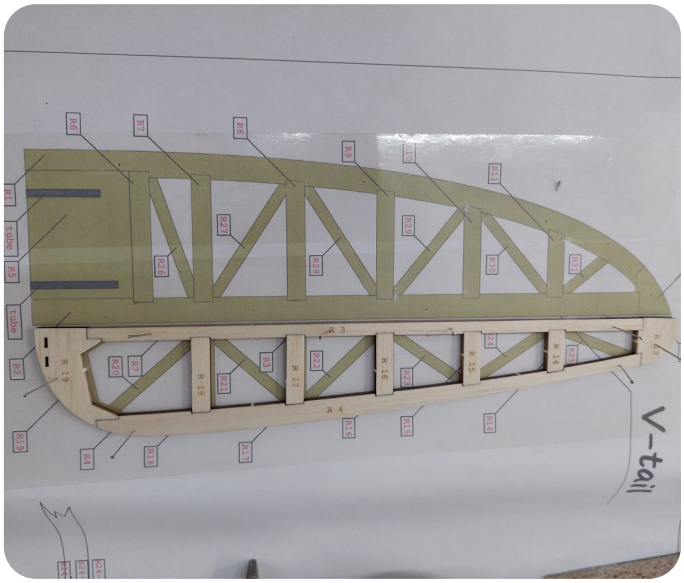
- glue one layer of 0.4 mm plywood to the underside

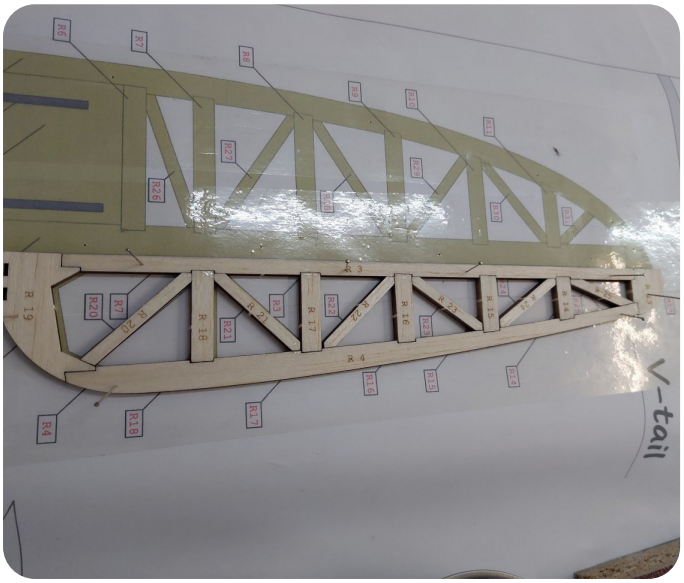
- glue the 3 mm carbon tube on top of the 0.4 mm plywood layer

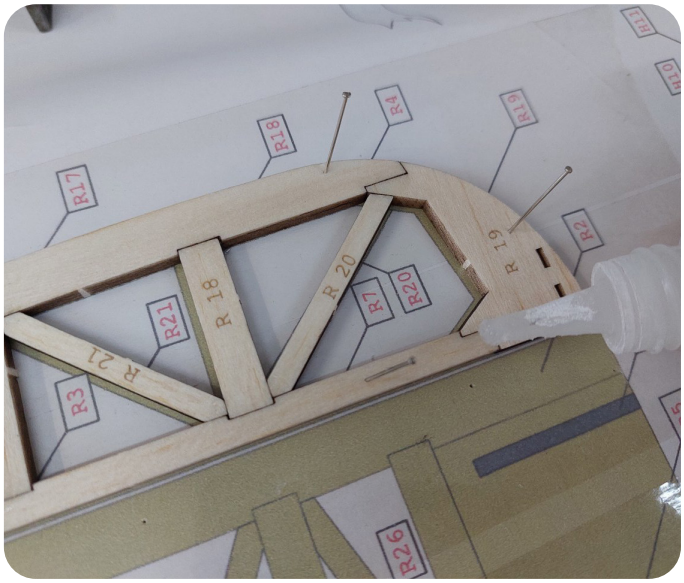
- glue another 0.4 mm plywood layer over the carbon tube to fill the gap and make the surface flush

Note:
- when gluing, protect the work surface with a sheet of plastic/film so the parts don't stick to it









Step 4:
- place Pos. R3 (card RV-A) onto the drawing

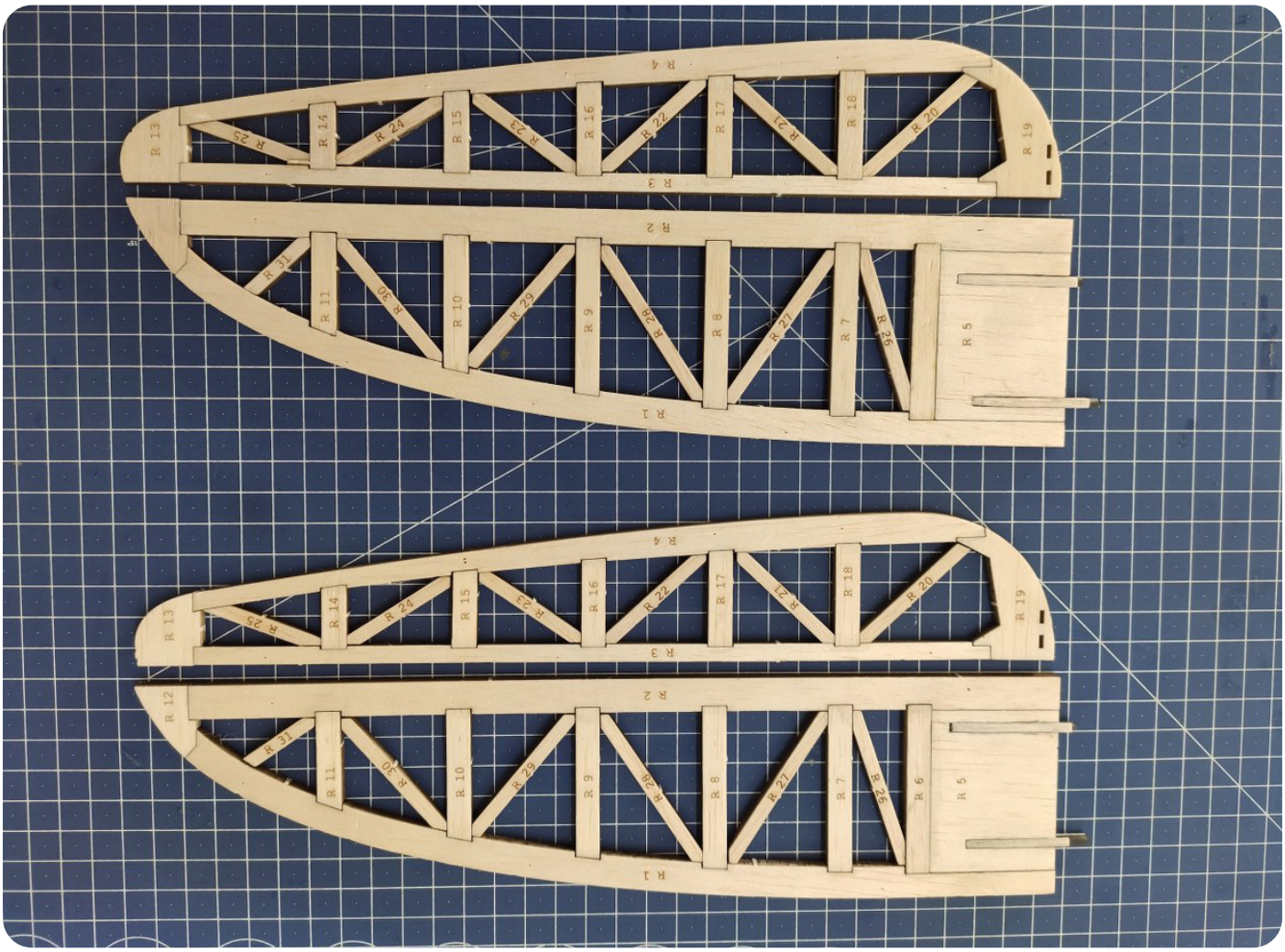
Note:
- pin the hinge at both ends first
- use a ruler or another straight edge to align the hinge, then pin it in place along its length

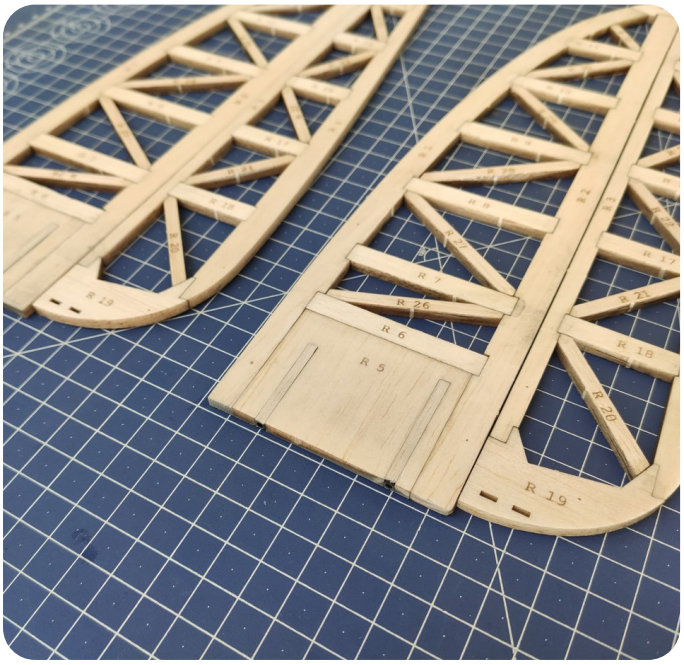
- place Pos. R4 (card RV-A) onto the drawing and secure it with pins

Step 4.1:
- place Pos. R13–R19 (card RV-A) onto the drawing
- place the diagonals Pos. R20–R25 (card RV-A1) onto the drawing

- bond all joints where the parts make contact

Note:
- make sure all parts are firmly pressed down on the plan/template during bonding

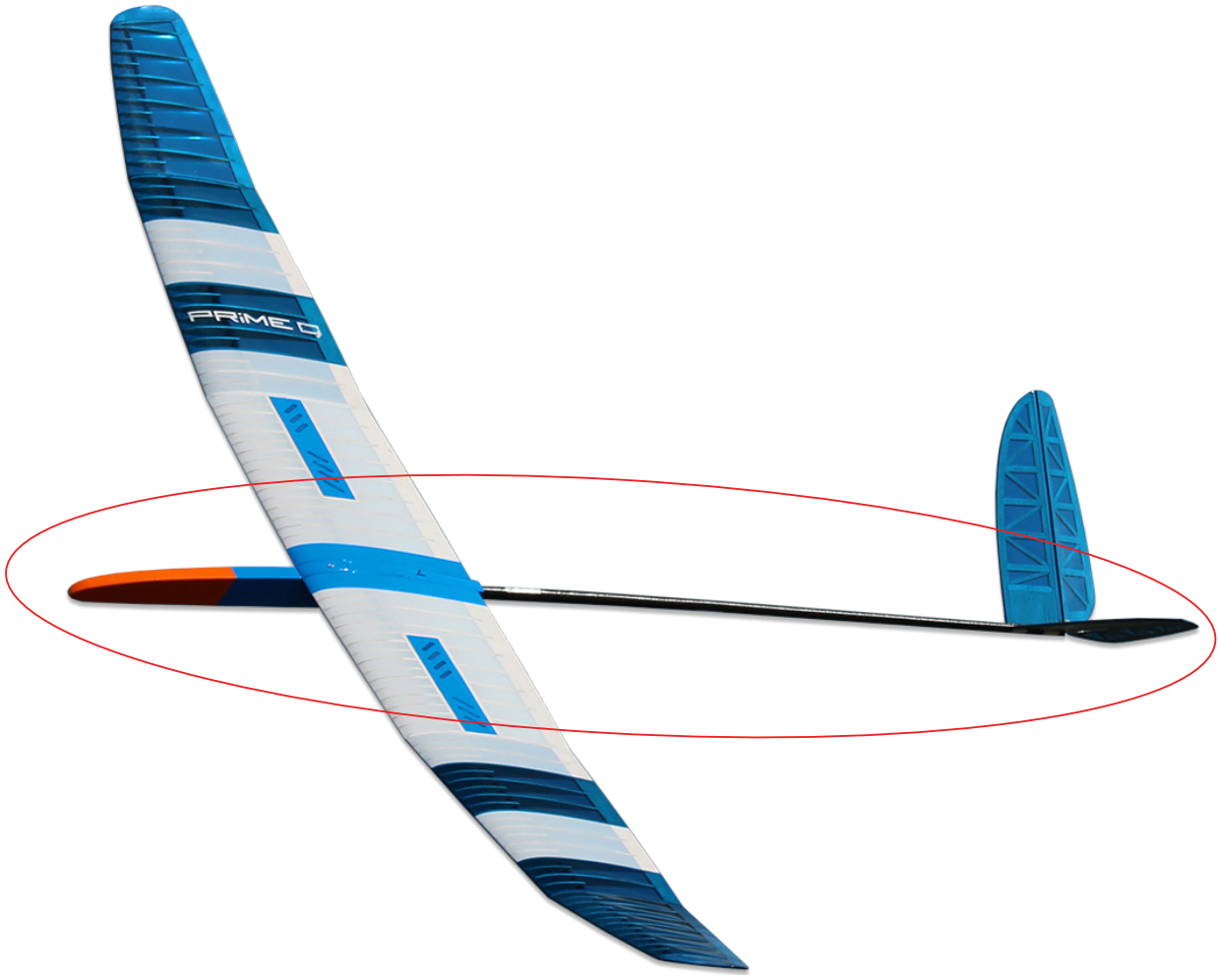


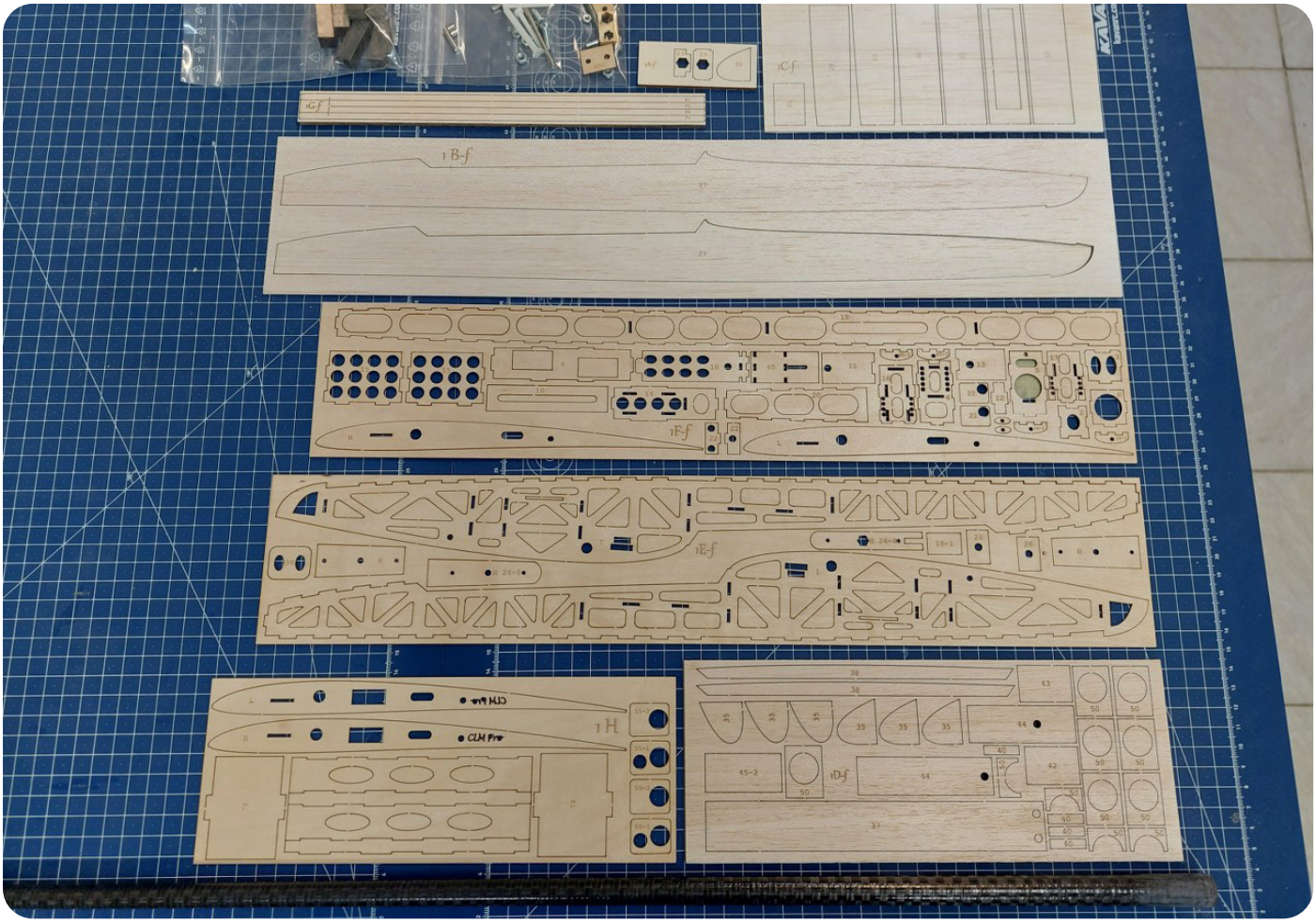


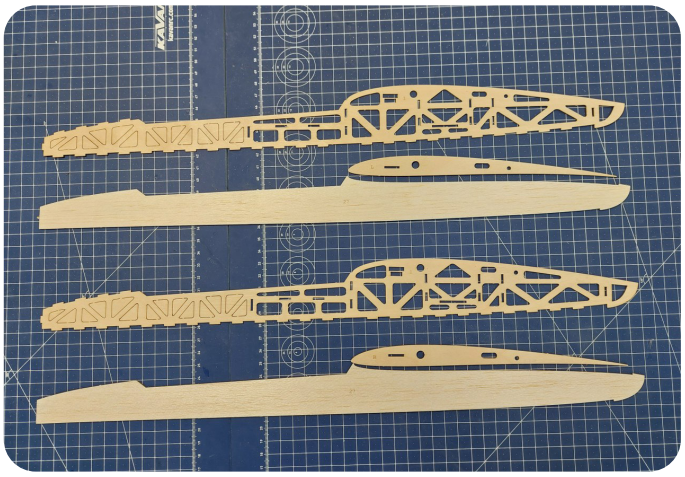
Step 5:

- once everything is glued in place, lightly sand the top and bottom surfaces to remove any excess adhesive
- **finally, lightly sand the entire tail to remove any sharp edges on the outer sides**

Fuselage



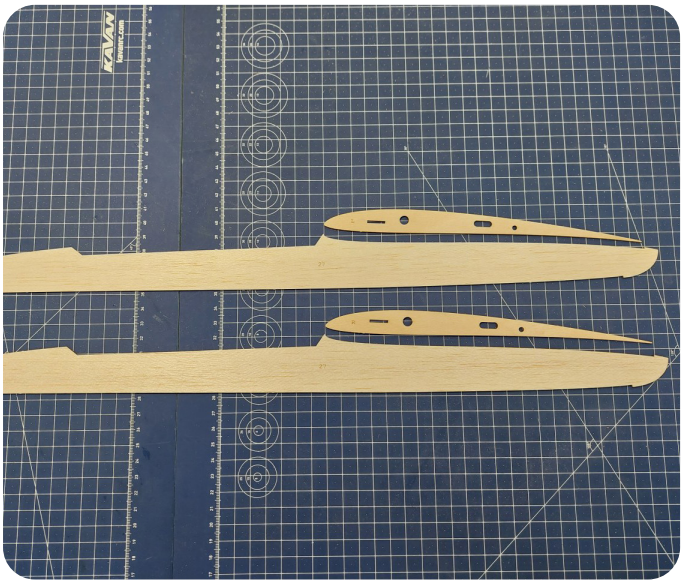


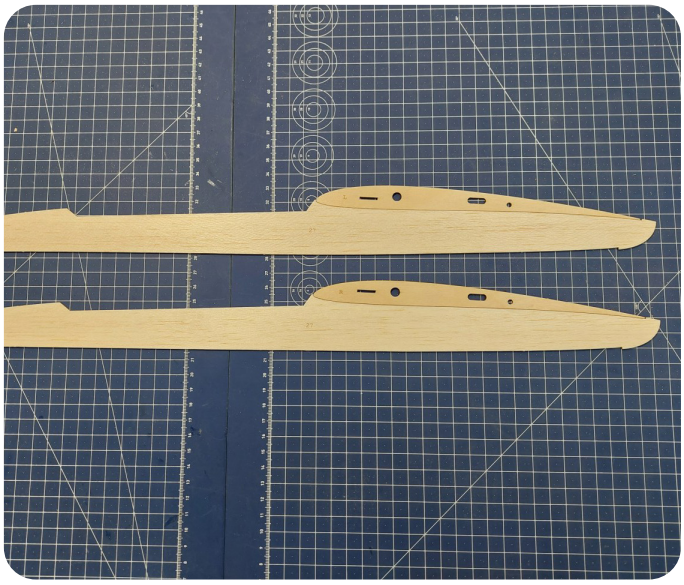


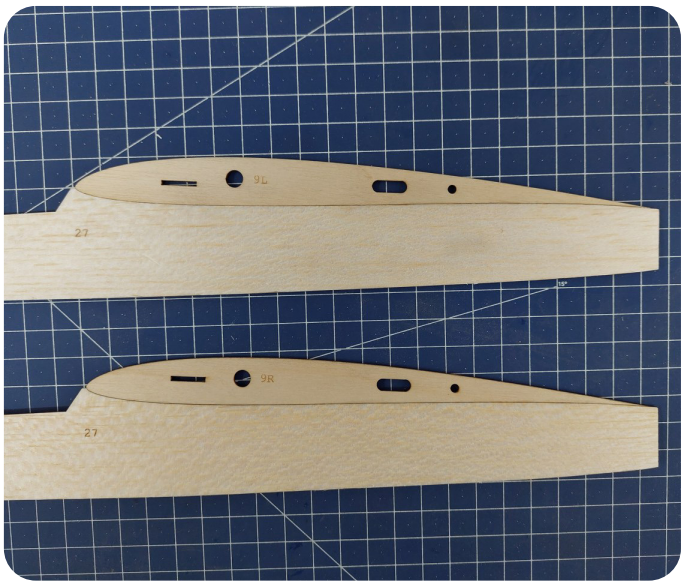
Step 1:

- cut and prepare 2x Pos. 1 of plywood (card 1E-f)
- prepare the sides of the fuselage 2x Pos. 27 (card 1B-f)
- prepare ribs Pos. L and R (card 1F-f)

Note:
- You don't need to cut out the fillers in the front part of the fuselage at Pos. 1—leave them in place for extra strength in the nose section.



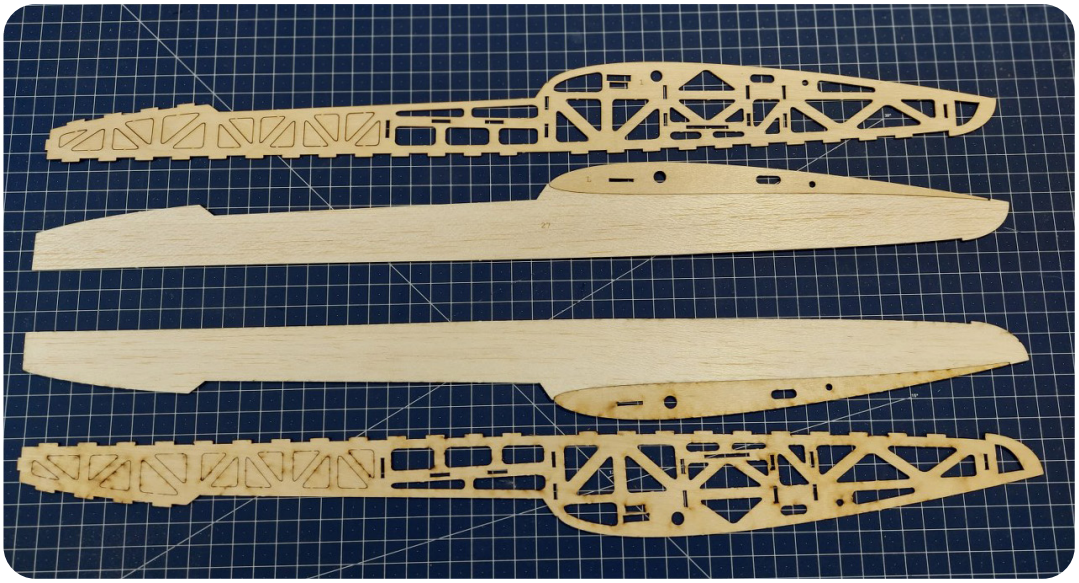


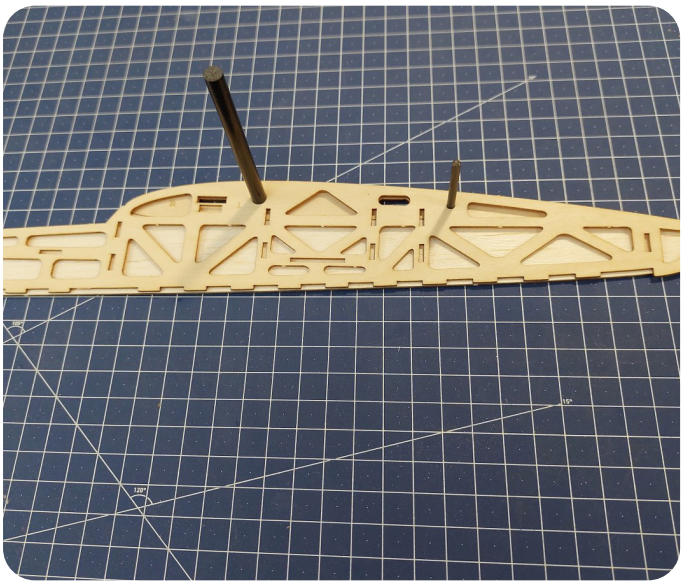


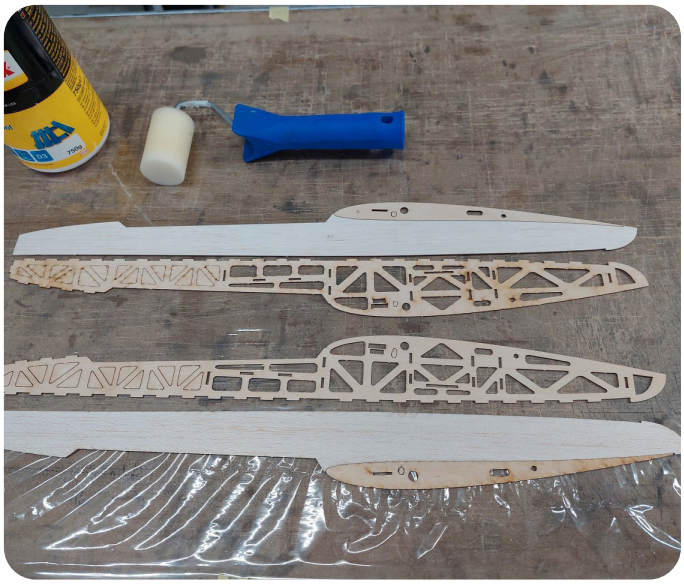
Step 1.1:

- Lightly sand off the laser residue on the lower part of ribs Pos. L and R to ensure a better-quality bond

- bond Pos. L on Pos. 27
- bond Pos. R on Pos. 27



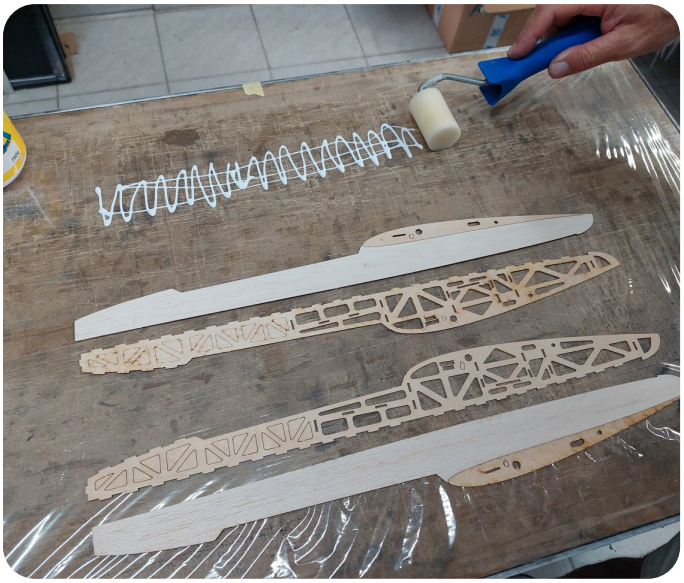


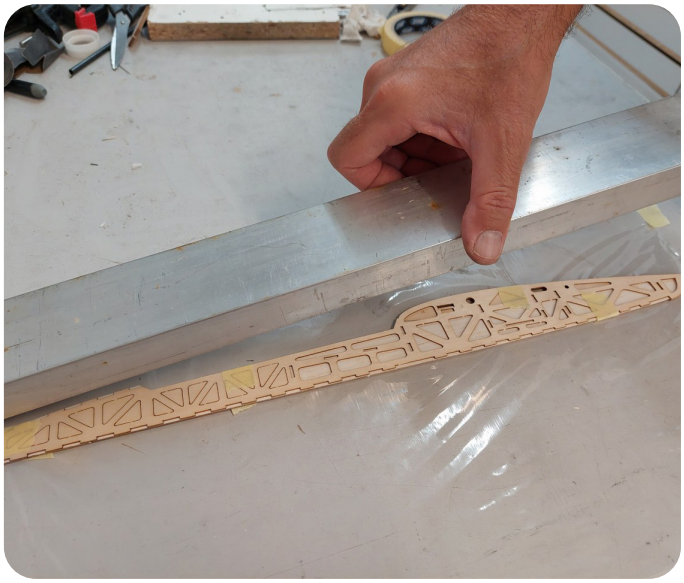


Step 1.2:

- using the carbon rod, center the holes to make it easier to align the fuselage sides and prepare them for gluing

- for bonding the parts together, it's best to use white wood glue



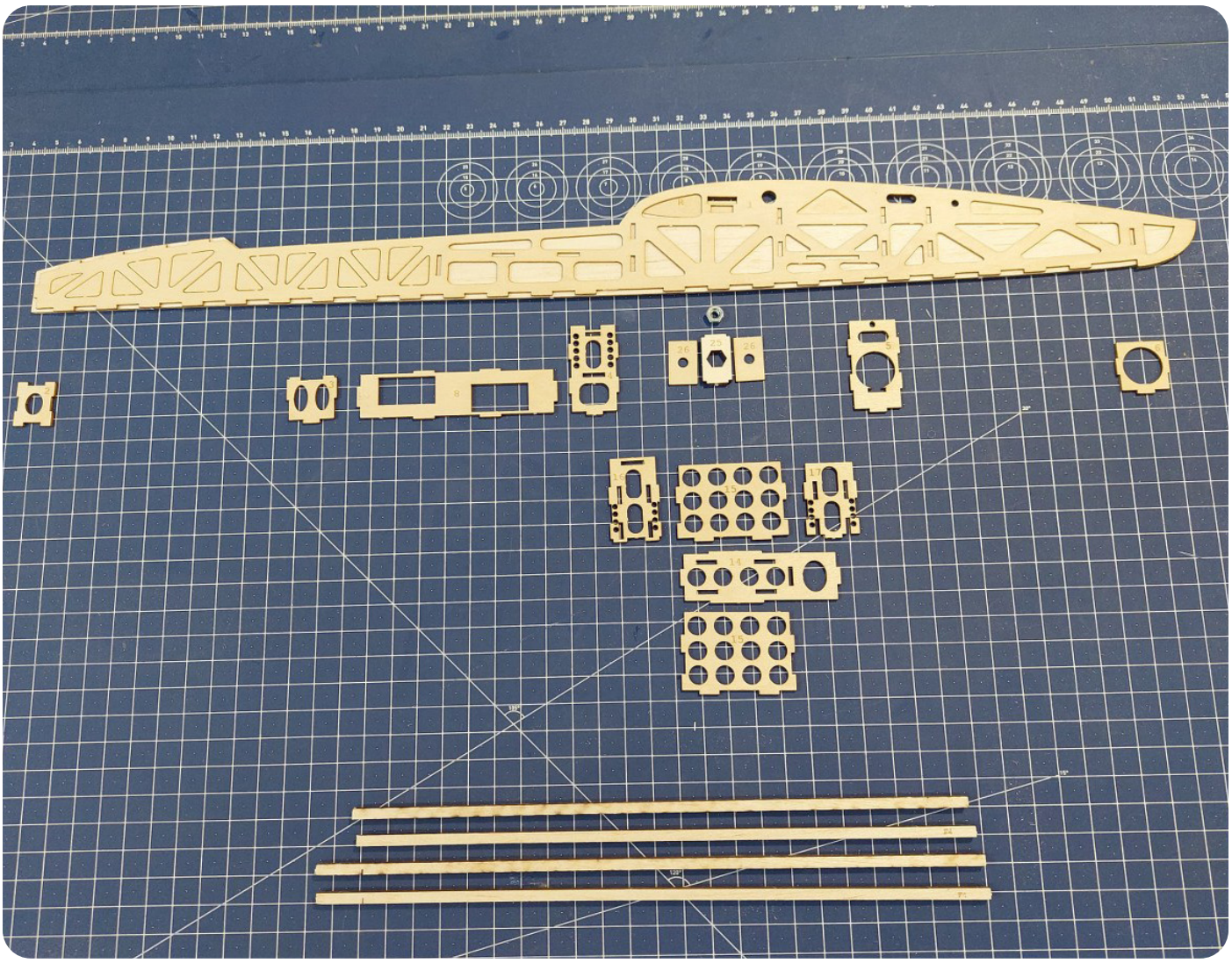


Step 1.3:

The easiest and fastest way to glue the parts is as follows:

- protect the work surface with a sheet of film, then apply the glue onto the film
- use a roller to spread the glue and apply it to the parts you need to bond. This way the parts are coated evenly and you won't use too much glue
- bond the side of the fuselage Pos. 27 with inner reinforcement Pos. 1
- use masking tape to hold the parts together so they don't separate while you apply pressure/weight
- apply weight to the glued part

Note:
- make sure to create left and right side of the fuselage

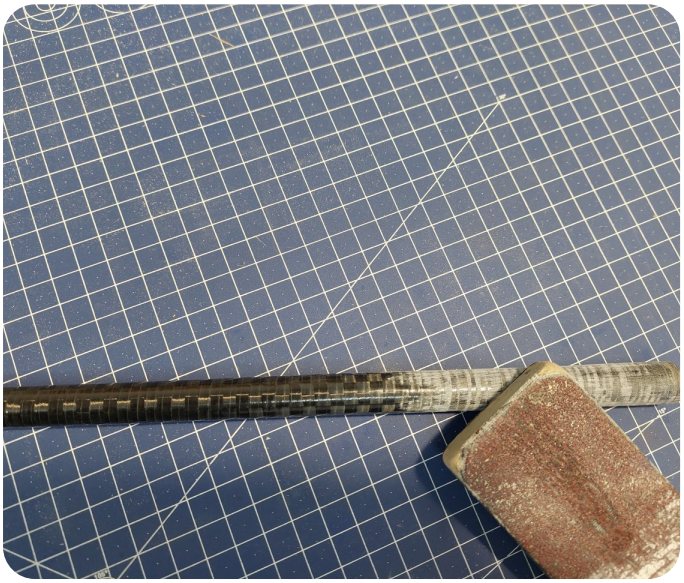


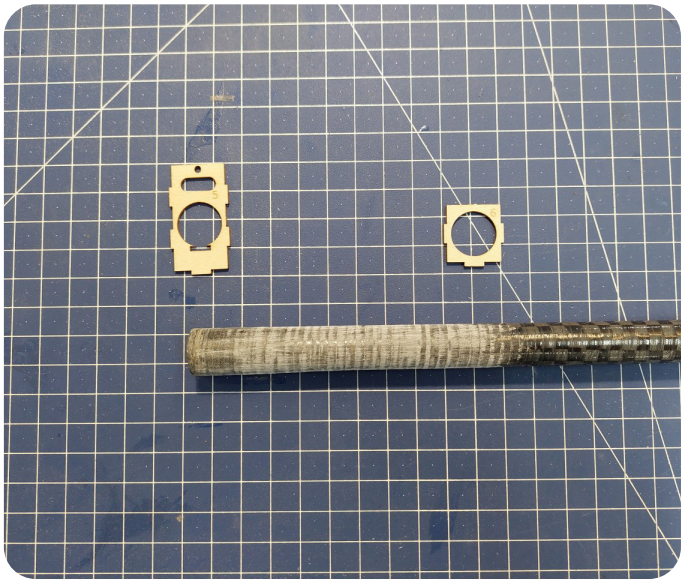
Step 2:

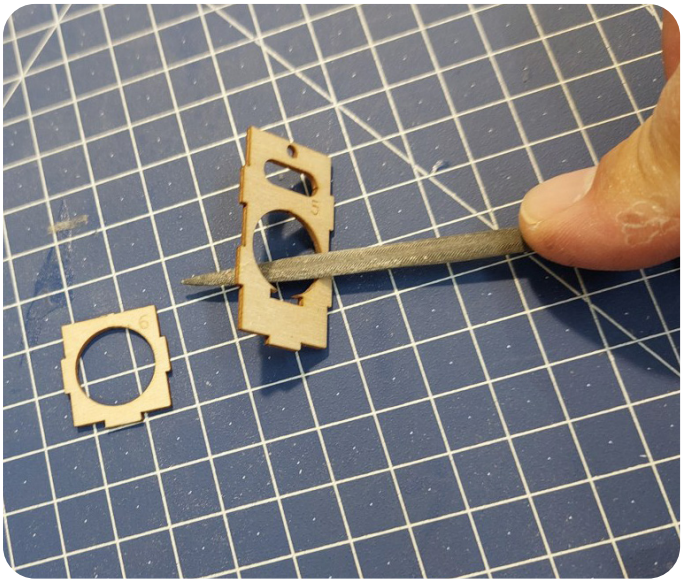
- prepare ribs Pos. 2, 3, 4, 5 and 6 (card 1F-f)
- prepare servo tray Pos. 8 (card 1F-f)

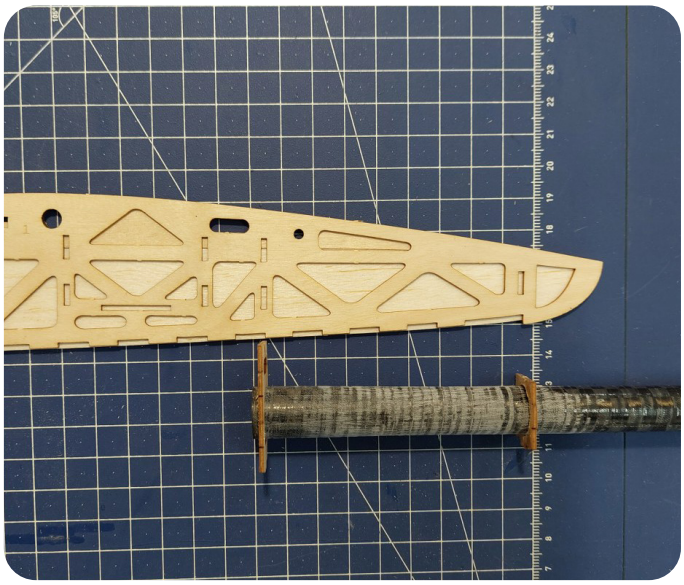
- prepare 2x Pos. 26 (card 1E-f), 1x Pos. 25 (card 1A-f)
- 1x M4 nuts

- ballast box
- prepare Pos. 14, 2x 15, 16 and 17 (card 1F-f)







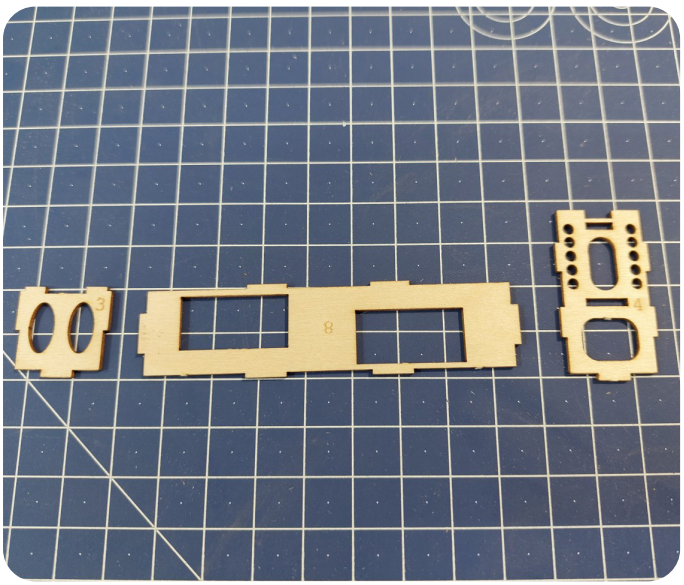


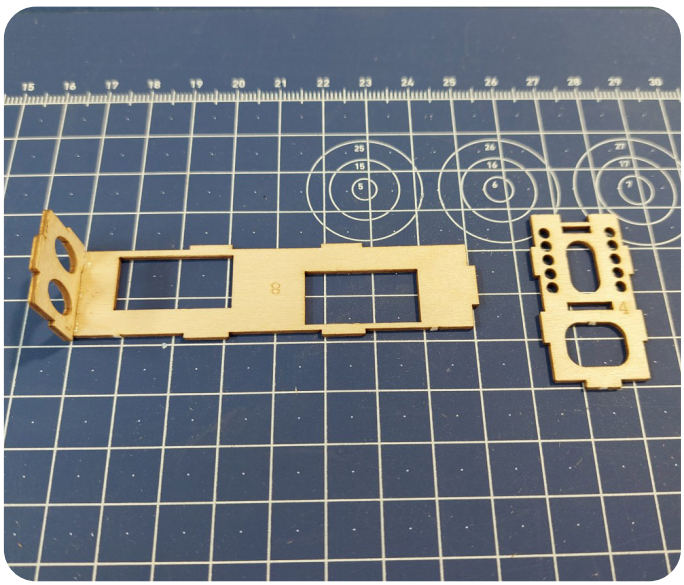
Step 2.1:

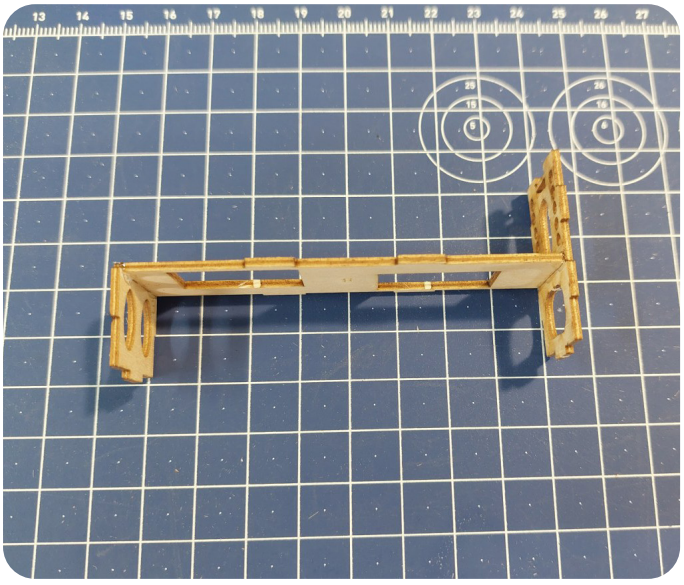
- lightly sand the wider end of the tail boom—the part that goes inside the fuselage and through the rib—to improve glue adhesion and ensure a stronger bond
- put ribs on the tailboom Pos. 5 and 6 and try the fit

- if needed, lightly sand the rib so the tailboom fits perfectly into it

Note:
- do not bond, yet





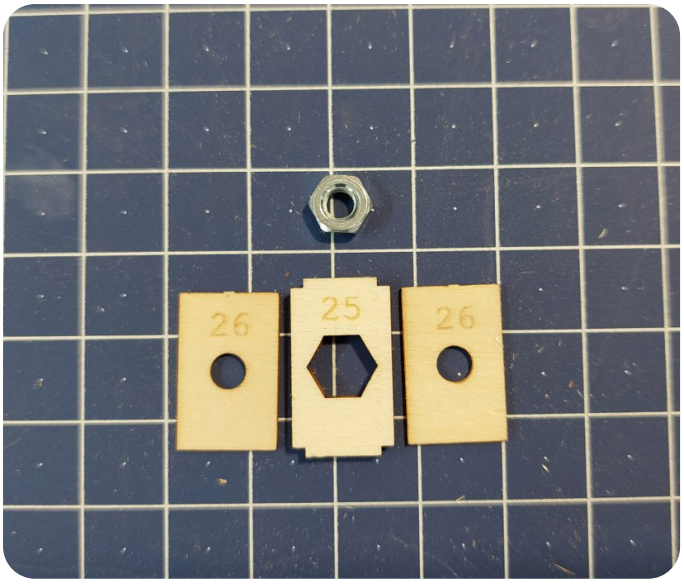


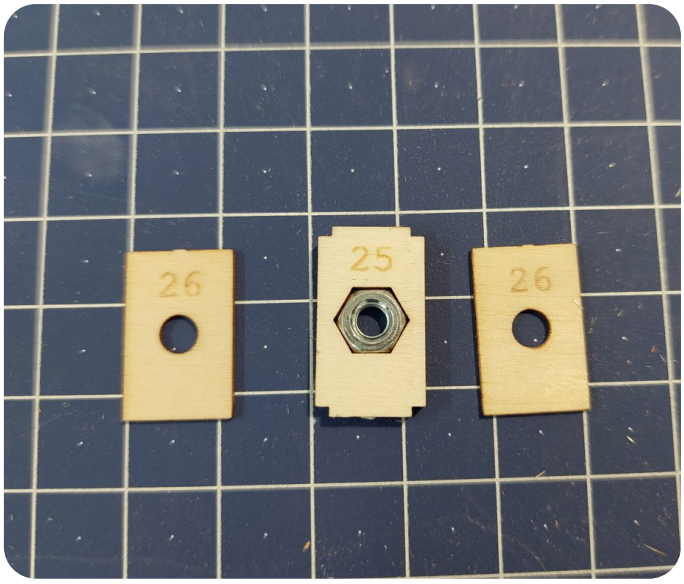
Step 2.2:

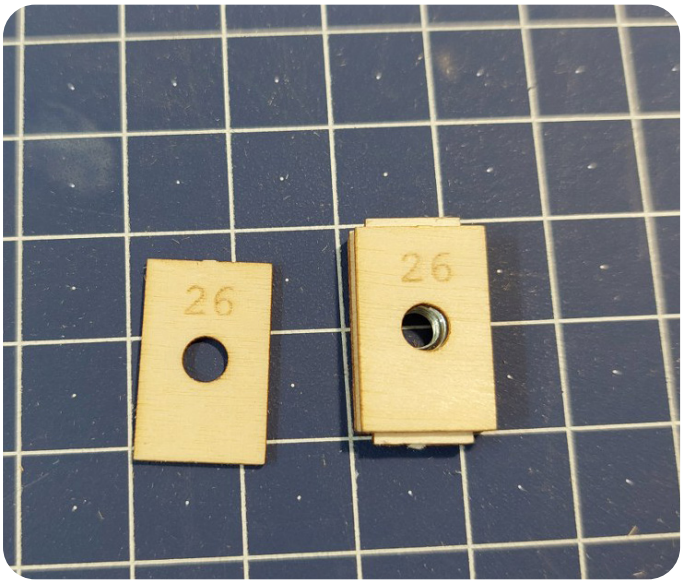
- bond rib 3 to the servo tray Pos. 8

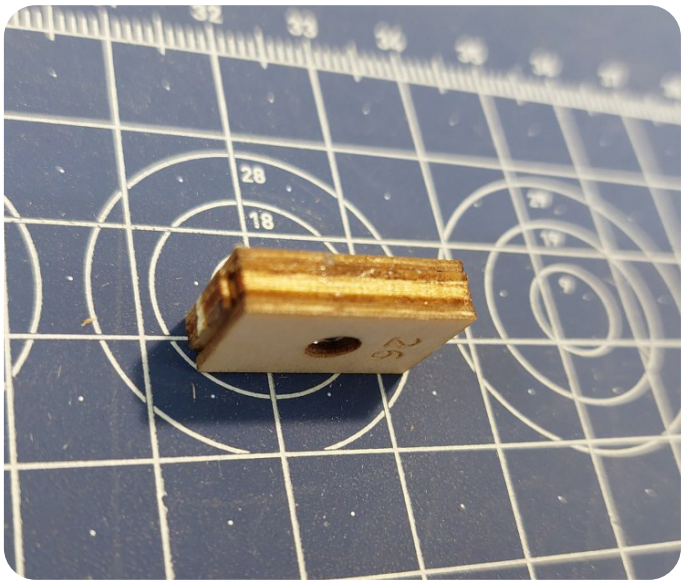
- bond rib 4 to the other side of the servo tray

Note:
- check the rib angles before gluing to make sure they align with the other side of the fuselage.





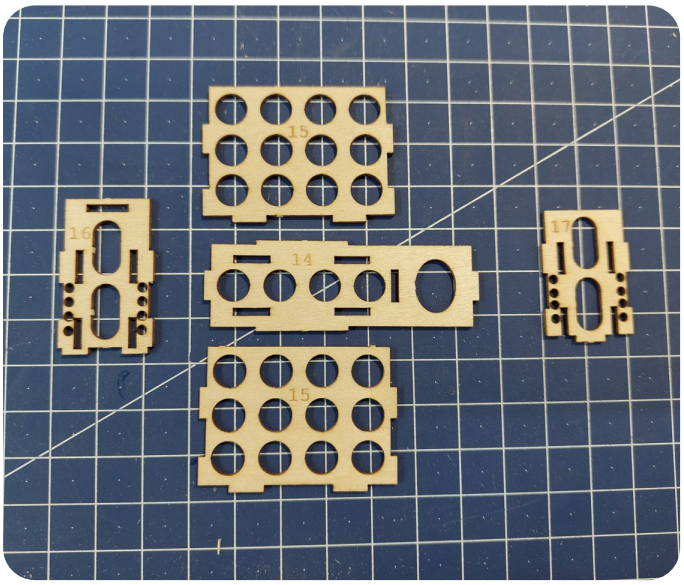


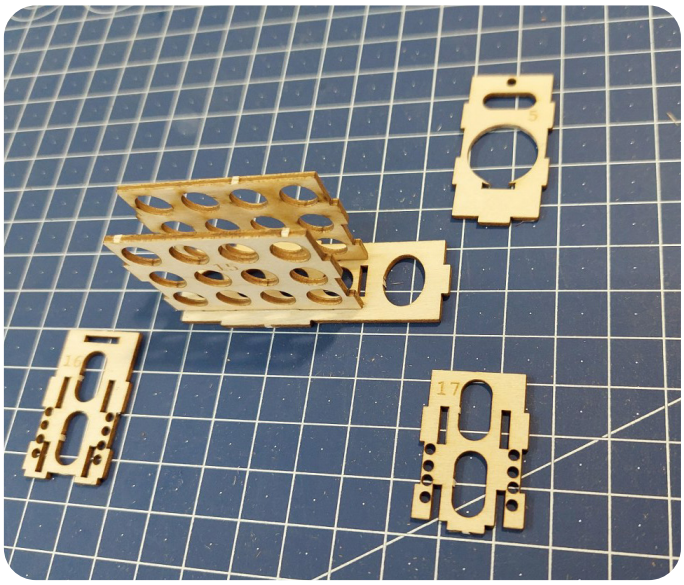


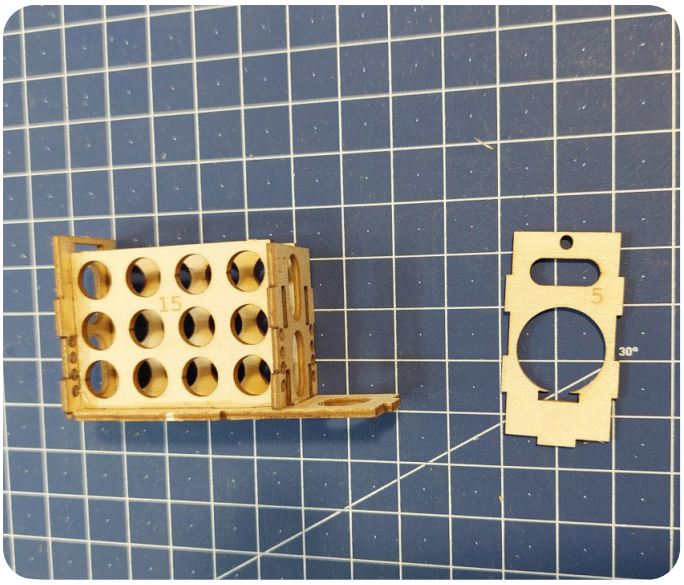
Step 2.3:

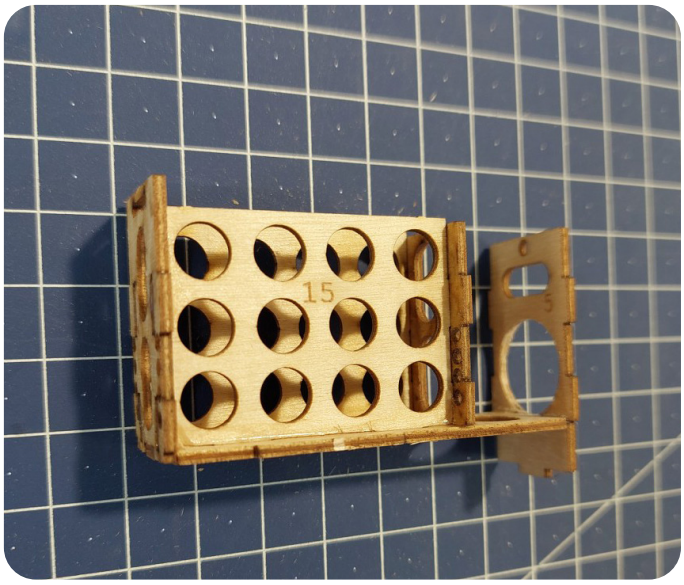
- first bond the nut in Pos. 25

- Pos. 25 is bonded as a “sandwich,” with a Pos. 26 part glued on each side.









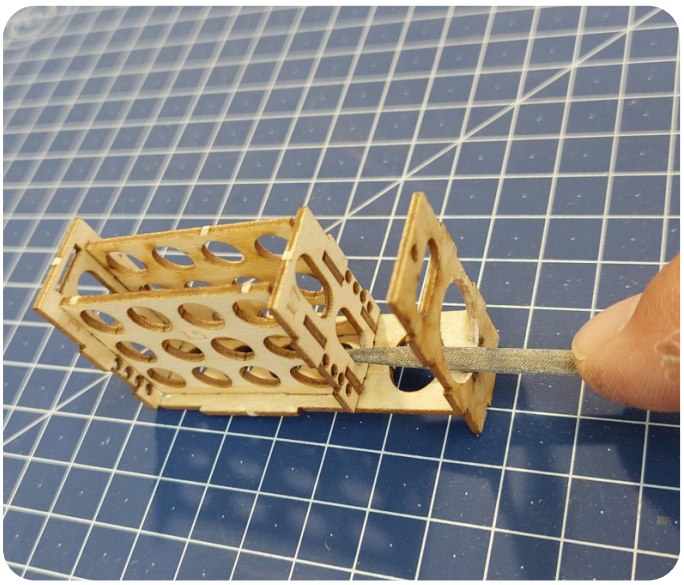
Step 2.4:

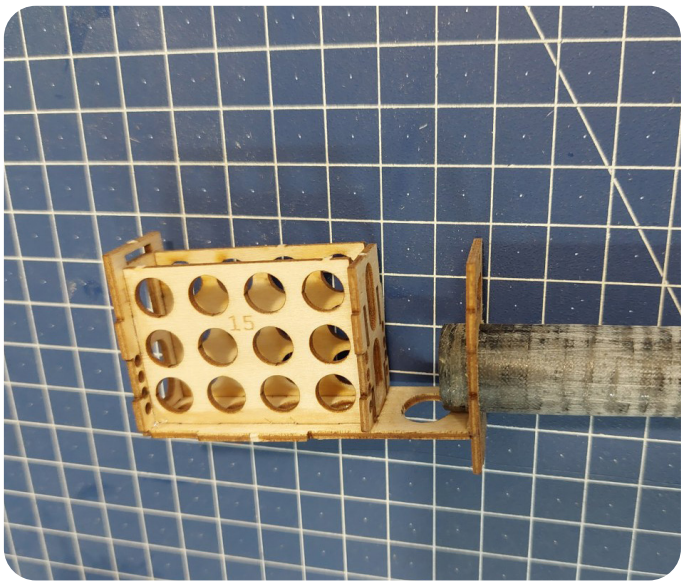
Making ballast box:

- first, place the two Pos. 15 parts onto Pos. 14 in their designated positions.
- then position the first and last parts of the box: Pos. 16 and Pos. 17

- bond rib 5 onto the assembled ballast box

Note:
- do not bond, yet

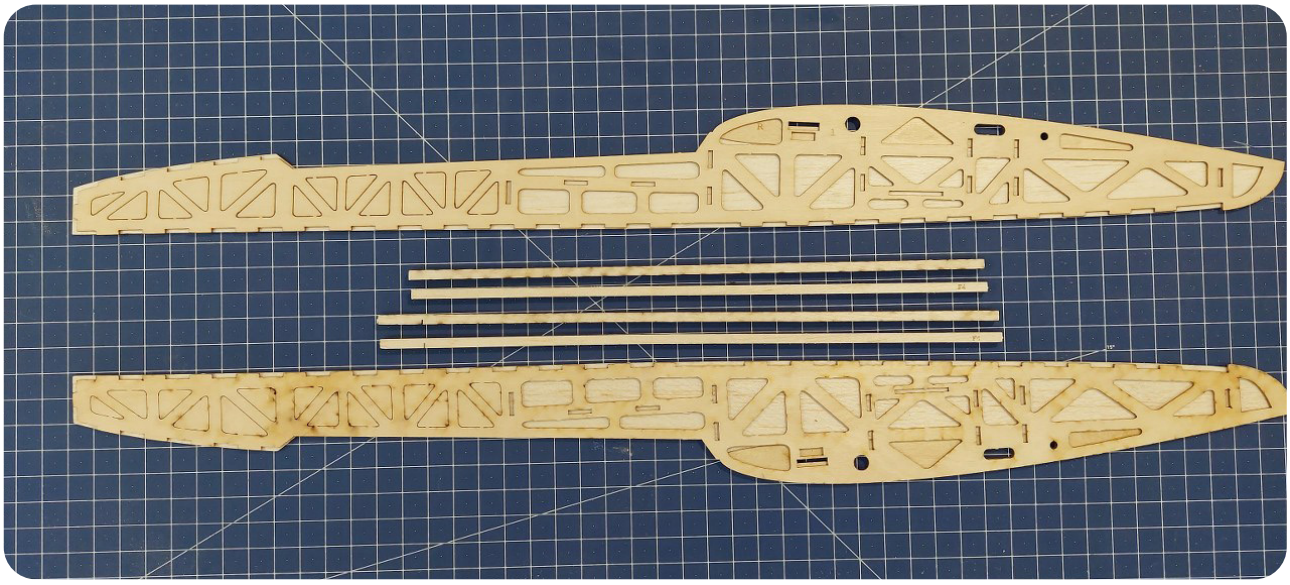




Step 2.5:

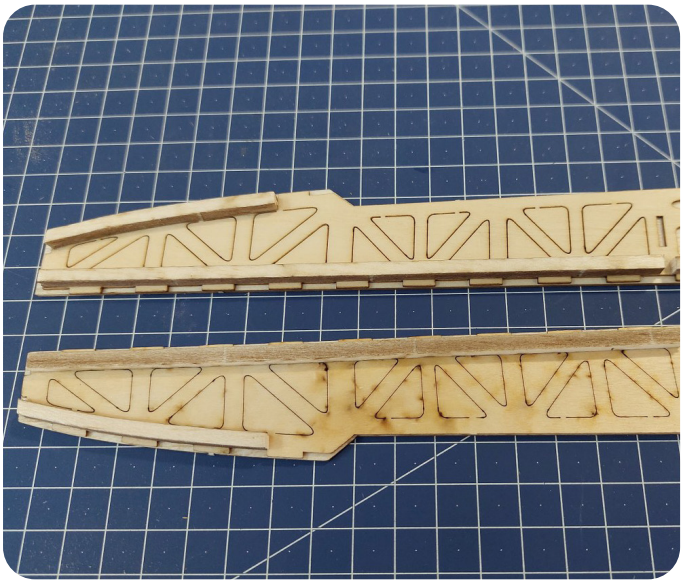
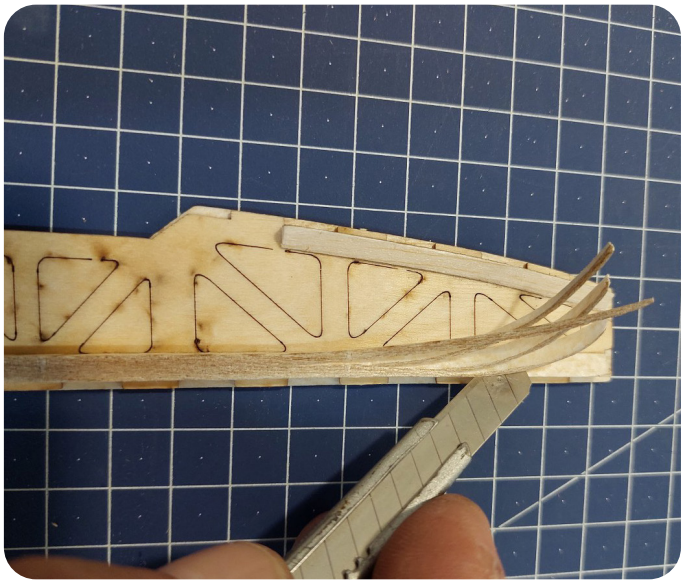
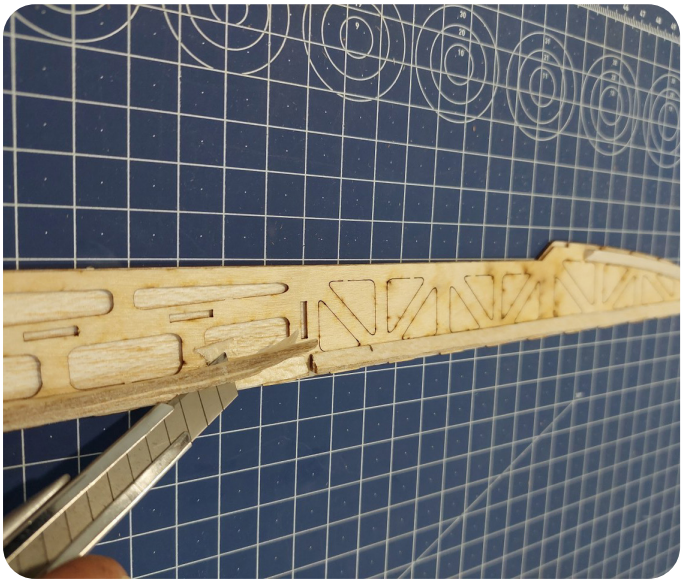
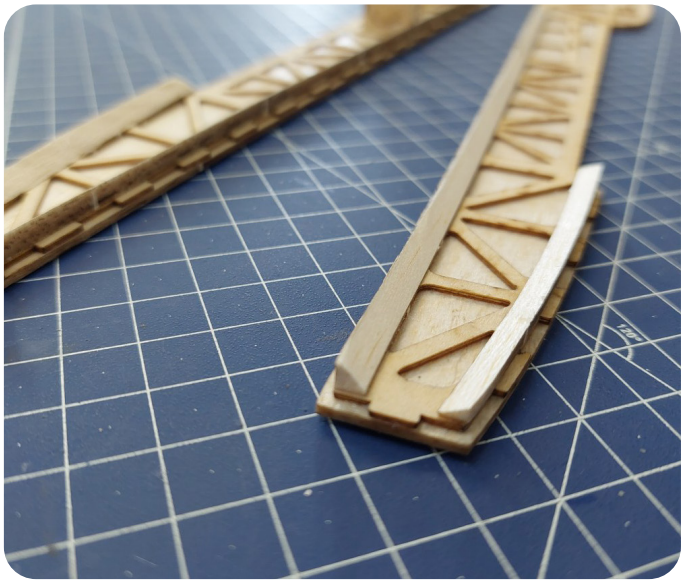
- To avoid any issues later when installing the tail boom into the fuselage, check the dry fit to see how the tail boom fits into the rib, and if necessary lightly sand the rib so the end of the tail boom seats into the rib as shown in the picture.

Note:
- do not bond the tailboom to the rib yet — this is only a dry fit.



Step 3:

- prepare the top & bottom reinforcements 4x Pos. F4 (card 1G-f)

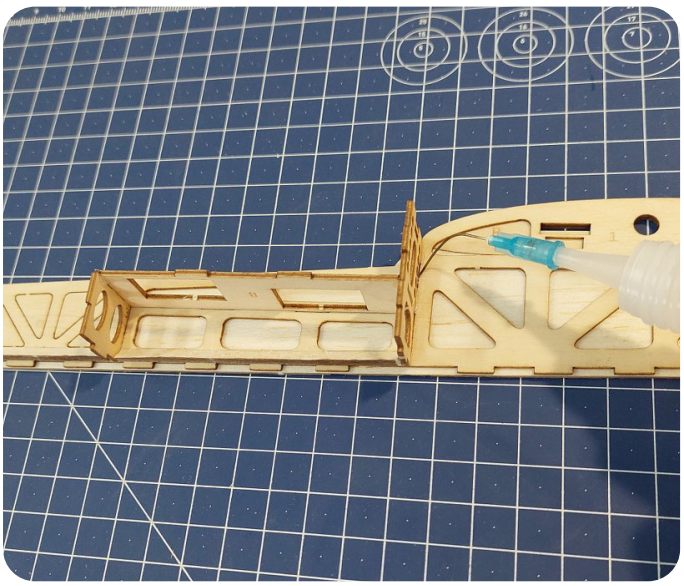
Step 3.1:

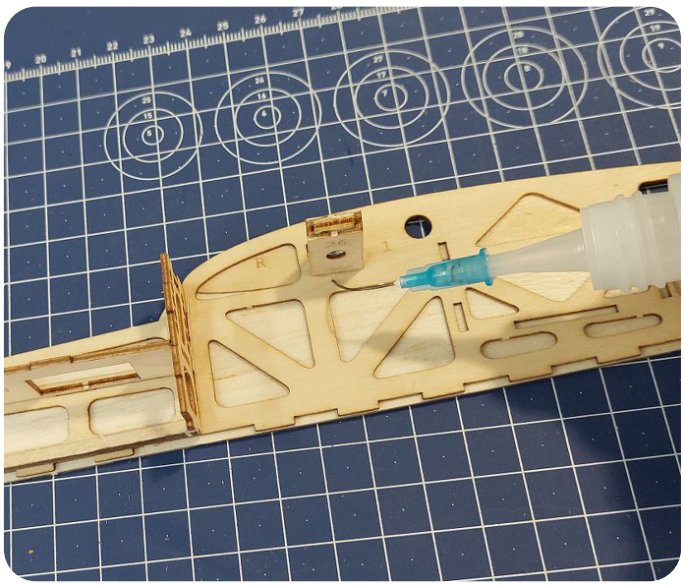
- bond the top and bottom reinforcements Pos. F4, to the inner side of the fuselage side panel, Pos. 1.

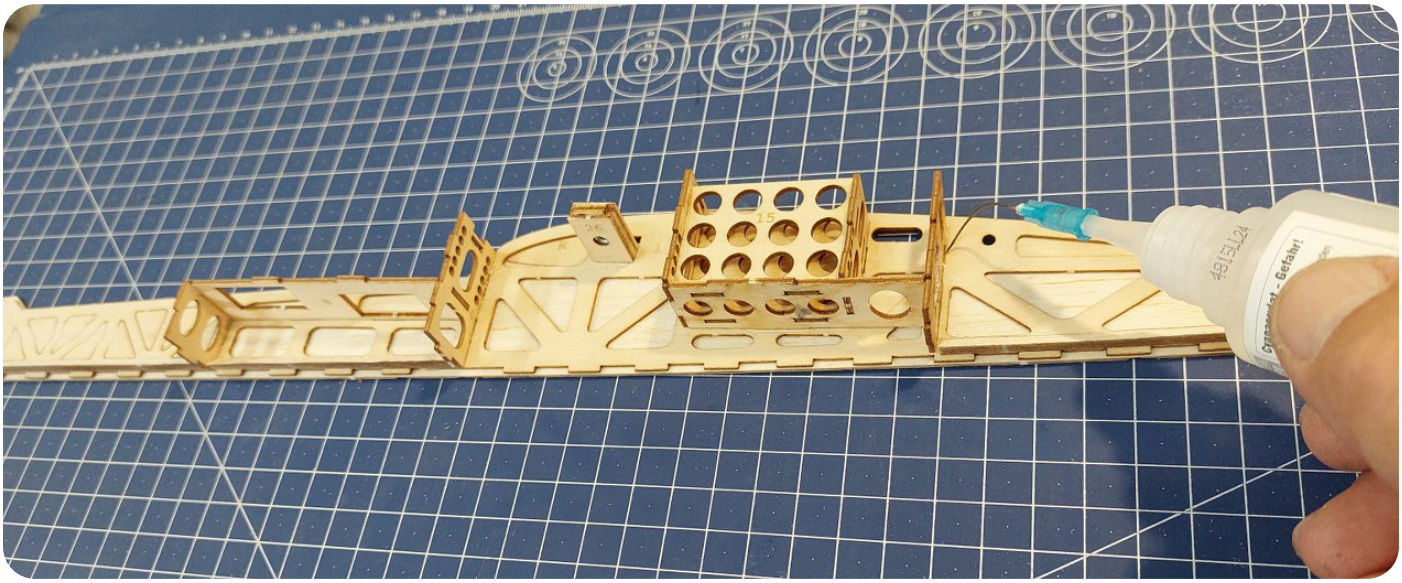
Note:
- bond them to the inner side of the fuselage.
- make sure they are positioned correctly to avoid problems later when installing the top and bottom fuselage parts, so the slots have enough clearance to interlock properly

Step 3.2:

- using a scalpel, make a 45° chamfer on all bonded Pos. F4 reinforcements to remove excess material





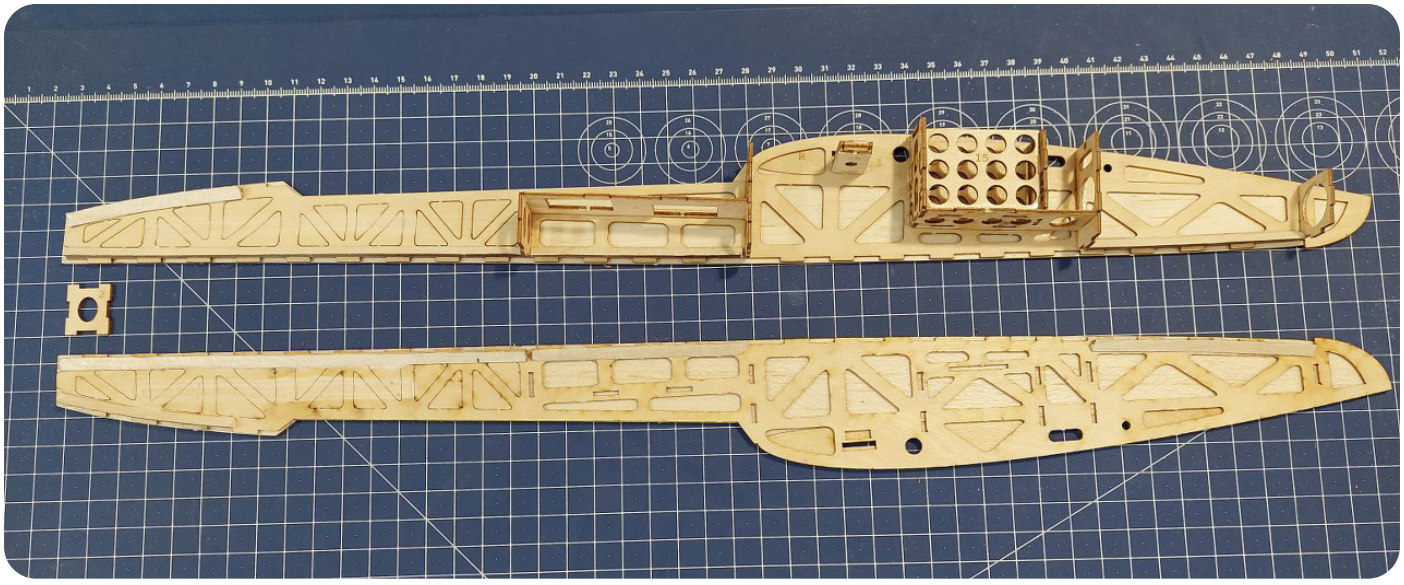


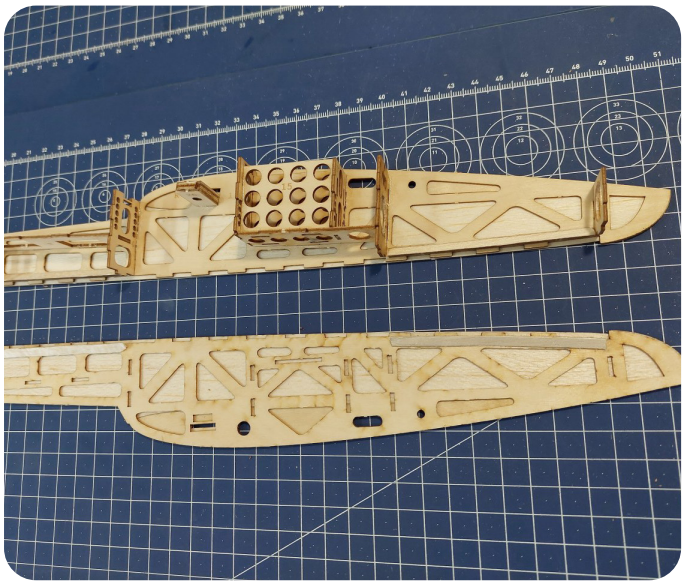
Step 4:

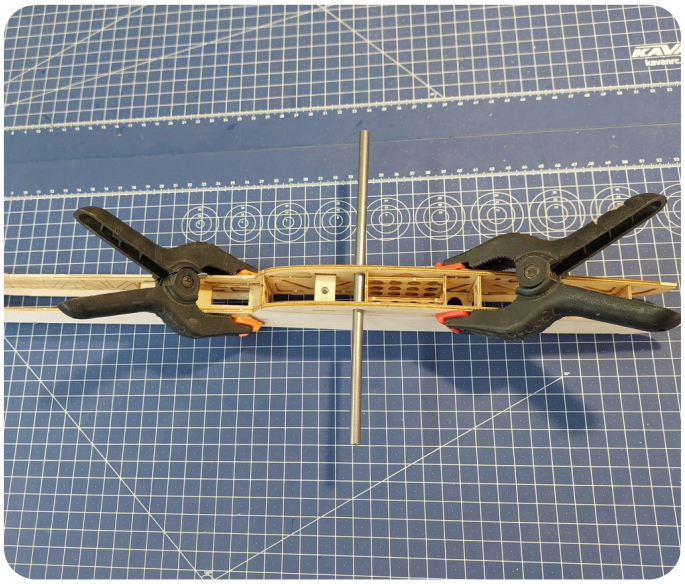
- bond the servo tray with the ribs to one side of the fuselage half

- bond the previously made part with the M4 nut into position

- position the ballast box with the rib and bond it to the fuselage side panel



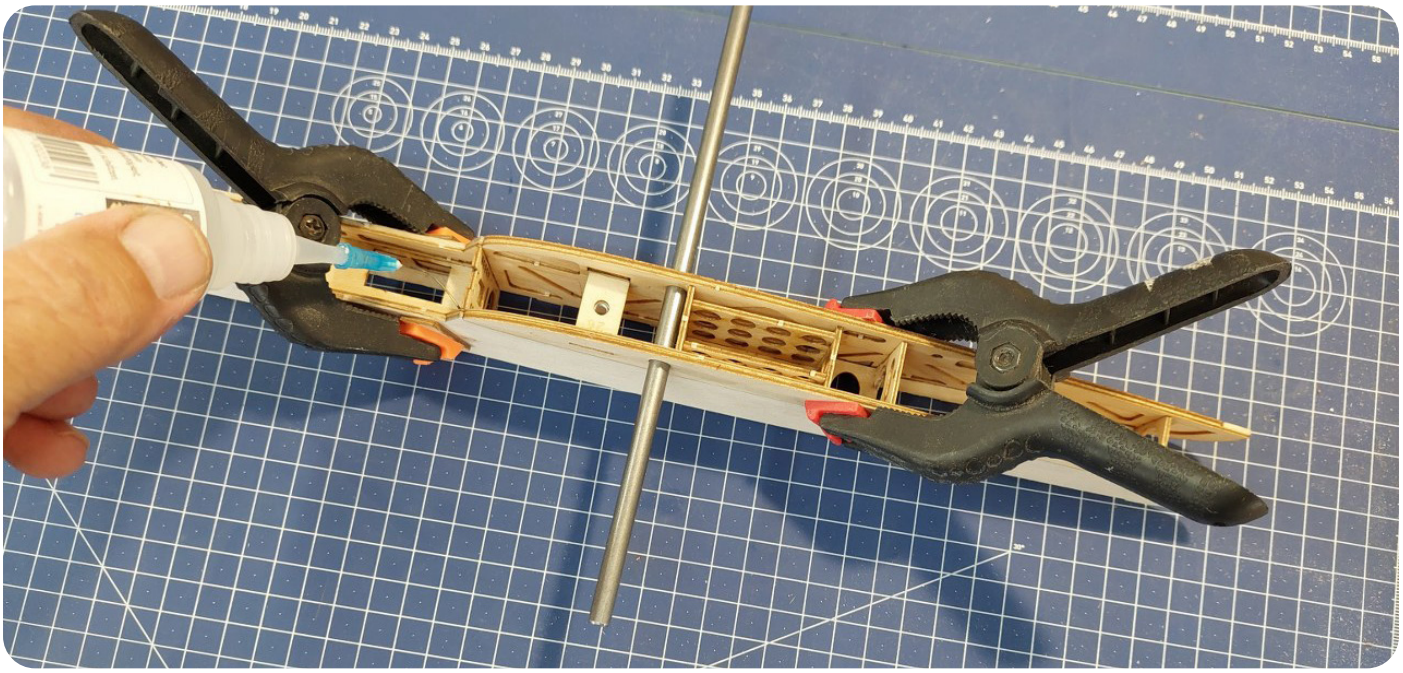


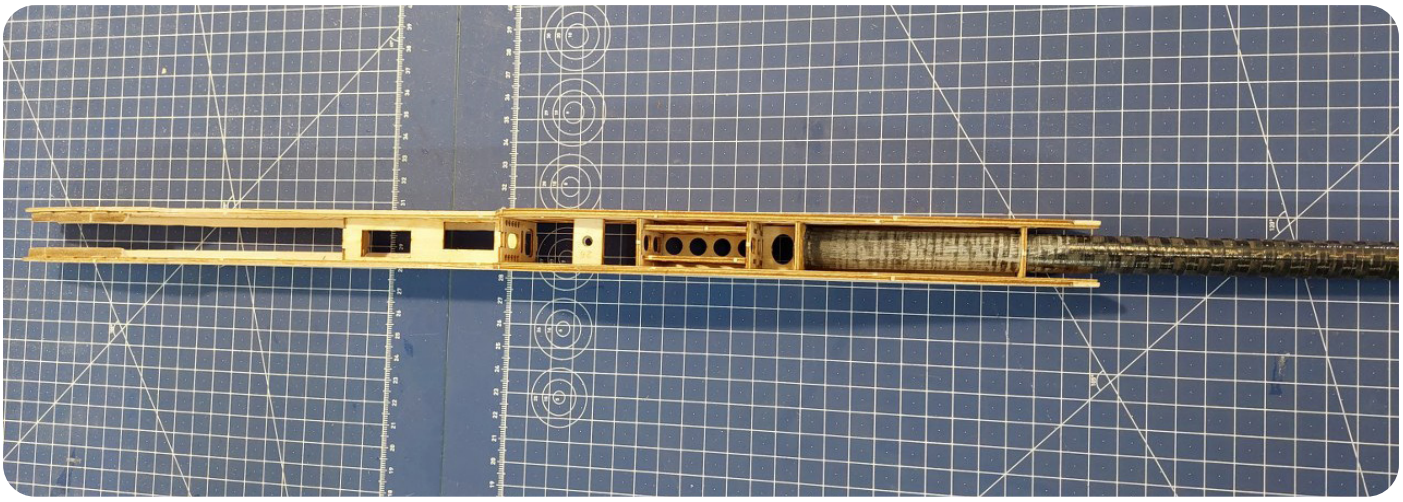


Step 4.1:

- bond the rear rib No. 6 to the fuselage side panel.

Note:
- first rib No. 2 will be bonded later—do not glue it now

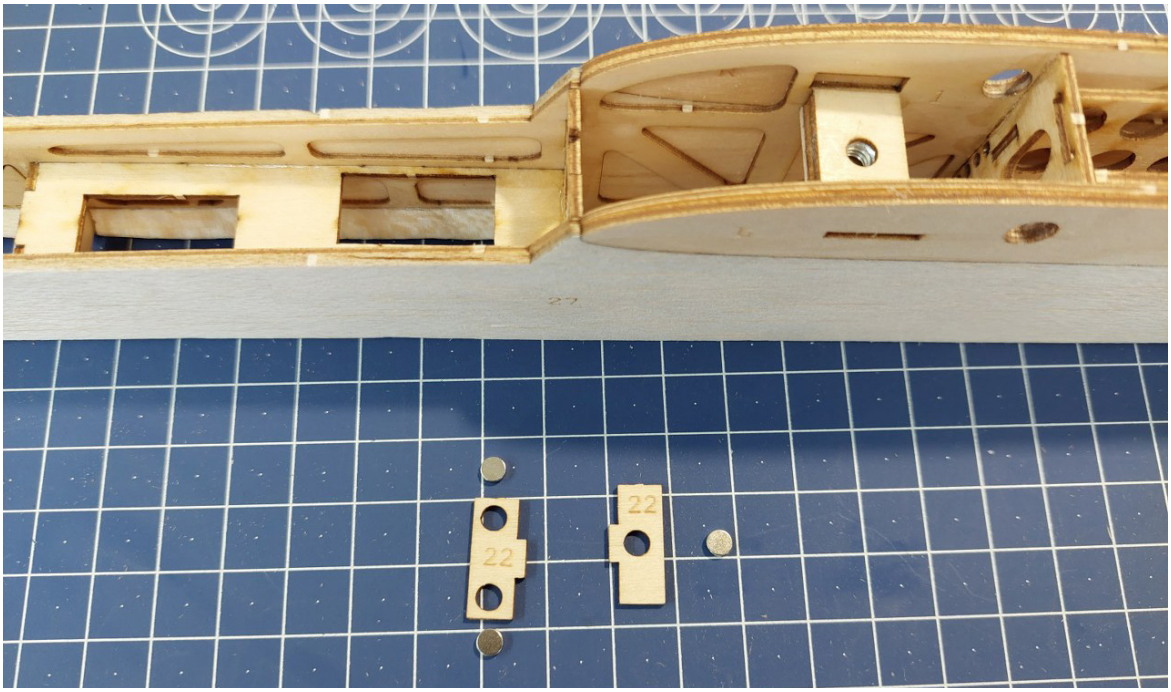


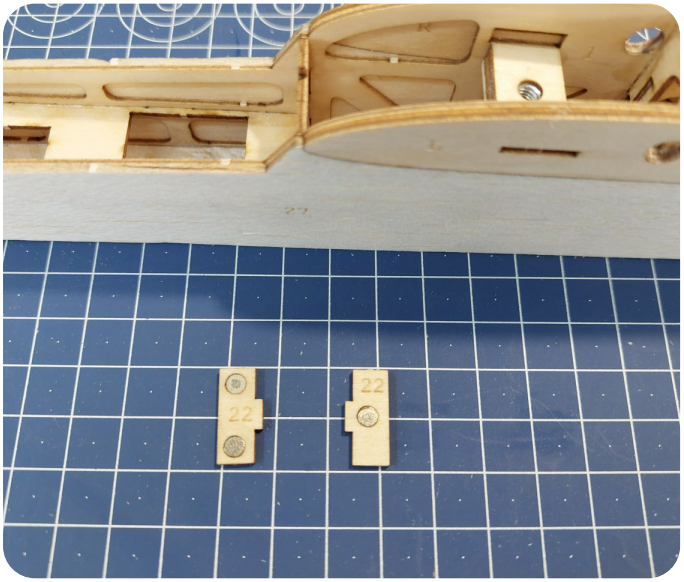


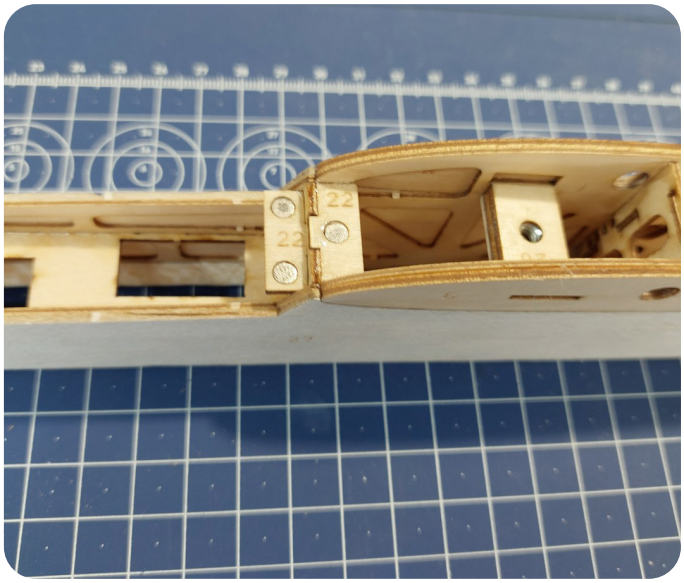
Step 4.2:

- dry-fit the two fuselage halves together.
- use the steel wing joiner to help align and center the fuselage halves.
- once you're sure everything fits, bond the halves together.

Note:
- do not bond the tail boom into the fuselage yet—only do a dry fit to check how everything fits and adjust if needed while the fuselage is still open





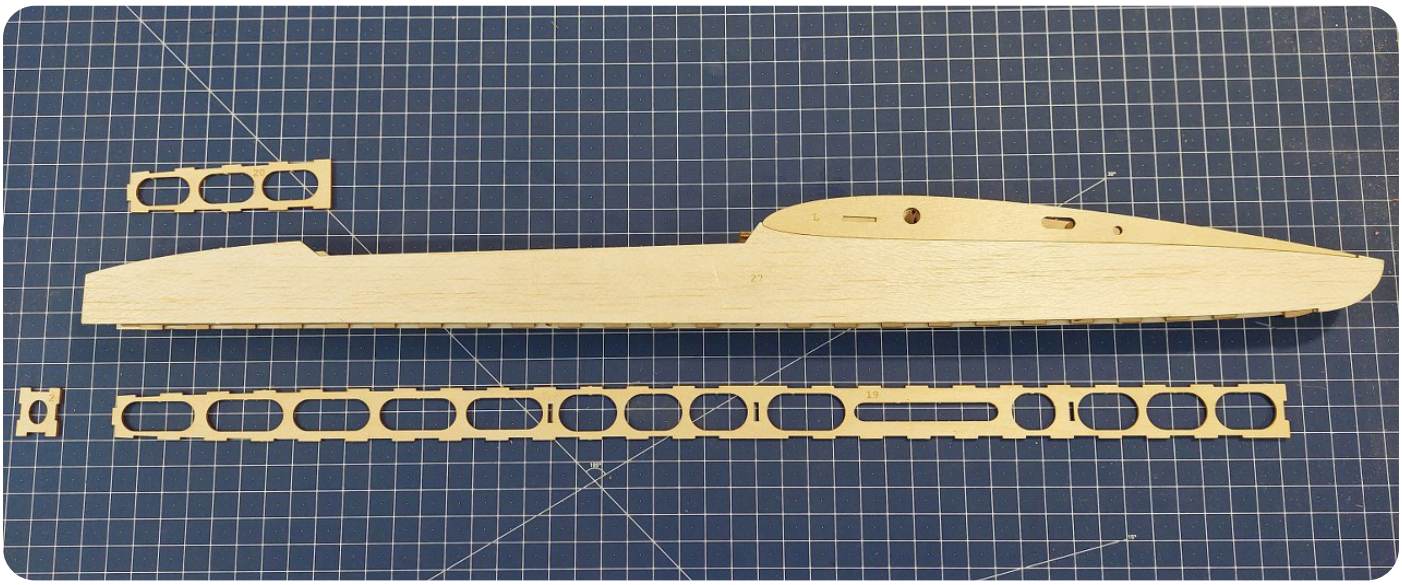


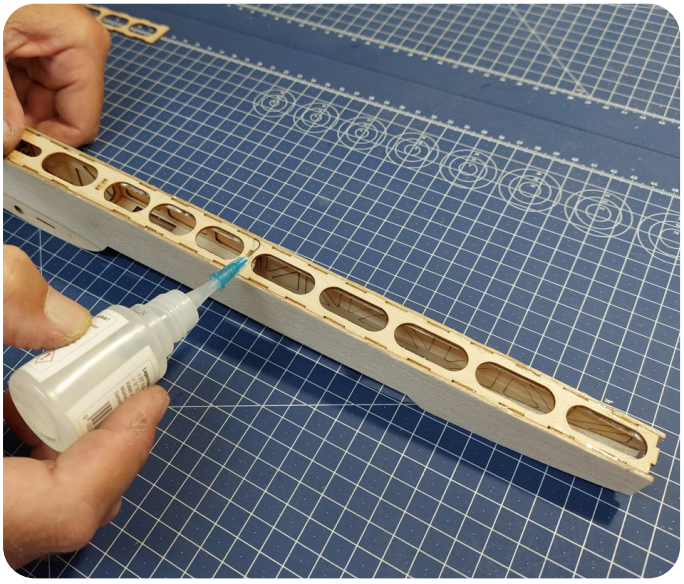
Step 4.3:

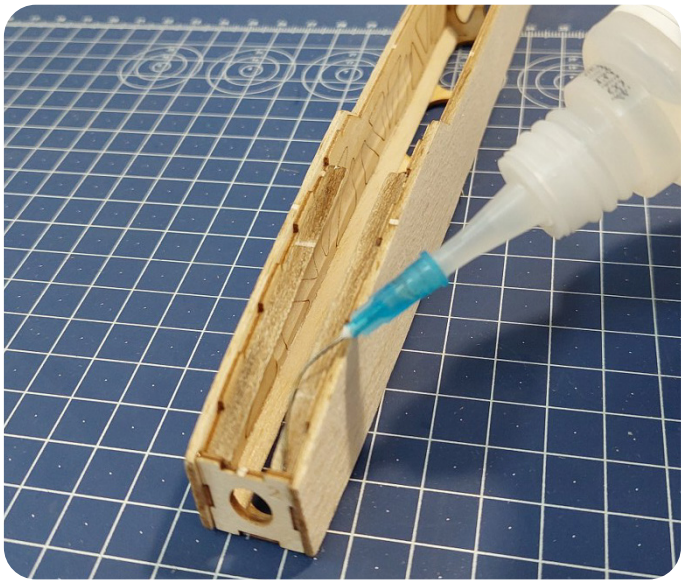
- prepare 2× Pos. 22. (card 1F-f)
- prepare 3× 4×1.5 mm magnets.

- bond the magnets into Pos. 22

- bond the Pos. 22 part with the two magnets in place where the canopy will be attached later.
- bond the other Pos. 22 part into its position





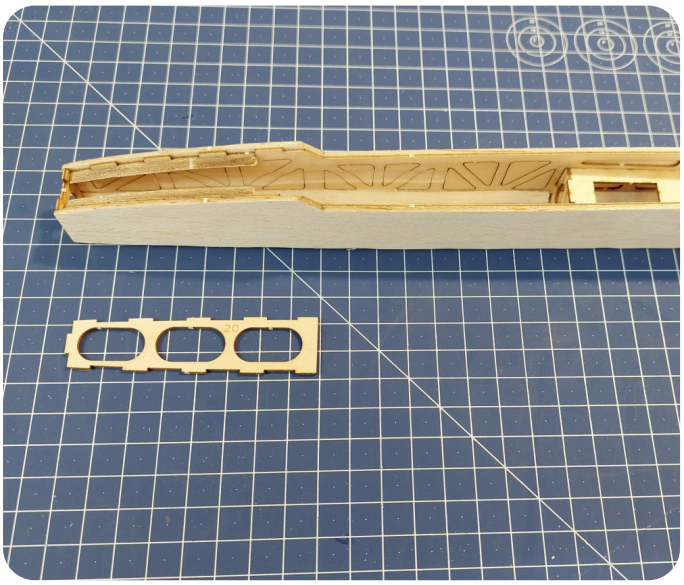


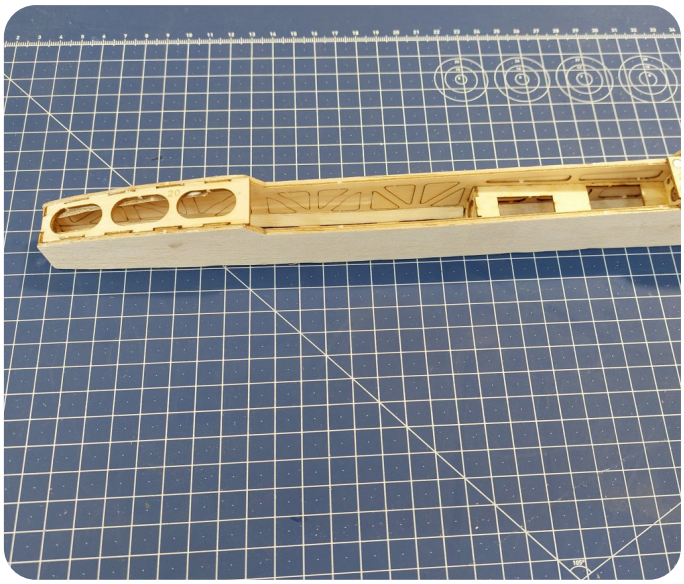
Step 5:

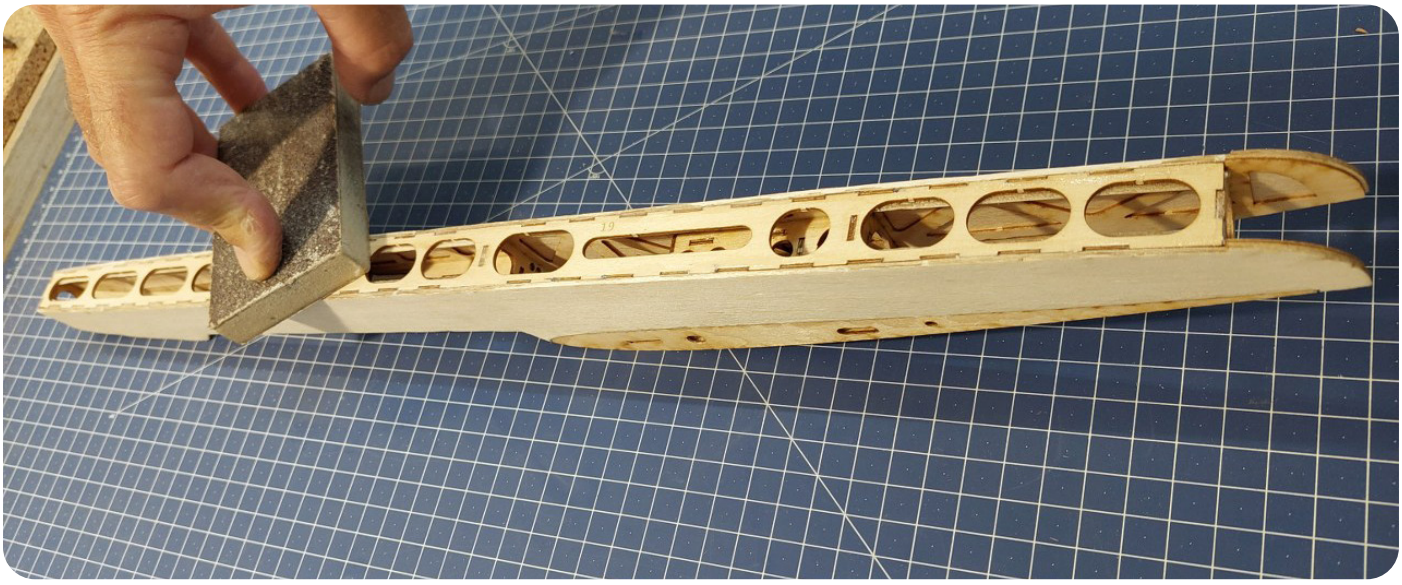
- prepare Pos. 2, 19 and 20 (card 1F-f)

- first bond Pos. 19 to the lower part of the fuselage

- bond first rib No. 2 into its position



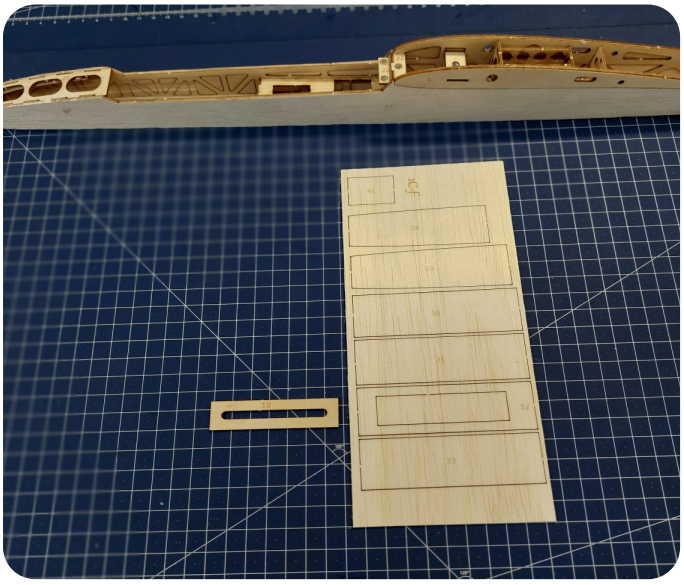


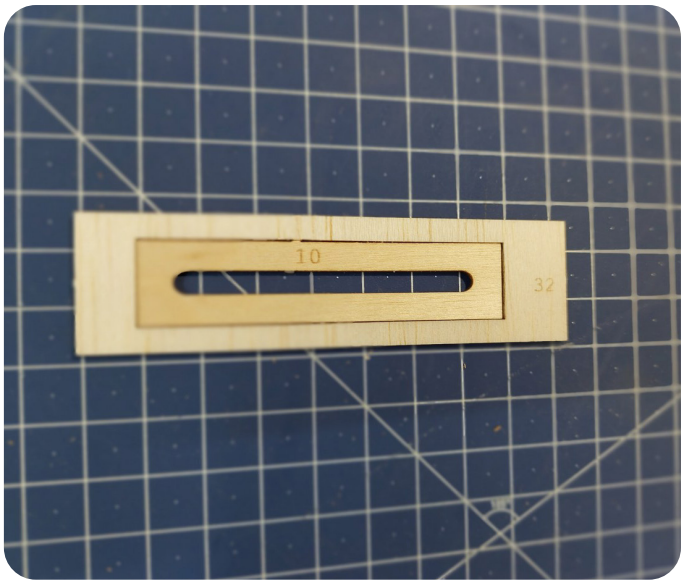


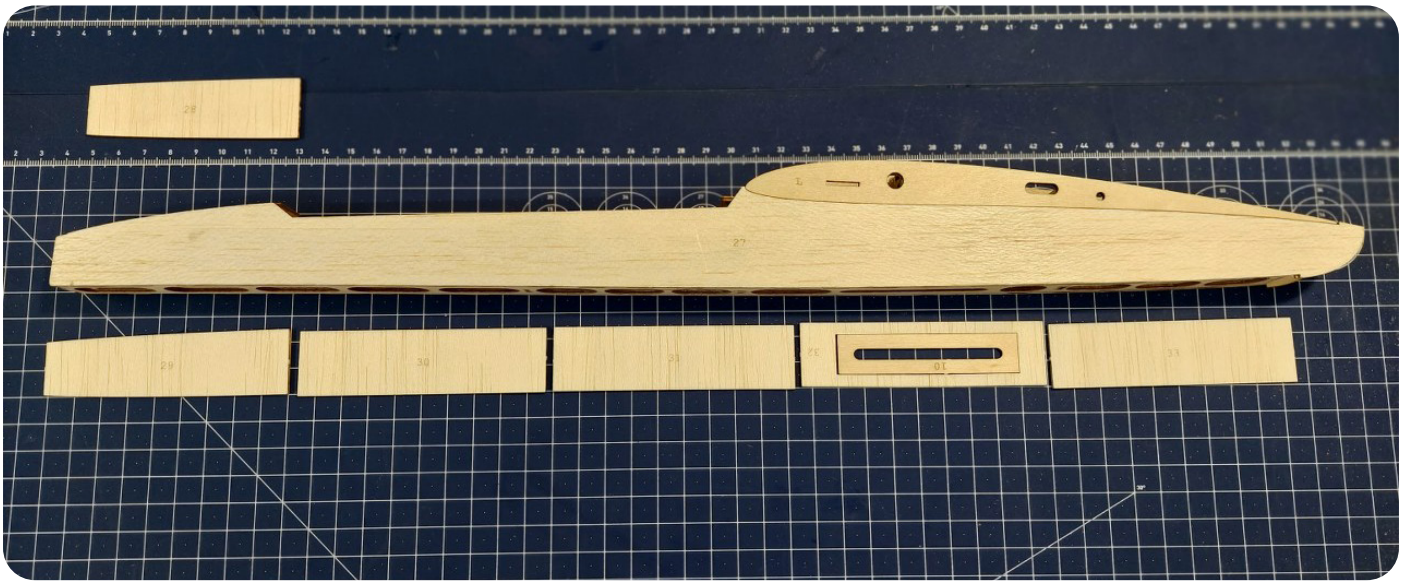
Step 5.1:

- bond Pos. 20 to the front upper part of the fuselage

- lightly sand the top and bottom surfaces to remove any excess glue from bonding and to prepare the surface for further balsa gluing



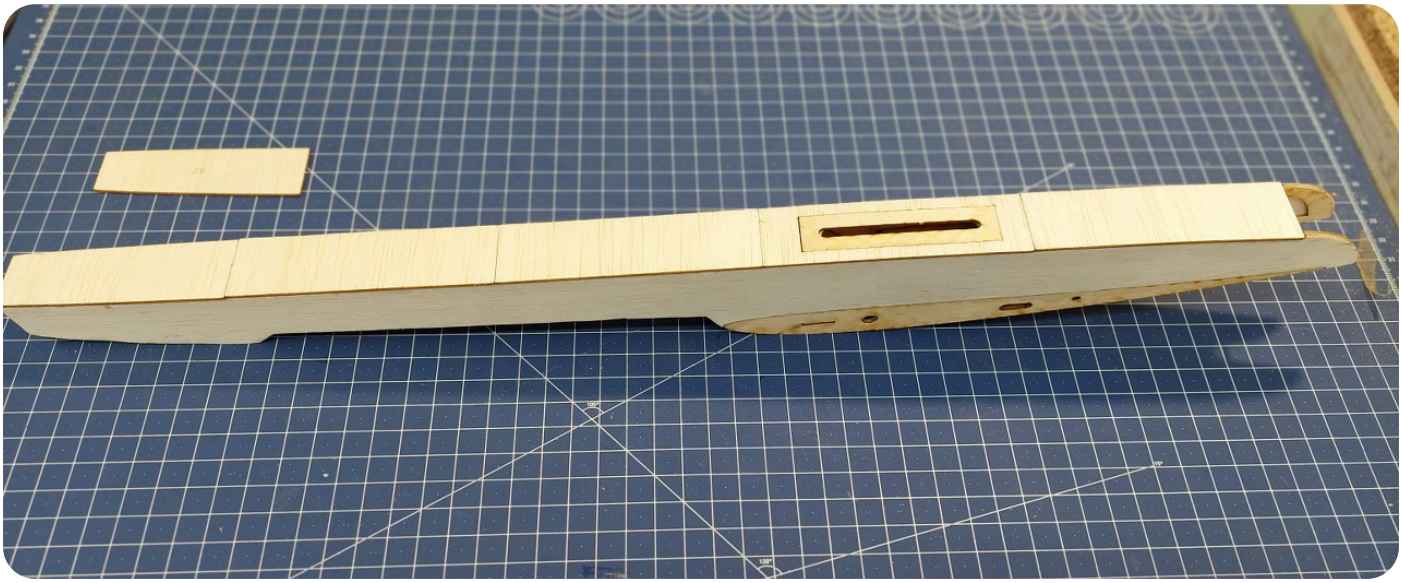


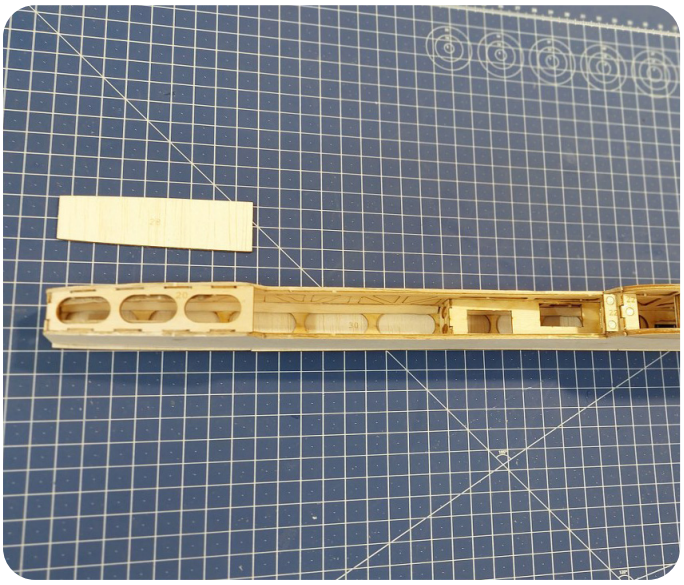


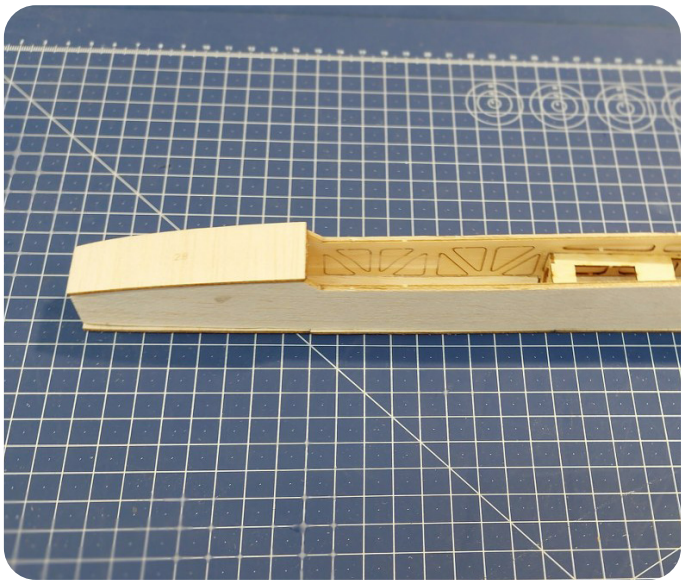
Step 5.2:

- prepare Pos. 28, 29, 30, 31, 32 i 33 (Card 1C-f)
- prepare Pos. 10 (Card 1F-f)

- Pos. 32 bond together with Pos. 10
- bond Pos. 32 + 10 onto the lower side of the fuselage



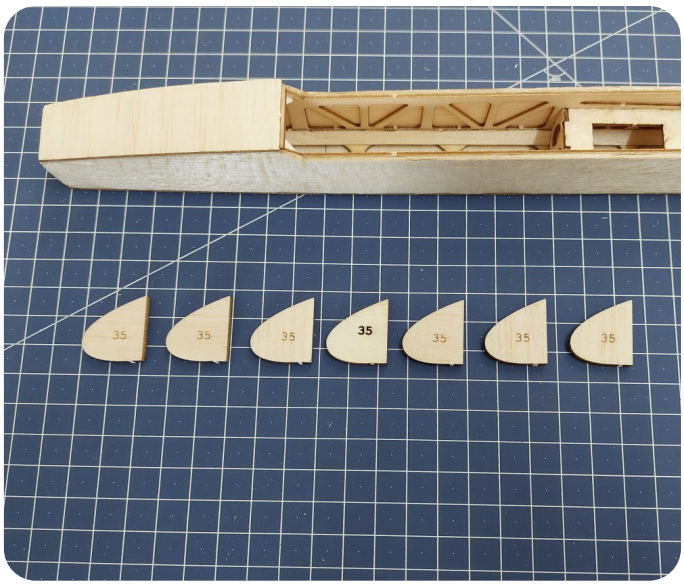


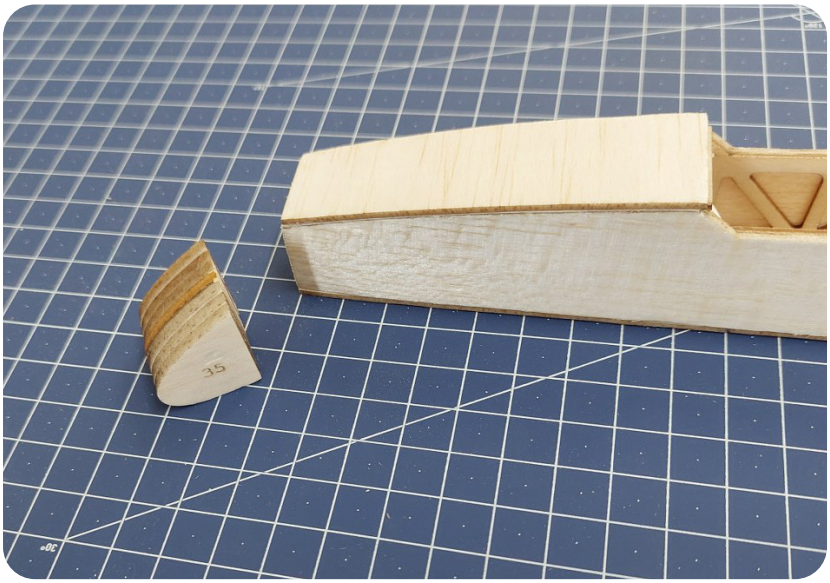


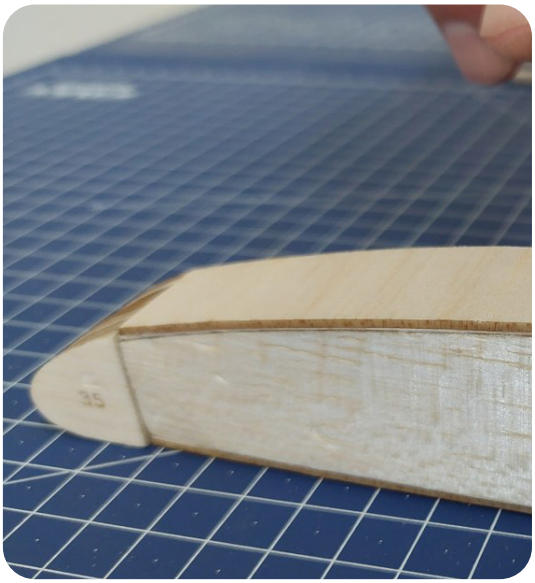
Step 5.3:

- bond the 1.5 mm balsa pieces (Pos. 29, 30, 31, 32, and 33) to the bottom of the fuselage

- bond Pos. 28 to the upper front part of the fuselage







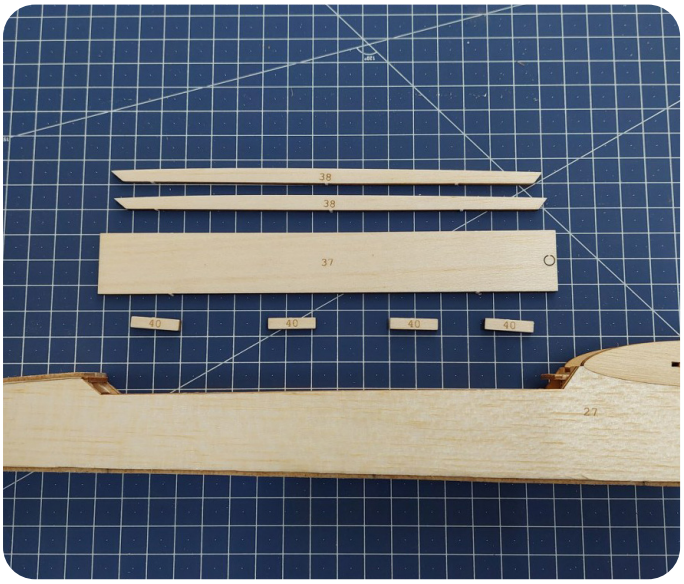
Step 6:

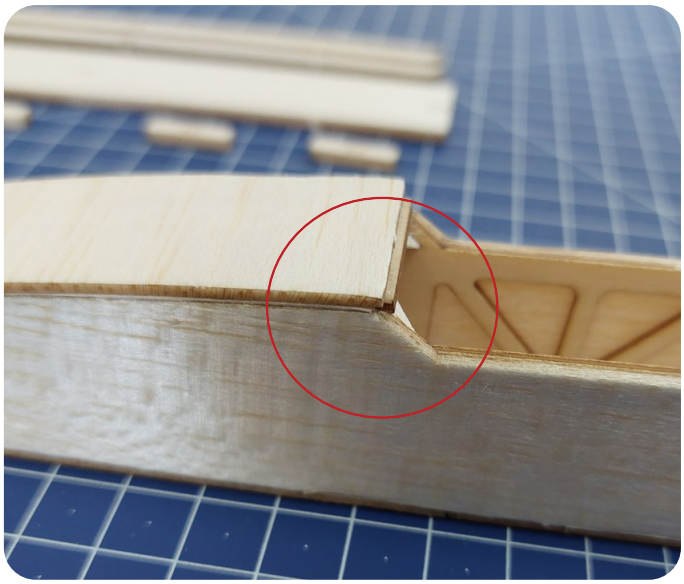
- lightly sand the firewall to create a flat surface for bonding the nose

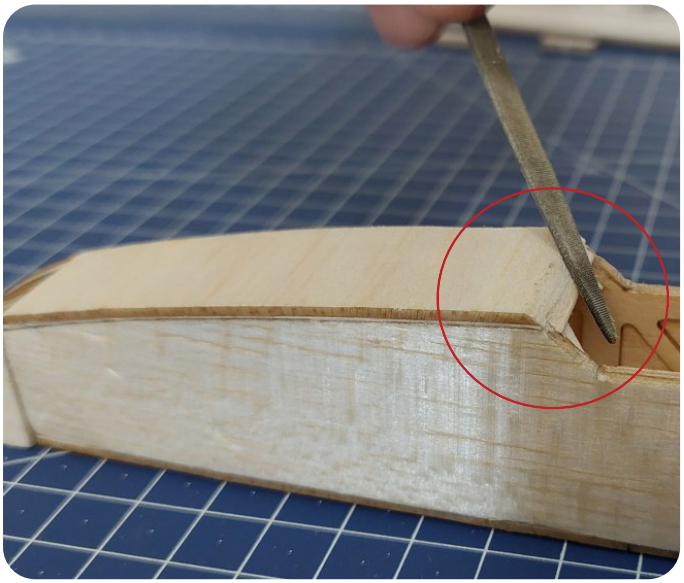
- prepare 6x Pos. 35 balsa (Card 1D-f)
- prepare Pos. 35 plywood (Card 1A-f)

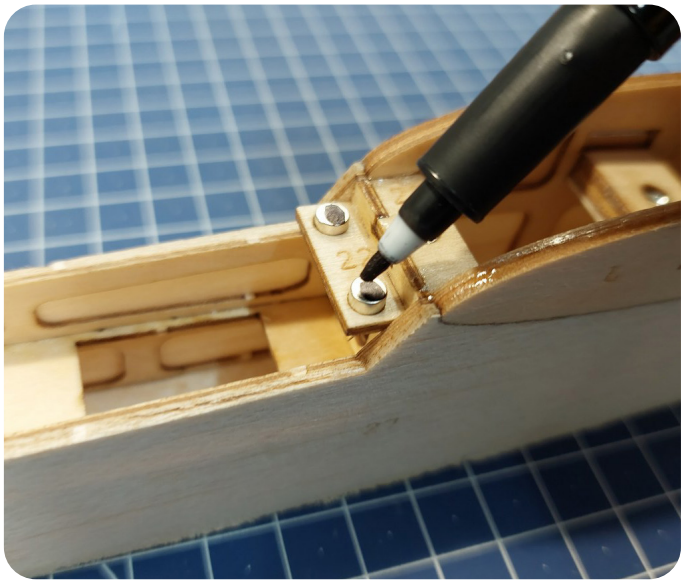
- glue all seven Pos. 35 pieces together
- make sure the plywood Pos. 35 piece stays in the middle, as it serves as reinforcement
- bond the laminated stack to the fuselage

Note:
- make sure the nose is aligned symmetrically while bonding it to the fuselage









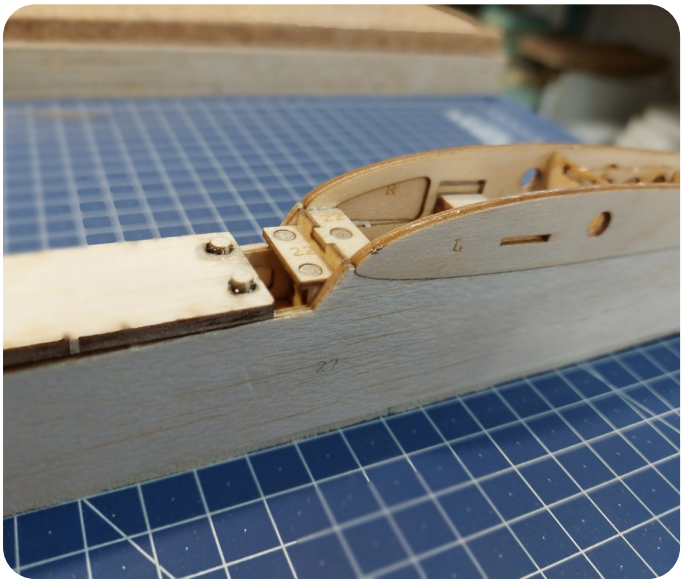
Step 7:

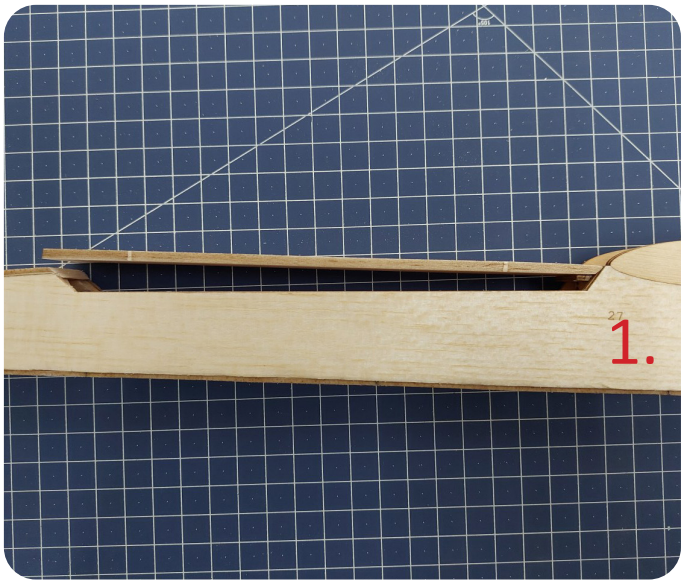
- prepare parts for canopy 1x Pos. 37, 2x Pos. 38, 4x Pos. 40 (Card 1D-f)
- prepare 2x magnets 4x1.5

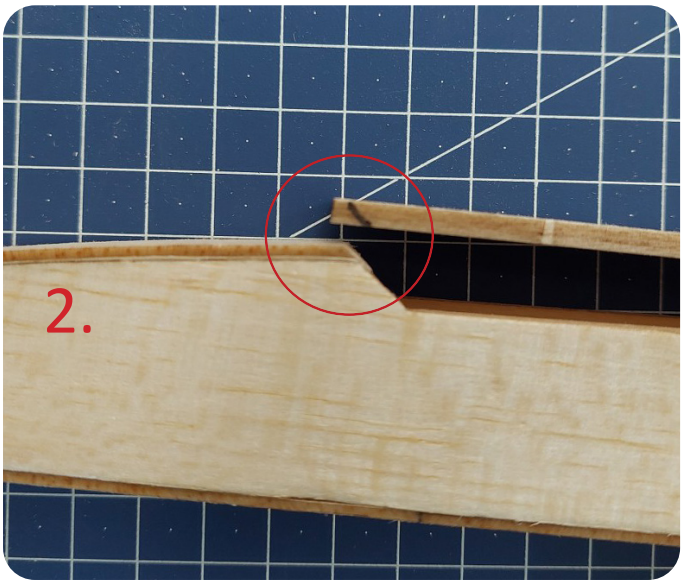
- sand the remaining balsa on the upper side of the fuselage so it follows the canopy line

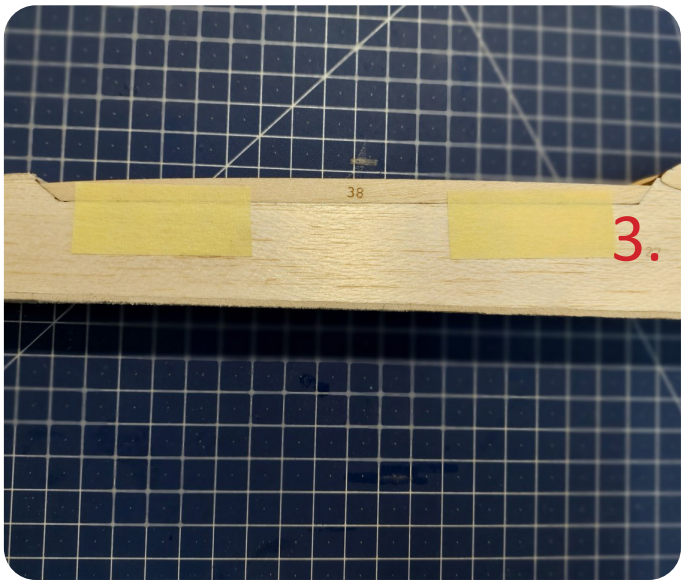
- to identify the magnet polarity, place the loose magnets onto the magnets already bonded in the fuselage

- mark the top side of each magnet with a black dot.









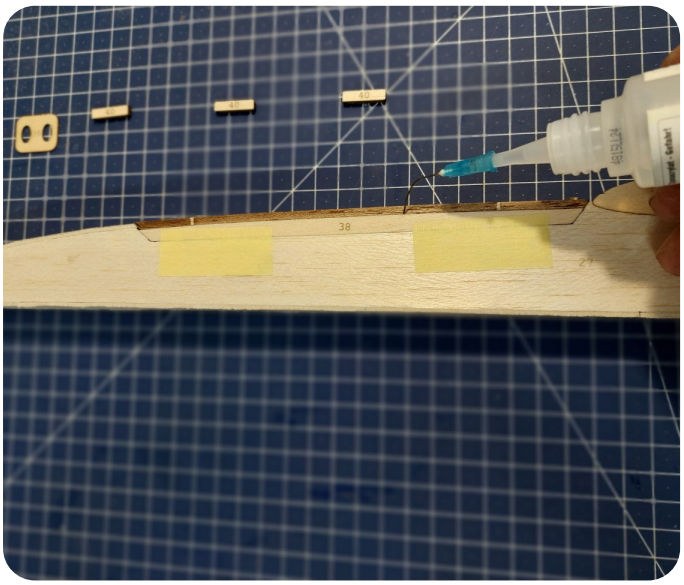
Step 7.1:

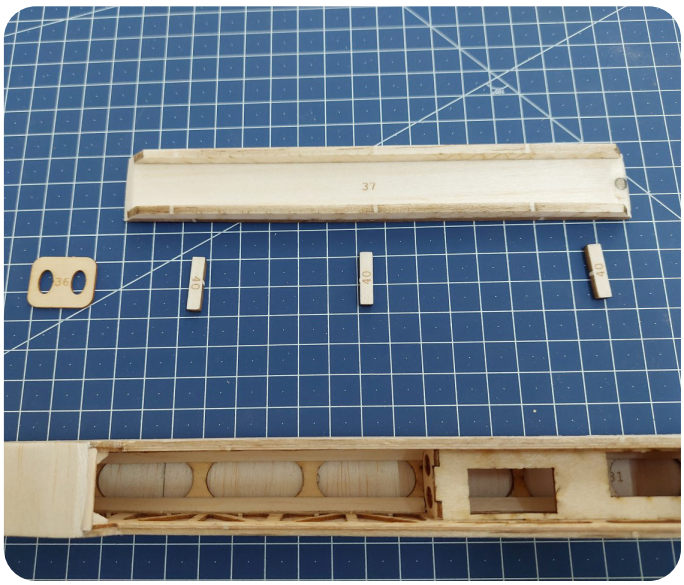
- bond the magnet onto Pos. 37 so that the black dot remains visible.

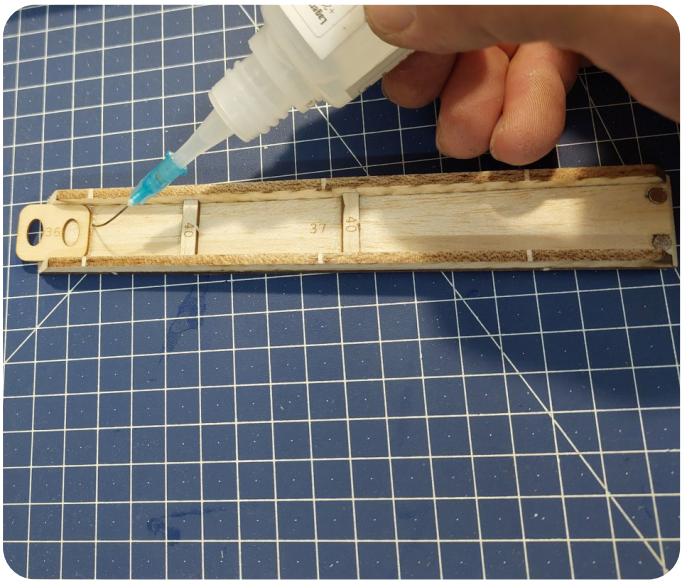
1. Place Pos. 37 on the fuselage so the magnets connect in the intended position

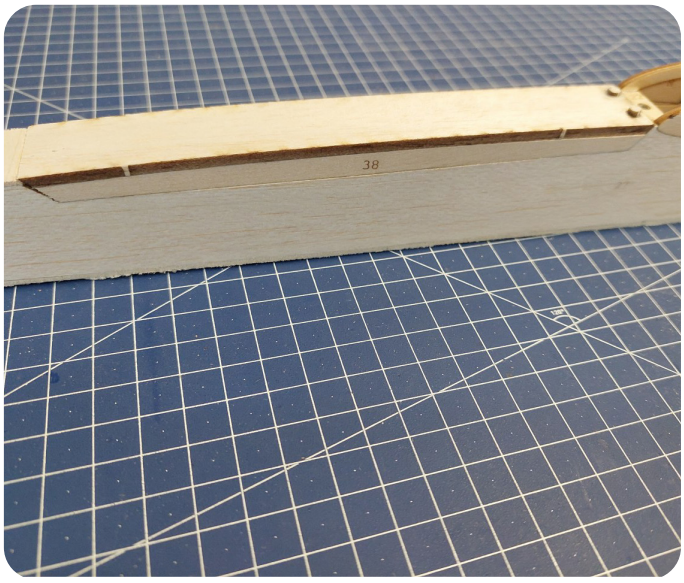
2. Mark the front end of Pos. 37 and cut/sand it at an angle to match the fuselage contour

3. Tape two Pos. 38 pieces to each side of the fuselage at the canopy opening using masking tape









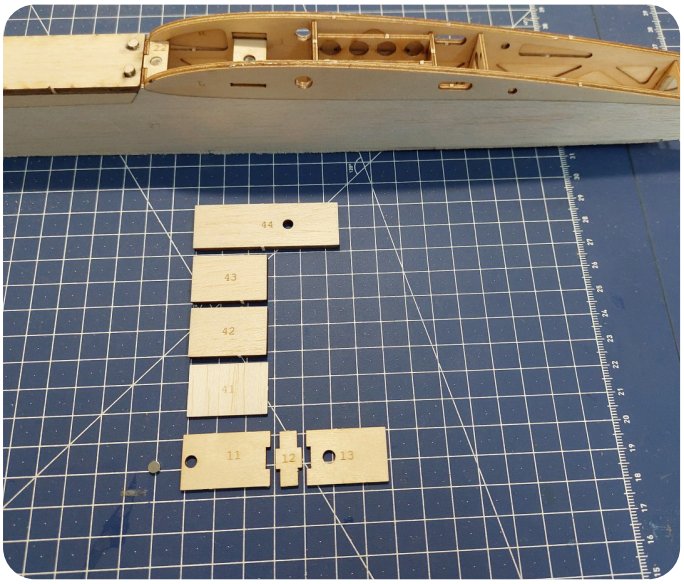
Step 7.2:

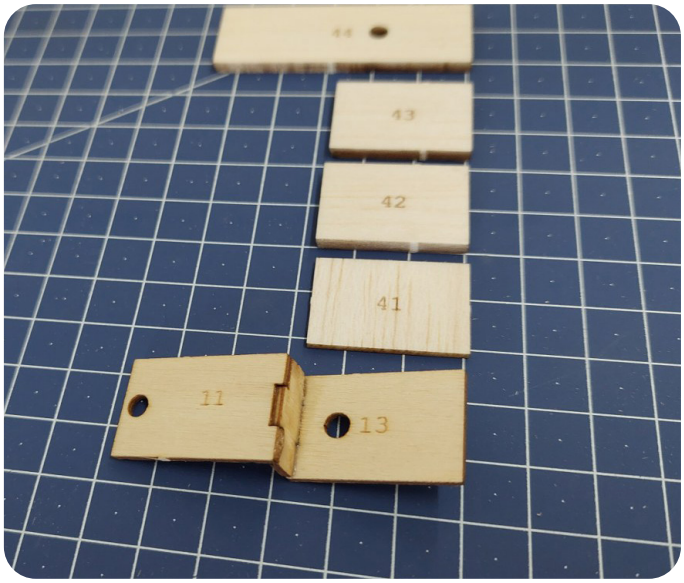
- place Pos. 37 in the canopy position and bond it together with the Pos. 38 parts that were previously taped to the fuselage

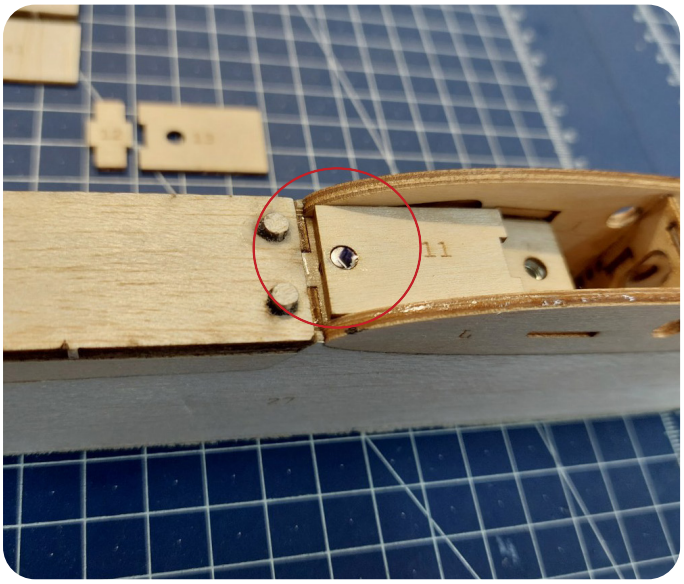
Note:
- make sure during bonding that the canopy does not stick to the fuselage

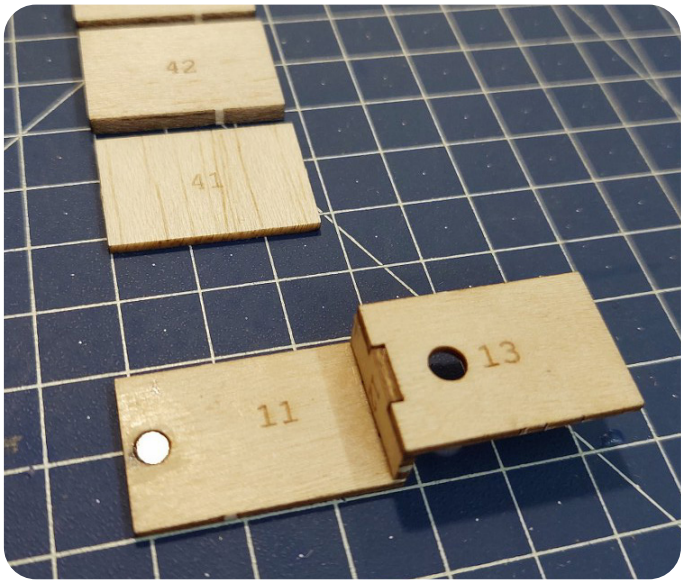
- bond Pos. 36 in place (Card 1E-f)
- bond the three reinforcements Pos. 40

- test-fit how the canopy fits on the fuselage









Step 8:

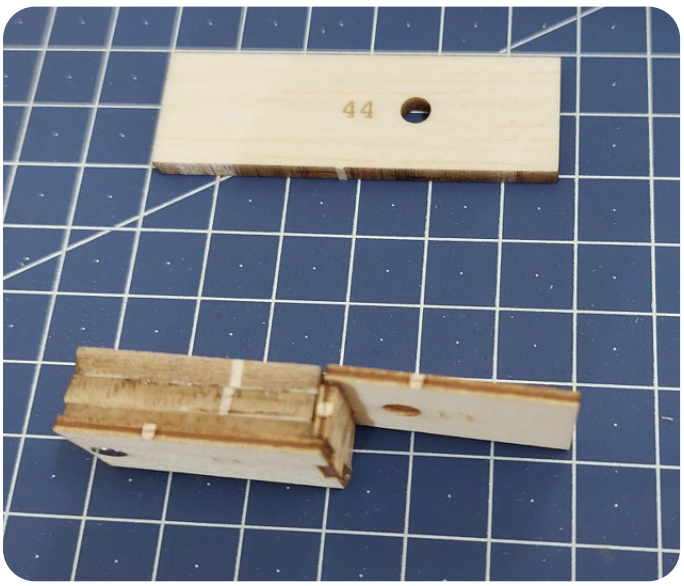
- prepare Pos. 41 (Card 1C-f) and Pos. 42, 43 and 44 (Card 1D-f)
- prepare Pos. 11, 12 and 13 (Card F-f3)
- 1x magnet 4x1.5 mm

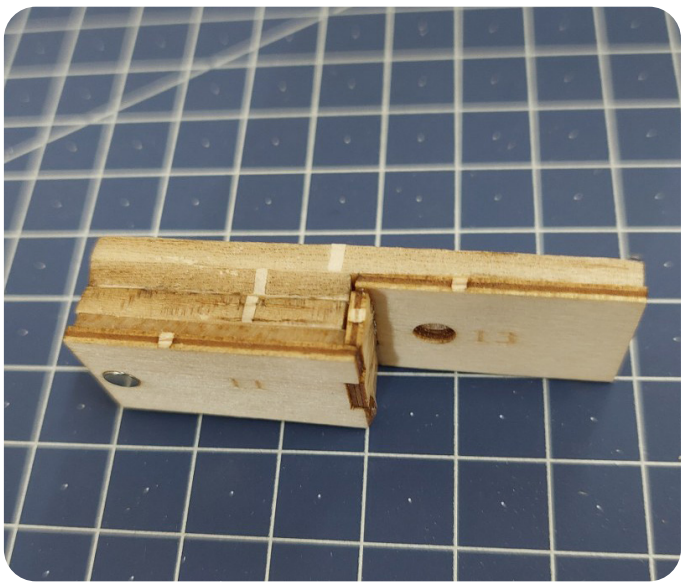
- bond the plywood parts Pos. 11, 12, and 13 together

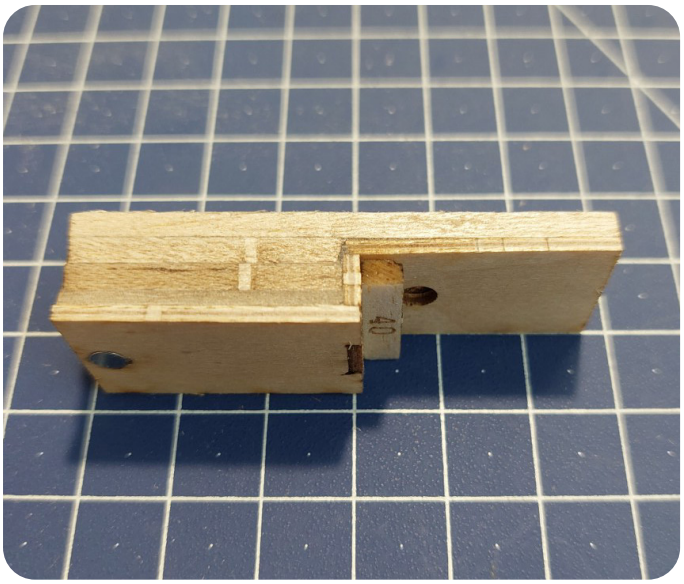
- to identify the magnet polarity, place the loose magnet onto the magnet already bonded in the fuselage

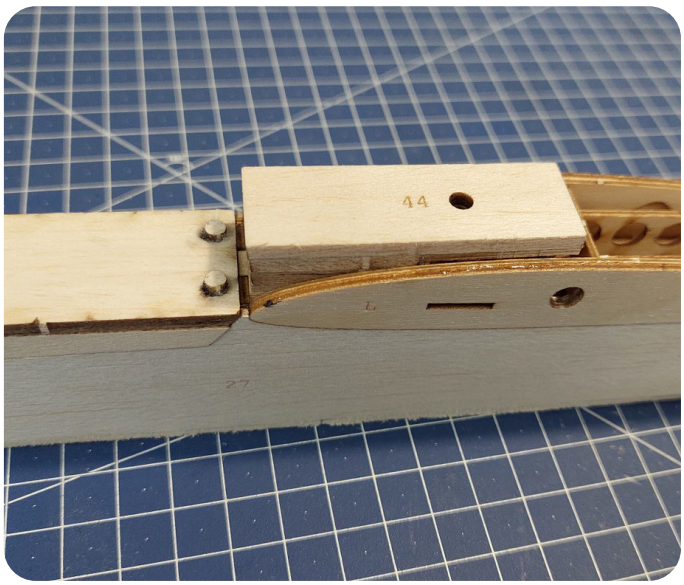
- mark the top side of the magnet with a black dot

- bond the magnet into Pos. 11









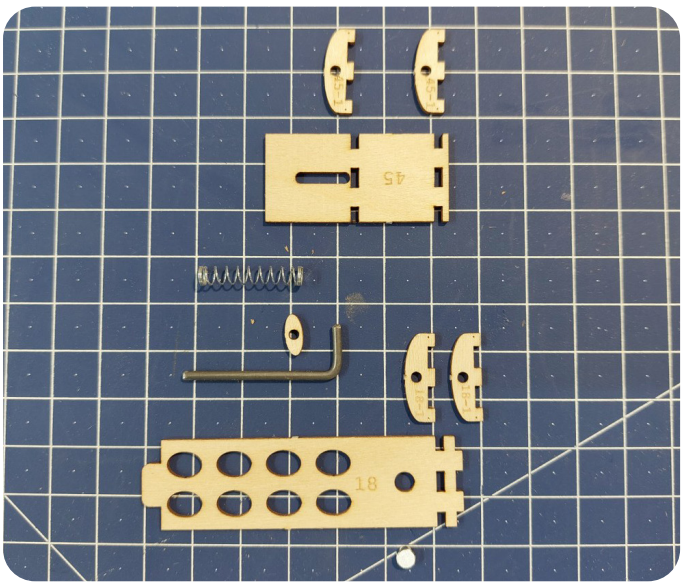
Step 8.1:

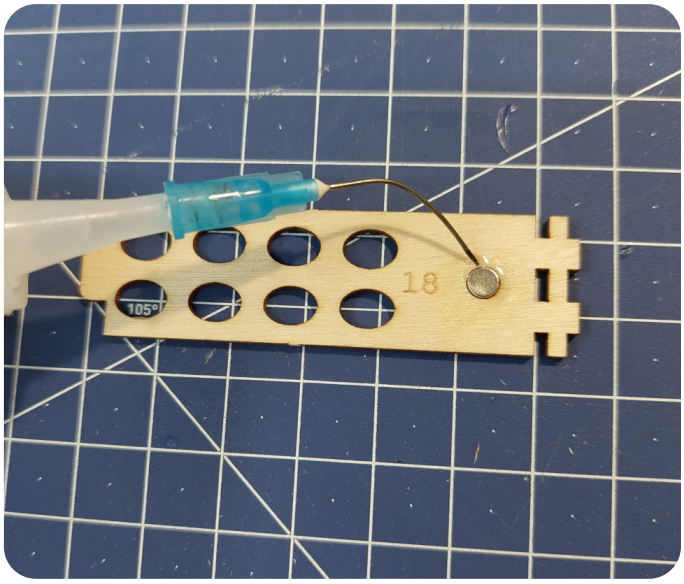
- on Pos. 11, bond the balsa parts Pos. 41, 42, and 43

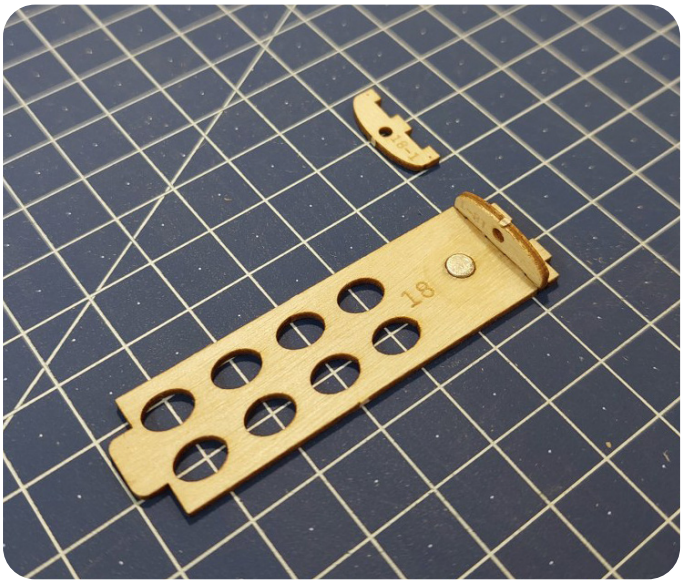
- bond the 4mm balsa part Pos. 44 over the entire assembly

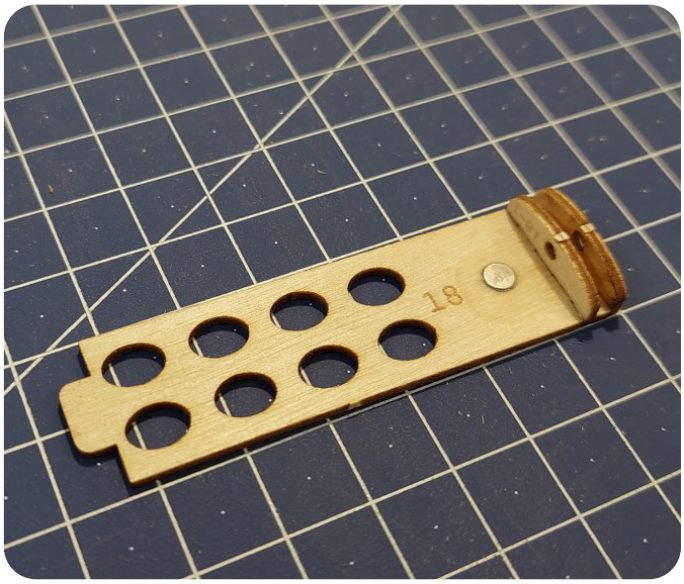
- bond the reinforcement Pos. 40 into the corner as shown in the picture

Note:
- make sure the holes are aligned during bonding so the wing securing/attachment screw can pass through freely later









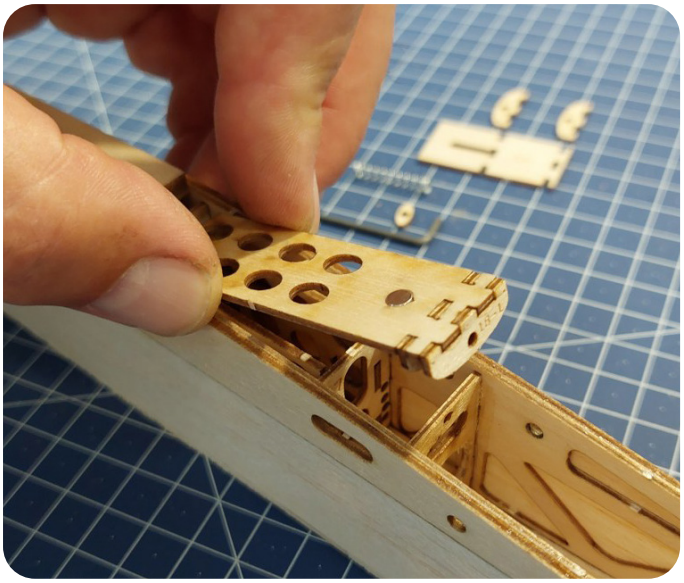
Step 9:

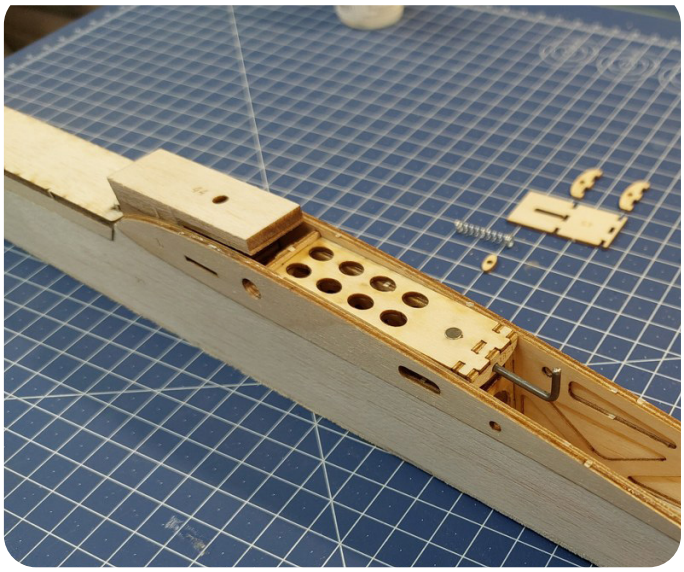
Quick-release mechanism for opening the ballast box:

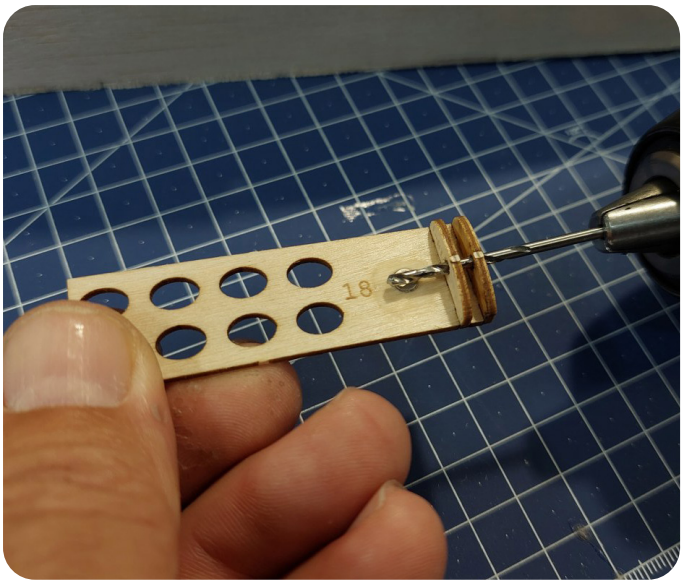
- prepare Pos. 18 and 2x Pos. 18-1 (Card 1F-f)
- prepare Pos. 45 and 2x Pos. 45-1 (Card 1F-f)

- bond the magnet into Pos. 18

- bond two Pos. 18-1 parts onto Pos. 18





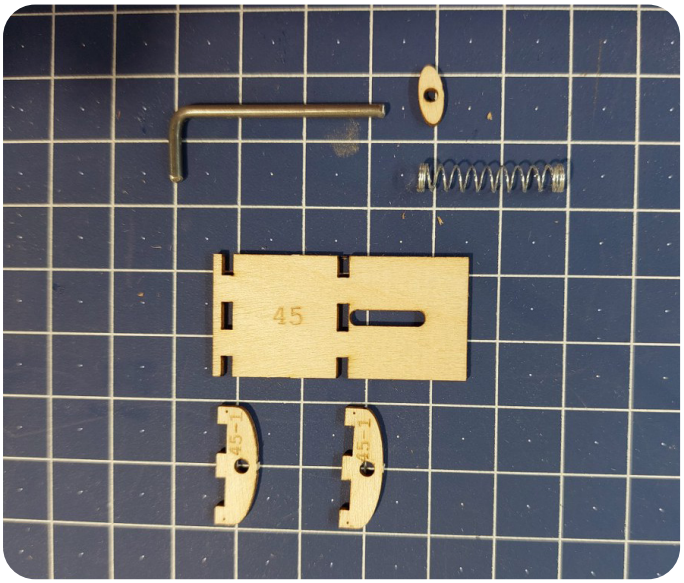


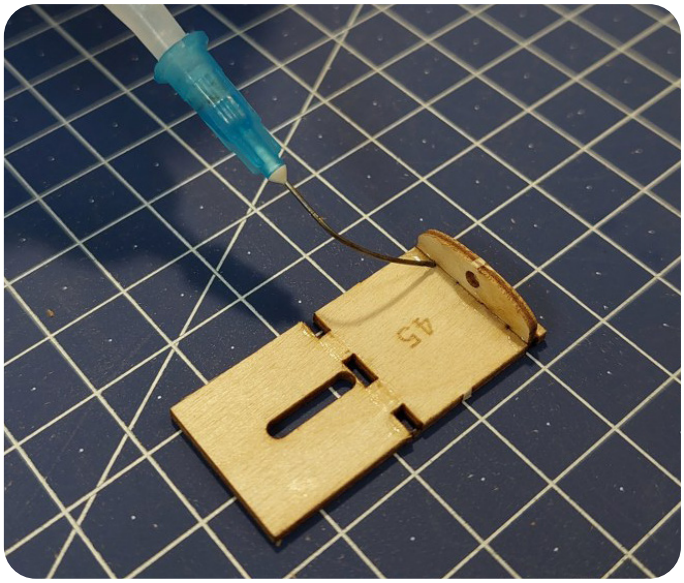
Step 9.1:

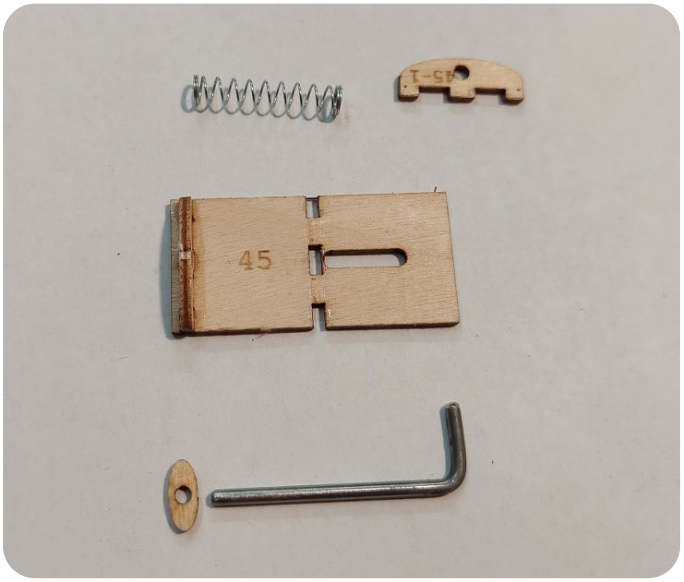
- place Pos. 18 (previously bonded) into the fuselage and do a dry fit to check how it fits.

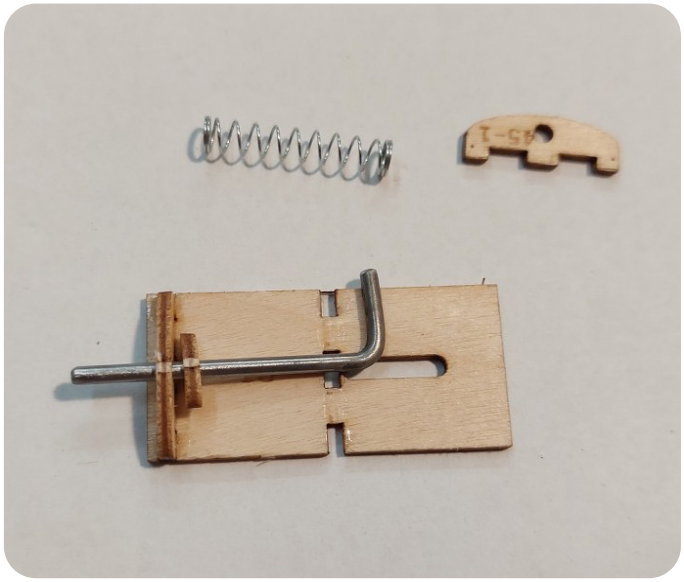
- insert the steel 2 mm hook to see how it passes through the holes

- for the hook to pass smoothly without catching through the hole and the fuselage rib, clean up the hole slightly with a 2 mm drill bit





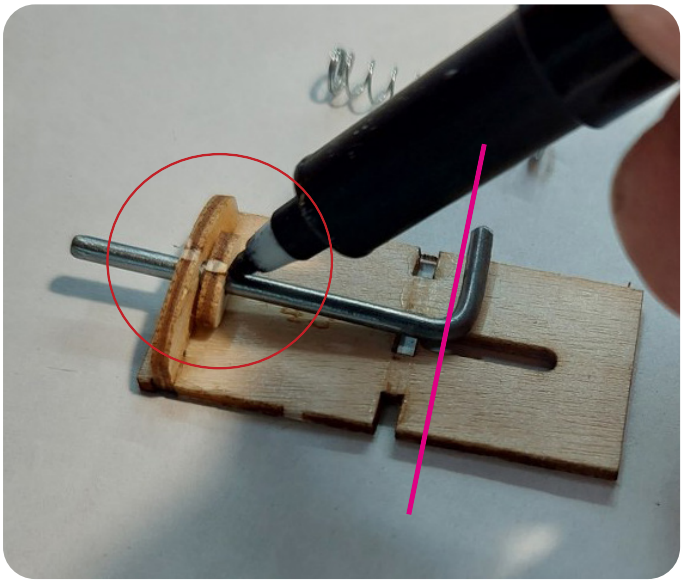


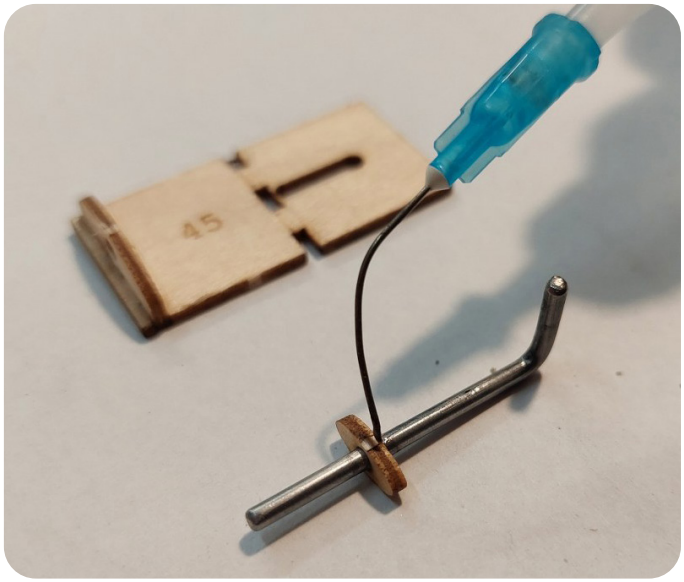


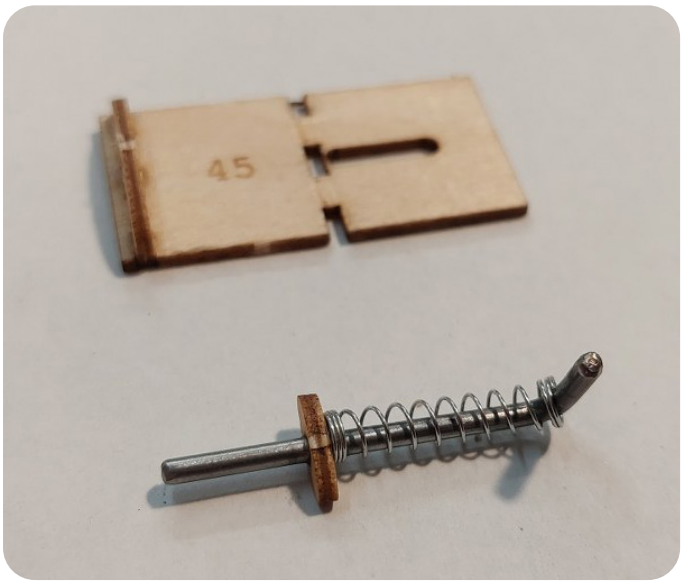
Step 9.2:

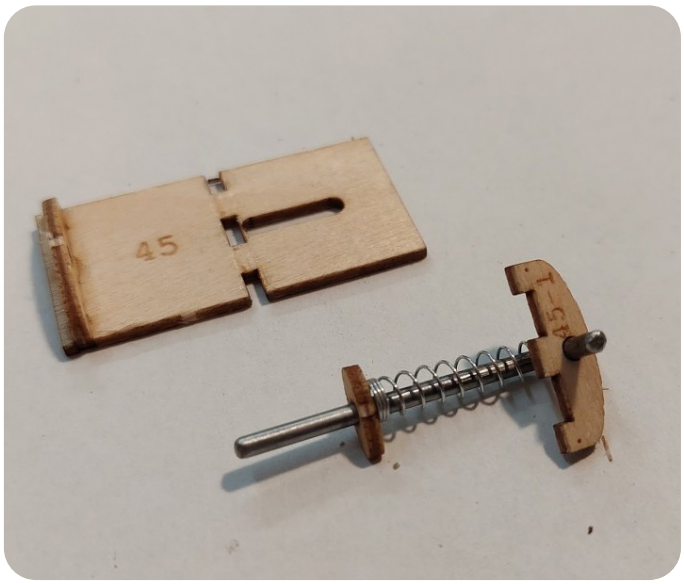
- on the outside of Pos. 45, bond one Pos. 45-1 part in place

- slide the 1.5 mm plywood elliptical piece onto the hook, then insert the whole assembly into the previously bonded Pos. 45-1 part







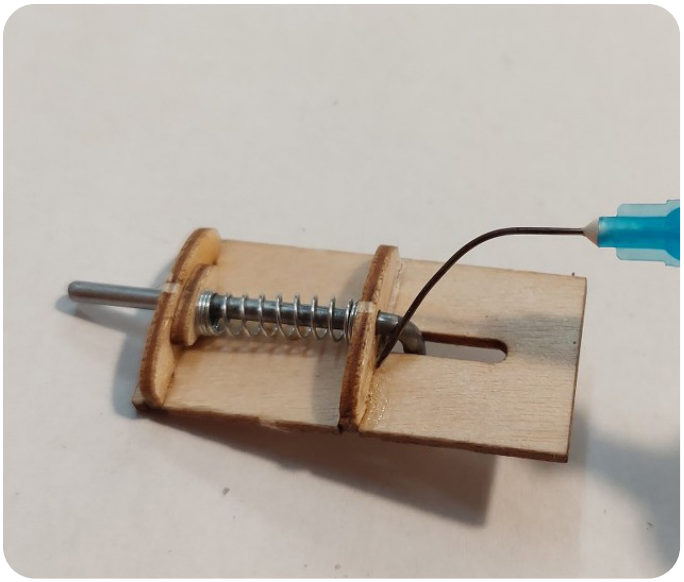


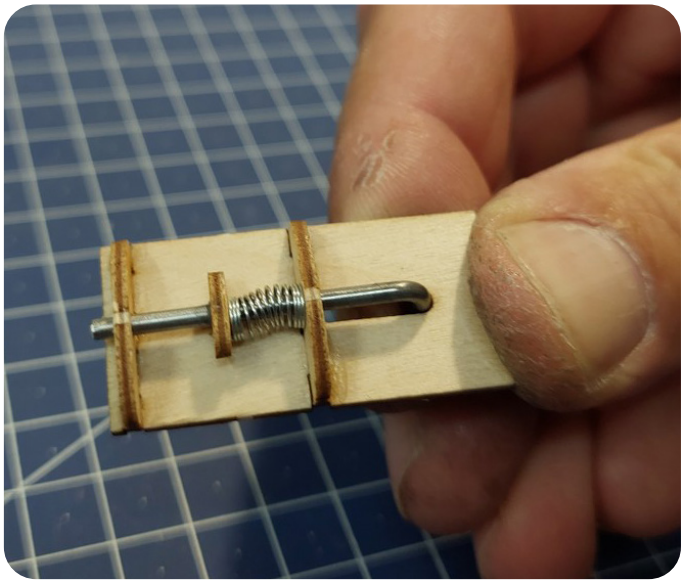
Step 9.3:

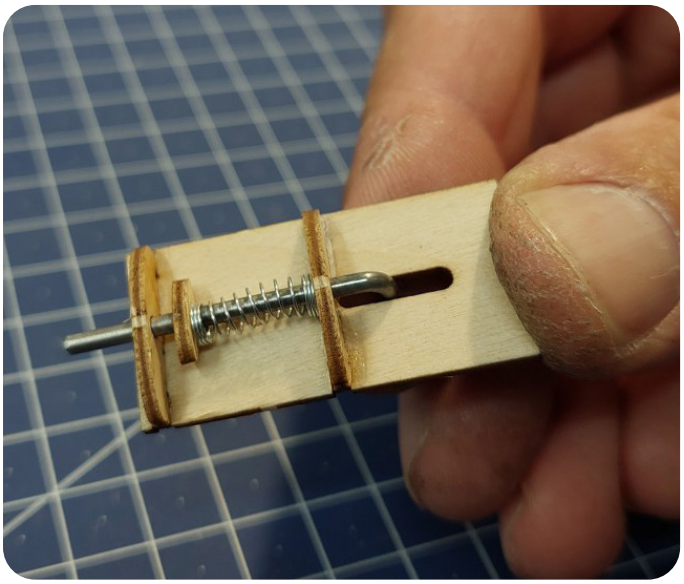
- position the steel hook so the shank is flush with the end of the slot in part Pos. 45, which serves as the opening/closing slider. Then mark the exact point just behind the elliptical plywood piece

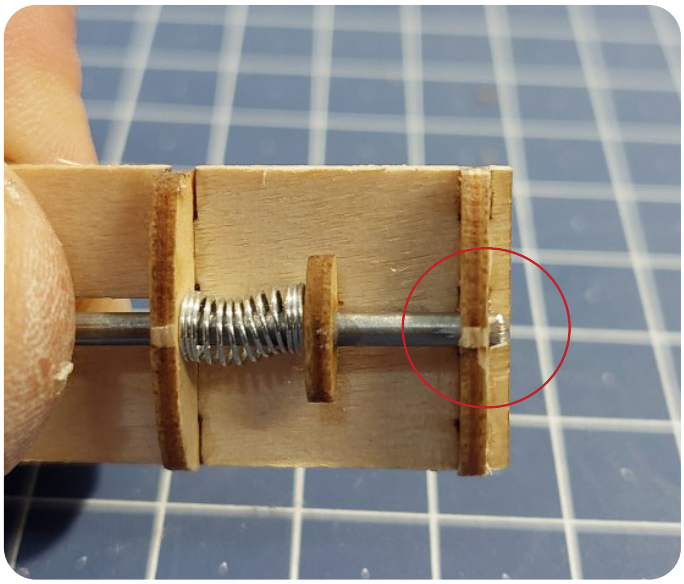
- bond the elliptical piece at the position you marked in the previous step. Make sure that while bonding, the hook shank is vertical and the elliptical piece is horizontal, as shown in the picture

- slide the spring onto the steel hook shank, then add another 45-1 part







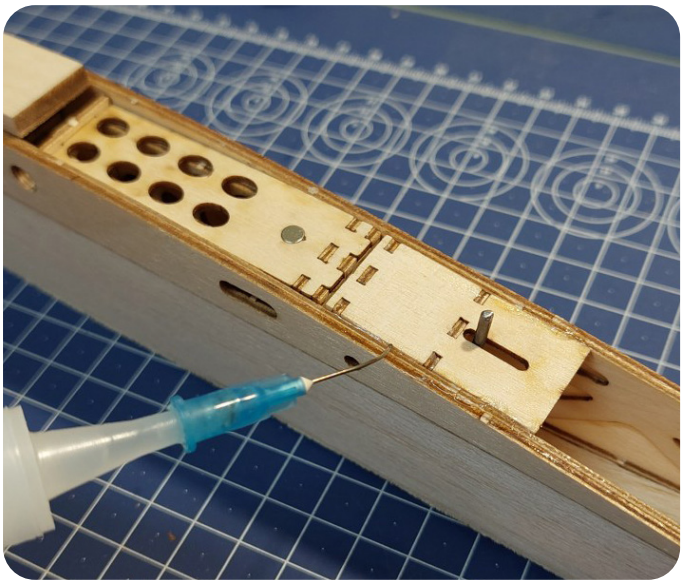
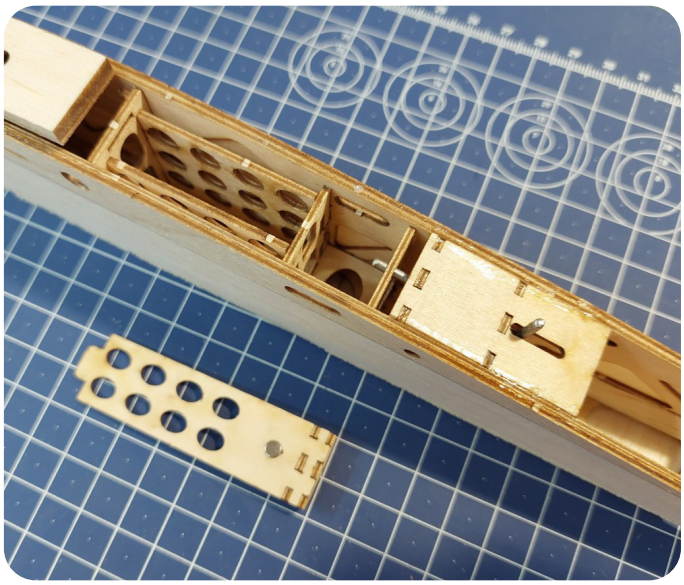
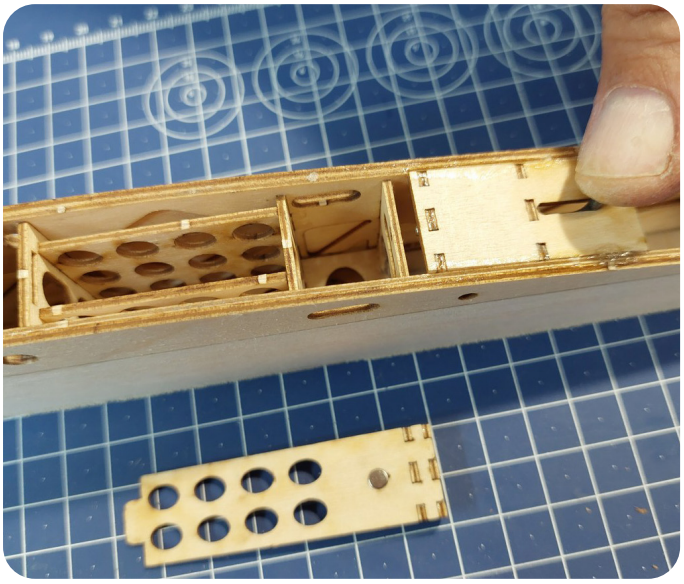
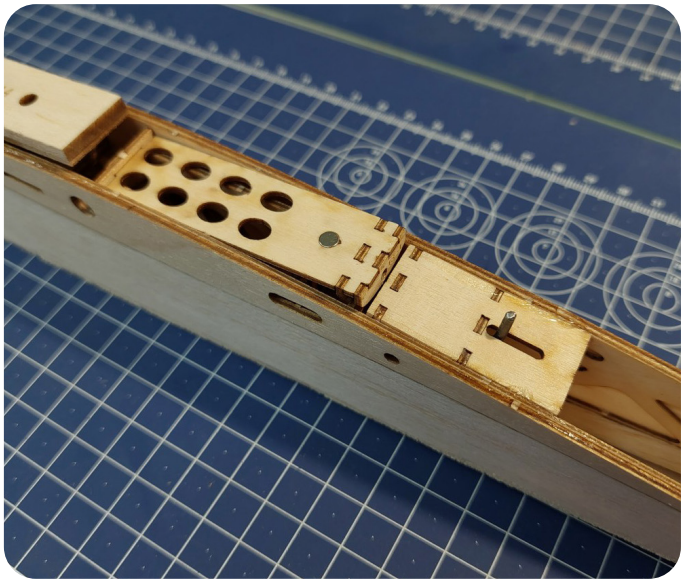


Step 9.4:

- place the spring and hook onto Pos. 45. Make sure that during installation the hook shank passes through the hole in Pos. 45—i.e., it protrudes out the other side
- once everything is in place, bond the remaining Pos. 45-1 part to Pos. 45
- make sure the steel hook or the spring doesn't get bonded in place

- once everything is bonded, test the mechanism to make sure it works—check both end positions: open and closed

- When the mechanism is in the open position (spring tensioned), the end of the steel hook must not extend past the edge of the mechanism. If it does, lightly sand/shorten the steel rod so it looks like in the picture

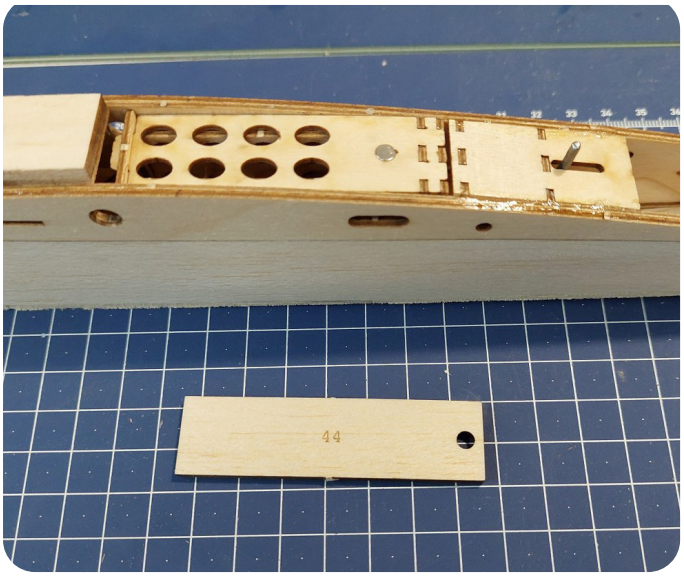





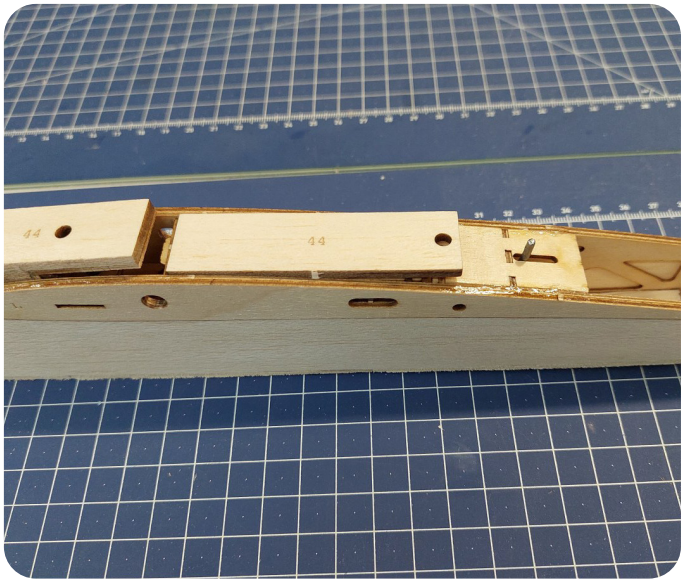
Step 9.5:

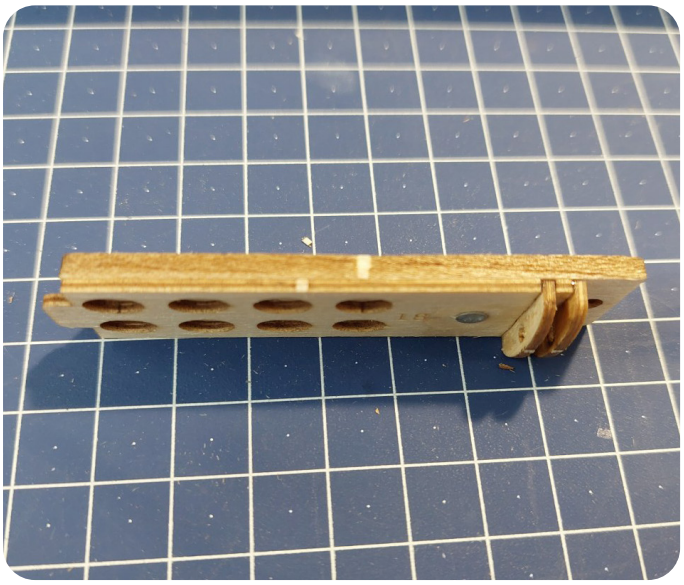
- bond the mechanism into the fuselage in its designated position

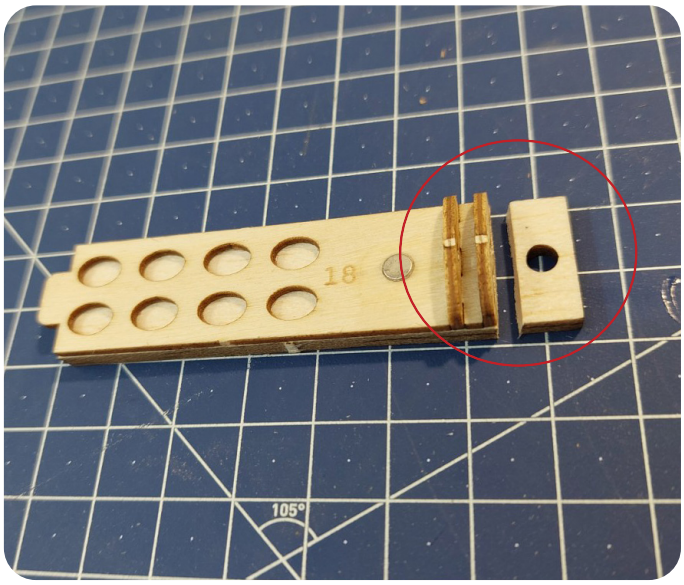
- Place the previously made ballast box cover (Pos. 18) onto the fuselage in its position and test how it opens and closes using the quick-release mechanism

Tip for closing the ballast box:
- place the ballast box cover in its correct position on the fuselage (bottom-right photo). Pull the mechanism to open the latch—the cover will drop into place by itself and close





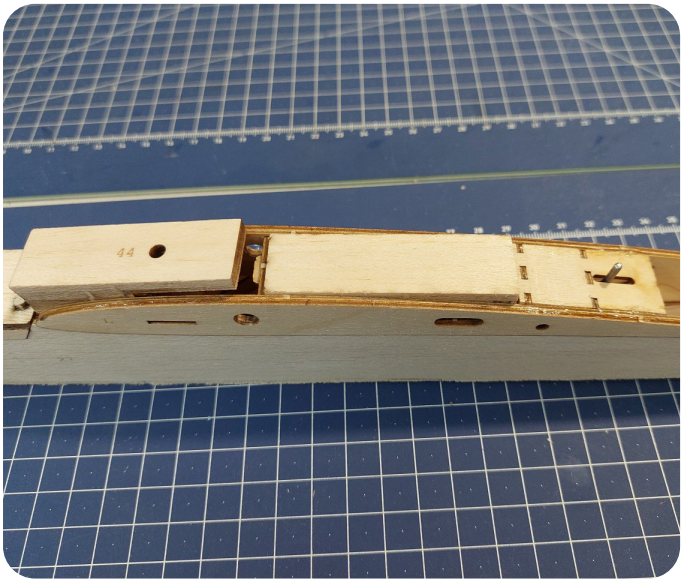


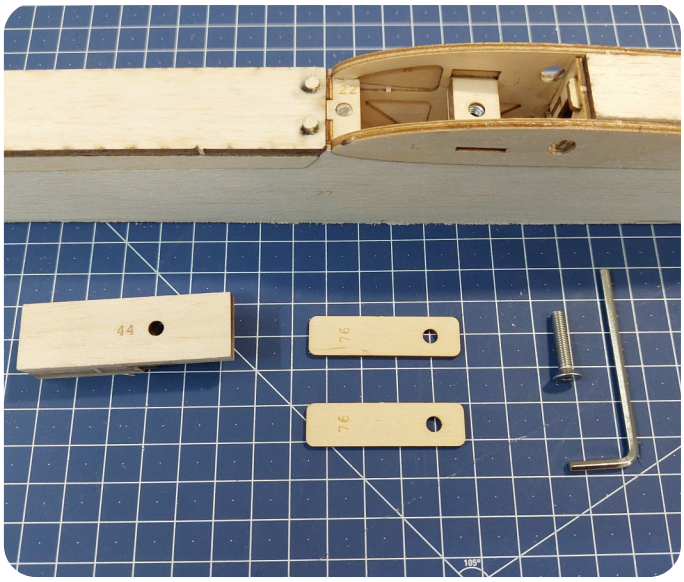


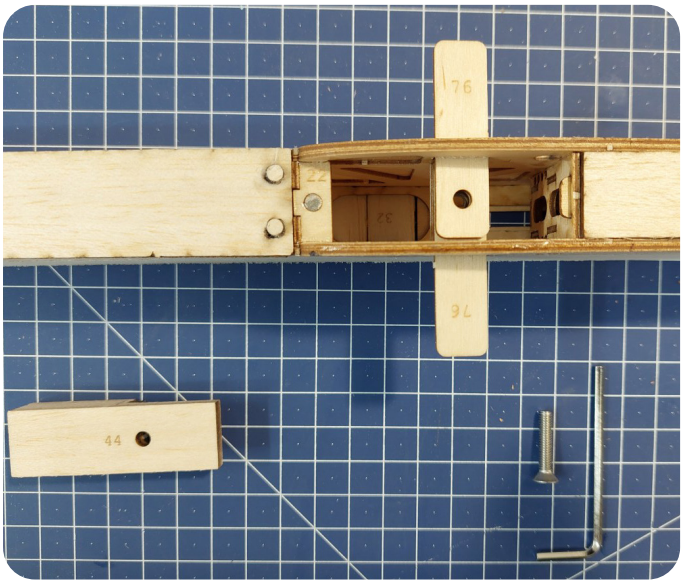
Step 9.6:

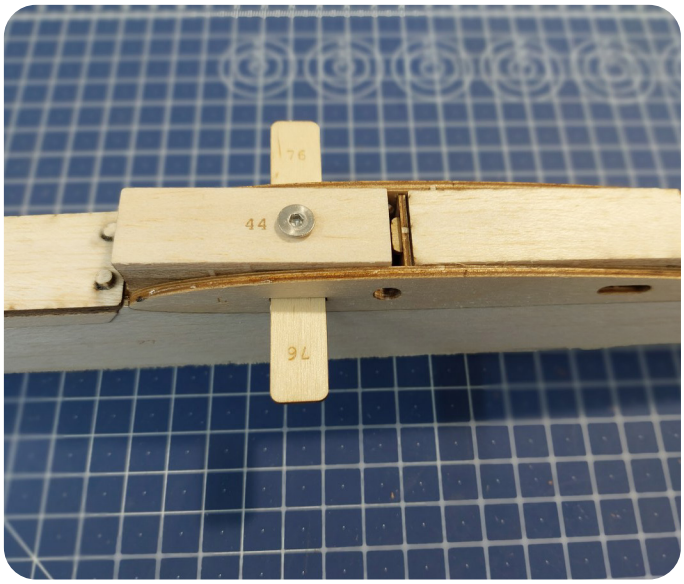
- bond the 4 mm balsa part Pos. 44 to Pos. 18 so that the hole in the balsa overhangs past the edge

- trim the remaining bonded balsa so the end is flush and nothing protrudes







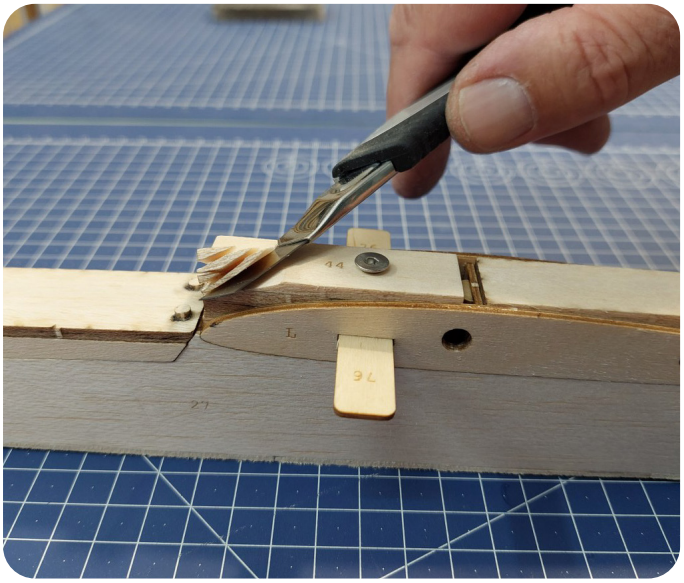


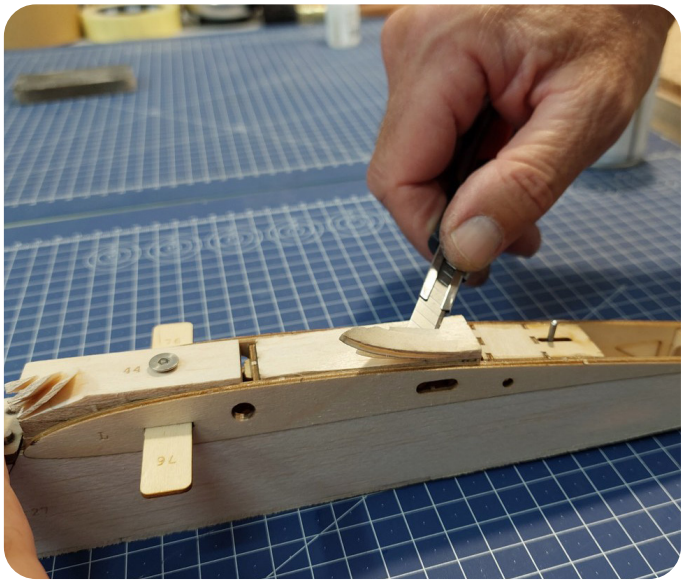
Step 9.7:

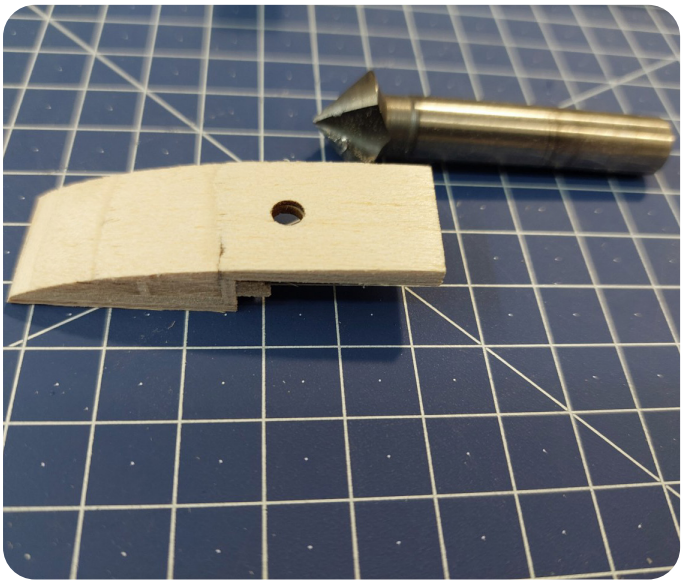
- insert two Pos. 76 pieces (1.5 mm plywood), one from each side of the fuselage, aligning them with the front hole

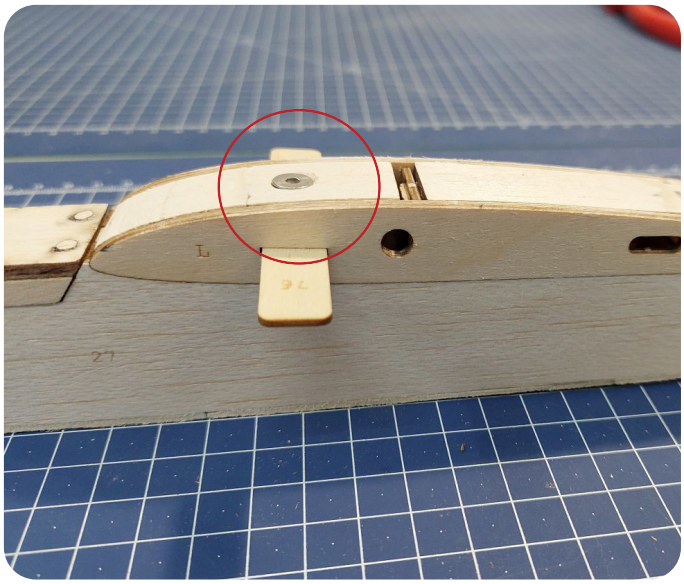
- fasten the previously assembled part using the M4 screw and Allen key included in the kit

Note:
- do not bond part Pos. 76 to the fuselage or to any other parts—this is only a dry fit









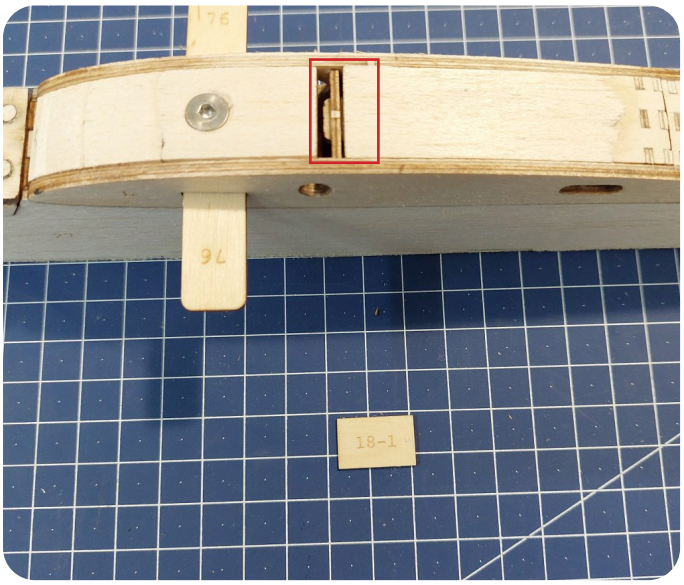
Step 9.8:

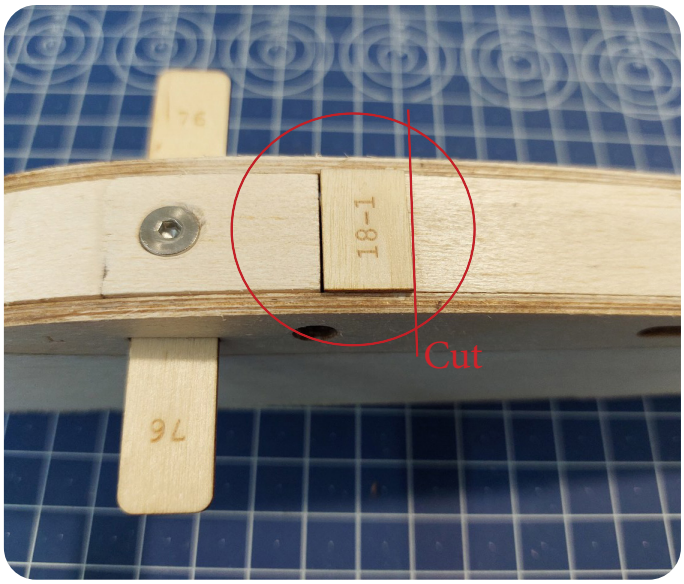
- carefully cut off the excess material at the front and rear with a scalpel

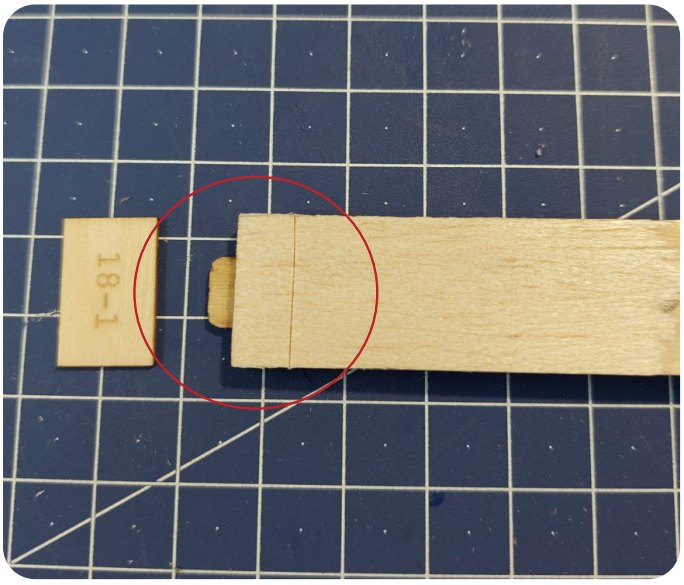
- lightly sand the surface to match the wing profile

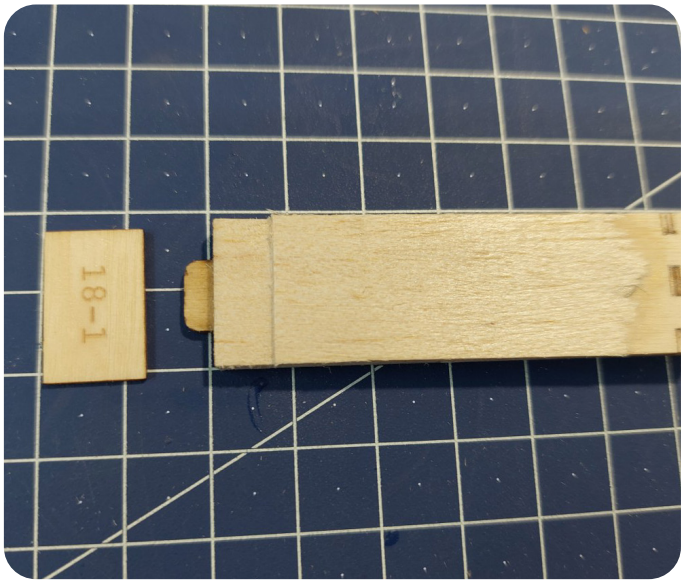
- since the M4 screw has a countersunk head, the hole must be adjusted so the screw head sits flush and does not protrude

- slightly enlarge/countersink the hole so the screw head fits perfectly into it







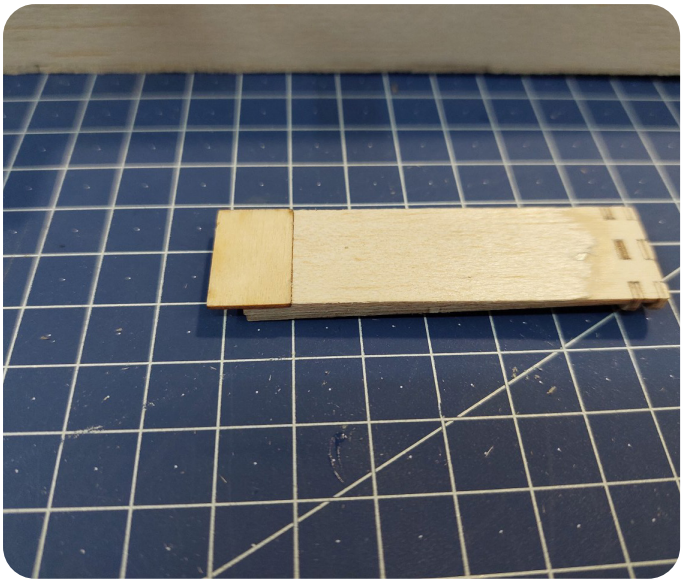


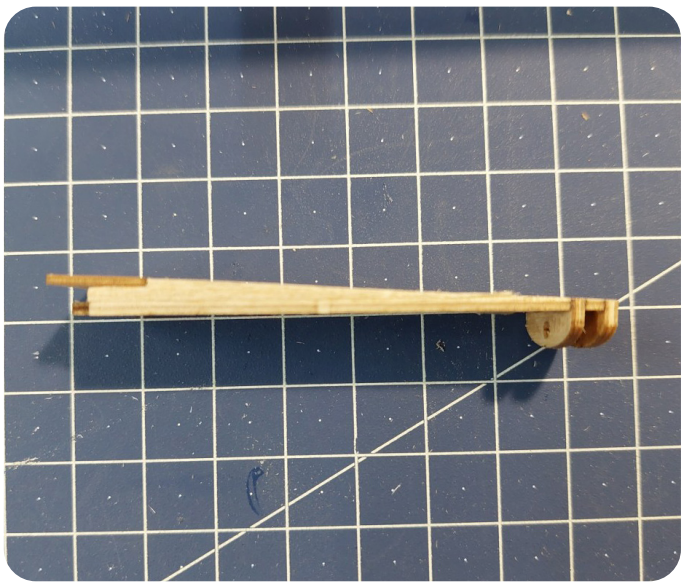
Step 9.9:

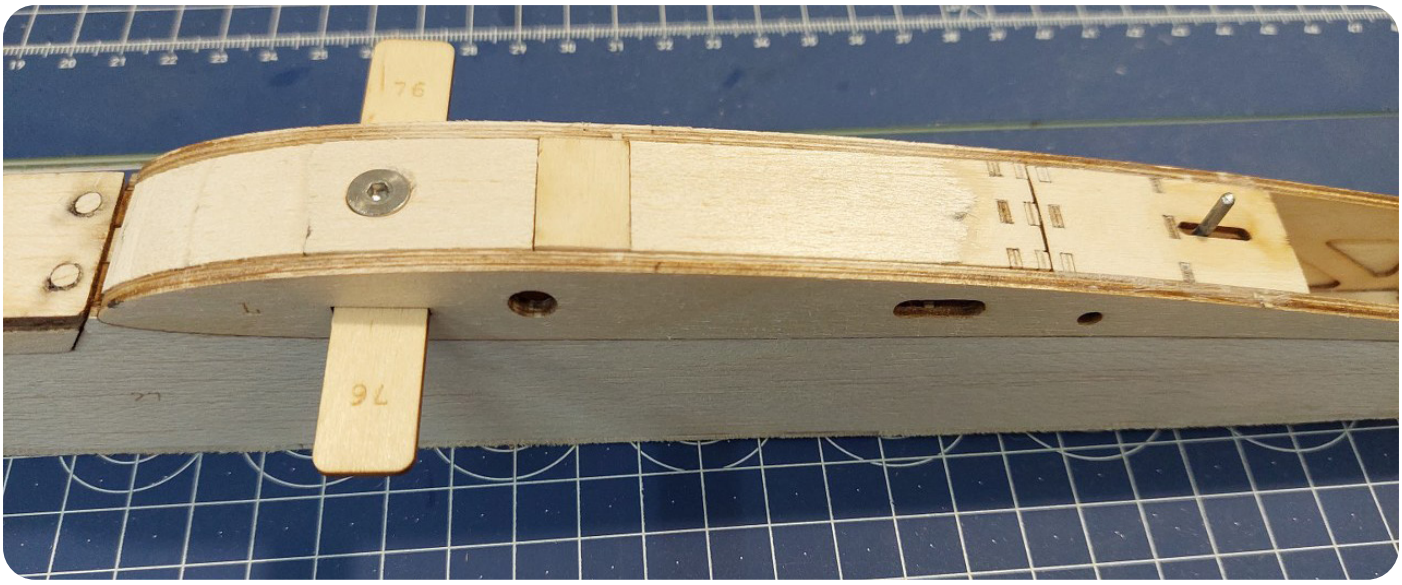
To strengthen the front part of the ballast box cover, it is necessary to bond the reinforcement

- place part Pos. 18-1 (1 mm plywood, card 1E-F) at the end of the slot on the first part that is screwed to the wing, and mark on the ballast box cover where the end of Pos. 18-1 reaches

- lightly cut the ballast box cover along the mark you made in the previous step, and recess it by 1 mm so the reinforcement fits in neatly



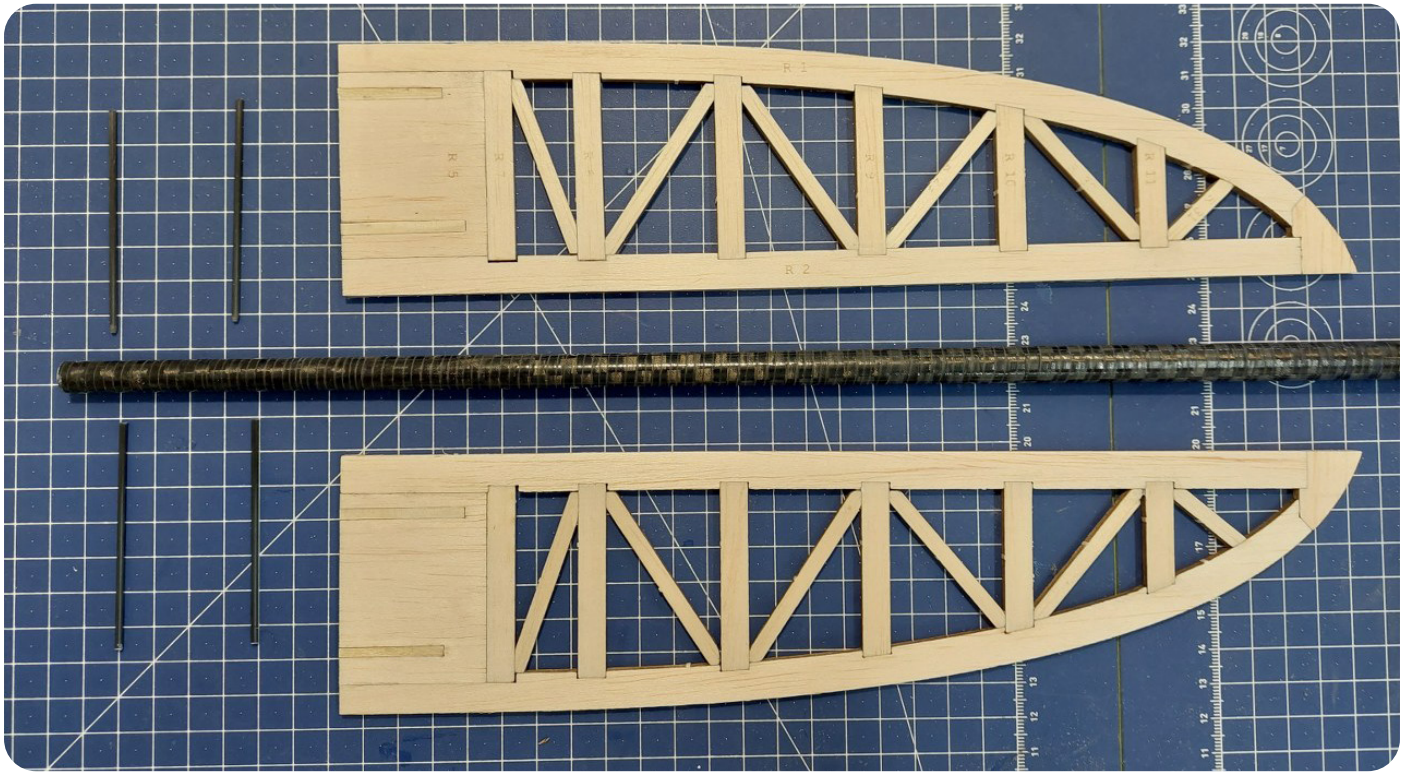


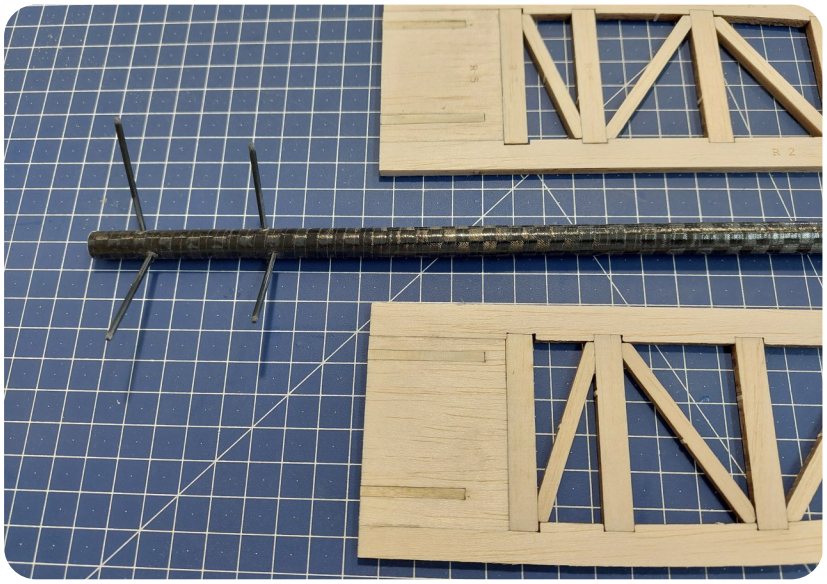


Step 9.10:

- bond reinforcement Pos. 18-1 into the recess you prepared in the previous step

- lightly sand everything once more so it follows the wing profile and the entire top surface of the fuselage is smooth



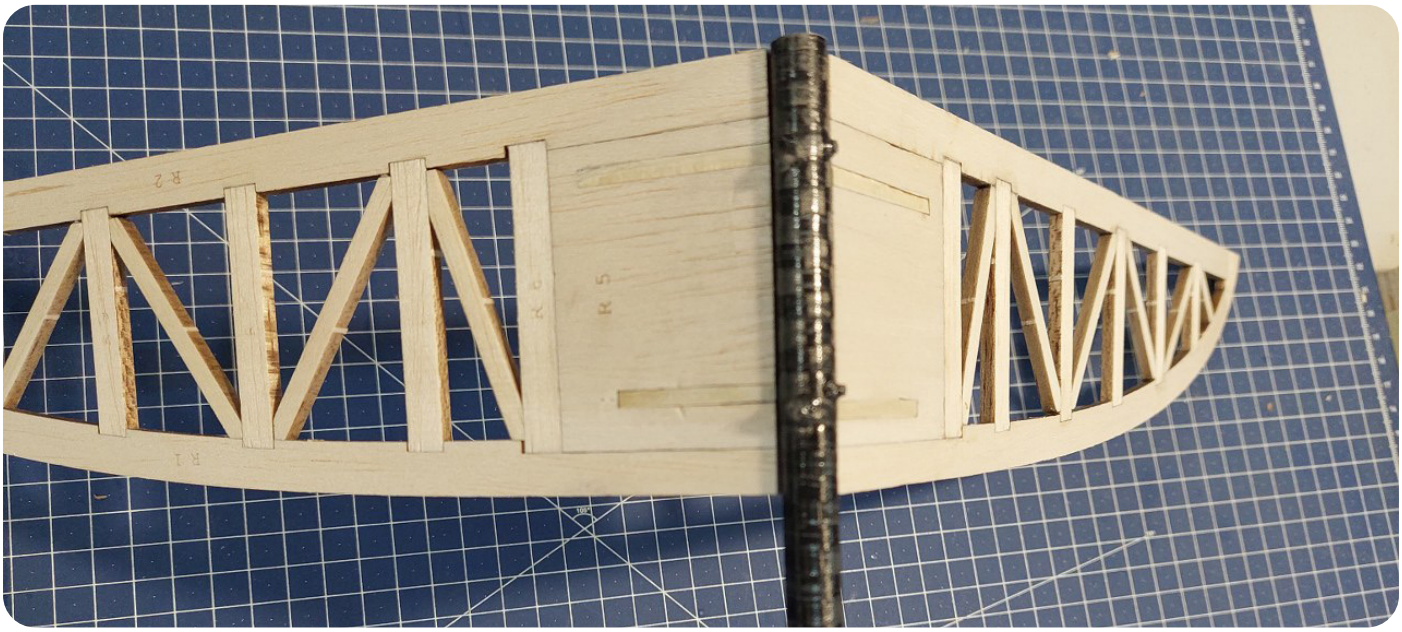


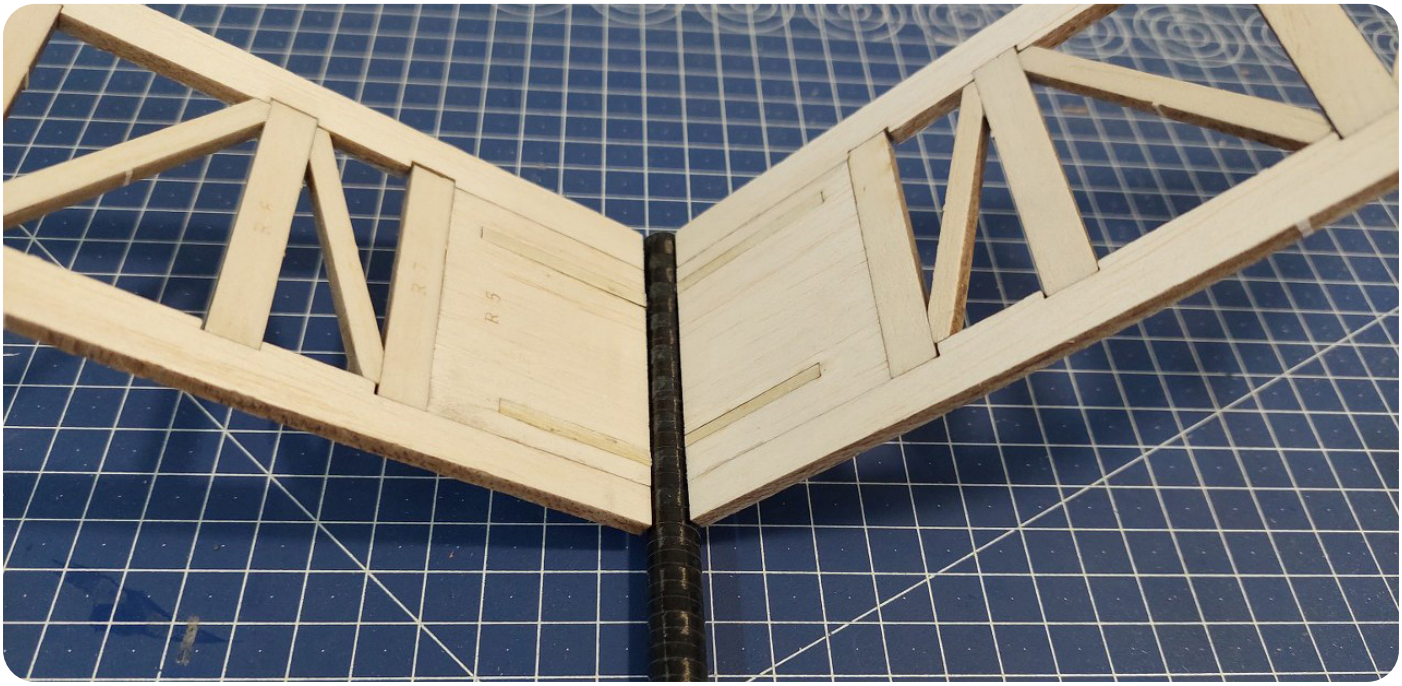
Step 10:

The tail boom already has all the holes pre-drilled for the carbon rods used to mount the rudder and elevator, so you don't need to worry about that

- insert the four 2 mm carbon rods into the tail boom at the rudder/elevator mounting positions—these are the pins onto which the V-tail will slide

Note:
- the rudder and elevator are detachable, so they are not bonded in place





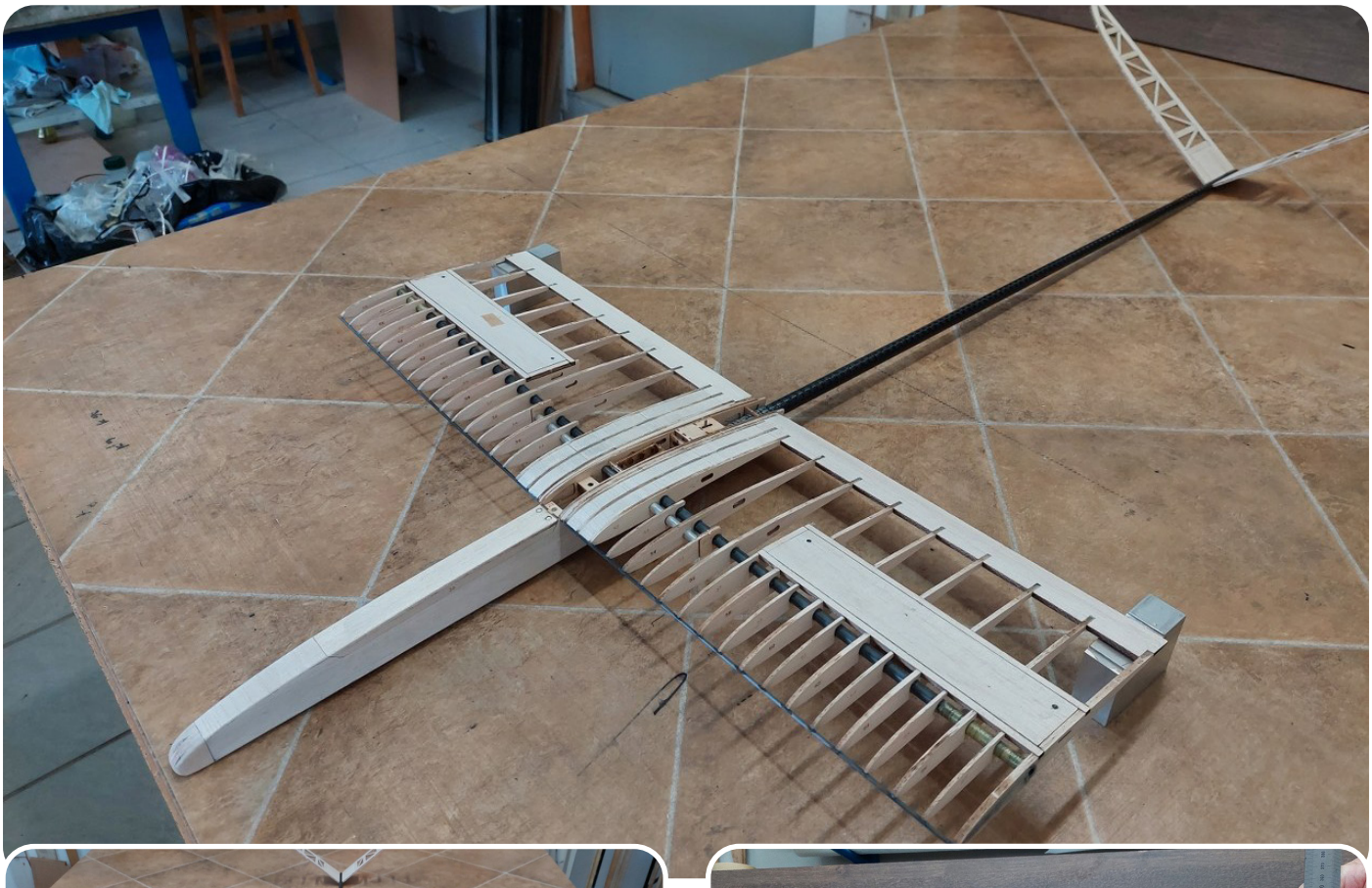
Step 10.1:

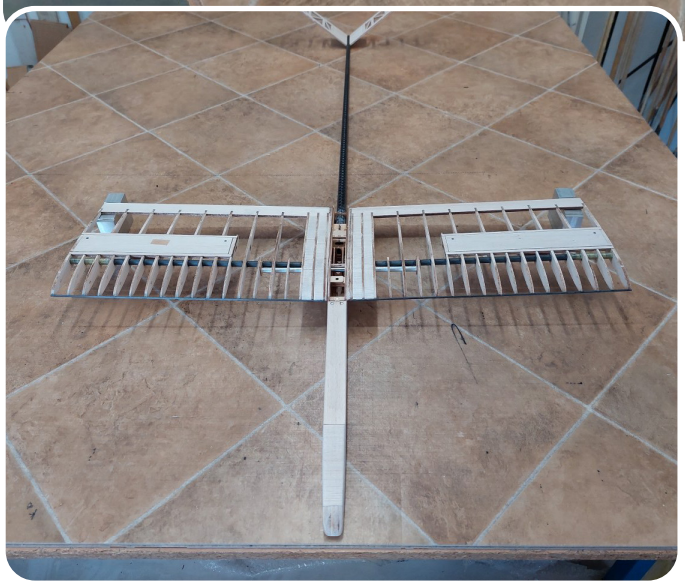
- slide/mount the rudder/elevator onto the tail boom over the carbon rods, then push the carbon rods in as far as they will go into the tails

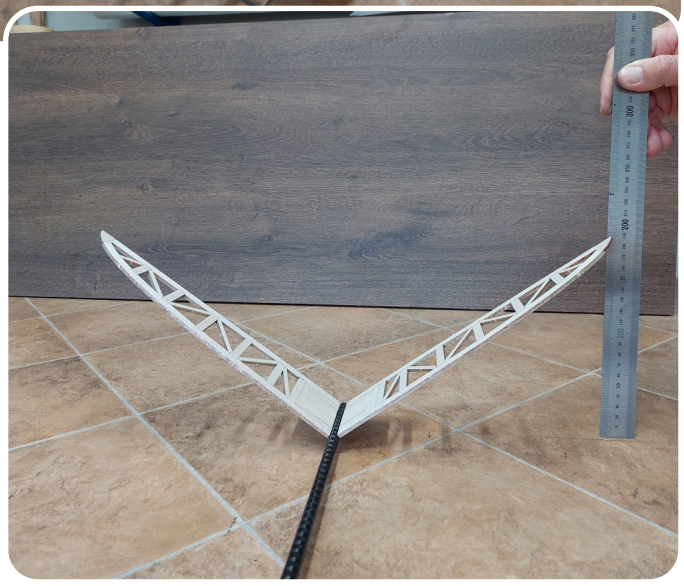
- once all the carbon rods are correctly positioned, bond them in place

- finally, trim off any excess carbon rod protruding from the underside of the tail boom

Note:
- the rudder and elevator are detachable, so they are not bonded in place



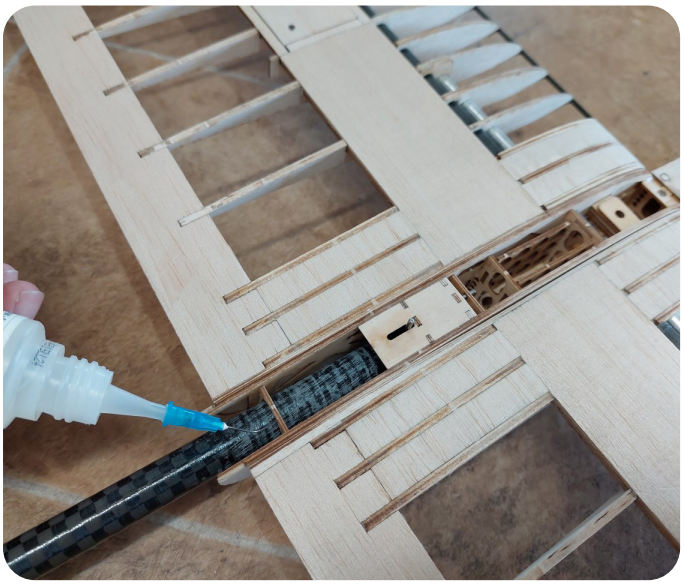


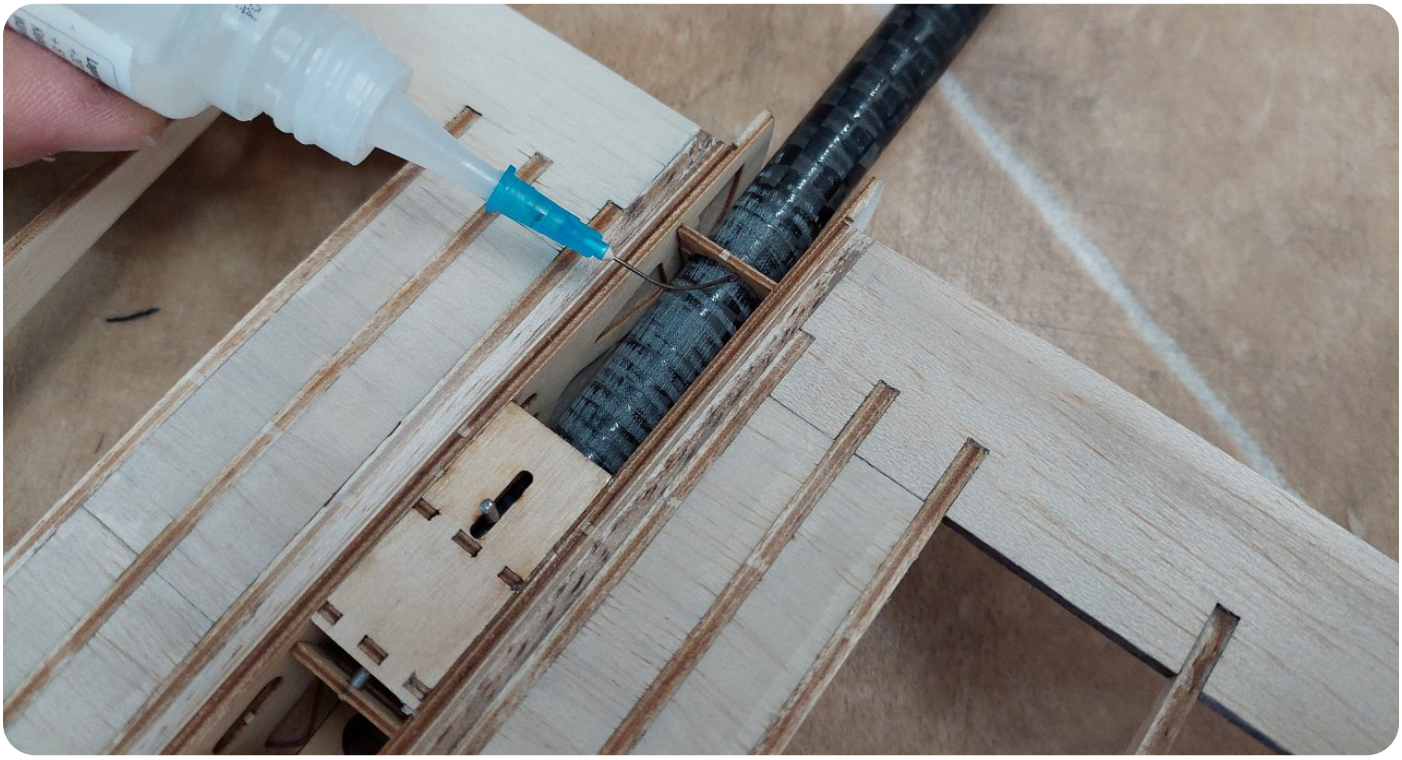


Step 11:

Alignment and bonding of the tail boom to the fuselage

- attach the wings to the fuselage and place the entire assembly on a flat surface
- make sure the left and right wings end up at the same height; support/shim the tips as needed so everything is symmetrical and properly positioned
- the V-tail tips must be at the same height so the tail is symmetrical relative to the wing and fuselage
- If necessary, rotate the tail boom to achieve the correct tail alignment angle

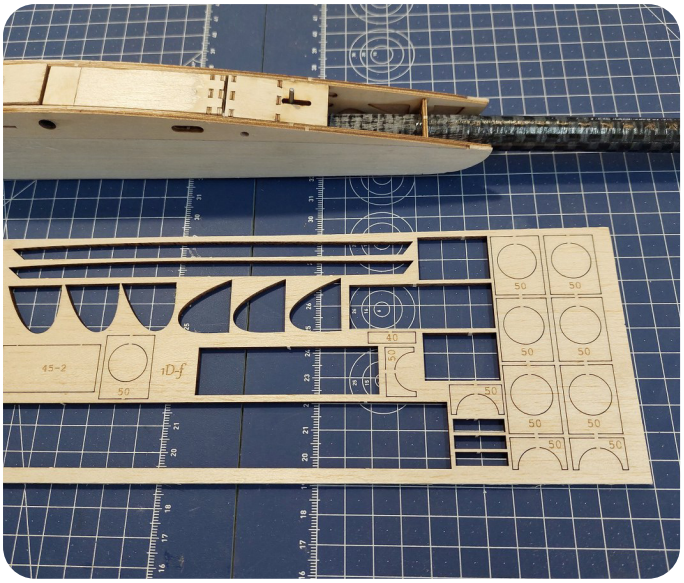


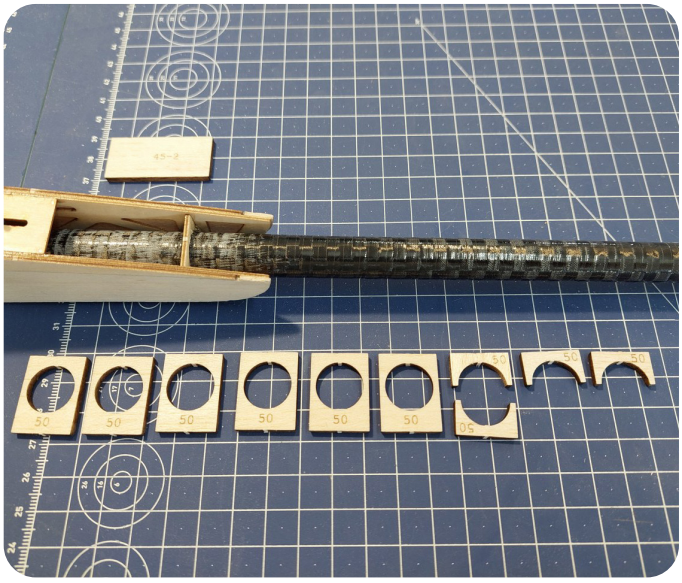


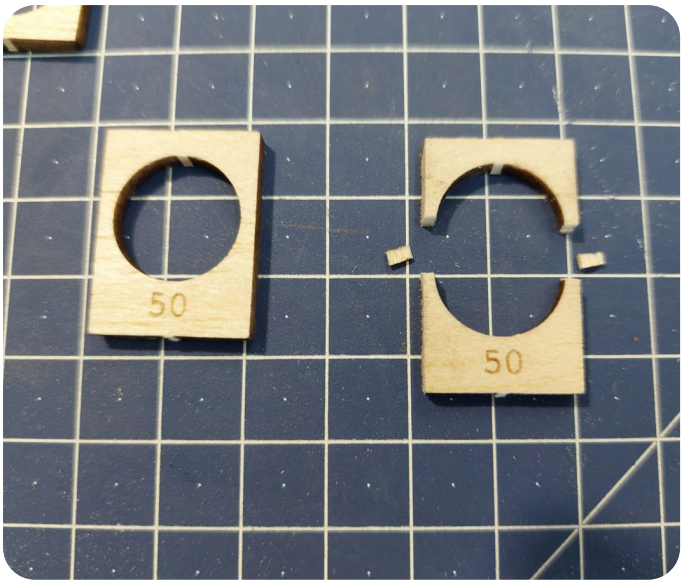
Step 11.1:

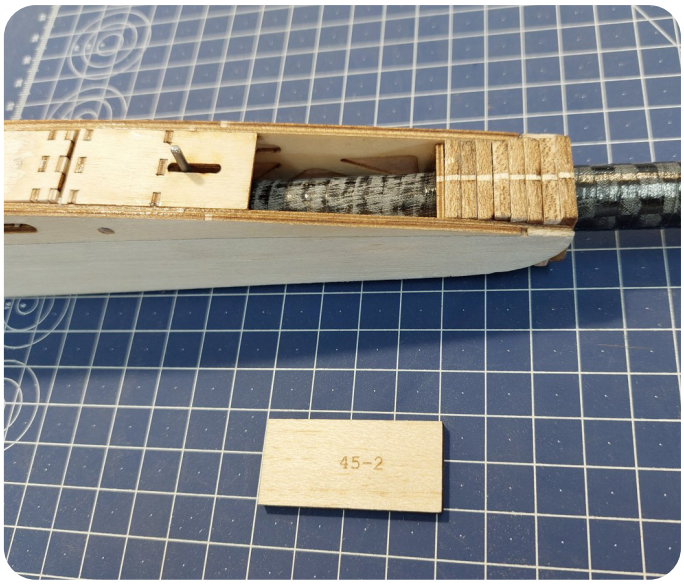
- once everything is set up and you've confirmed all angles are correct, bond the tail boom to the fuselage

- bond the tailboom to the fuselage at all contact points with the ribs inside the fuselage









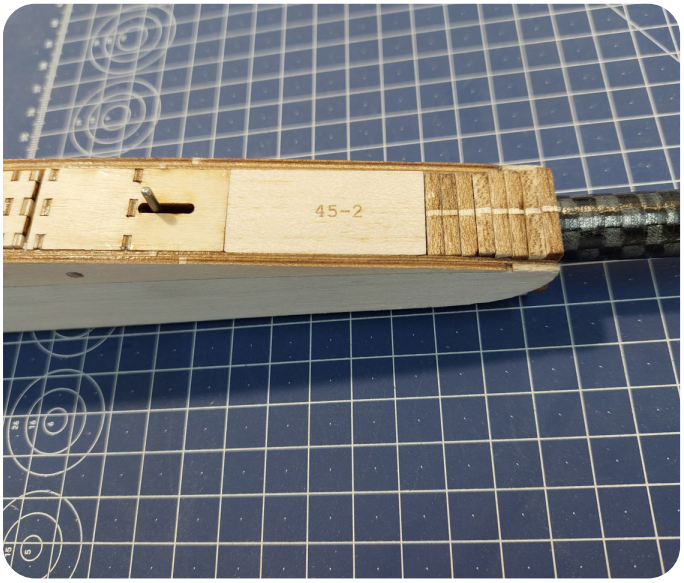
Step 12:

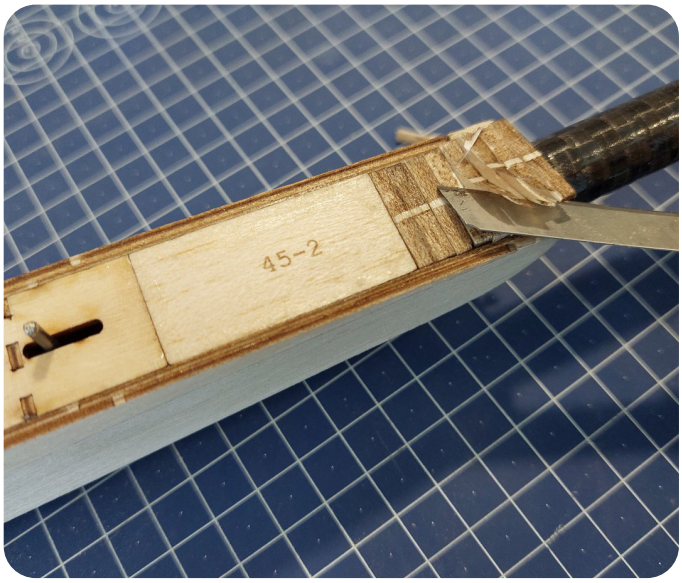
- prepare 6× Pos. 50 and 4× half Pos. 50 parts (Card 1D-f)

- cut part No. 50 in half (or as needed) and bond it between the fuselage sides around the tail boom to fill all gaps from behind the last rib to the end of the fuselage

- repeat the same process on the top and bottom sides of the fuselage

- Bond part Pos. 45-2 (Card 1D-F) to the top side of the fuselage so it sits flush with the upper fuselage sides



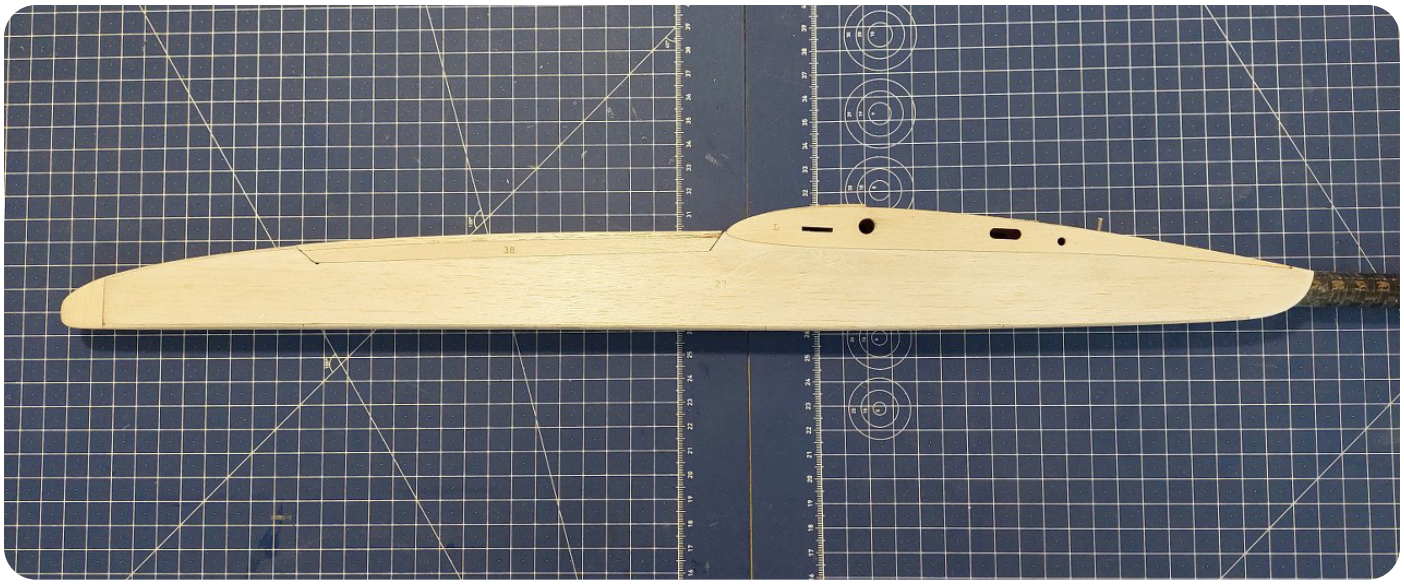


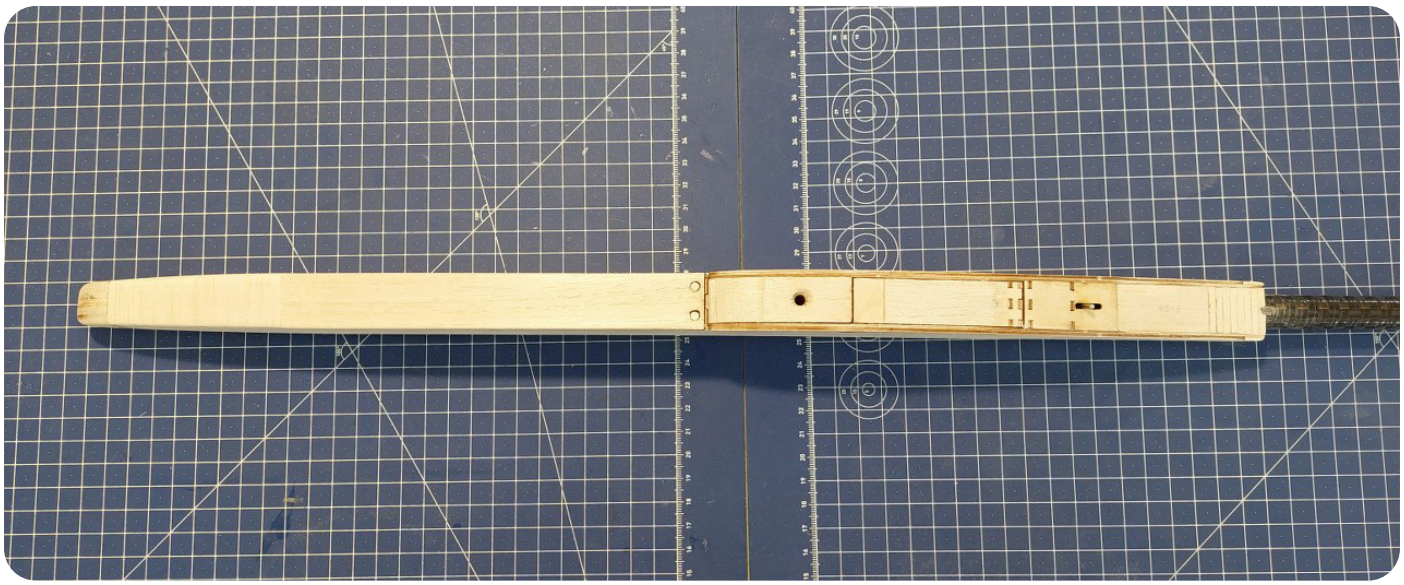
Step 12.1:

- Carefully trim off any excess material with a scalpel

- lightly sand the surface to match the fuselage contour

Final sanding and refinement of the entire fuselage: nose, rear end, and fuselage edges



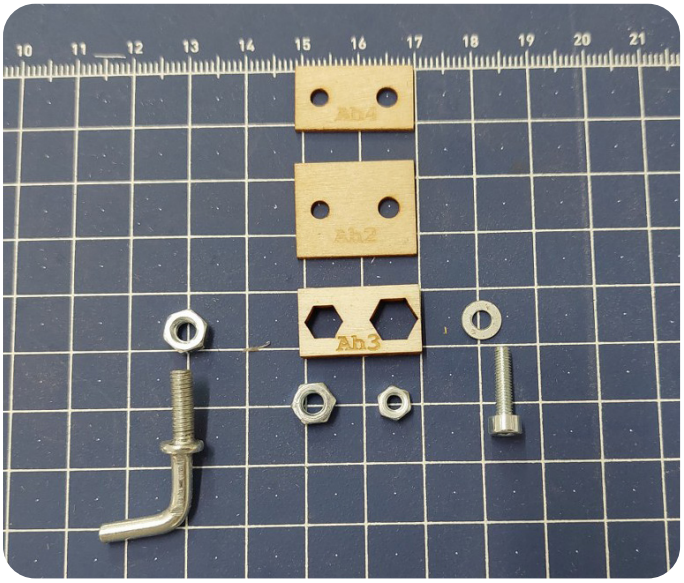


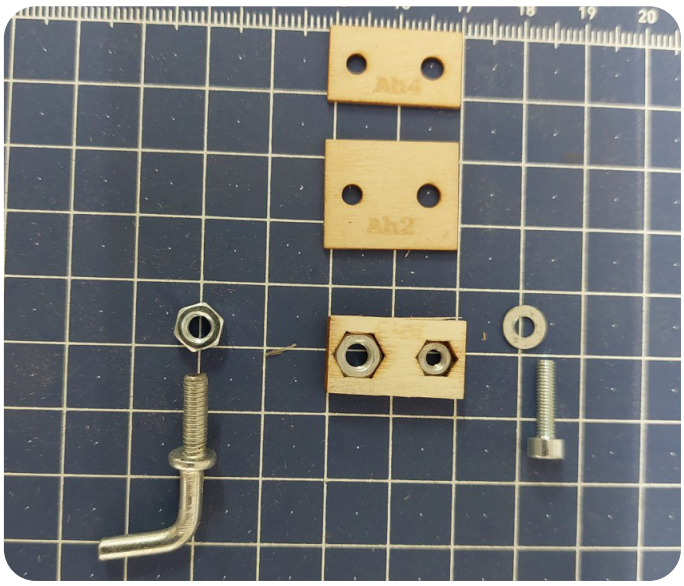
Step 12.2:

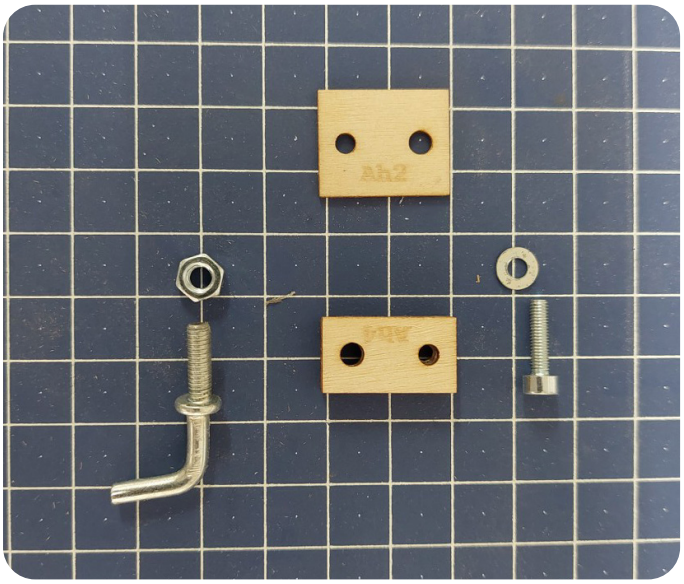
Final sanding and refinement of the entire fuselage: nose, rear end, and fuselage edges

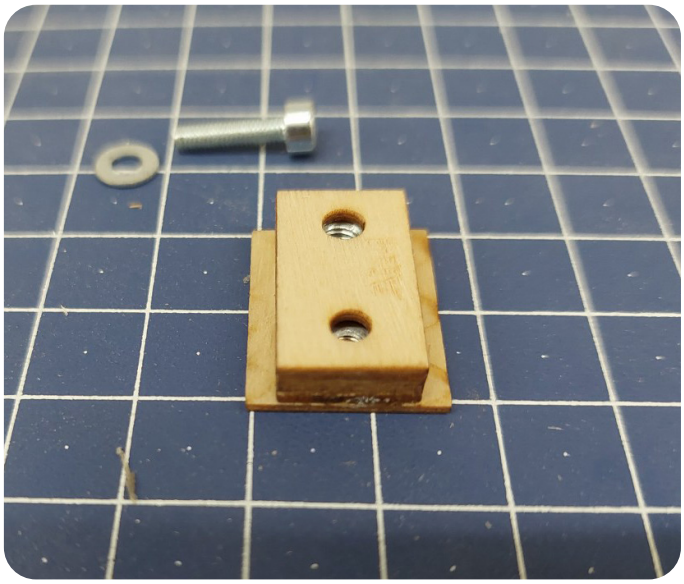
Note:

- Do not sand the nose of the fuselage to a sharp point. When landing on the spot in competitions, a pointed nose can dig into the ground during a rough landing and leave the tail up in the air. Just lightly round the edges as shown in the photos.







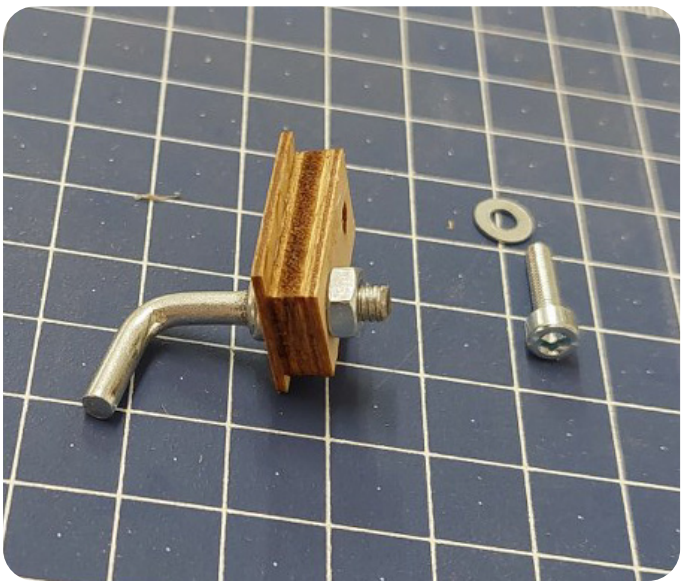


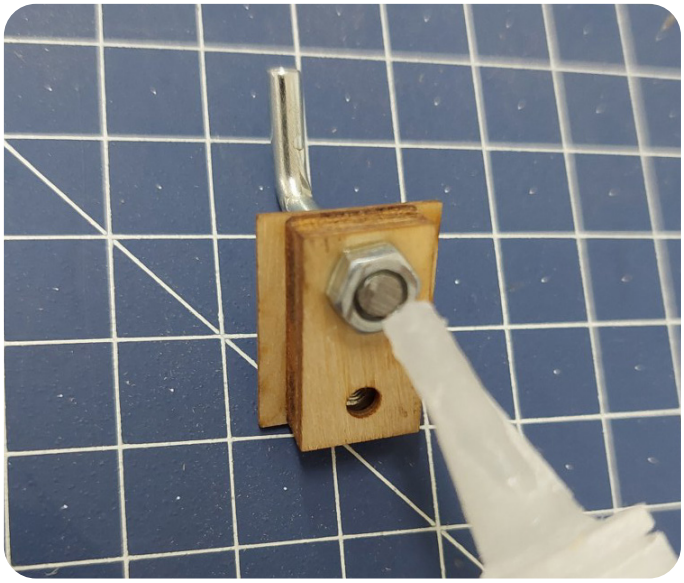
Step 13:

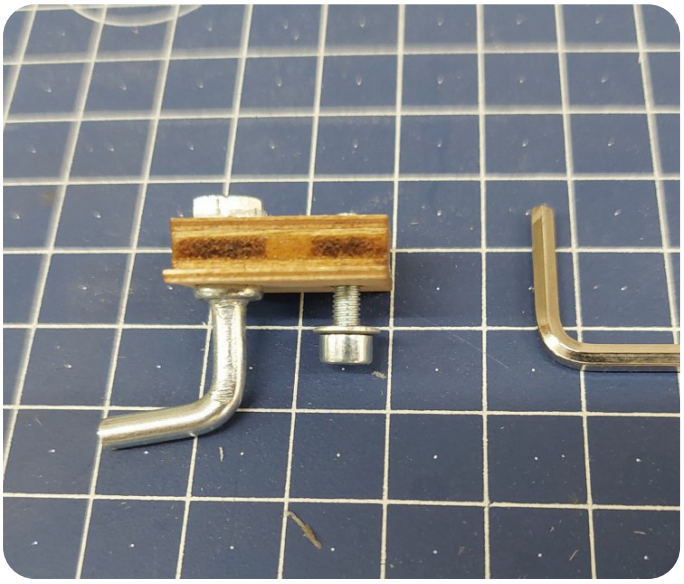
Making an adjustable tow hook:

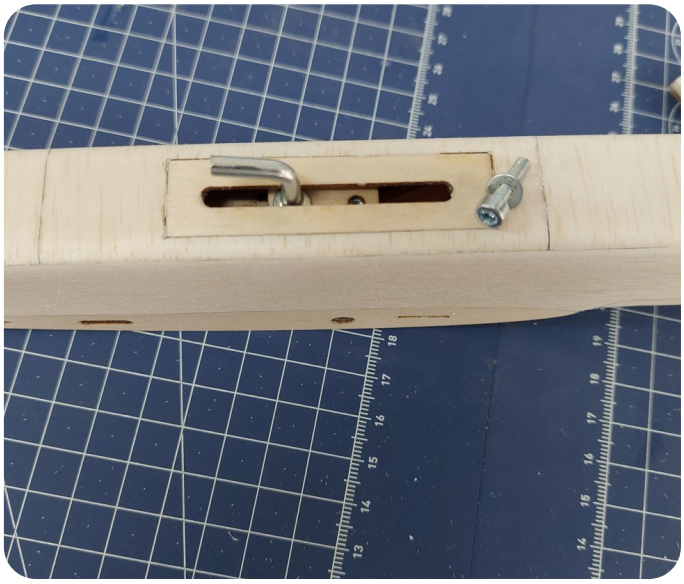
- bond the M4 and M3 nuts into Pos. Ah3 (3 mm plywood)
- bond the 1 mm plywood Pos. Ah3 onto Pos. Ah2
- bond Pos. Ah4 over Ah3 with the nuts

Note:
- make sure all holes are aligned during bonding
- take care not to get any adhesive into the threads while bonding the nuts









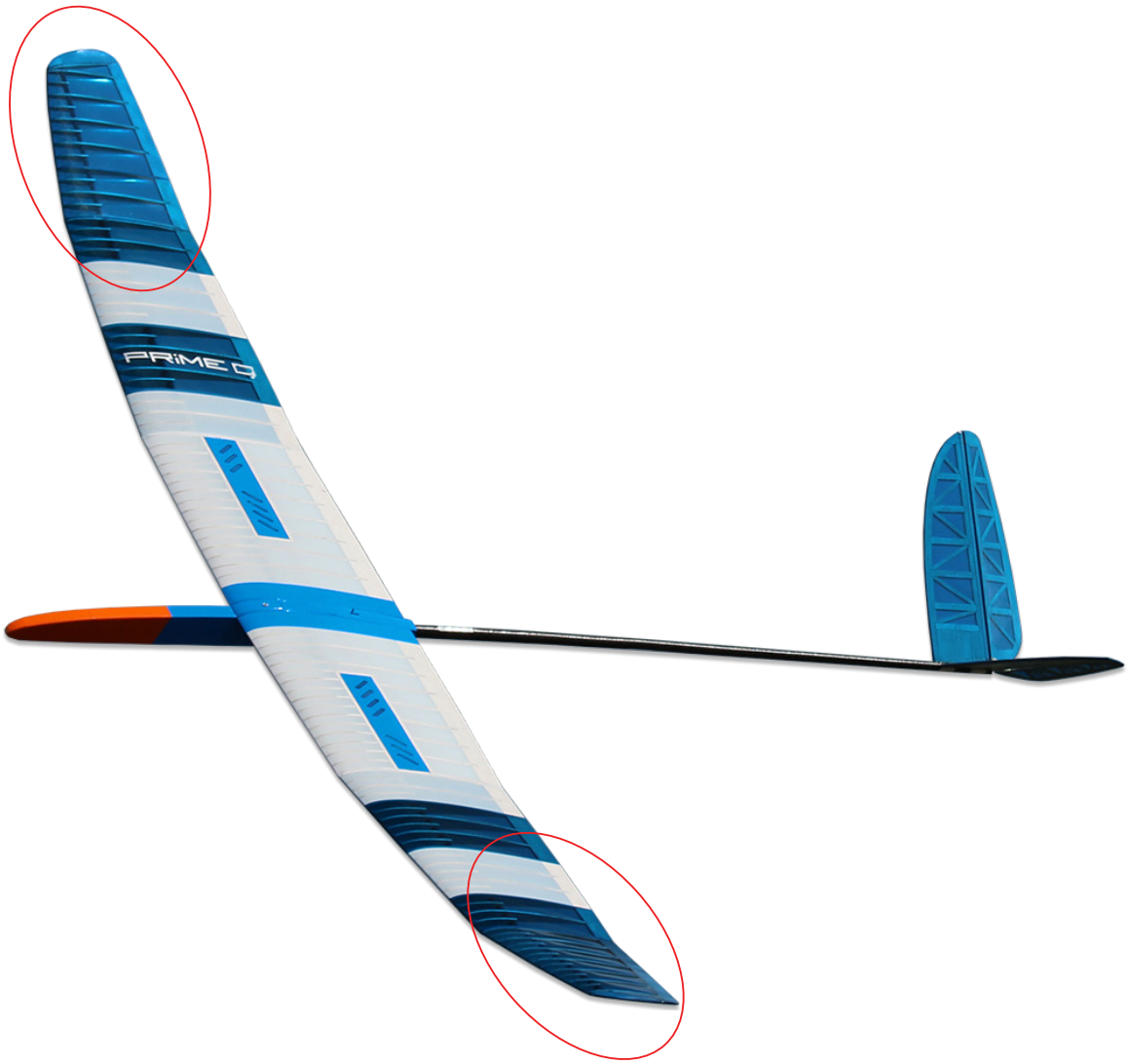
Step 13.1:

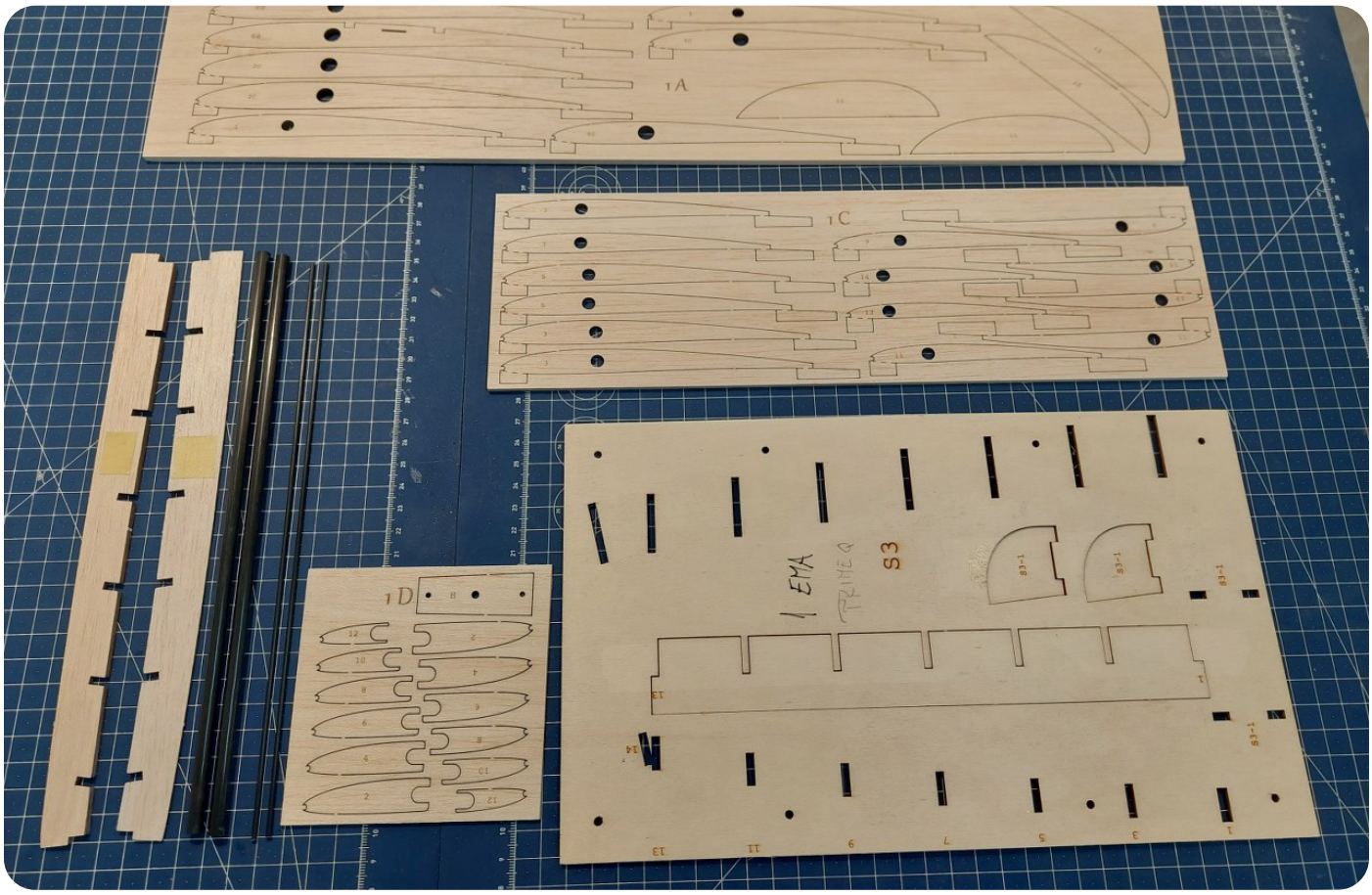
- screw the tow hook into the M4 nut and secure it on the opposite side with glue so it cannot rotate
- trim off any excess thread protruding past the nut so it won't interfere during installation later

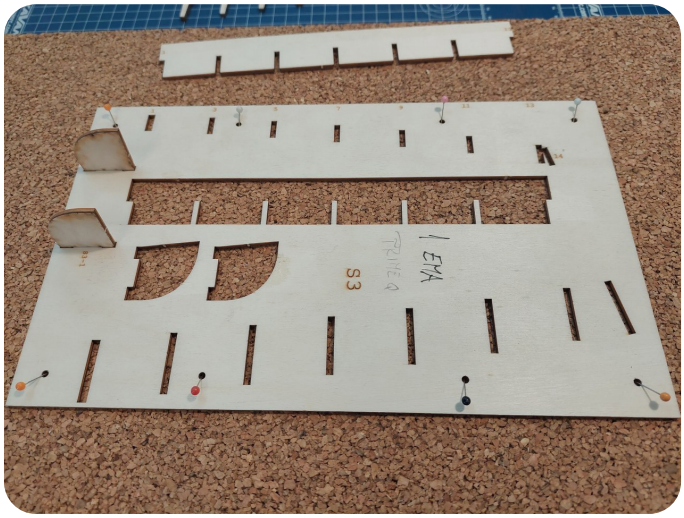
- position the tow hook in the fuselage and fasten it in place with the M3 screw

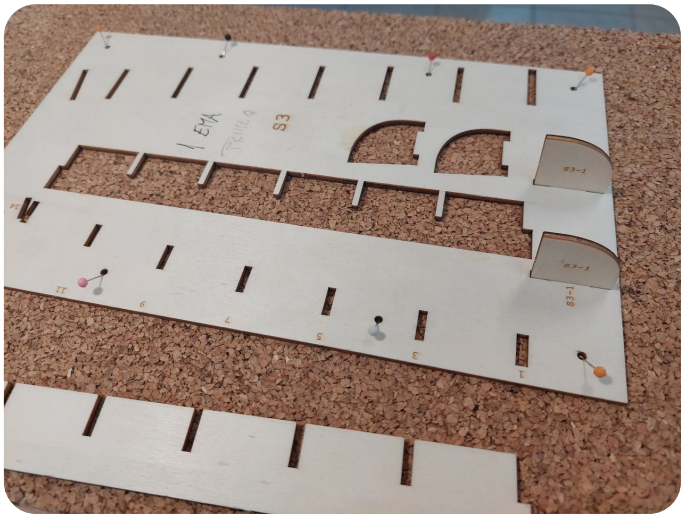
- the tow hook has an adjustable range, so you can move it forward or backward as desired by loosening the M3 screw

Wing tip







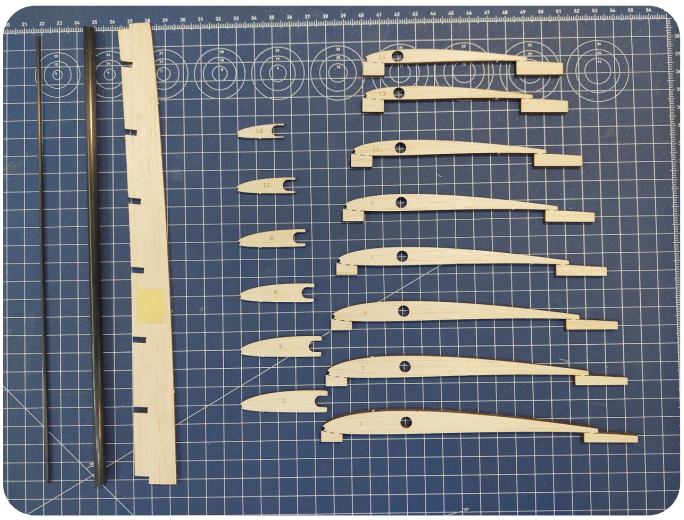


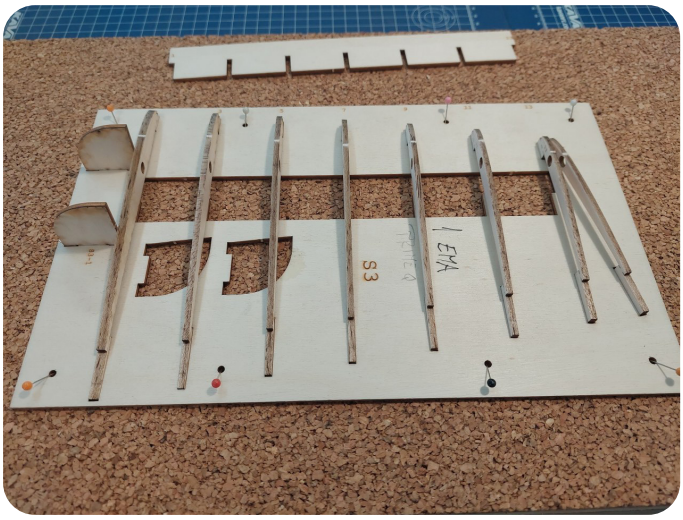
Prework - setting up the wing building jig:

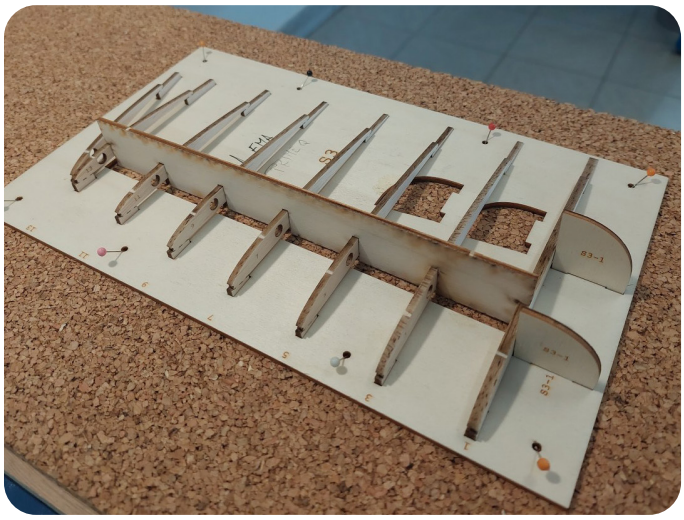
- The kit includes wing building jigs for each wing segment

- use the S3 wing jig for the wing tip.

- it's best to secure the S3 wing jig to a rigid base to prevent any warping—everything must be perfectly flat







Step 1:

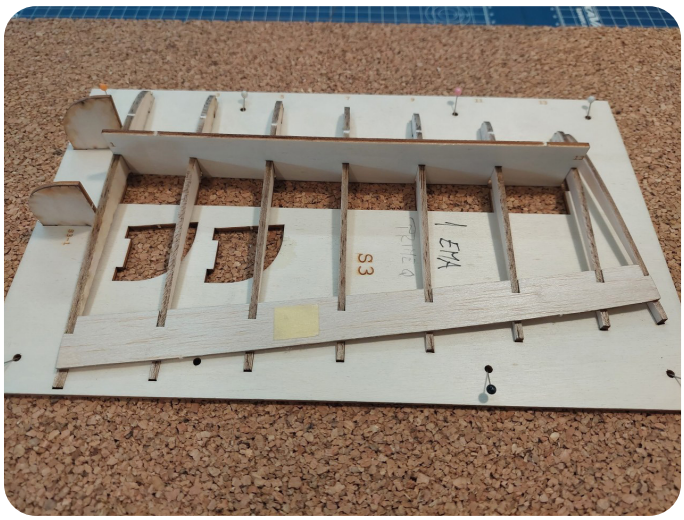
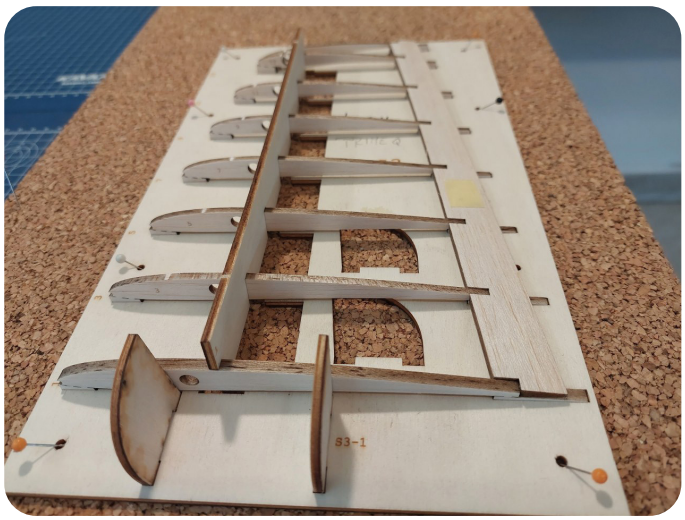
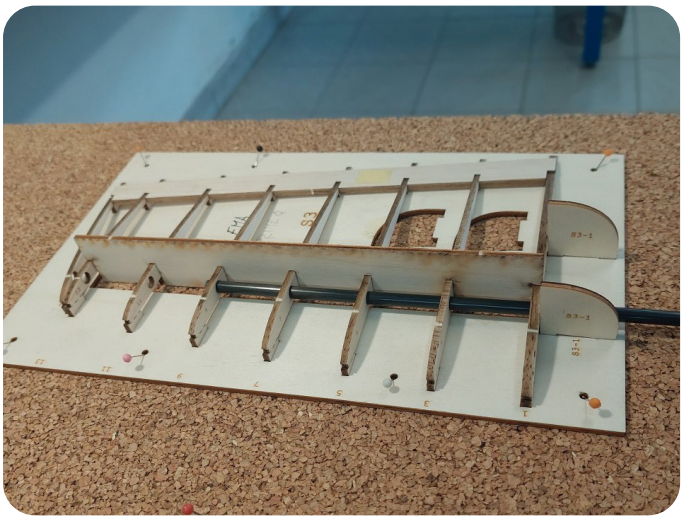
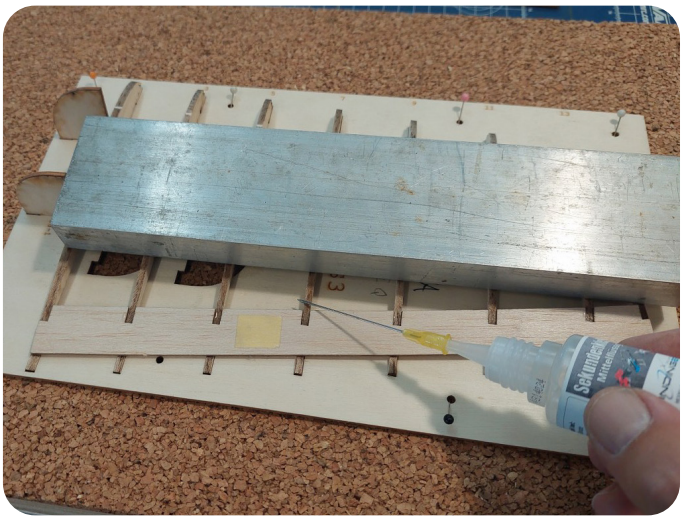
- prepare rib Pos. 1 (card 1A)
- prepare ribs Pos. 3, 5, 7, 9, 11, 13 and 14 (card 1C)
- prepare ribs Pos. 2, 4, 6, 8, 10 and 12 (card 1D)

On the S3 wing building jig, each rib and part is engraved, so it's easy to see exactly where each rib goes.

- position ribs Pos. 1, 3, 5, 7, 9, 11, 13, and 14 on the wing jig
- insert the "comb" piece between the ribs to help hold them in place during assembly

Note:

- cut the ribs so you leave small tabs at the lower front and rear edges—these tabs help you position the ribs correctly in the jig

Step 2:

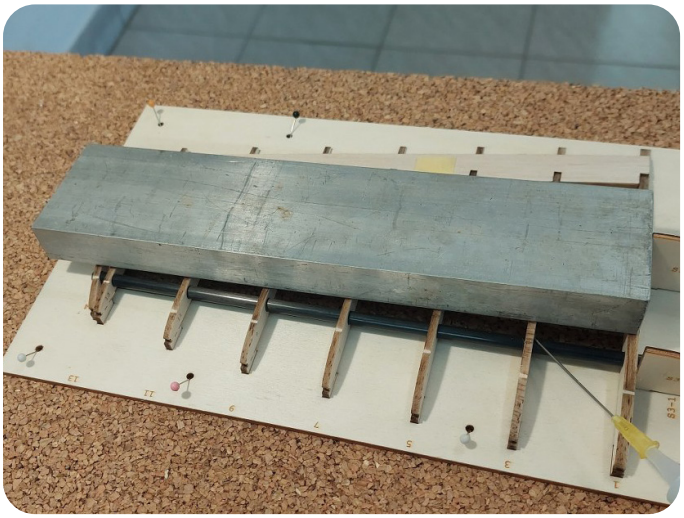
- the kit includes a pre-shaped and sanded balsa trailing edge
- the trailing edge has a bit of extra material (it sits slightly higher than the ribs), but it will be sanded down later

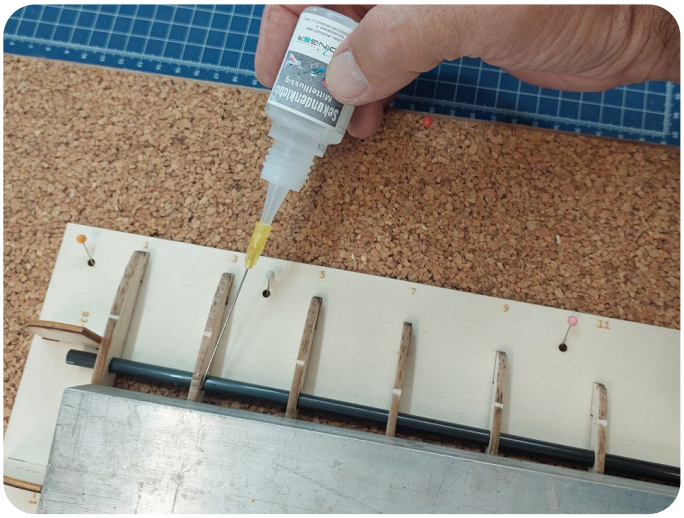
- position the trailing edge onto the ribs. Make sure it's oriented correctly—the masking tape marking must be on the top side of the trailing edge

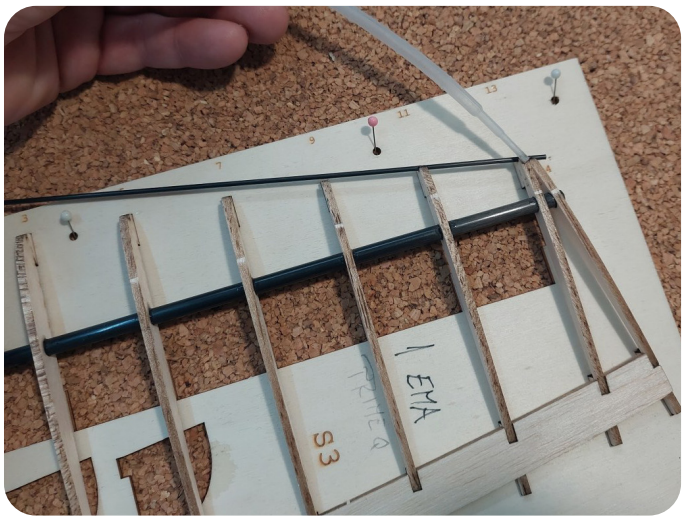
- before inserting the carbon tube into the ribs, lightly sand the entire tube so the ribs bond to it better
- insert the 6 mm carbon tube spar (250 mm long) into the spar slot in the ribs

- bond the trailing edge to the ribs

Note:
- when bonding, make sure all ribs and the trailing edge are fully pressed into their positions. It's best to use a weight to hold everything down





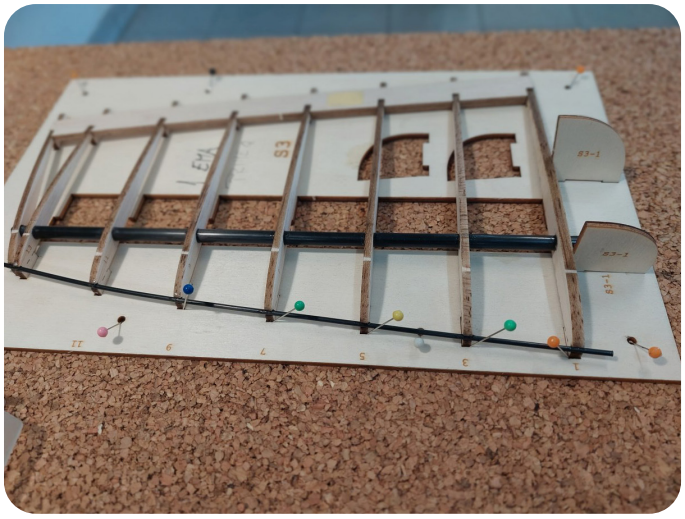
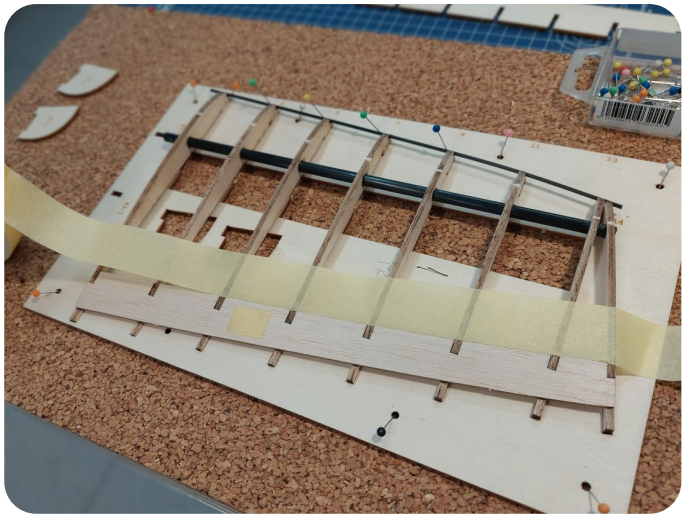


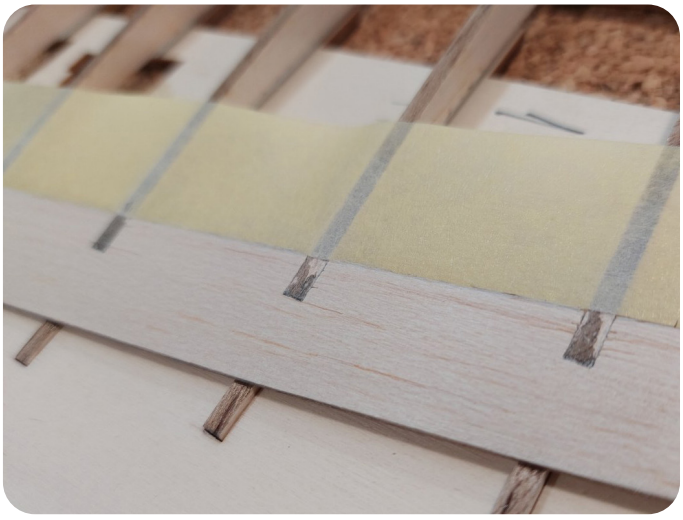
Step 2.1:

- bond the carbon mainspar to the ribs

- on the last ribs (13 and 14), lightly sand the leading-edge area so the carbon leading edge seats nicely in place

- bond the 2 mm carbon leading-edge rod (250 mm long) to ribs 13 and 14 first, then glue it gradually rib by rib to follow the curve, until you reach rib 1.

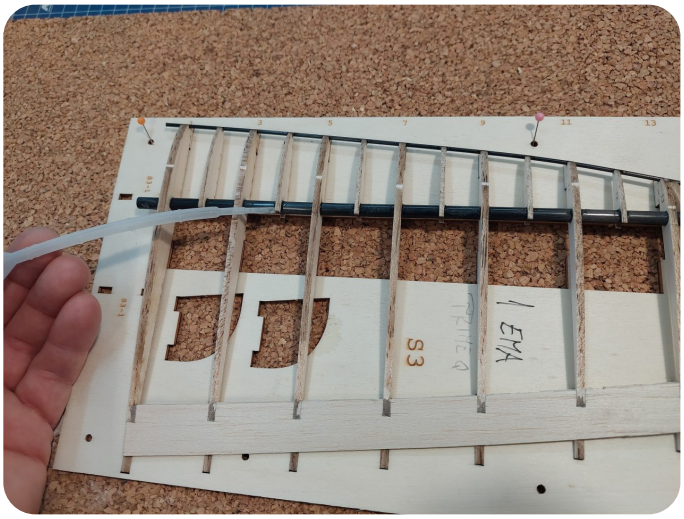


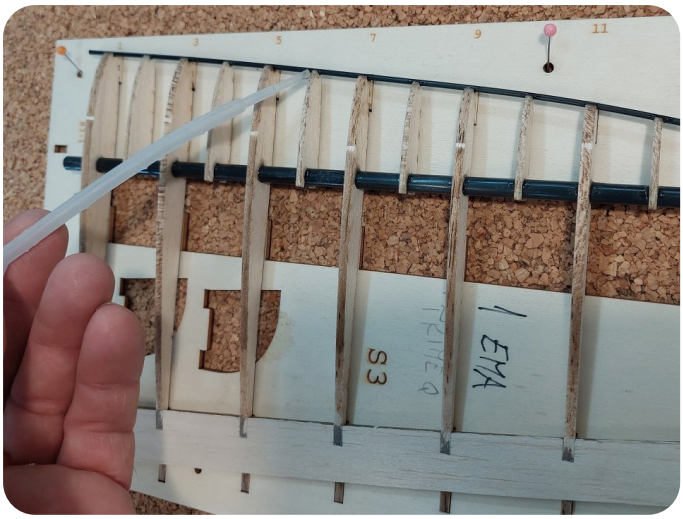
Step 2.2:

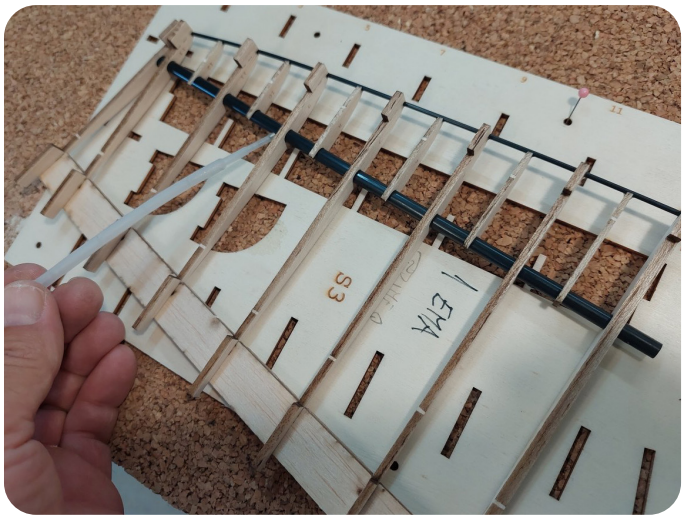
- protect the ribs with masking tape right up to the trailing edge.
- this helps prevent damage or over-sanding of the ribs during shaping/sanding later.

- sand the trailing edge with light strokes until it is flush with the ribs and the wing profile follows a smooth line all the way to the tip

Note:
- be careful not to over-sand the end of the trailing edge—don't make it too thin at the tip







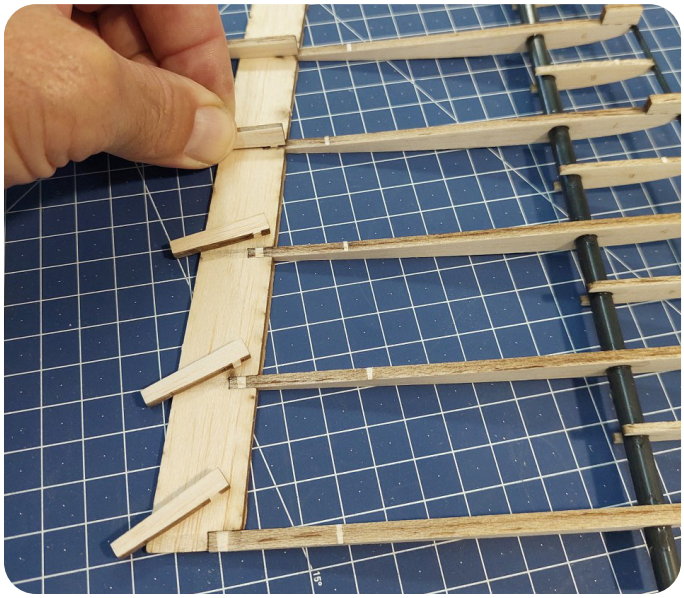
Step 3:

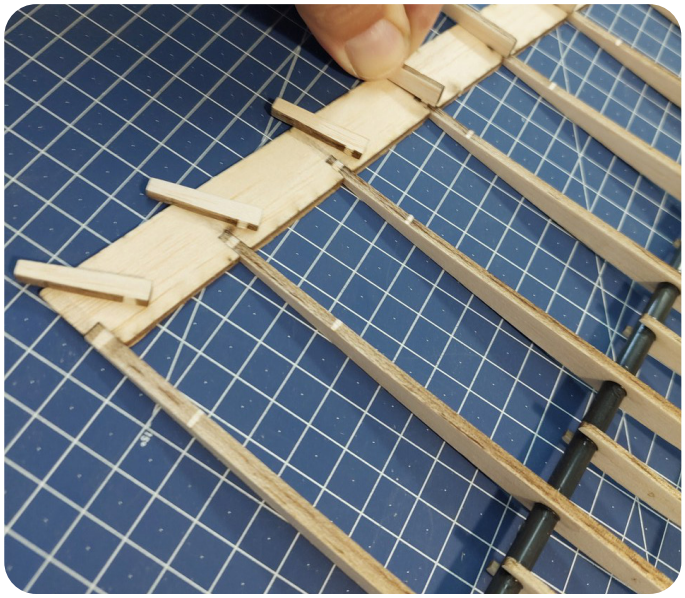
- position the intermediate ribs Pos. 2, 4, 6, 8, 10, and 12 in place

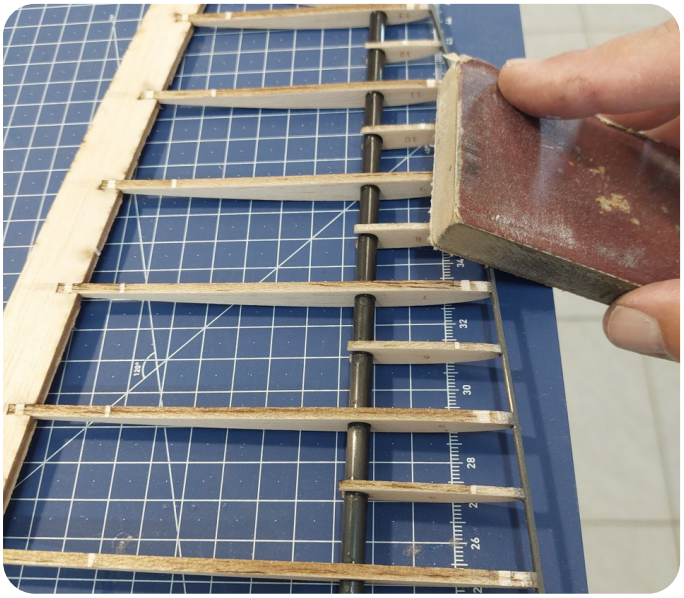
- before bonding, align all intermediate ribs so the spacing between them is even and symmetrical

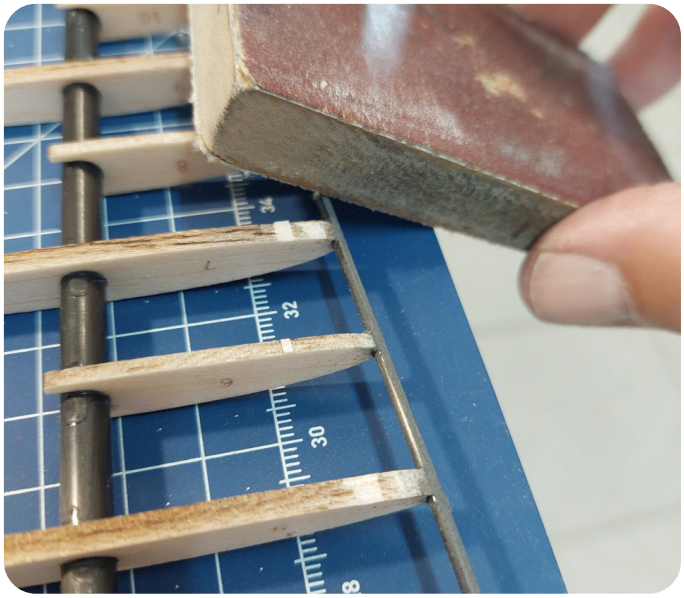
- bond all intermediate ribs to the leading edge and the main spar

- once all parts are bonded, remove the wing tip from the jig, flip it over, and bond everything once more from the underside







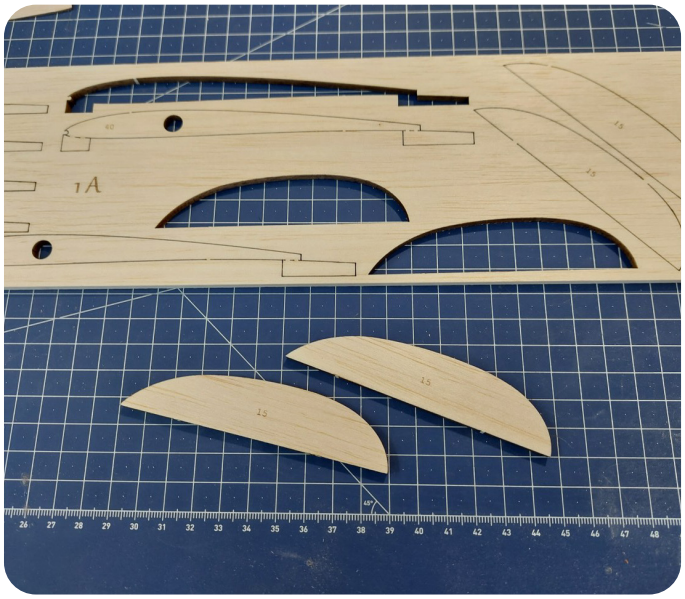


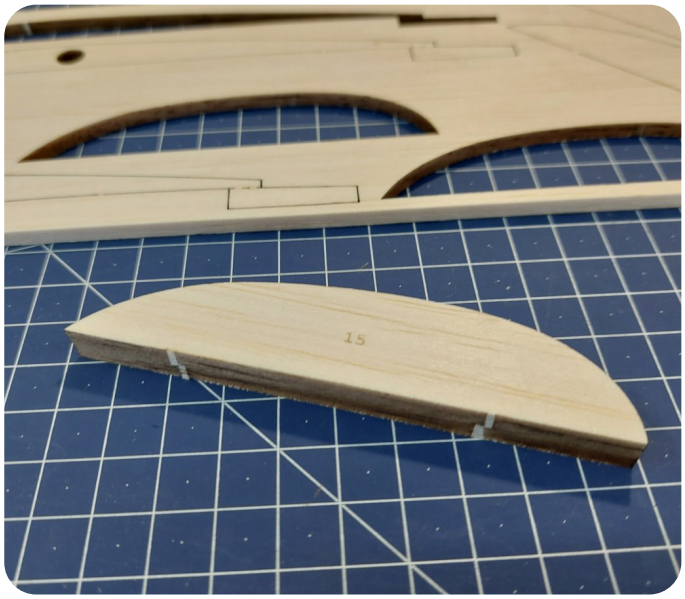
Step 4:

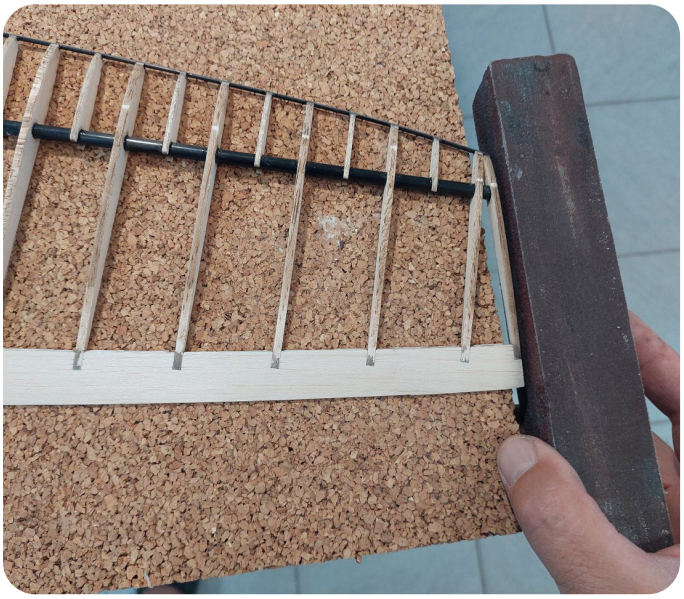
- the rib positioning tabs are perforated so they can be removed without damaging the rib, and so the rib contour and profile remain intact

- remove the remaining tab material by gently snapping it off by hand—everything comes off easily

- lightly sand the carbon leading edge so it follows the wing profile







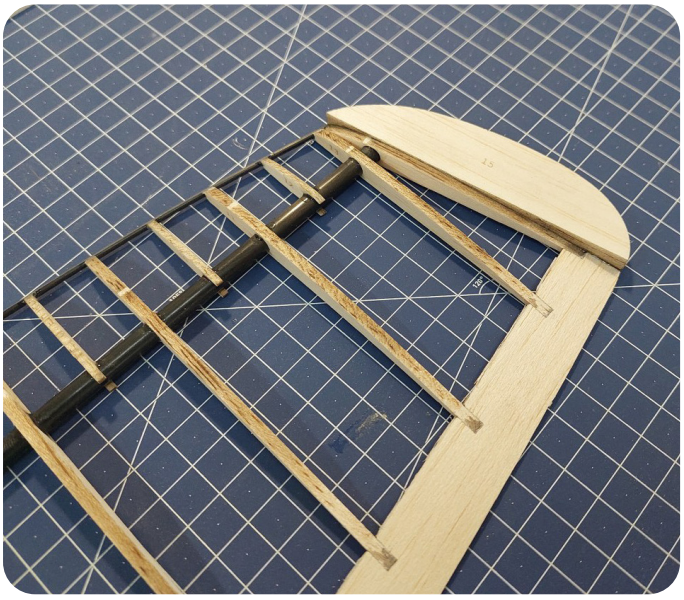
Step 5:

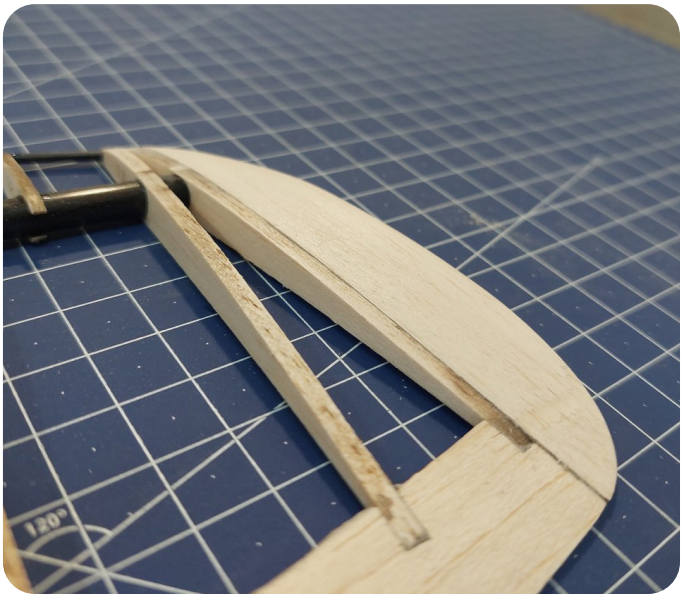
- trim off any excess carbon leading edge and main spar material that protrudes

- lightly sand the wing tip ends so the outer ribs and the surface are perfectly smooth—this prepares the area for bonding

- prepare 4× part Pos. 15 from 4 mm balsa (card 1A)

- bond two Pos. 15 pieces together to form the wing tip end block





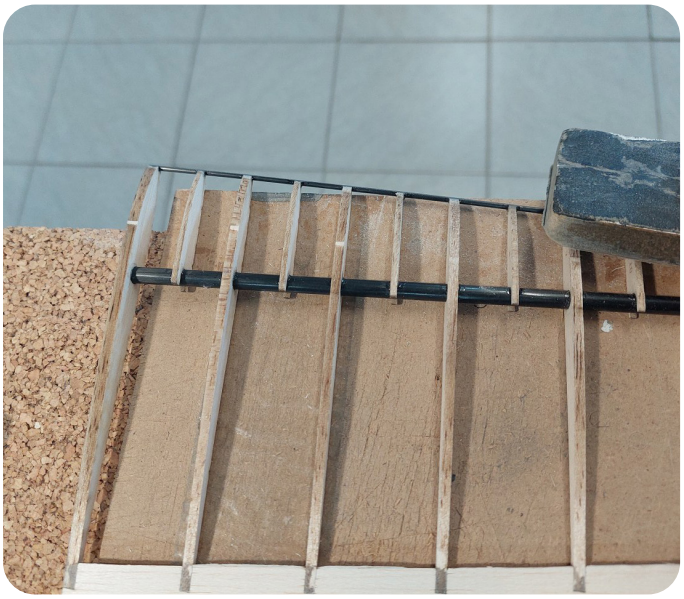
Step 5.1:

- bond the laminated Pos. 15 wing tip end block to the end of the wing tip

- rough-cut the outline with a scalpel, taking care not to remove too much material

- shape the wing tip with coarse sandpaper first, then finish with fine sandpaper

- sand it so it smoothly follows the contour and profile of the last rib



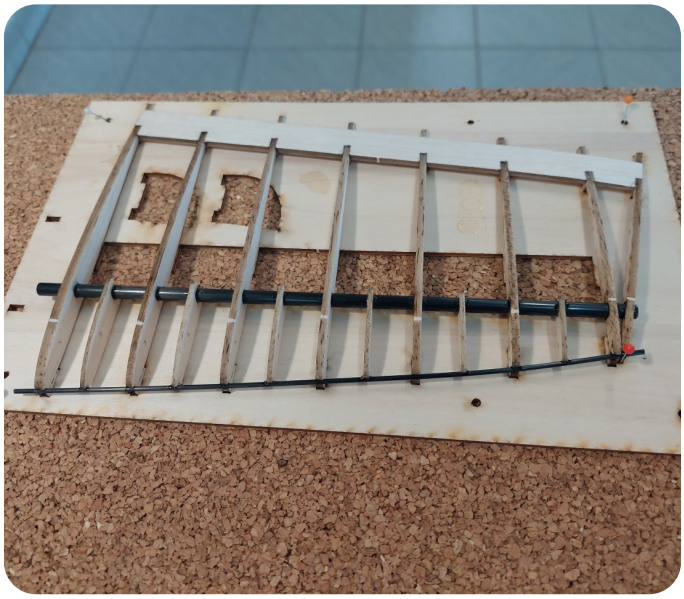
Step 6:

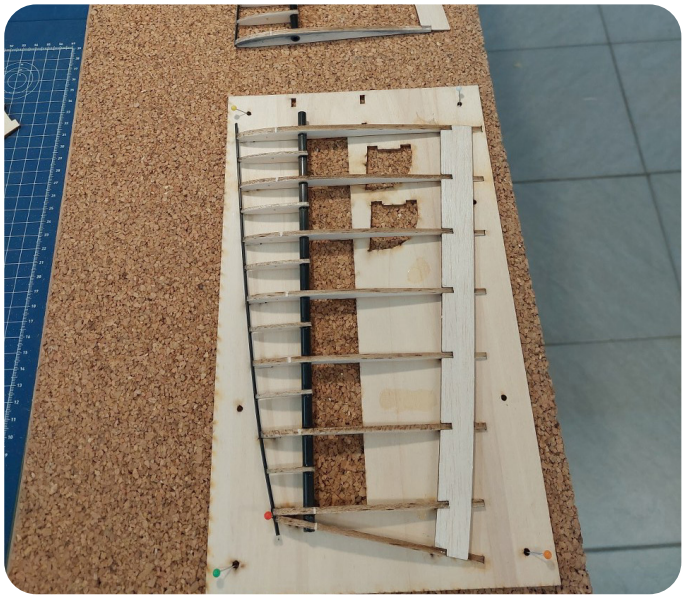
- lightly sand the top and bottom of the ribs to remove any marks left by laser cutting
- this final sanding also prepares the wing tip for covering later, once everything is ready

And that's it — one wing tip is finished.

Preparation for the second wing tip — the other side of the wing

- flip the S3 wing jig over to the other side, secure it to the base, and everything is ready to build the second wing tip

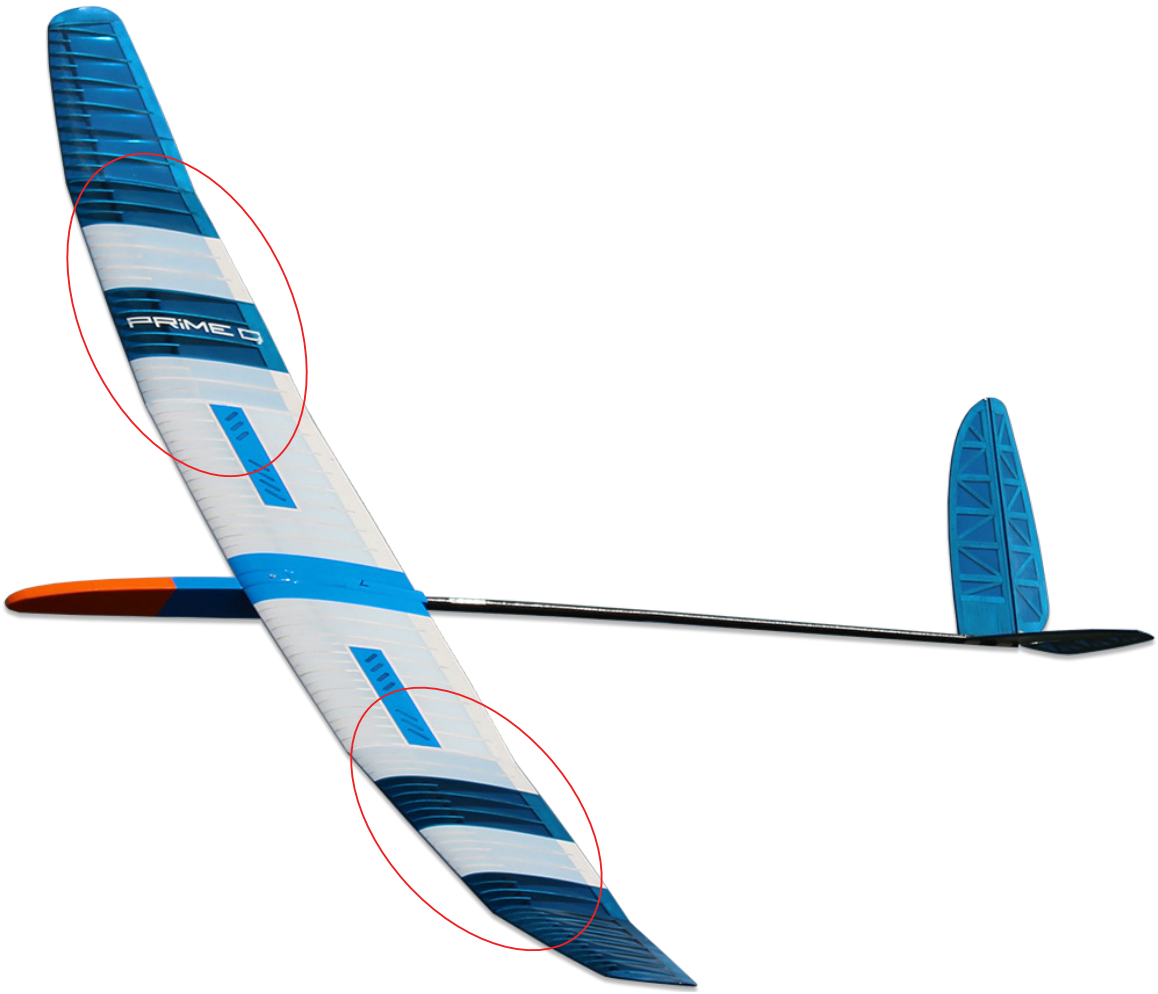


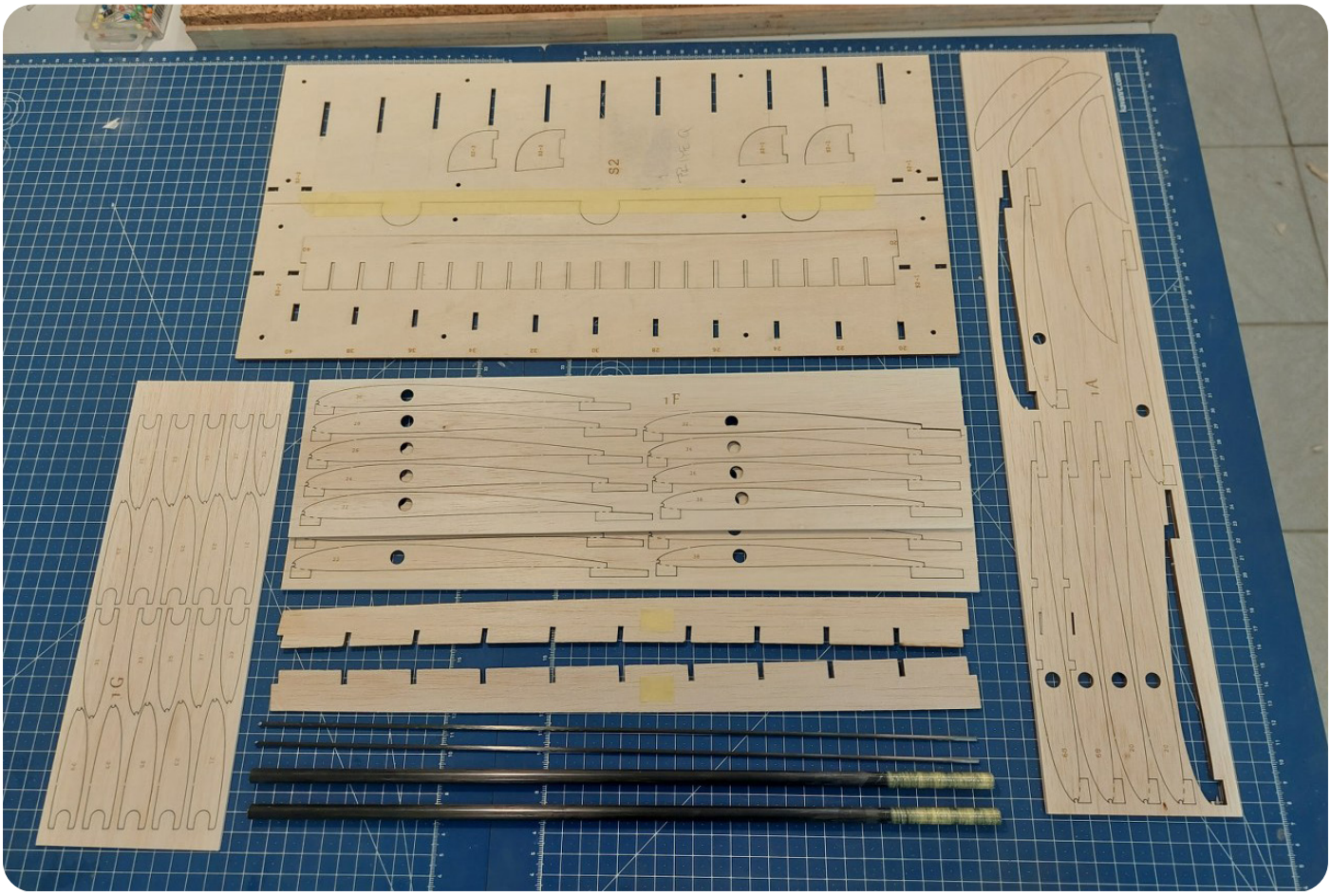


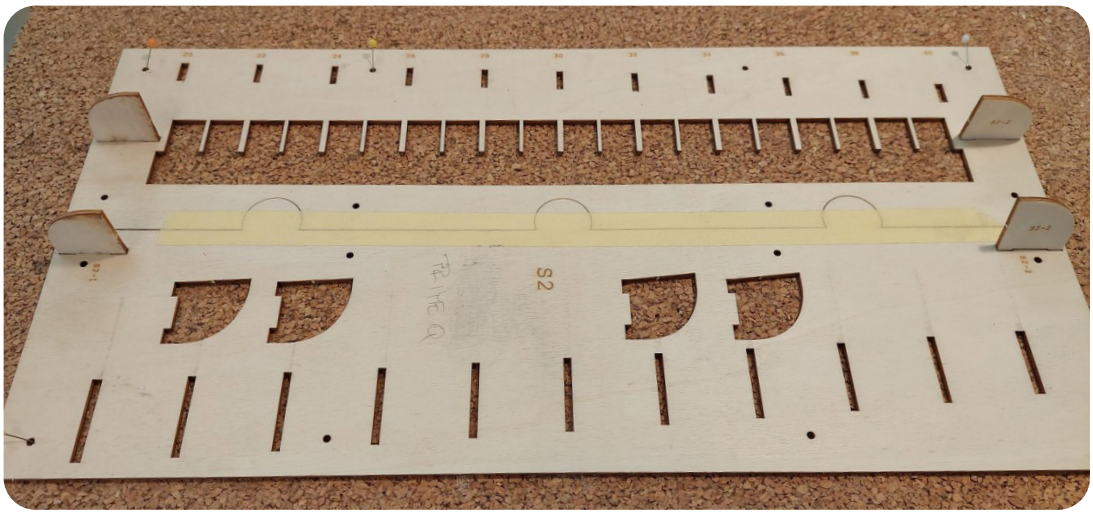
Step 6.1:

- everything is done exactly the same as for the first wing tip that is already finished

Middle wing panel





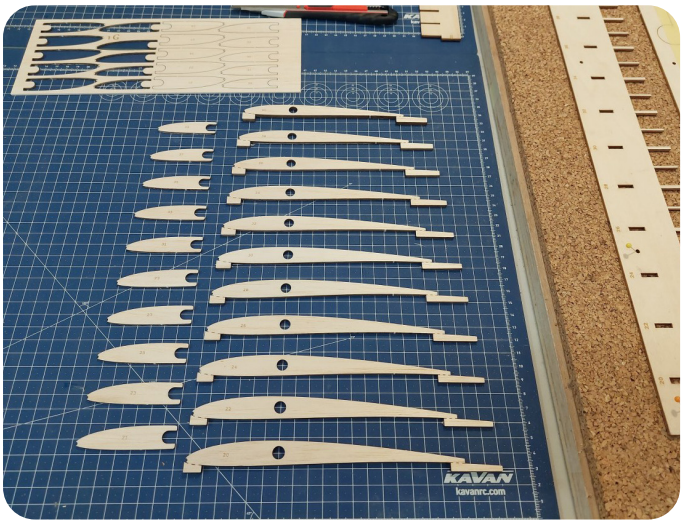


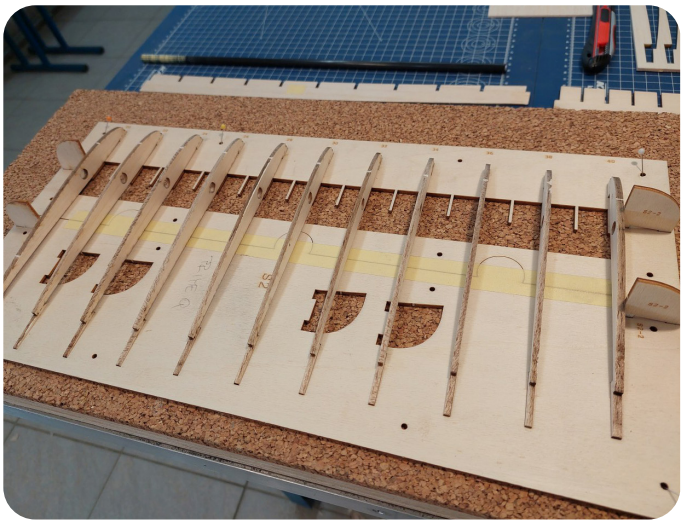
Prework - setting up the wing building jig:

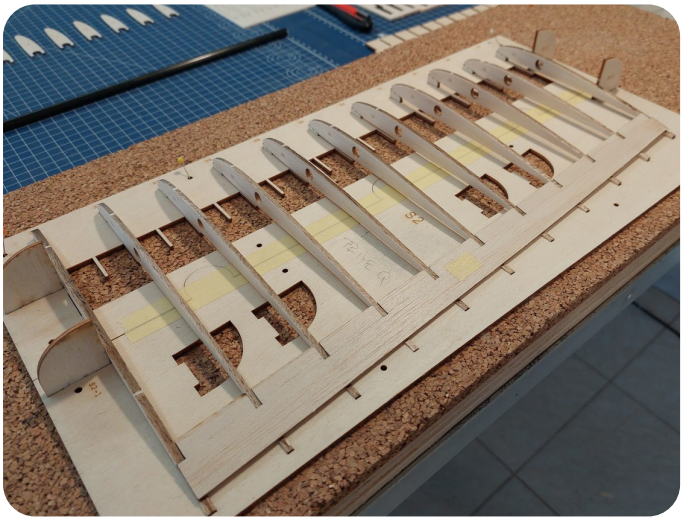
- The kit includes wing building jigs for each wing segment

- use the S2 wing jig for the middle wing panel

- it's best to secure the S2 wing jig to a rigid base to prevent any warping—everything must be perfectly flat







Step 1:

- prepare ribs Pos. 20 and 40 (card 1A)
- prepare ribs Pos. 22, 24, 26, 28, 30, 32, 34, 36 and 38 (card 1F)
- prepare ribs Pos. 21, 23, 25, 27, 29, 31, 33, 35, 37 and 39 (card 1G)

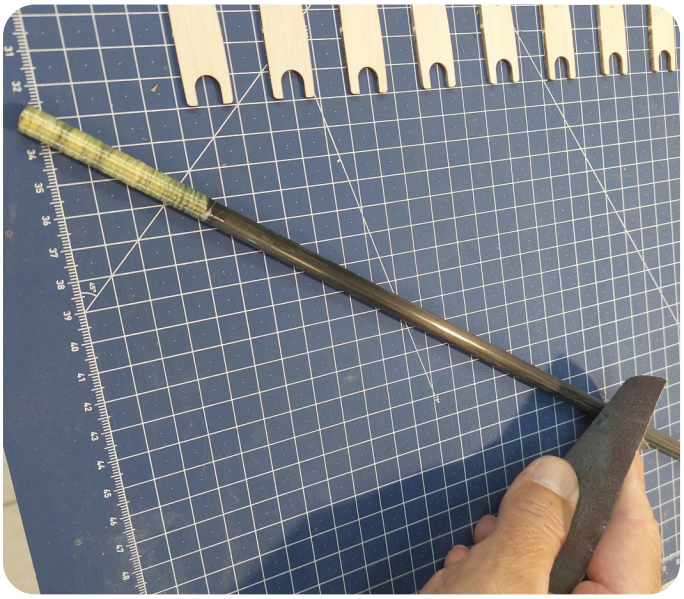
On the S3 wing building jig, each rib and part is engraved, so it's easy to see exactly where each rib goes.

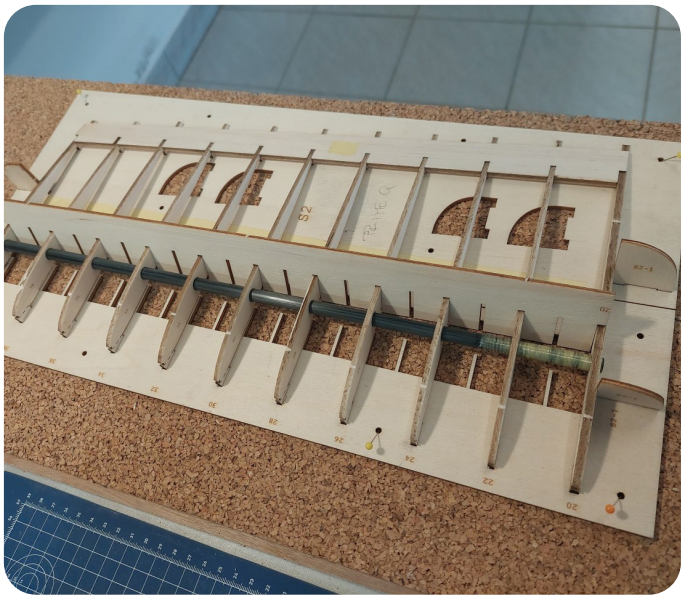
- position ribs Pos. 20, 22, 24, 26, 28, 30, 32, 34, 36, 38 and 40 on the wing jig
- insert the "comb" piece between the ribs to help hold them in place during assembly

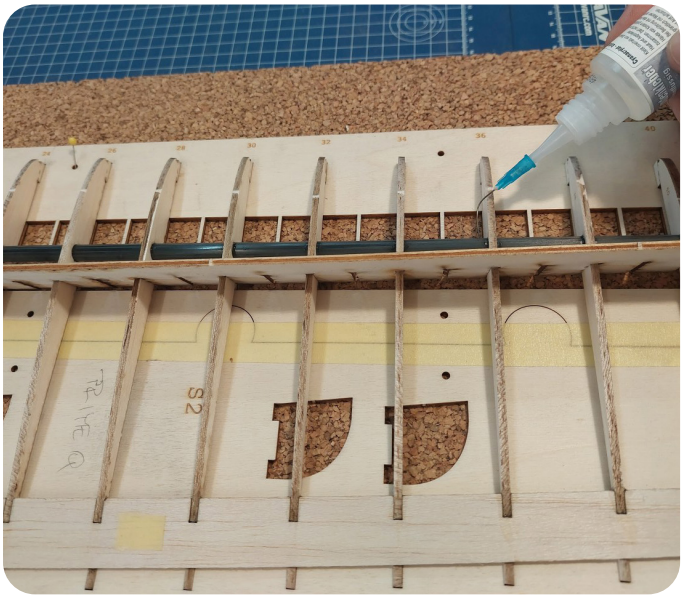
- the kit includes a pre-shaped and sanded balsa trailing edge
- the trailing edge has a bit of extra material (it sits slightly higher than the ribs), but it will be sanded down later

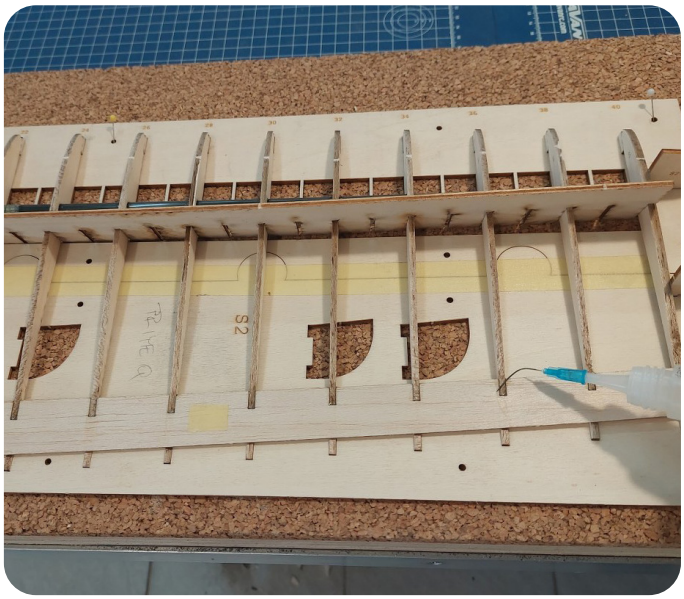
- position the trailing edge onto the ribs. Make sure it's oriented correctly—the masking tape marking must be on the top side of the trailing edge

Note:
- cut the ribs so you leave small tabs at the lower front and rear edges—these tabs help you position the ribs correctly in the jig









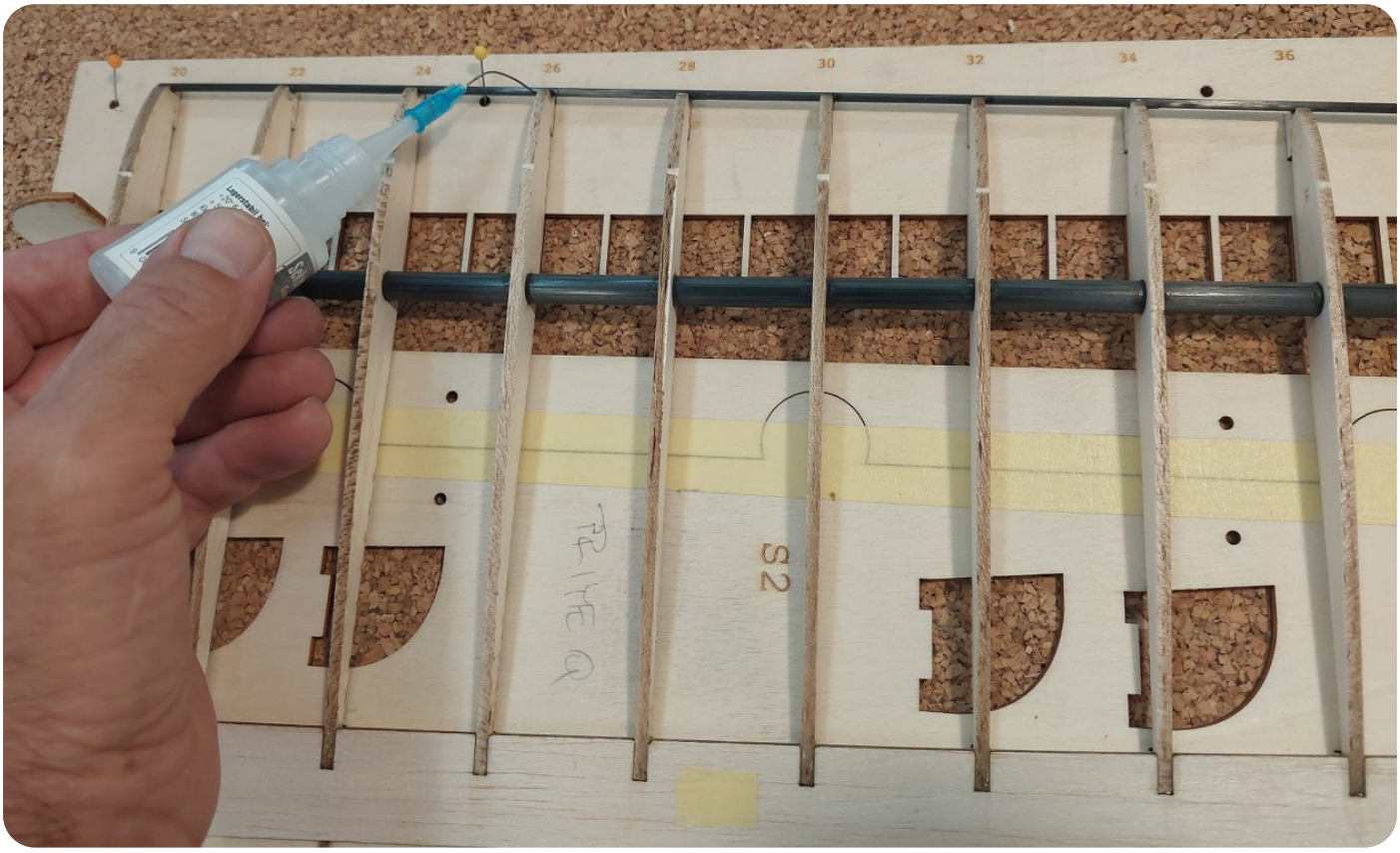
Step 2:

- before inserting the carbon tube into the ribs, lightly sand the entire tube so the ribs bond to it better
- In the kit, you get the carbon main spar with the end additionally wrapped in Kevlar for extra strength at the wing joiner connection
- insert the 8 mm carbon tube spar (400 mm long) into the spar slot in the ribs

Note:
- make sure the Kevlar-wrapped end is oriented toward the center panel, i.e., the wider end of the middle wing panel

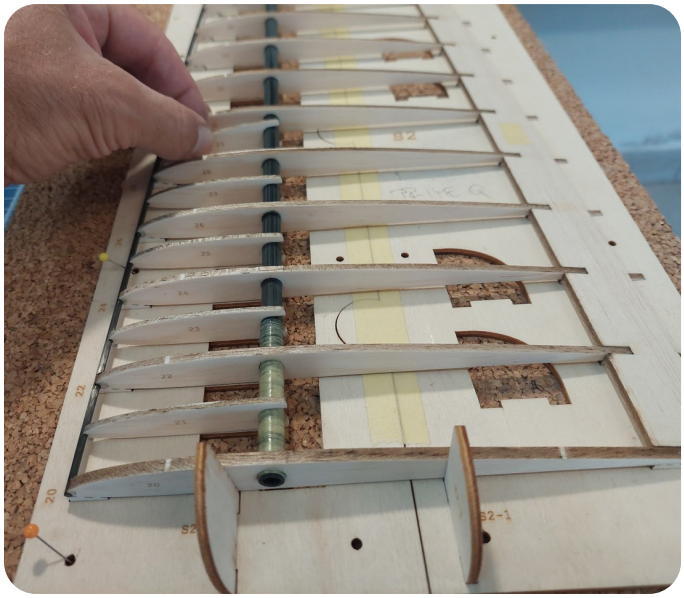
- bond the carbon main spar and the trailing edge to the ribs

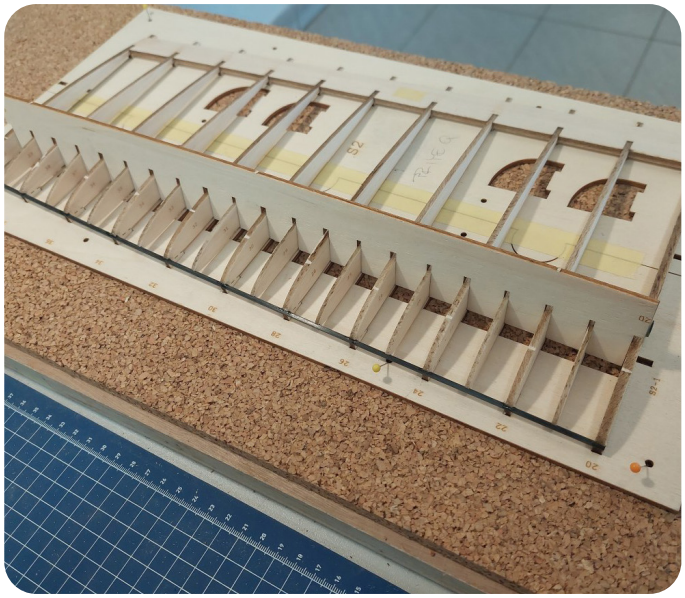
Note:
- when bonding, make sure all ribs and the trailing edge are fully pressed into their positions. It's best to use a weight to hold everything down

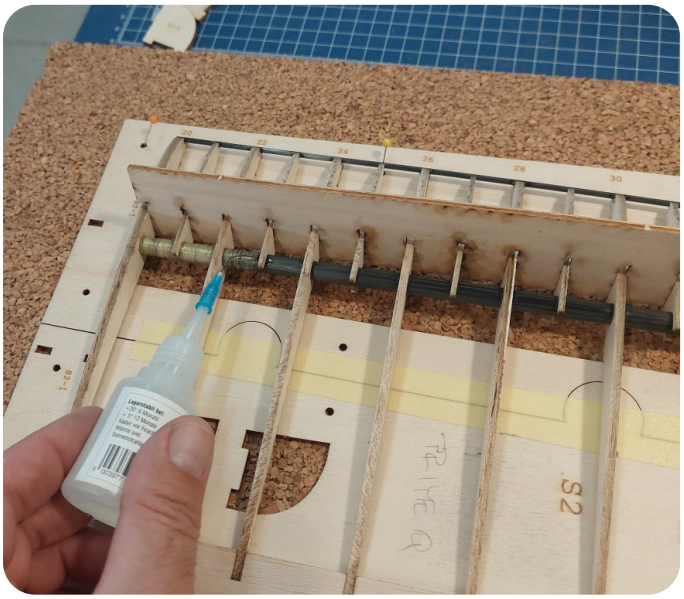


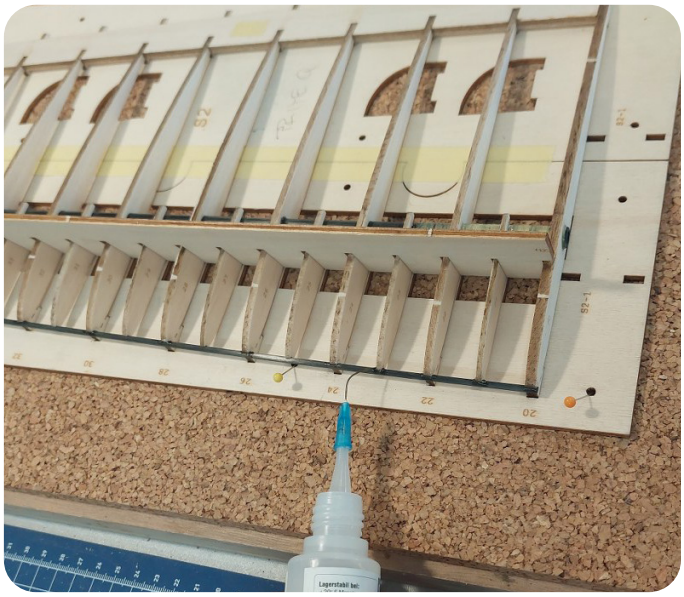
Step 3:

- bond the 2.5 mm carbon leading-edge rod (400 mm long) to ribs 20 and 22 first, then glue it gradually rib by rib to follow the curve, until you reach rib 40.







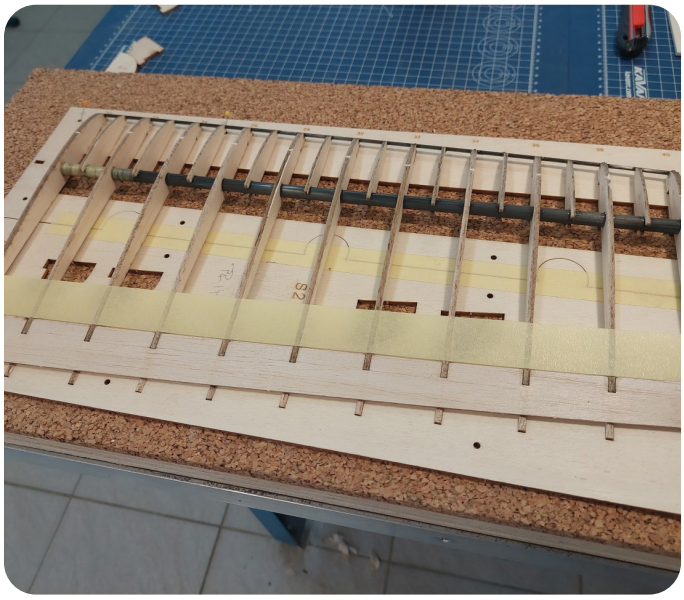


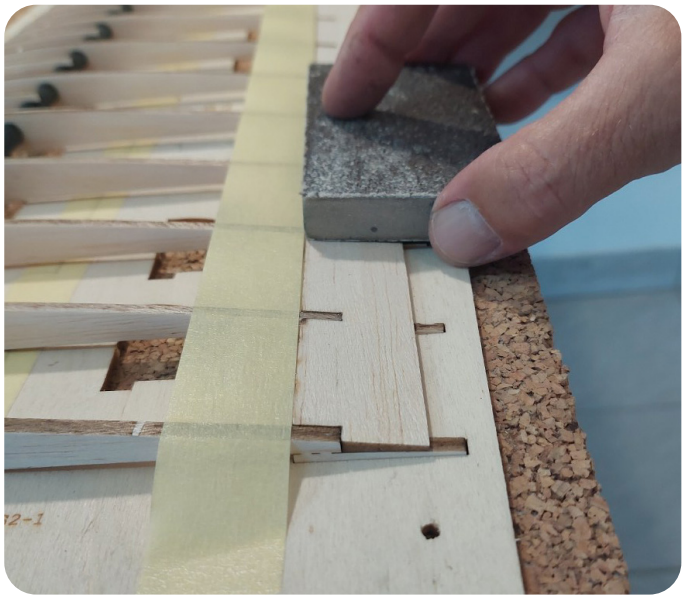
Step 4:

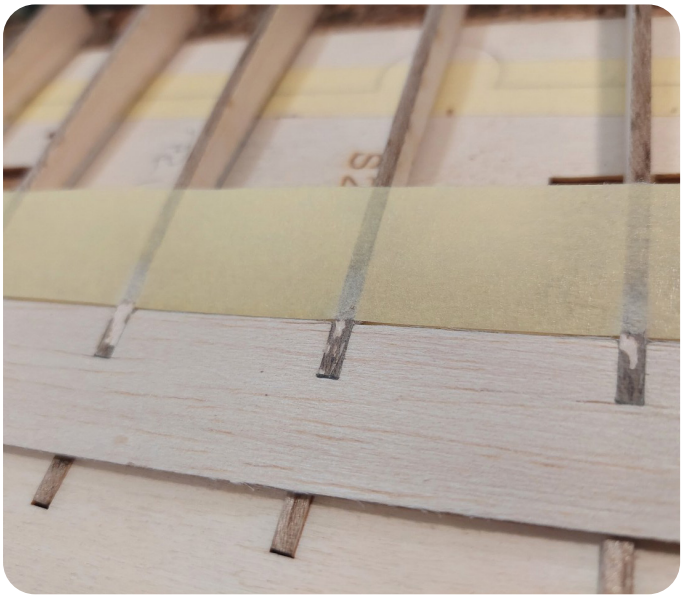
- position the intermediate ribs Pos. 21, 23, 25, 27, 29, 31, 33, 35, 37 and 39 in place

- before bonding, align all intermediate ribs so the spacing between them is even and symmetrical

- bond all intermediate ribs to the leading edge and the carbon main spar





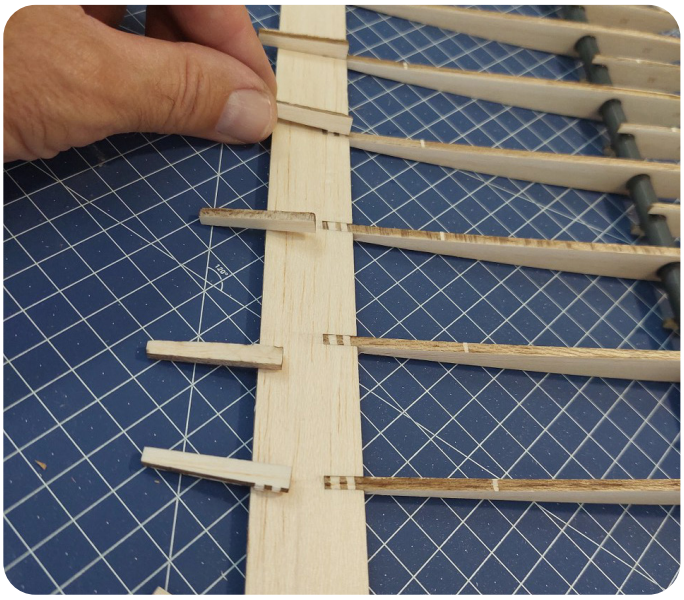


Step 5:

- protect the ribs with masking tape right up to the trailing edge
- this helps prevent damage or over-sanding of the ribs during shaping/sanding later

- sand the trailing edge with light strokes until it is flush with the ribs and the wing profile follows a smooth line all the way to the tip

Note:
- be careful not to over-sand the end of the trailing edge—don't make it too thin at the tip



Step 6:

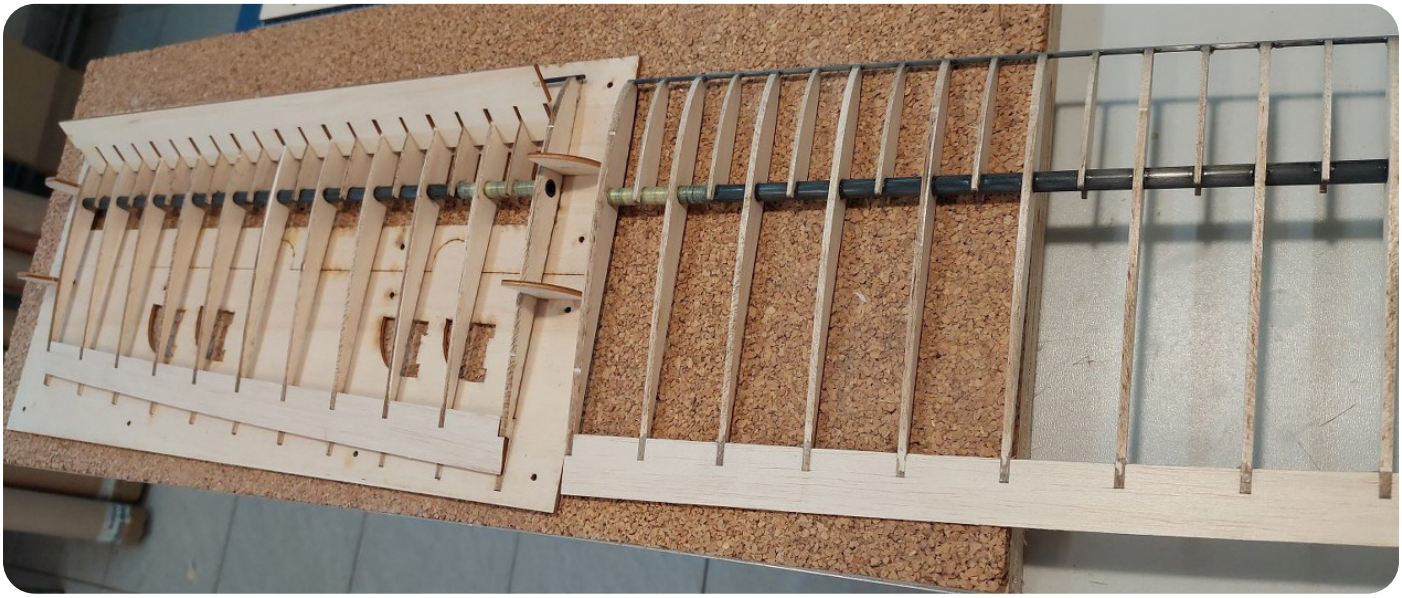
- once all parts are bonded, remove the wing middle panel from the jig, flip it over, and bond everything once more from the underside

- the rib positioning tabs are perforated so they can be removed without damaging the rib, and so the rib contour and profile remain intact

- remove the remaining tab material by gently snapping it off by hand—everything comes off easily

- lightly sand the top and bottom of the ribs to remove any marks left by laser cutting
- this final sanding also prepares the middle wing panel for covering later, once everything is ready

- lightly sand the carbon leading edge so it follows the wing profile



Step 7:

The sanded carbon leading edge must follow the wing profile — see the picture above.

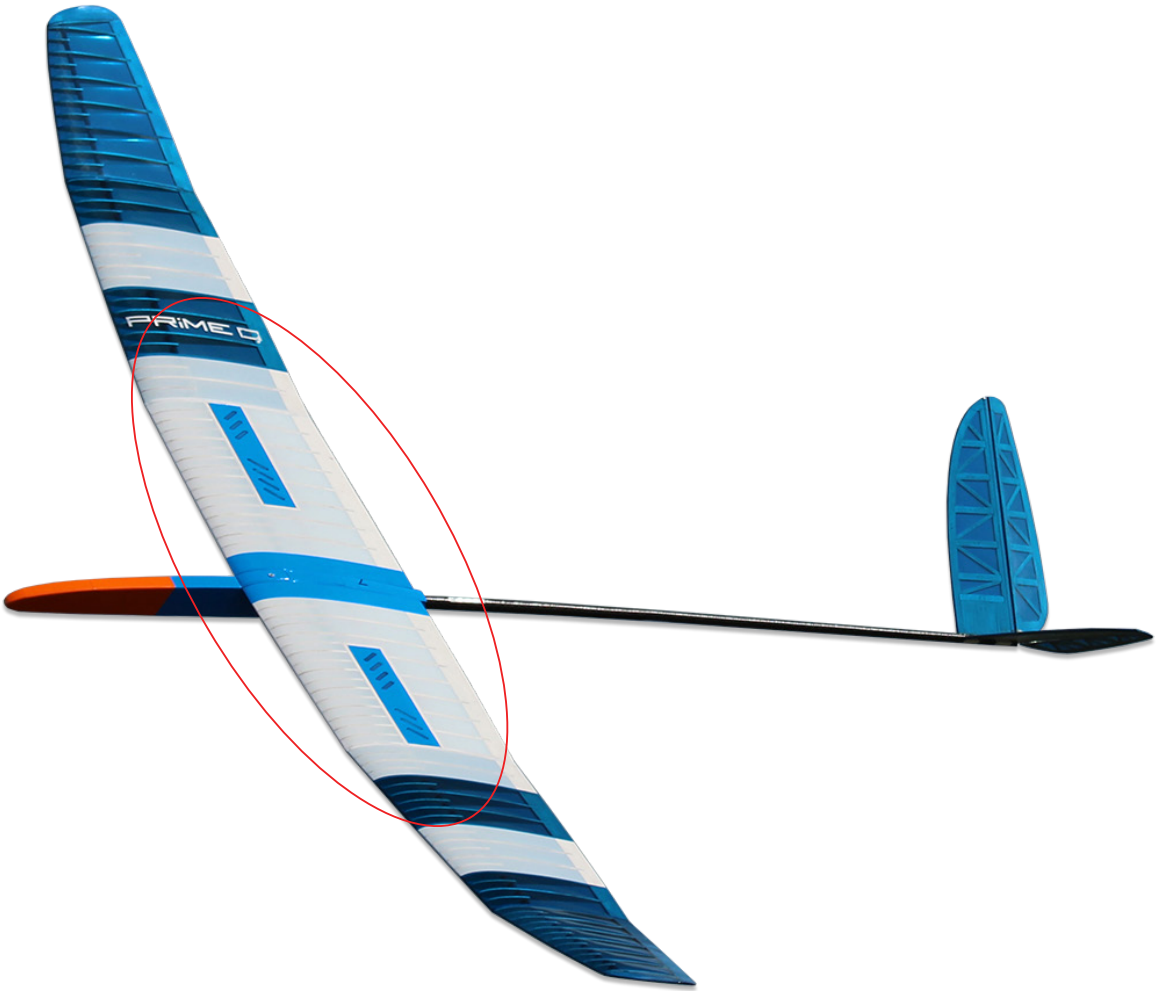
And that's it — one middle wing panel is finished.

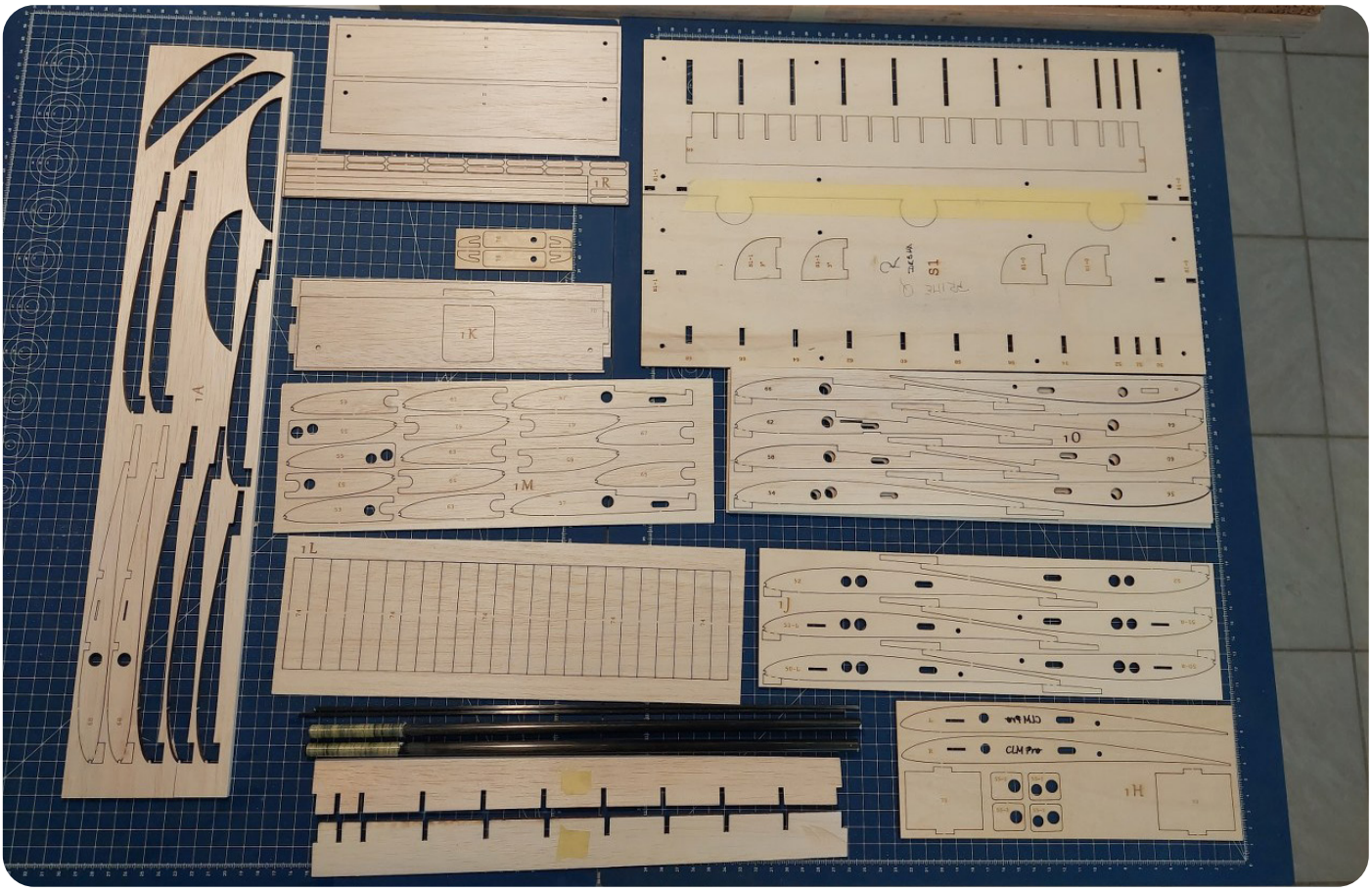
Preparation for the second wing tip — the other side of the wing

- flip the S2 wing jig over to the other side, secure it to the base, and everything is ready to build the second wing tip

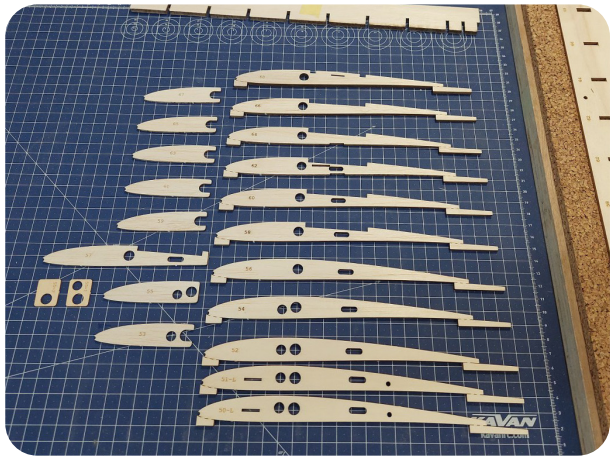
- everything is done exactly the same as for the first wing tip that is already finished

Center wing panel





Prework - setting up the wing building jig:



- The kit includes wing building jigs for each wing segment

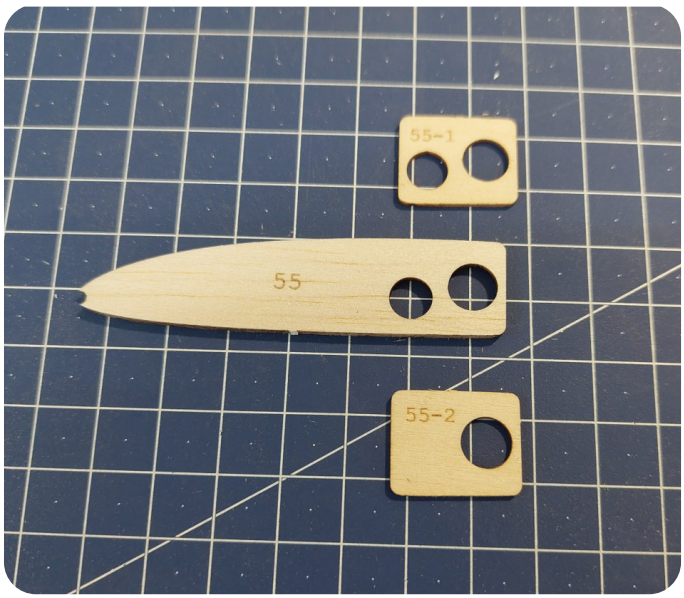
- use the S1 wing jig for the center wing panel

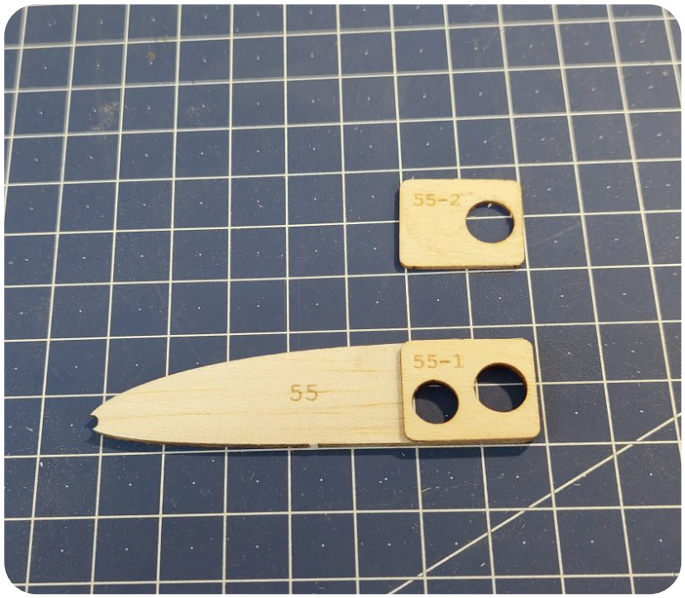
- it's best to secure the S1 wing jig to a rigid base to prevent any warping—everything must be perfectly flat

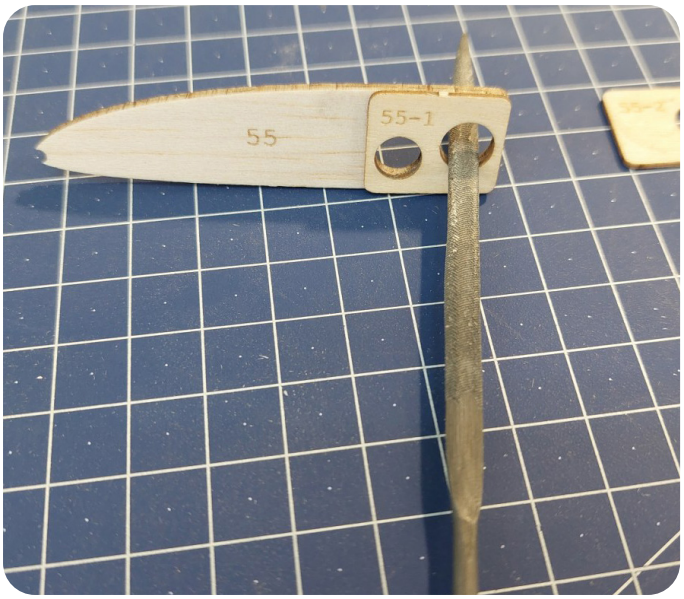
Step 1:

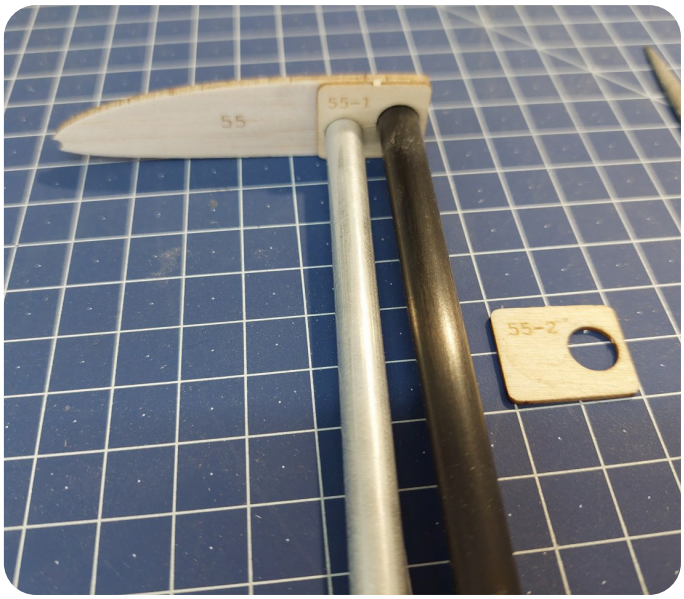
- prepare rib Pos. 68 (card 1A)
- prepare rib Pos. 50-L, 51-L and 52 (card 1J)
- prepare ribs Pos. 54, 56, 58, 60, 62, 64 and 66 (card 1O)
- prepare ribs Pos. 53, 55, 57, 59, 61, 63, 65 and 67 (card 1M)
- prepare Pos. 55-1 and 55-2 (card 1H)

Note:
- cut the ribs so you leave small tabs at the lower front and rear edges—these tabs help you position the ribs correctly in the jig







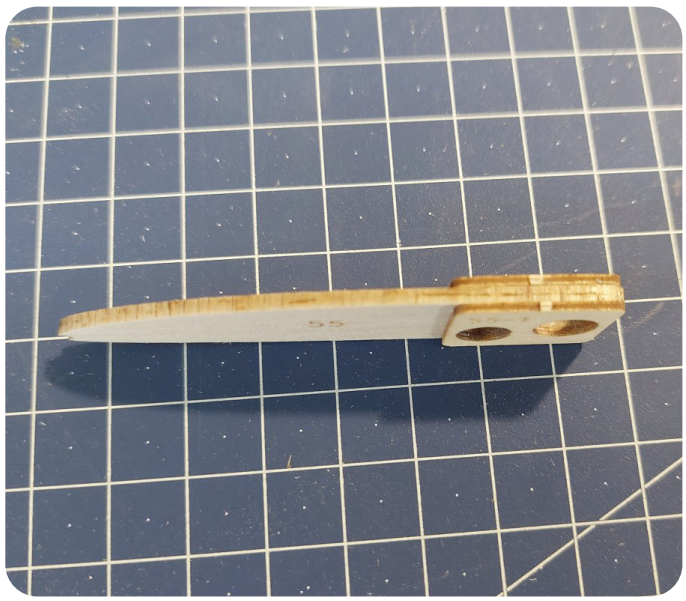


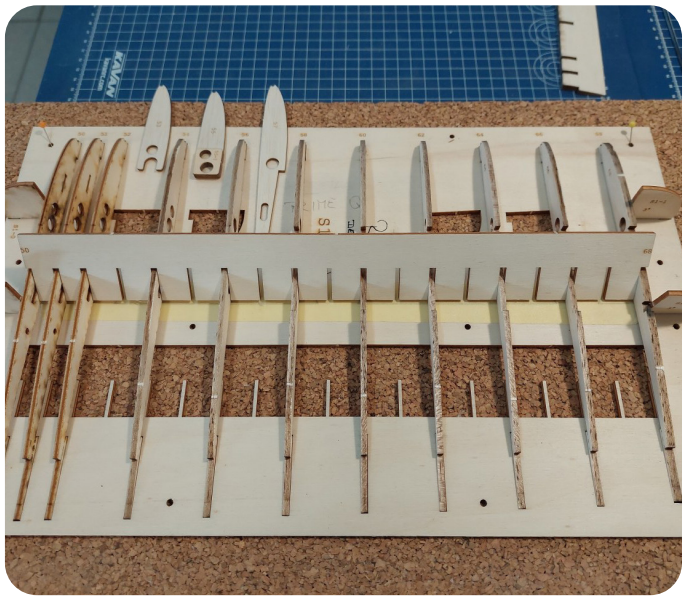
Step 1.1:

- bond rib No. 55 together with plywood part 55-1 as a reinforcement on the rib
- when bonding, make sure the holes are aligned

- check the dry fit of the rib holes with the 8 mm carbon tube and the 7 mm aluminum tube to make sure they pass through

- if needed, lightly sand the holes so the tubes slide smoothly through the rib and into the slot





Step 1.2:

- bond the plywood reinforcement Pos. 52-2 to the other side of the rib.

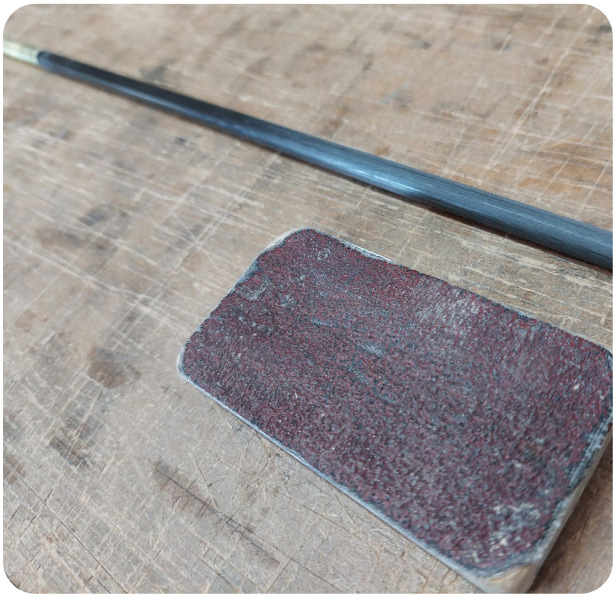
- position ribs Pos. 50-L, 51-L, 52, 54, 56, 58, 60, 62, 64, 66 and 68 on the wing jig
- insert the “comb” piece between the ribs to help hold them in place during assembly

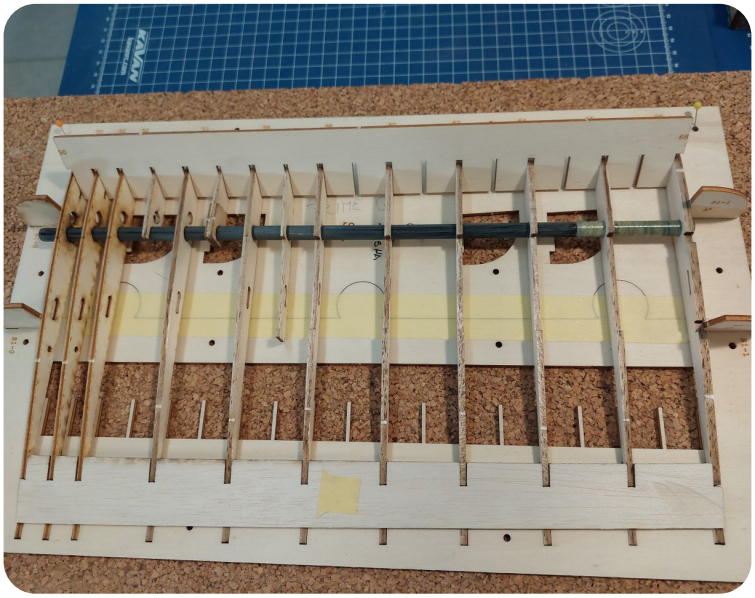
- on the S1 wing building jig, each rib and part is engraved, so it’s easy to see exactly where each rib goes

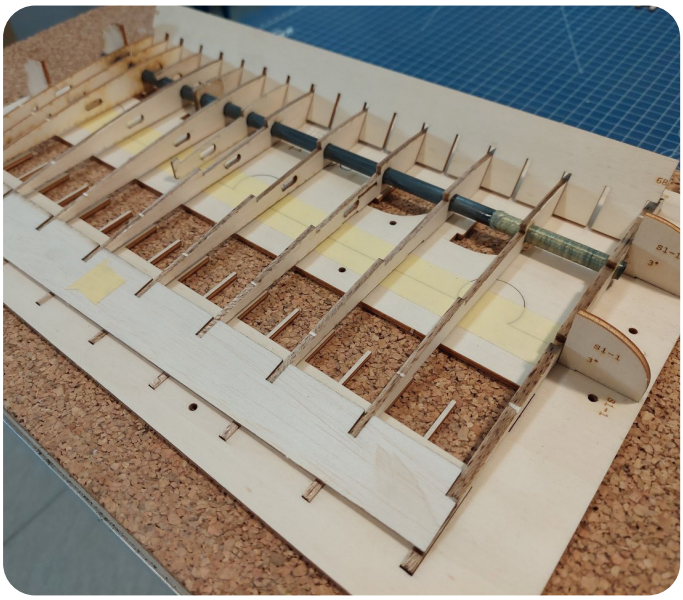
---

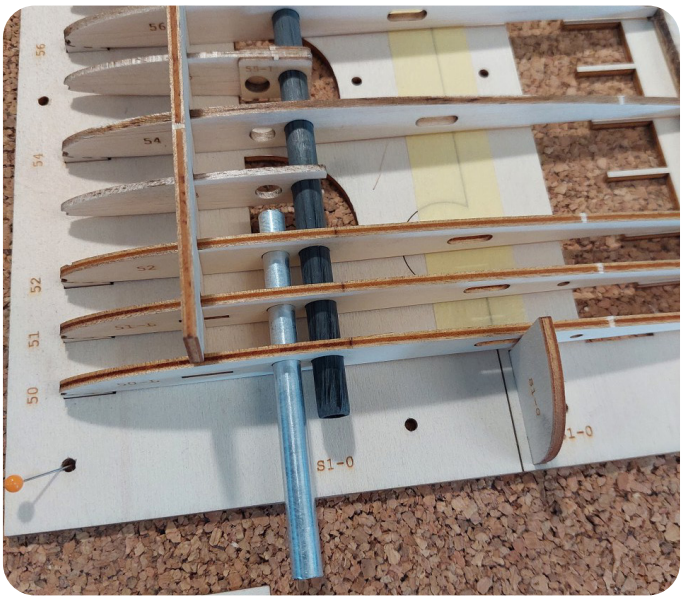
- the kit includes a pre-shaped and sanded balsa trailing edge
- the trailing edge has a bit of extra material (it sits slightly higher than the ribs), but it will be sanded down later

- In the kit, you get the carbon main spar with the end additionally wrapped in Kevlar for extra strength at the wing joiner connection









Step 2:

Note: - do not bond ribs 53, 55, and 57

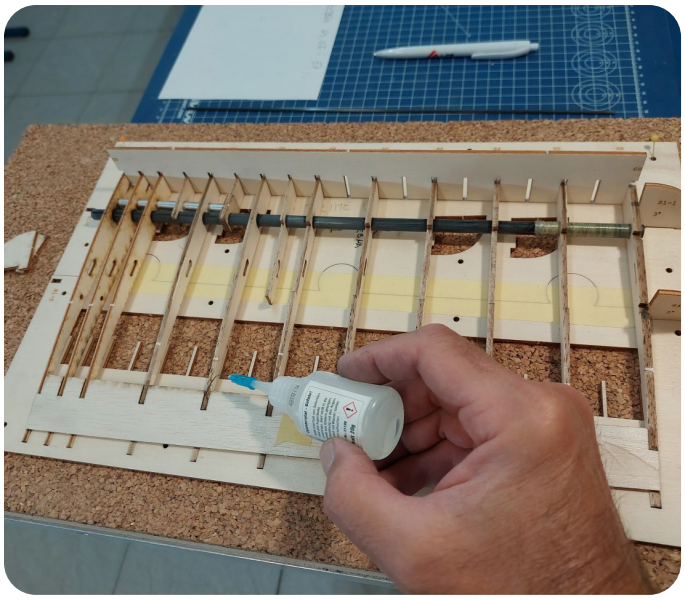
- position the trailing edge onto the ribs. Make sure it's oriented correctly—the masking tape marking must be on the top side of the trailing edge

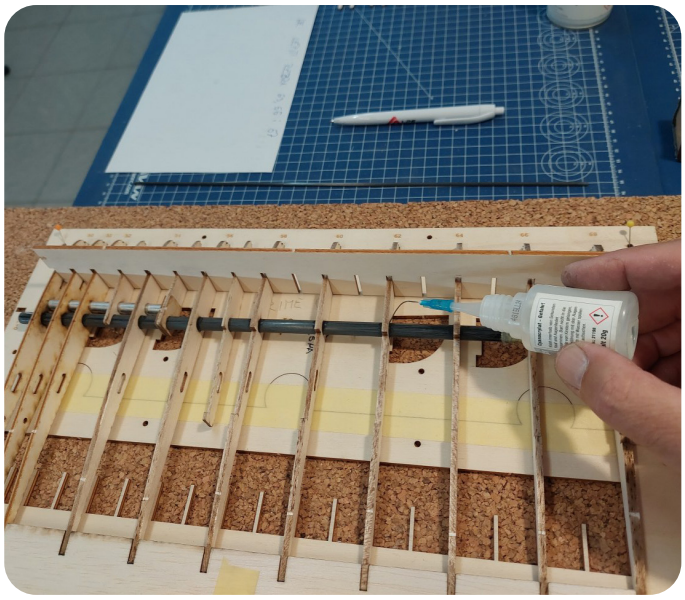
- before inserting the carbon tube into the ribs, lightly sand the entire tube so the ribs bond to it better
- insert the 8 mm carbon tube spar (335 mm long) into the spar slot in the ribs

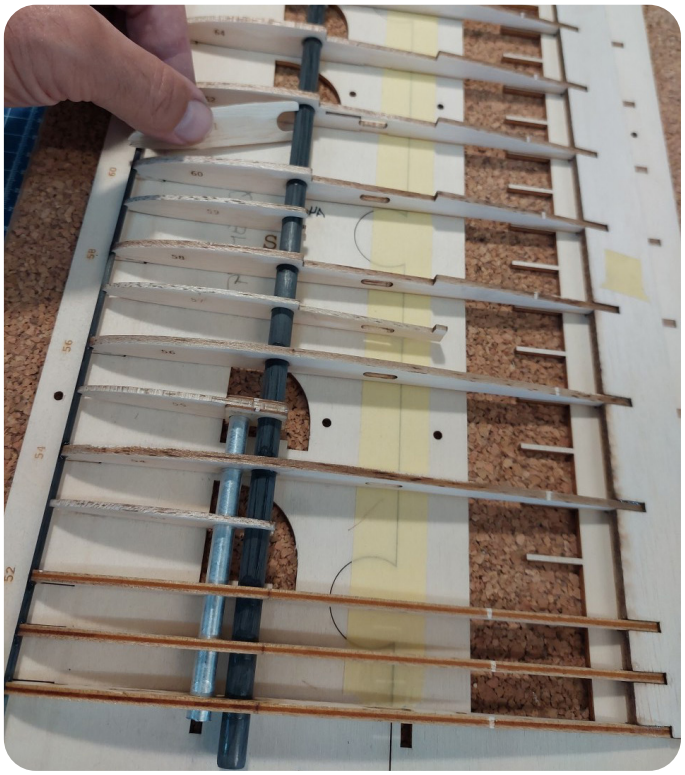
- insert the 7 mm aluminum tube into its designated position—it serves as the wing joiner socket

Note:
- Make sure the Kevlar-wrapped end is oriented toward the middle wing panel, i.e., toward the narrower side of the center panel you are building

Note 2:
- pay attention when inserting the carbon tube/main spar to make sure intermediate rib No. 55 and 57 is also installed in its correct position







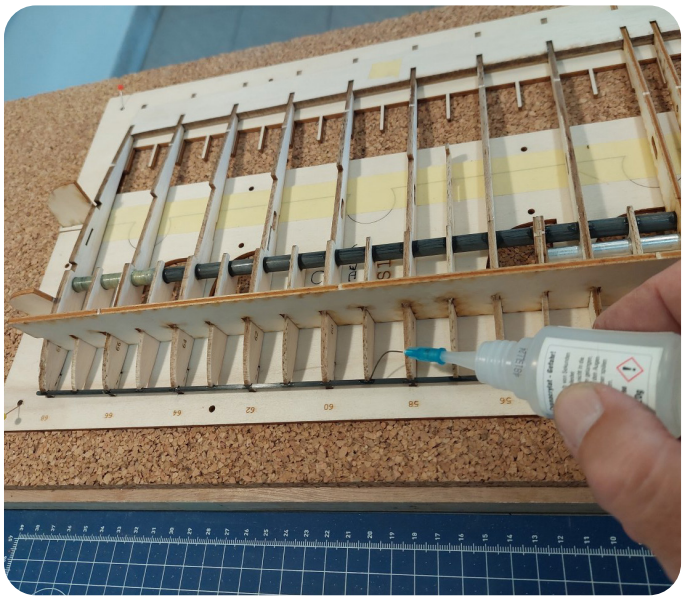
Step 3:

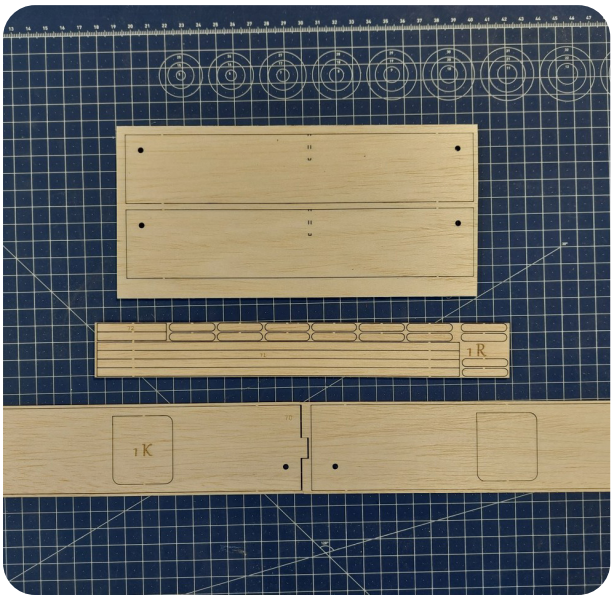
- bond the carbon main spar and the trailing edge to the ribs

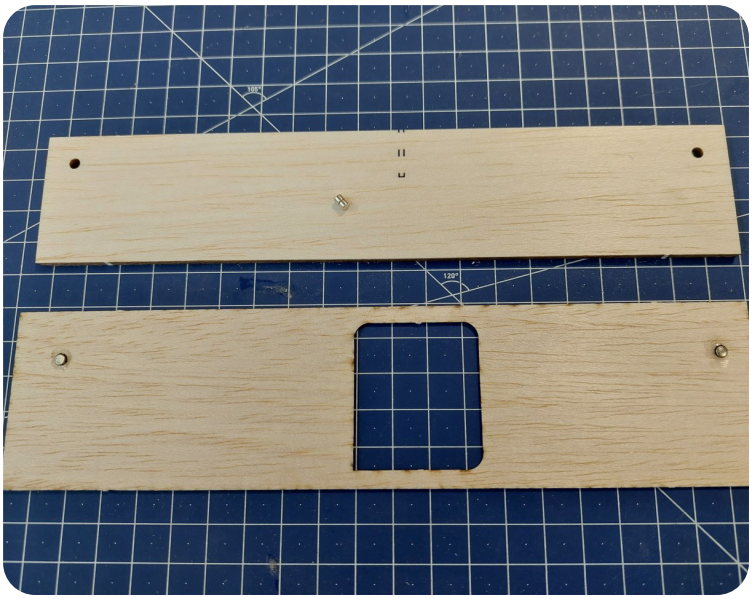
Note:
- when bonding, make sure all ribs and the trailing edge are fully pressed into their positions. It's best to use a weight to hold everything down

Note – attention:
- first bond the aluminum tube in position, and only then bond ribs 53, 55, and 57

- bond the 2.5 mm carbon leading-edge rod (335 mm long) to the first ribs, then glue it gradually rib by rib to follow the curve until you reach the end of the panel.







Step 4:

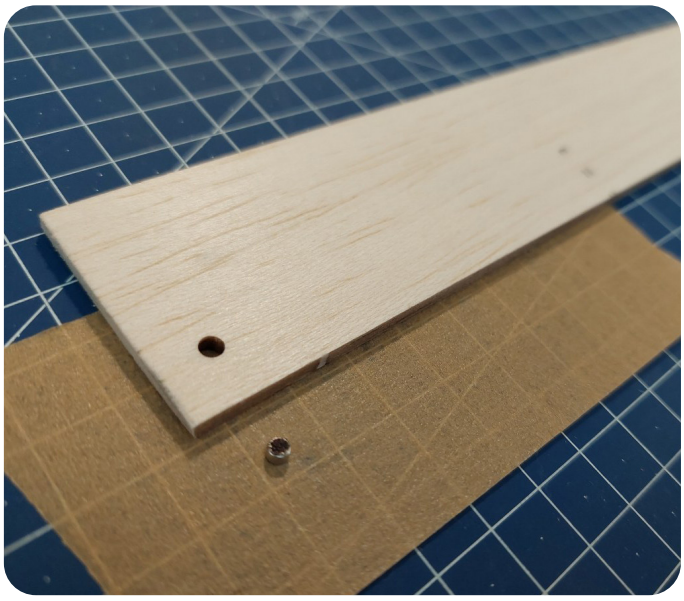
- position the intermediate ribs Pos. 53, 59, 61, 63, 65 and 67 in place

- before bonding, align all intermediate ribs so the spacing between them is even and symmetrical
- bond all intermediate ribs to the leading edge and the carbon main spar

Step 5:
Spoiler option: solid (no holes) or perforated.
- prepare Pos. 70 (card 1K)
- prepare 2x Pos. 71 and 1x Pos. 72 (card 1R)

- bond the Ø3x2 mm magnets into the slots of Pos. 70

Note:
- when bonding the magnets, make sure the top surface of the spoiler box remains flat so the spoiler can slide fully into the box.



Step 5.1:

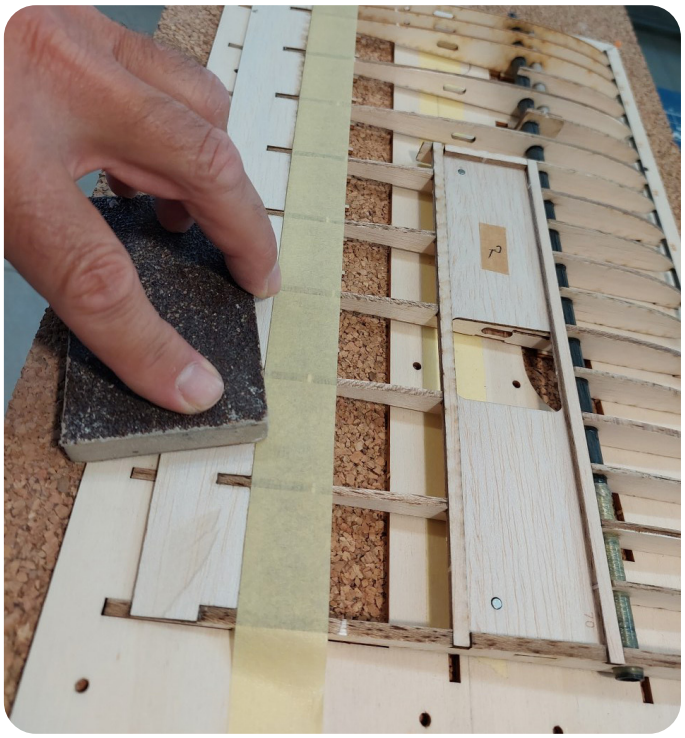
Build spoiler frame:

- bond Pos. 70 (with magnets) onto the wing

- bond the outer spoiler frame: 2× Pos. 71 and 1× Pos. 72

- to identify the magnet polarity, place the loose magnets onto the magnets already bonded in the spoiler box.

- mark the top side of the magnets with a black dot



Step 5.2:

- bond the 3x2 mm magnets onto the 3 mm spoiler so the black dot remains visible

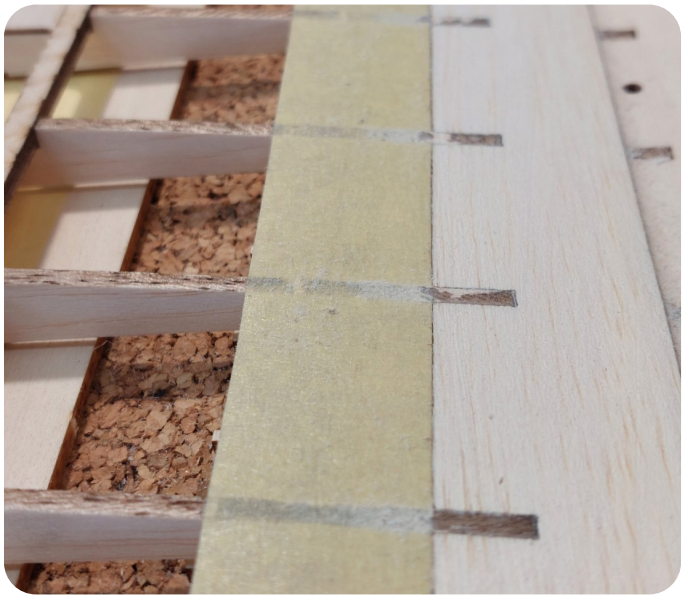
- test-fit the spoiler in place

Note:

- when bonding the magnets, make sure the top surface of the spoiler box remains flat so the spoiler can slide fully into the box.

Step 6:

- protect the ribs with masking tape right up to the trailing edge
- this helps prevent damage or over-sanding of the ribs during shaping/sanding later



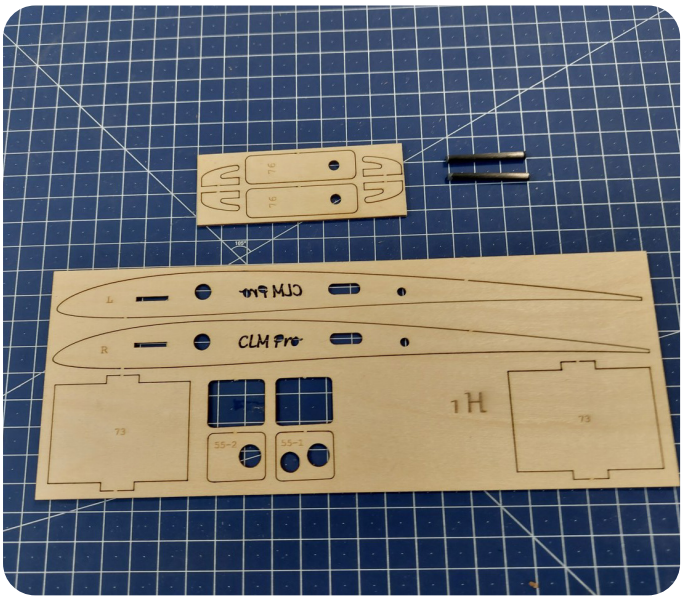
Step 6.1:

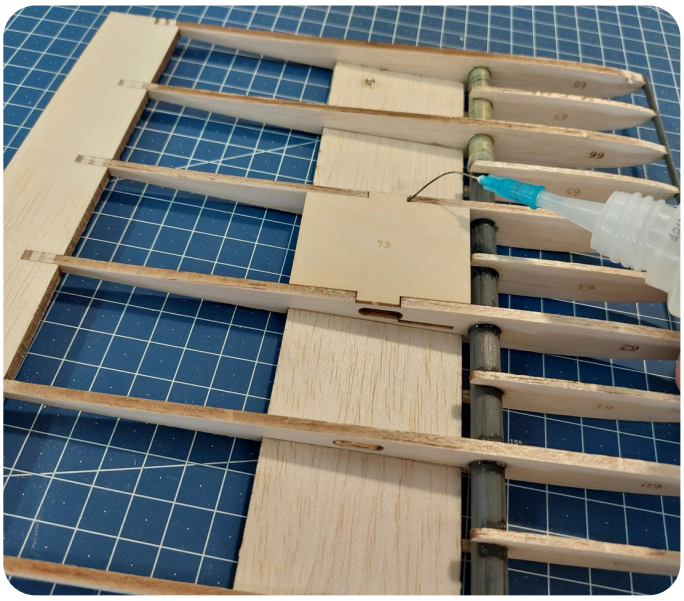
- sand the trailing edge with light strokes until it is flush with the ribs and the wing profile follows a smooth line all the way to the tip

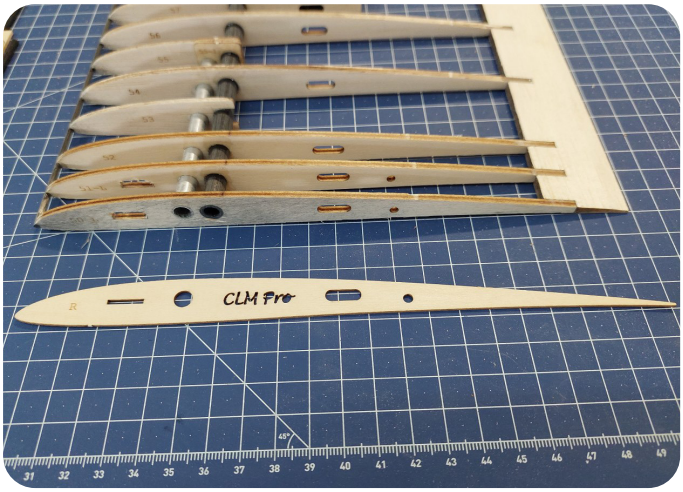
Note:
- be careful not to over-sand the end of the trailing edge—don't make it too thin at the tip

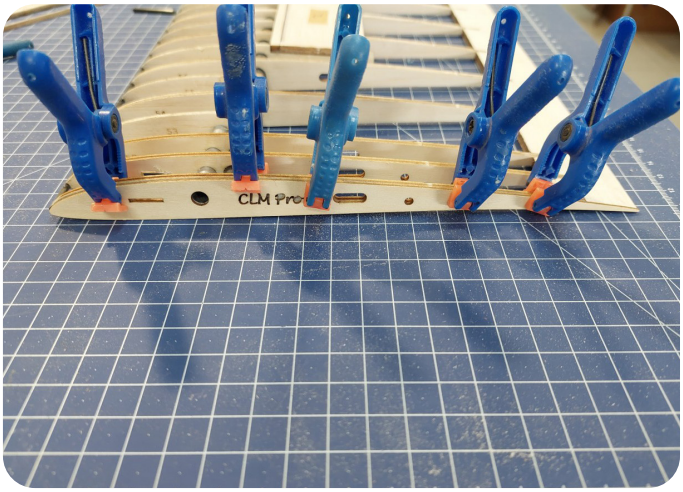
- lightly sand the carbon leading edge so it follows the wing profile
- the sanded carbon leading edge must follow the wing profile — see the picture above

- lightly sand the end of the segment so you can continue bonding later.









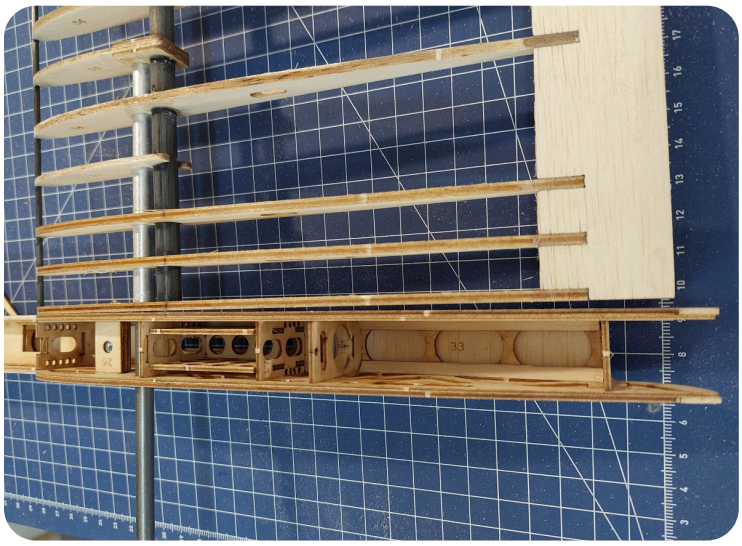
Step 7:

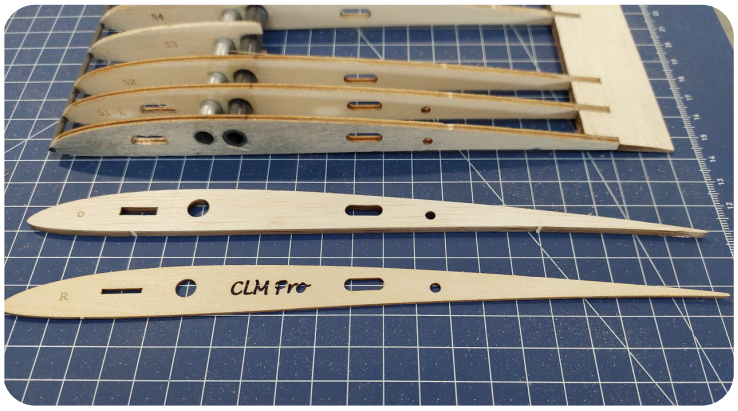
- bond Pos. 73 (1 mm plywood, card 1H) onto the wing in the position under the spoiler

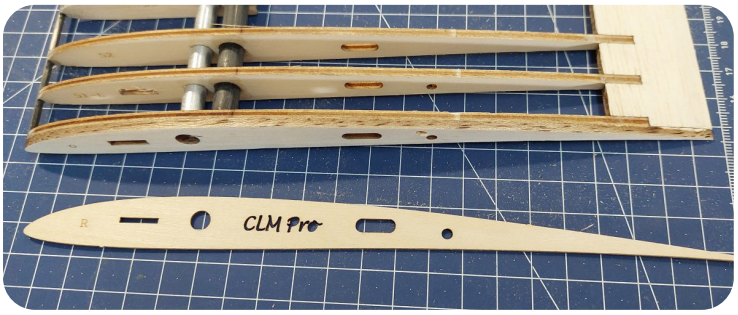
- prepare rib R-right from plywood (card 1H)

- do a dry fit to check how rib R fits on the end of the segment

Note:
- do not bond rib R to the segment yet







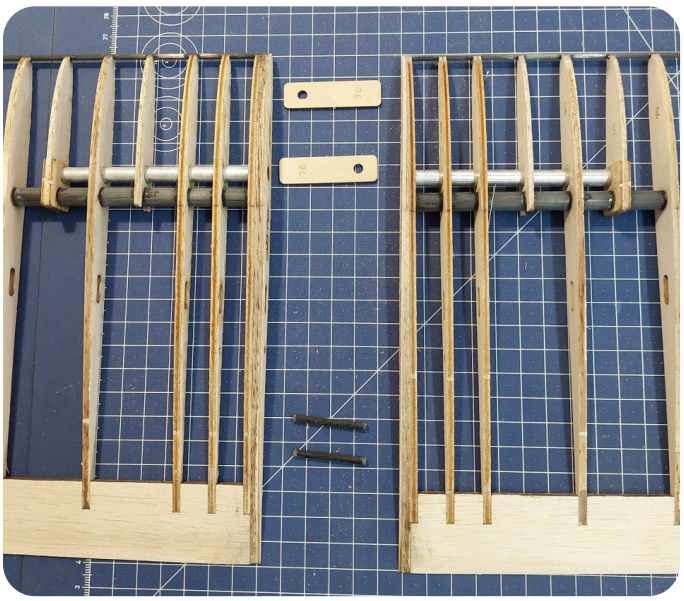
Step 7.1:

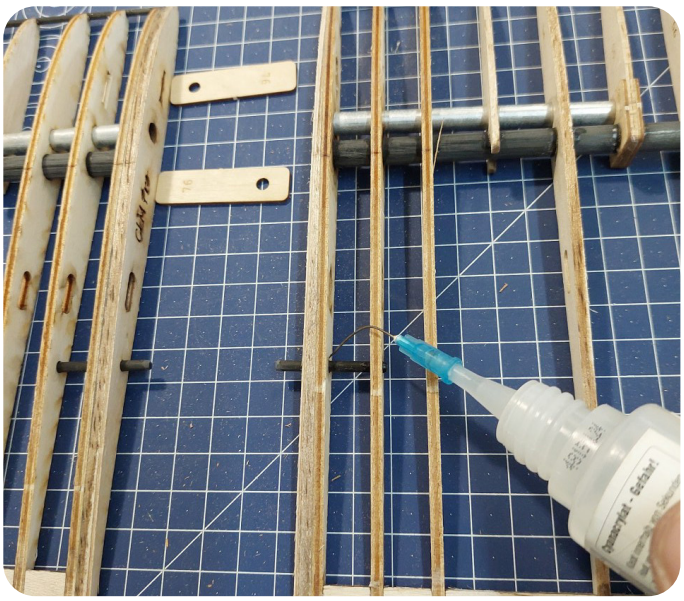
- connect the center panel to the fuselage using the wing joiner and check the fit between the wing and the fuselage

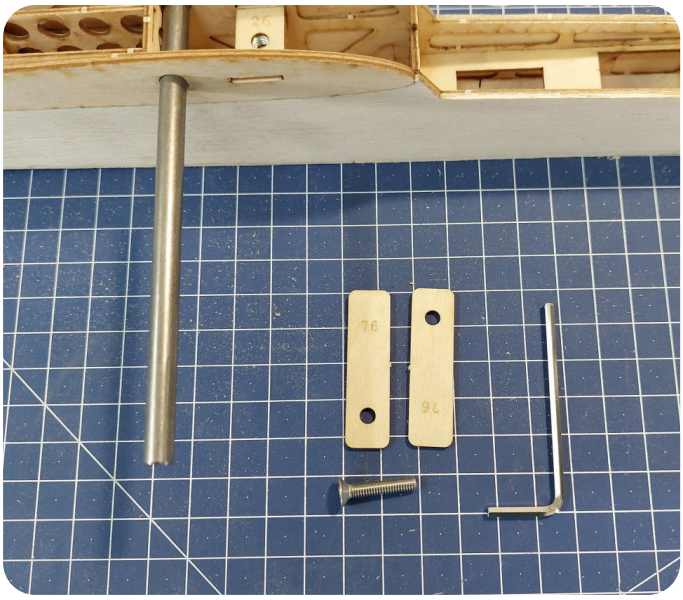
- if there is a gap at the joint, bond the 3 mm rib No. 0 from the balsa sheet (card 1O) onto the first rib of the wing segment

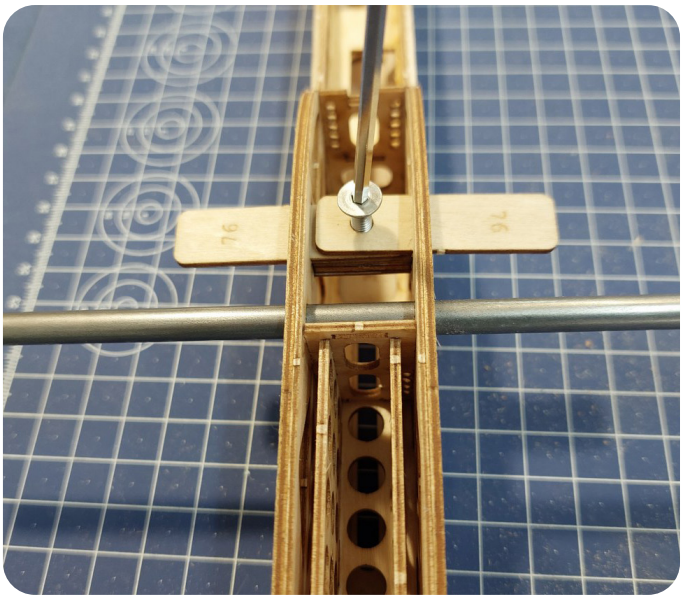
- sand the added rib into a taper as needed until the gap between the rib and the fuselage is eliminated

- once you have a perfectly flush joint with the fuselage, bond the first rib R (1 mm plywood)







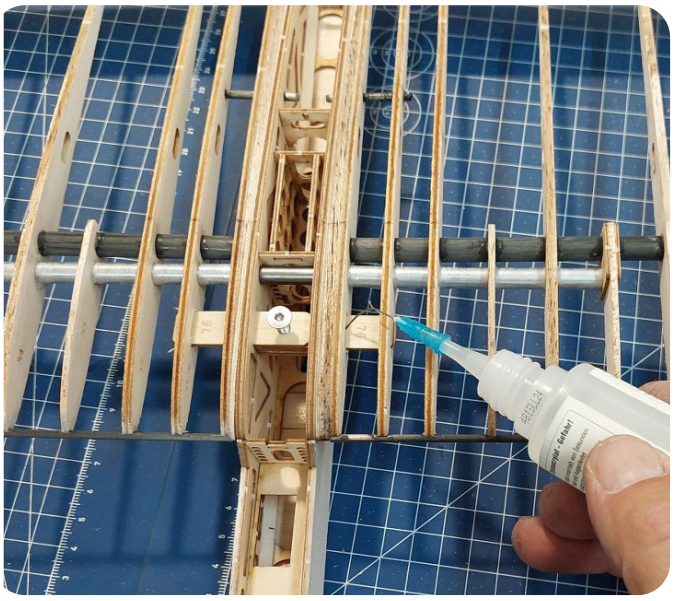


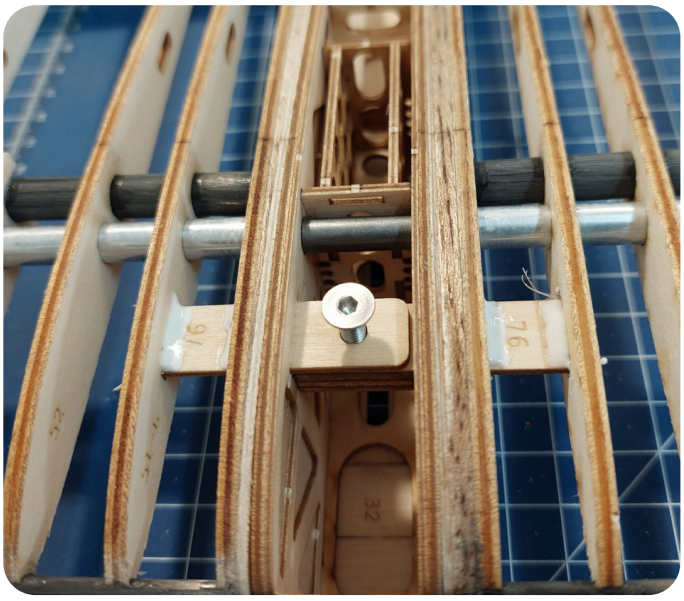
Step 7.2:

- bond the 3 mm carbon rods into their designated positions so they span across the first two ribs
- these are the centering pins for attaching the wing

- fasten the two Pos. 76 parts to the fuselage using the M4 screw (the Allen key is included in the kit)

Note:
- do not bond part Pos. 76 to any wing segment yet





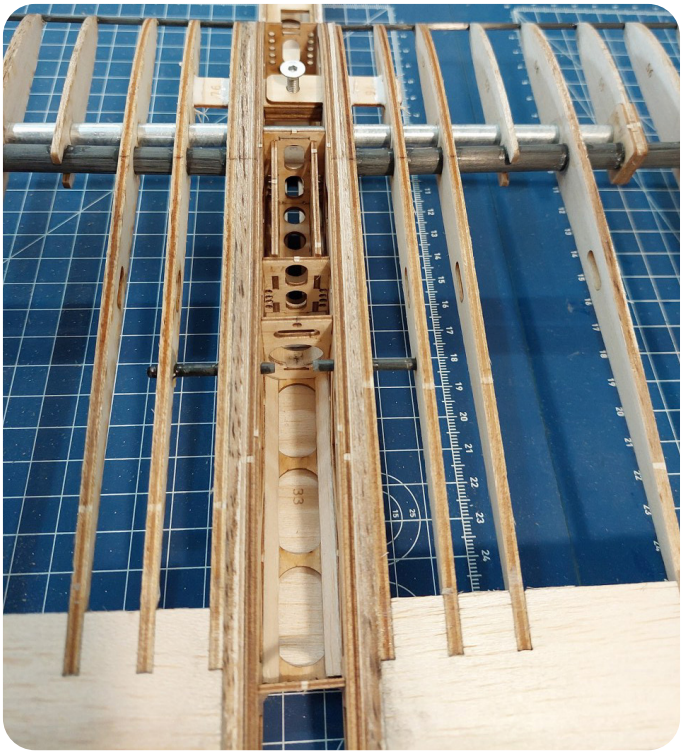
Step 7.3:

- attach the two wing halves to the fuselage
- use the steel wing joiner.

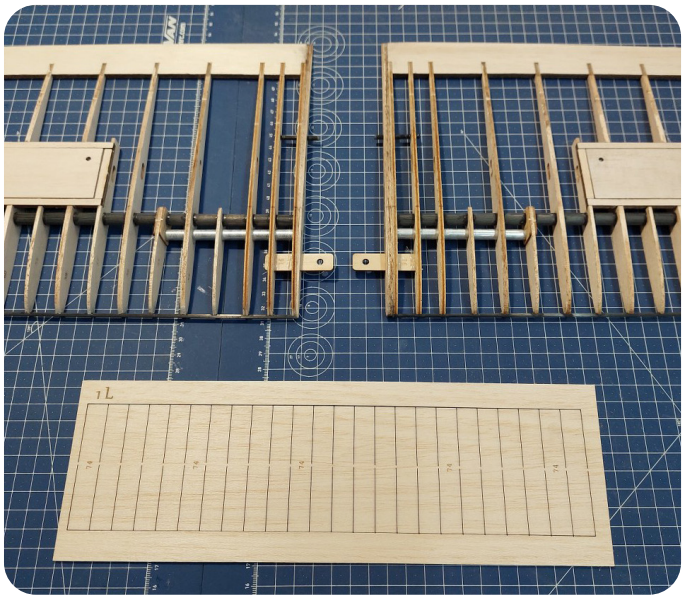
- once the wings are fully seated against the fuselage with no gap, bond the 1.5 mm plywood Pos. 76 parts onto the wings

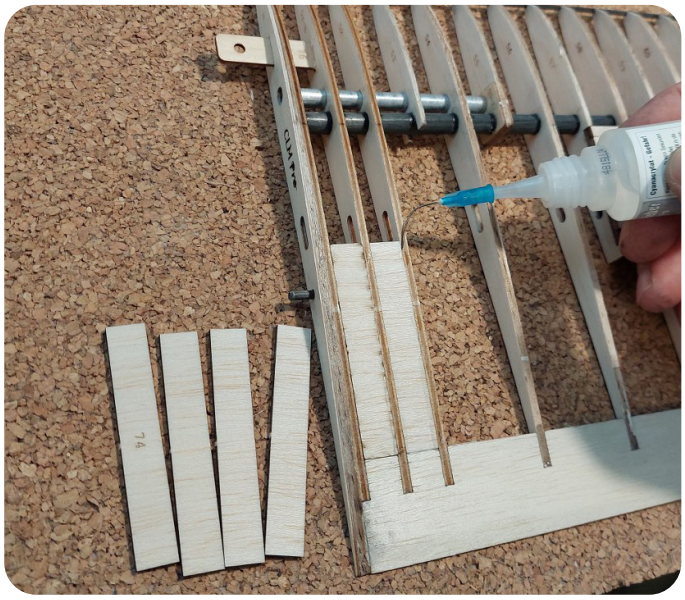
- these are the wing retainers that prevent the wings from separating when the model is assembled

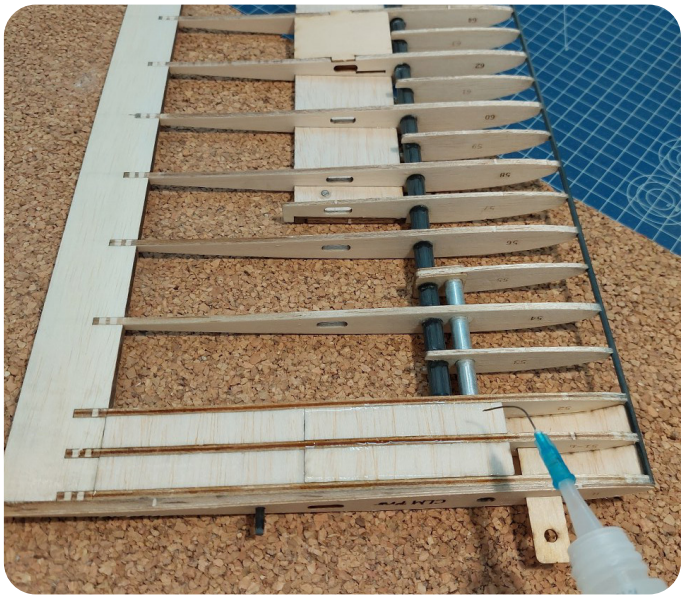
- for bonding, you can use white wood glue
- the important thing is that all joints between the wing and part Pos. 76 are well bonded



Note:
- when bonding, make sure you do not bond Pos. 76 to the fuselage







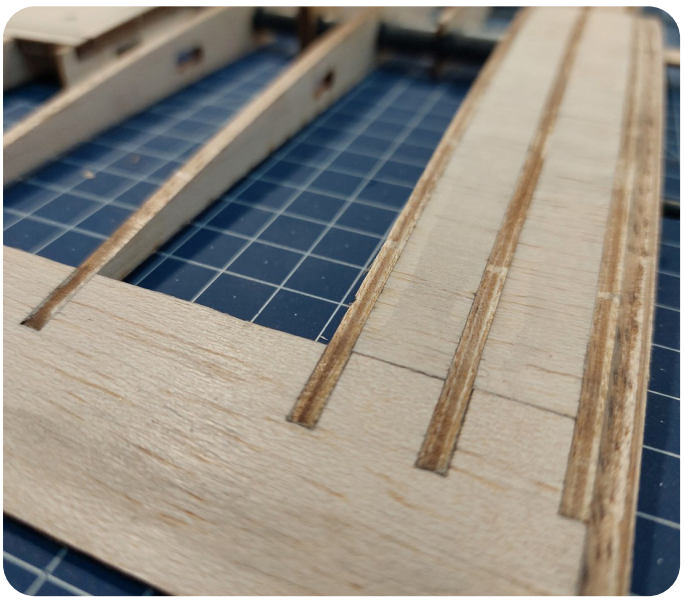
Step 8:

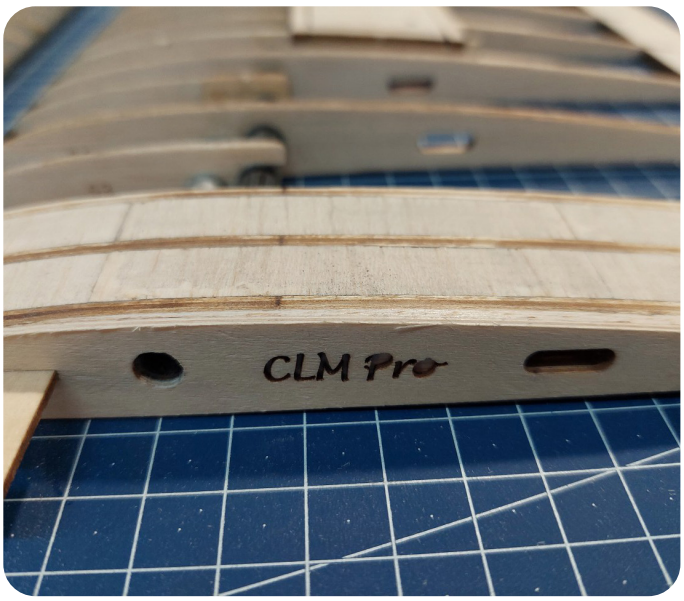
- bond the reinforcement that makes it easier to handle the wing halves during assembly and strengthens this area so you can grip it firmly.

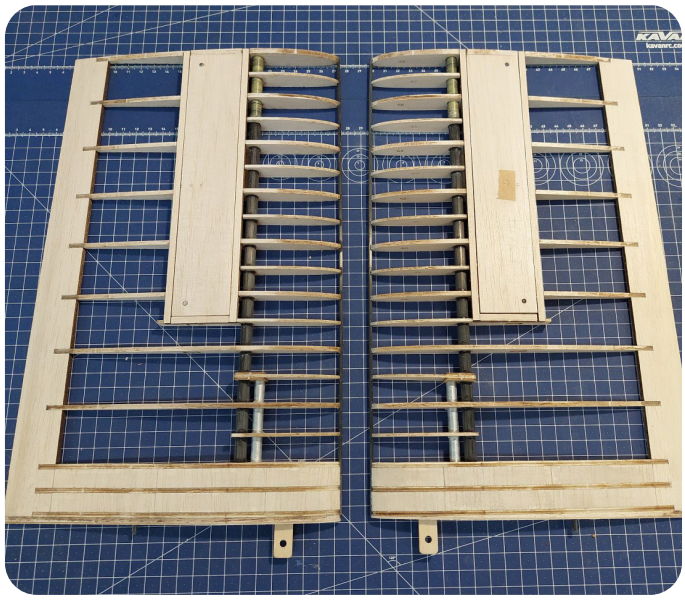
- prepare parts No. 74 from the 1L balsa sheet.

- bond the balsa strips Pos. 74 piece by piece until the entire space between the first three ribs is filled.

Note:
- when bonding the reinforcement, make sure it is pressed firmly against the carbon leading edge for a good joint





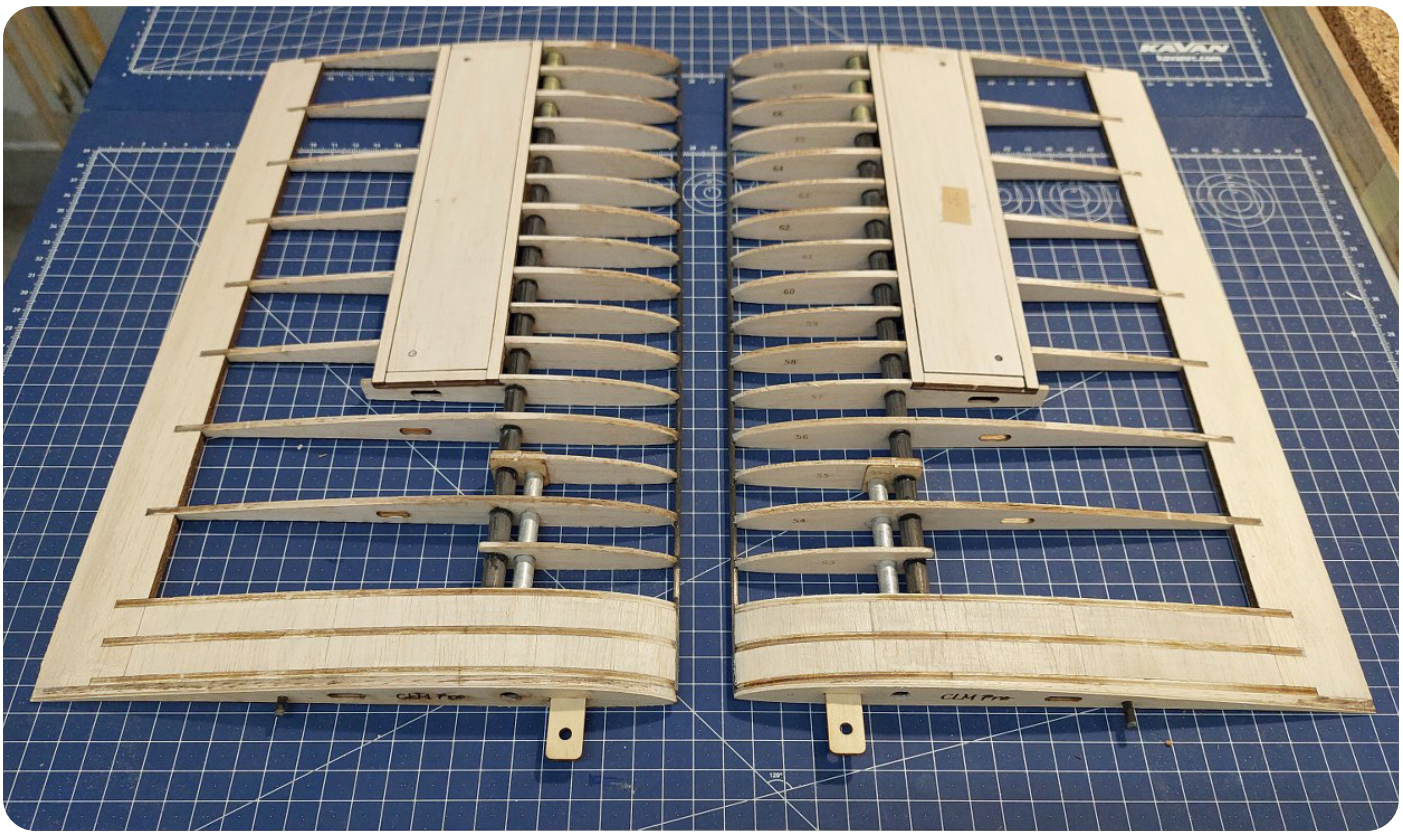


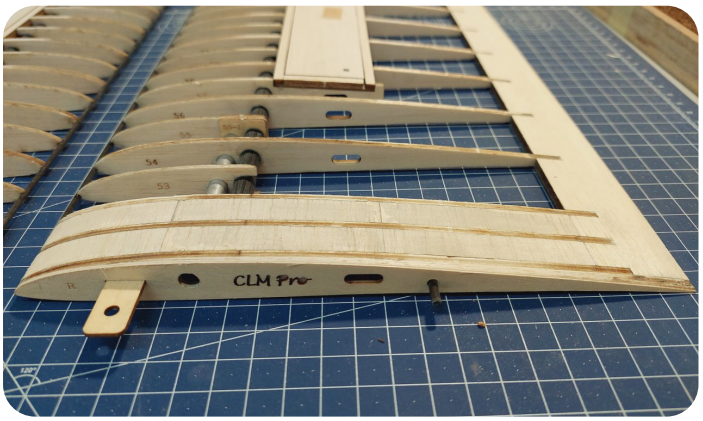
Step 8.1:

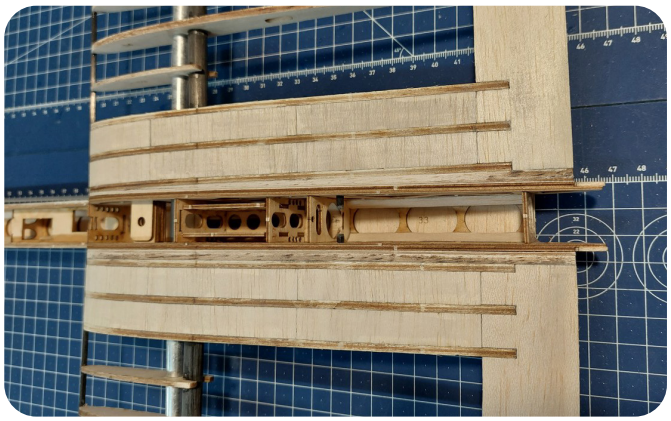
- once all reinforcements between the ribs are bonded, sand everything smooth so you can't feel any steps or transitions

- all joints should be perfectly sanded

- make sure the leading edge is also nicely sanded and follows the wing profile



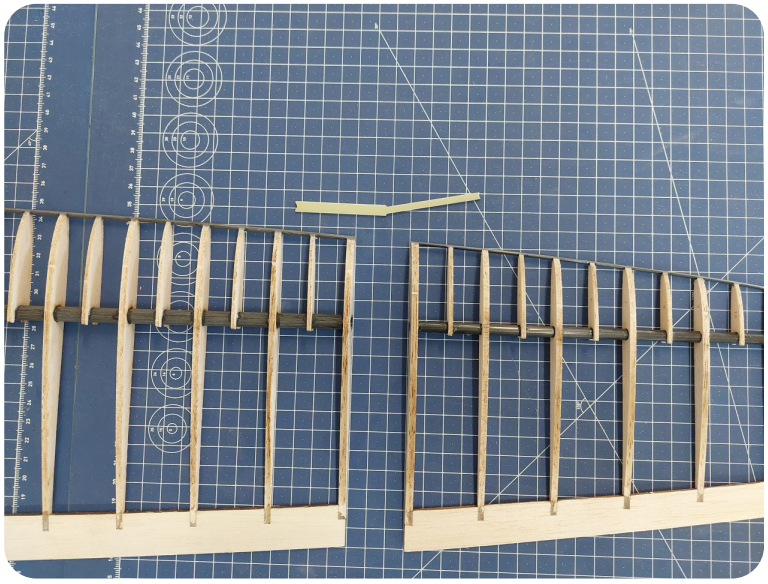


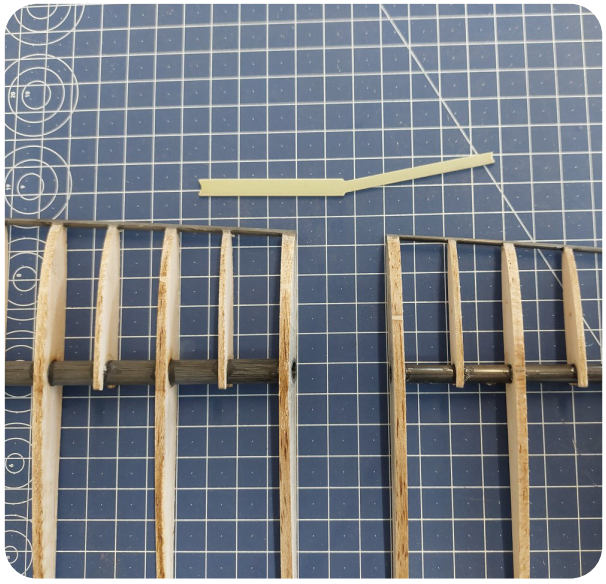


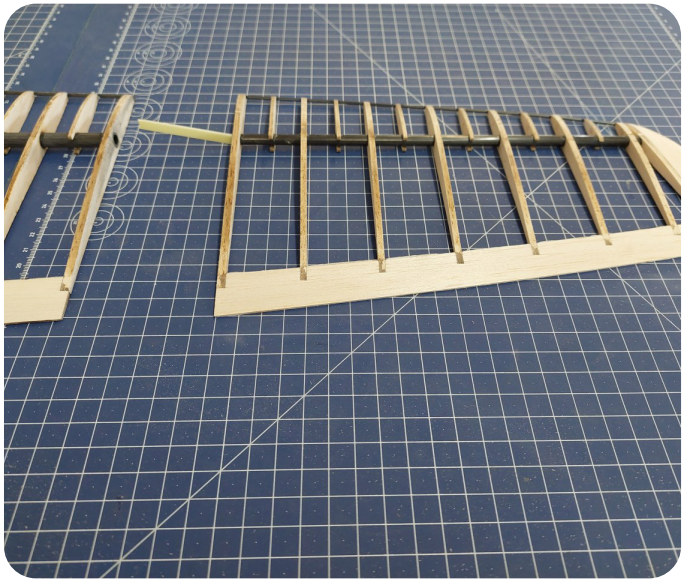
Step 8.2:

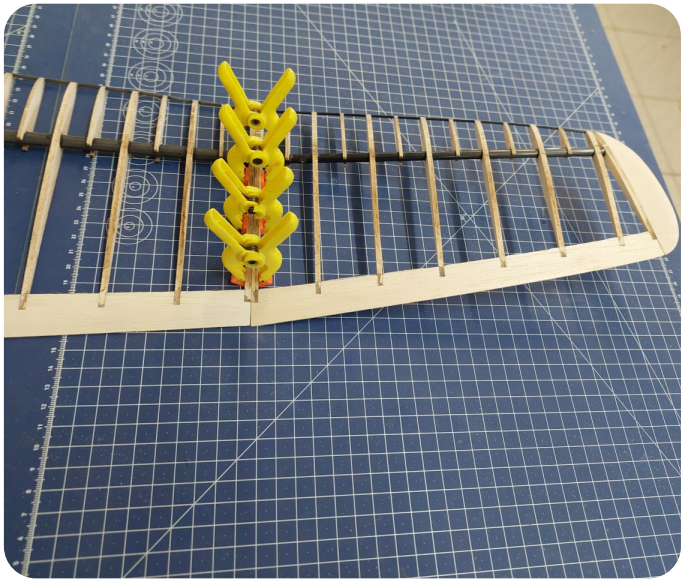
- lightly sand the top and bottom of the ribs to remove any marks left by laser cutting
- this final sanding also prepares the center panel for covering later, once everything is ready

The center panels are finished and ready for the next step.









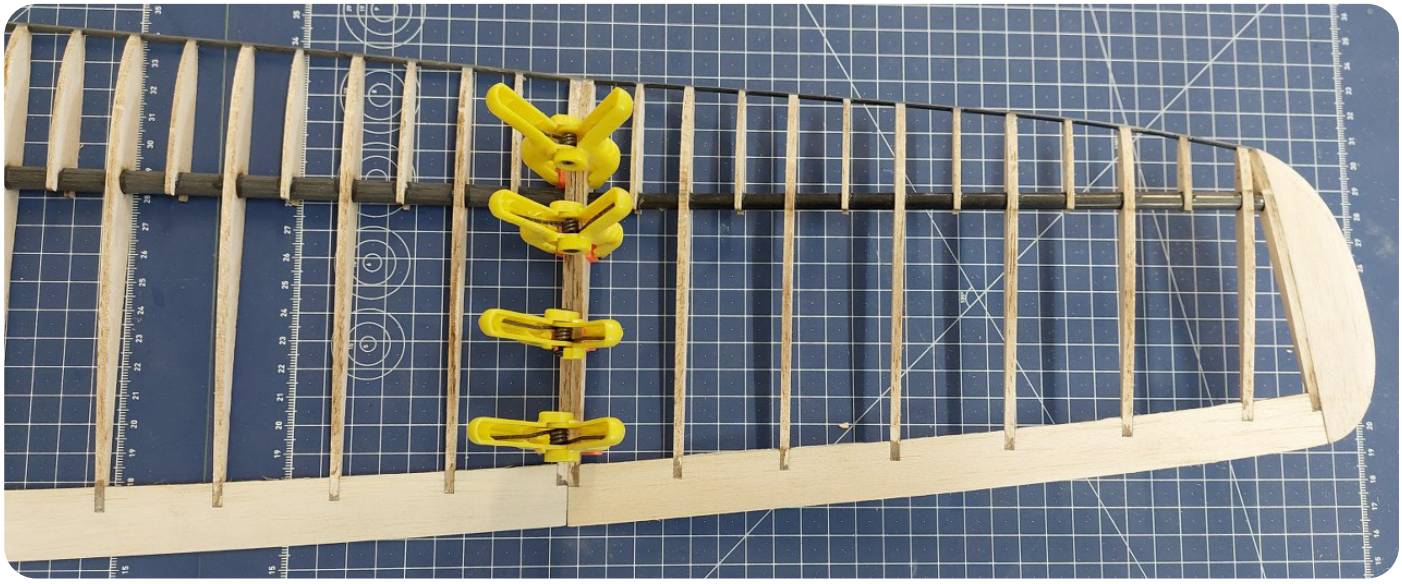
Step 9:

Joining the middle wing panel with the tip panel

- use Vitroplast joiners to help set the correct angle and reinforce the joint between the two segments

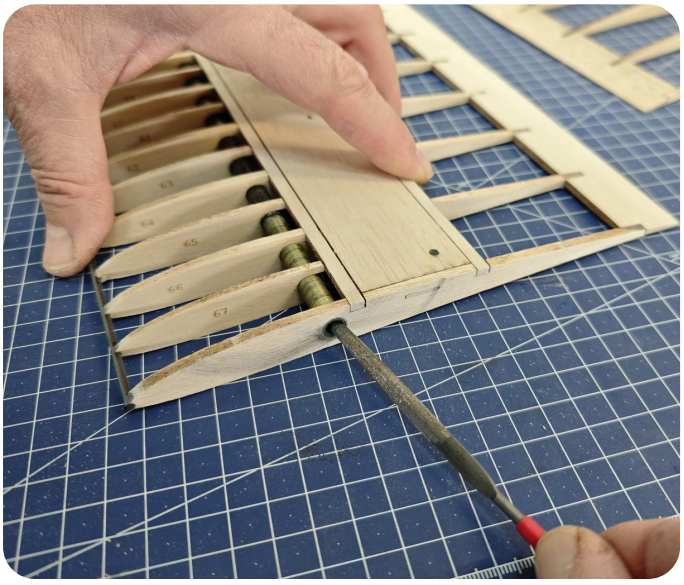
- do a dry fit to make sure the segments join together perfectly

- for joining the segments, it's best to use clips/clamps



Step 9.1:

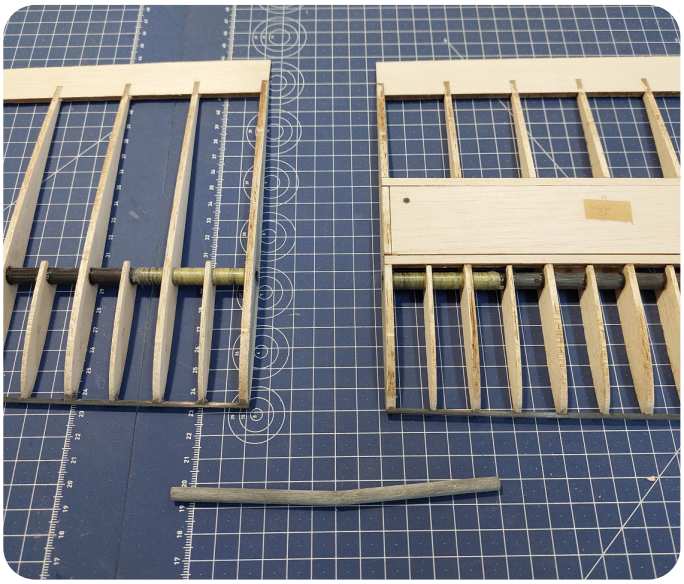
- once everything is checked and fits together, bond the two segments
- two-component epoxy is recommended for a stronger, higher-quality joint
- use clips/clamps to hold the segments firmly together

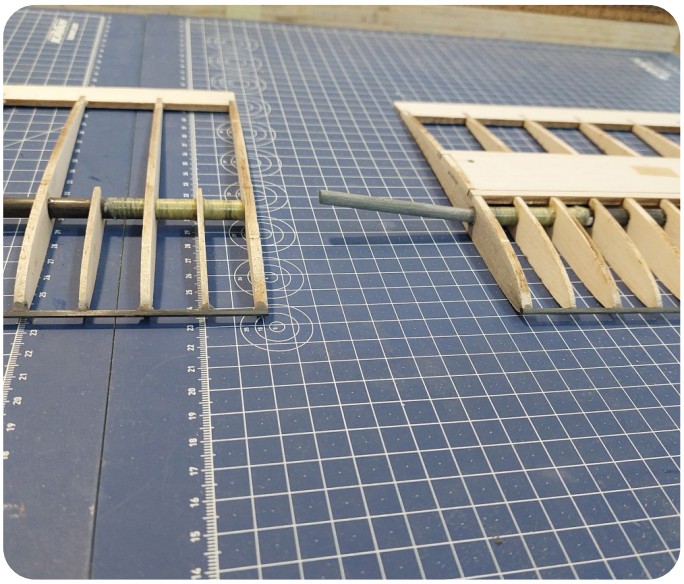


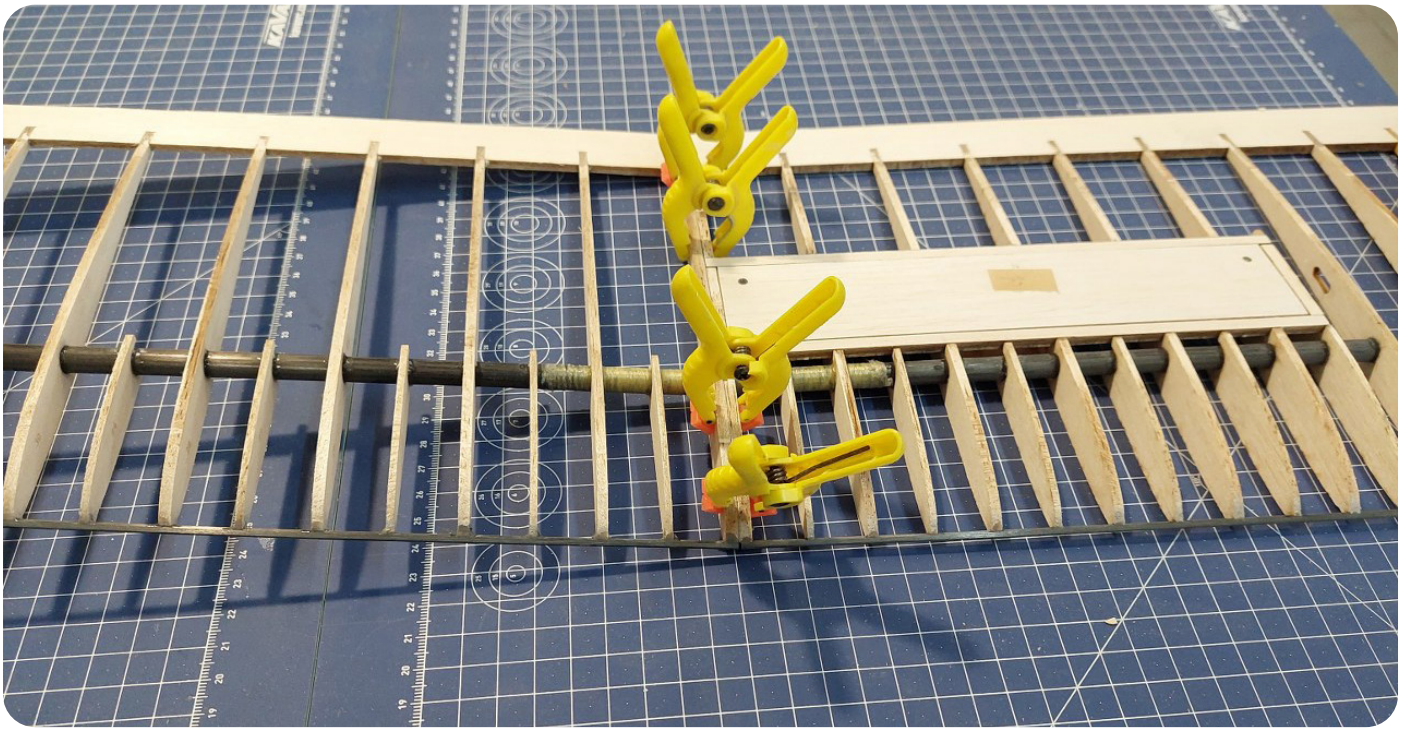
Step 9.2:

- using a fine file, lightly clean up the end of the carbon main spar on the middle wing panel and the center panel so the carbon joiner slides into the carbon tube more easily

- lightly sand the angled carbon wing joiner to improve the bonding surface and help the adhesive grip better







Step 9.3:

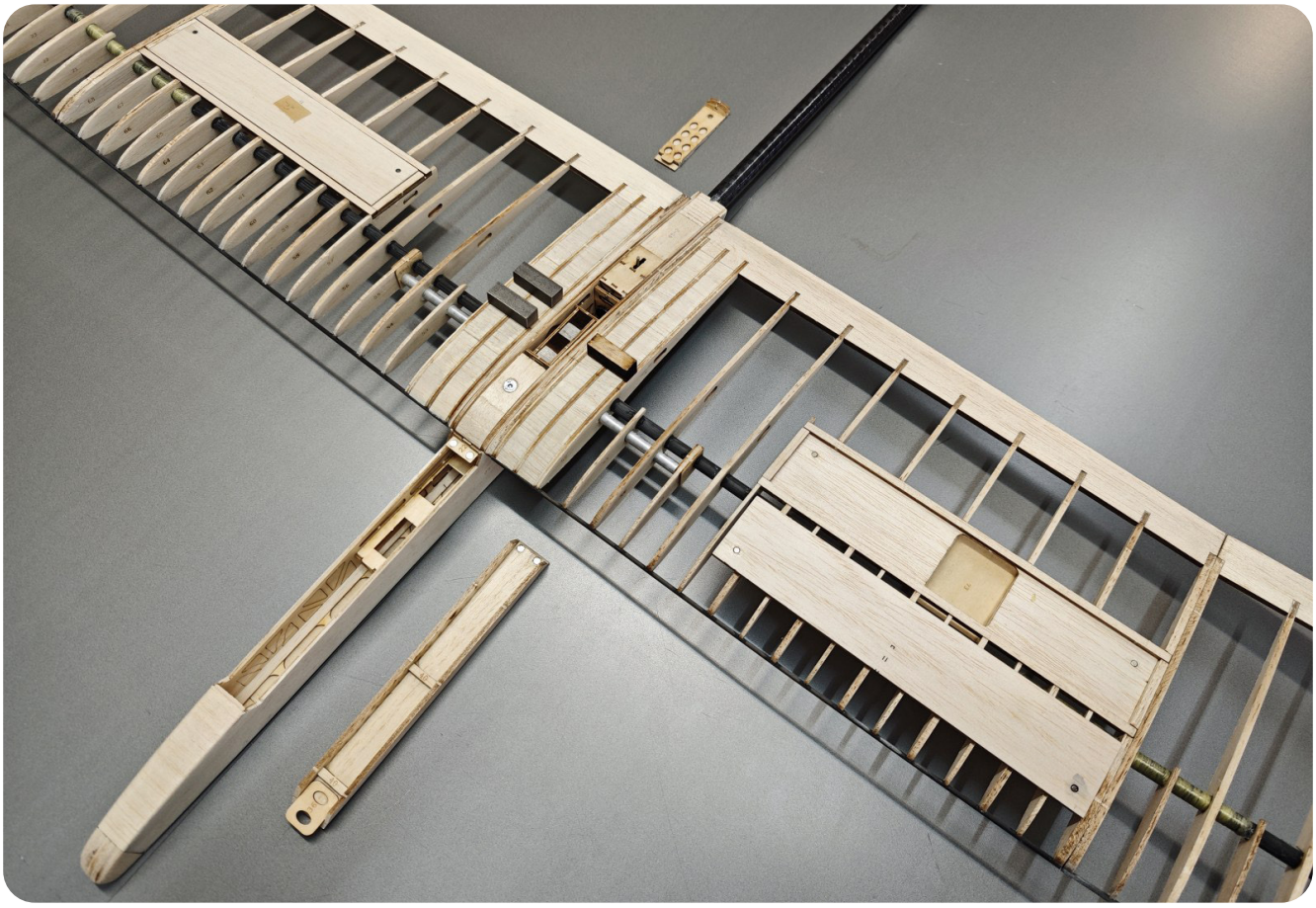
- use the angled carbon wing joiner to align and reinforce the joint between the two segments

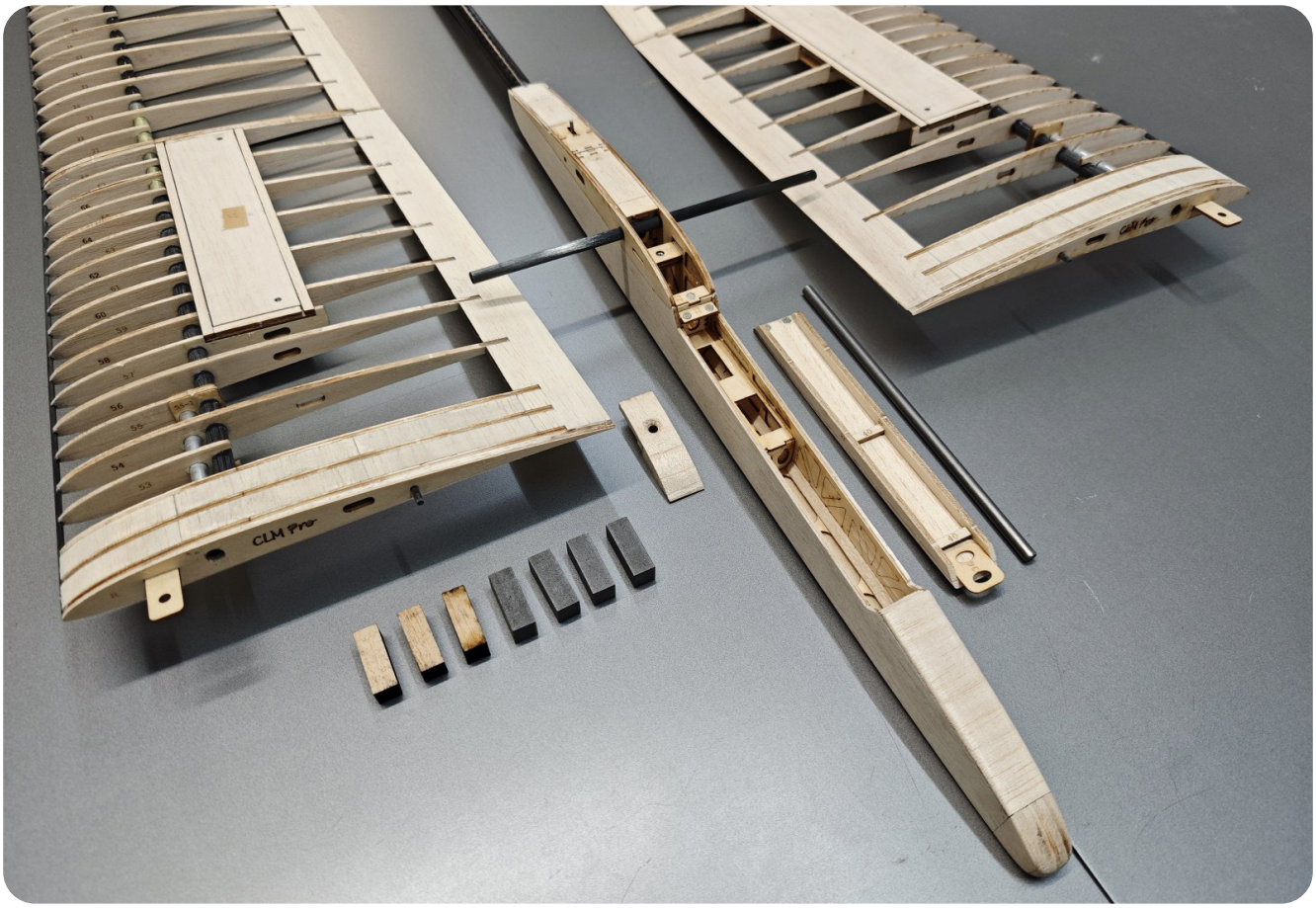
- first, dry-fit the segments together to make sure everything fits properly

- the wing tip dihedral angle should be 6°

- once everything is checked and fits correctly, bond the two segments with two-component epoxy adhesive and secure them with clips/clamps

- once everything is bonded, sand the joints and remove any excess adhesive so the covering film will adhere better later

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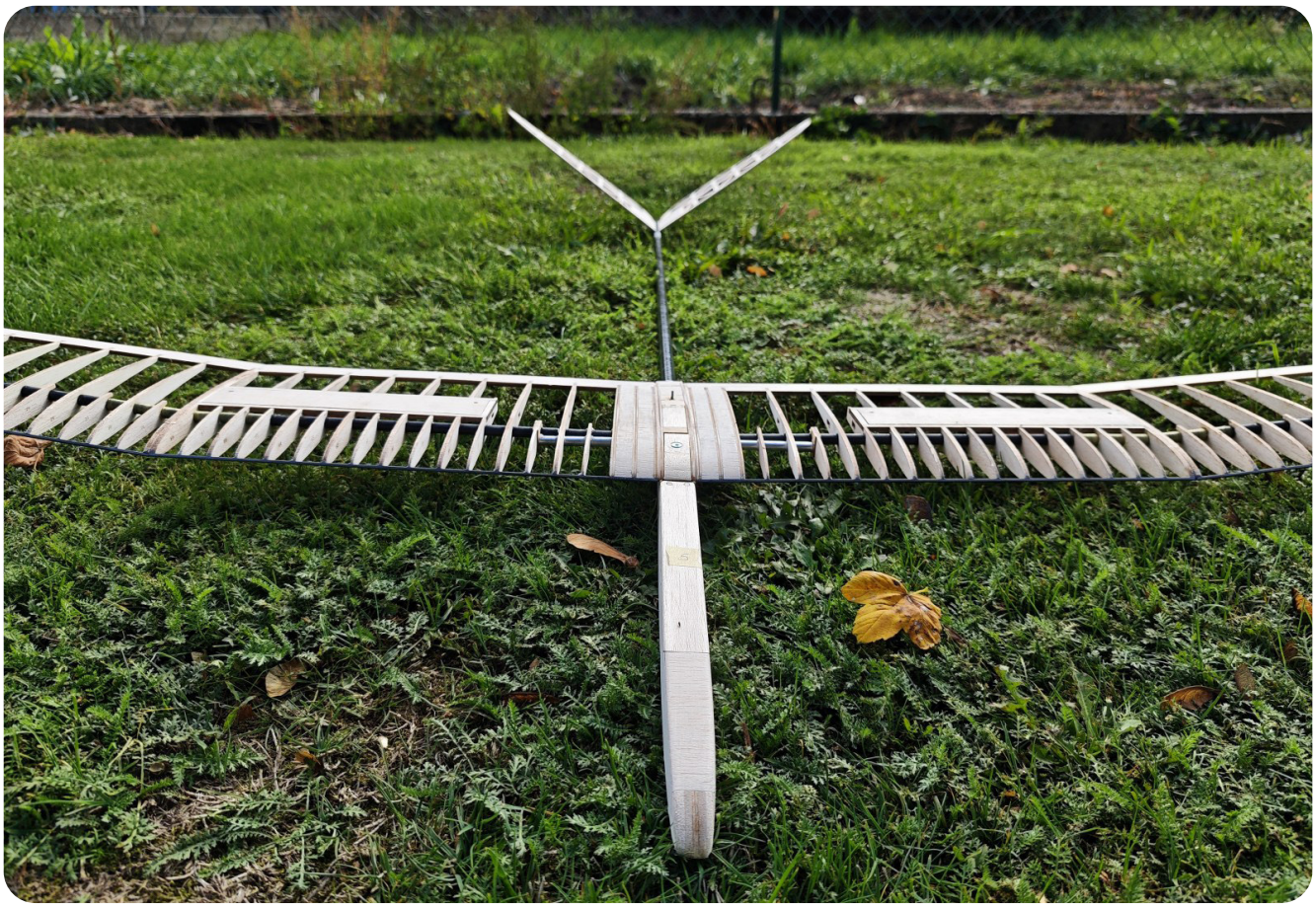
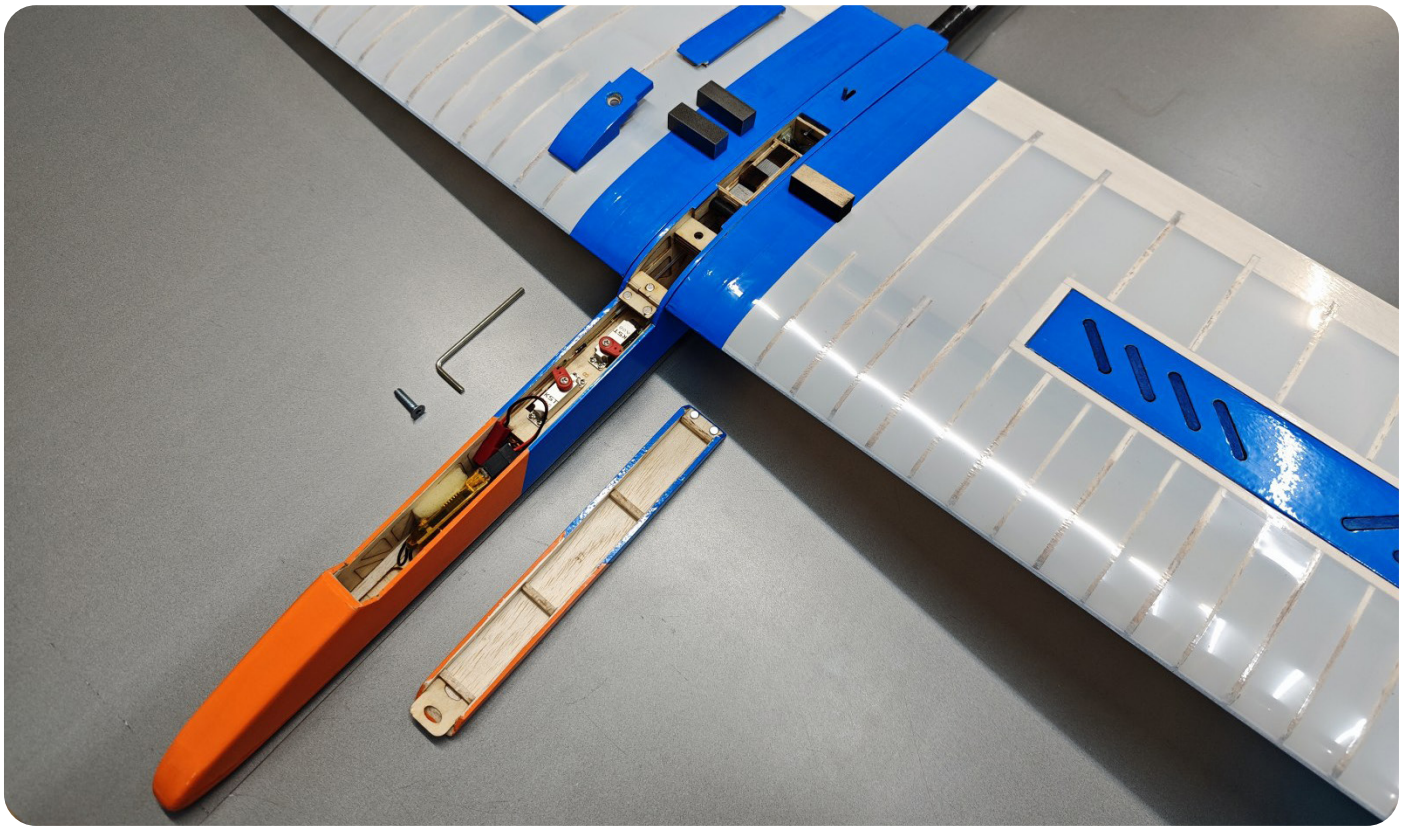
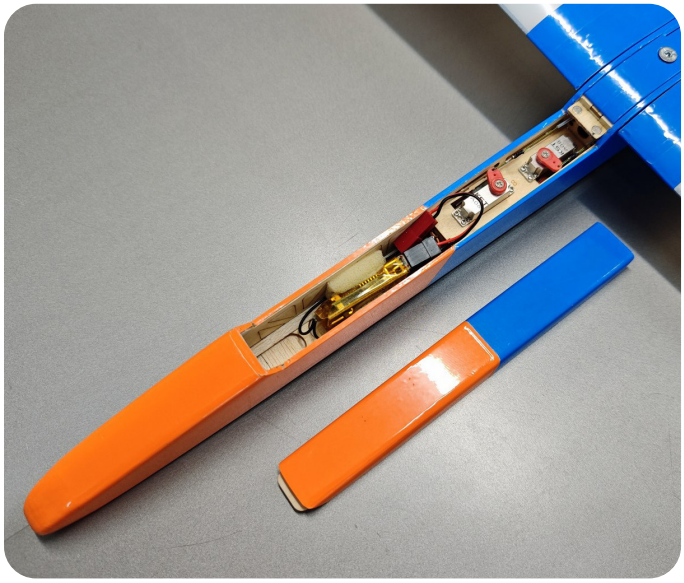


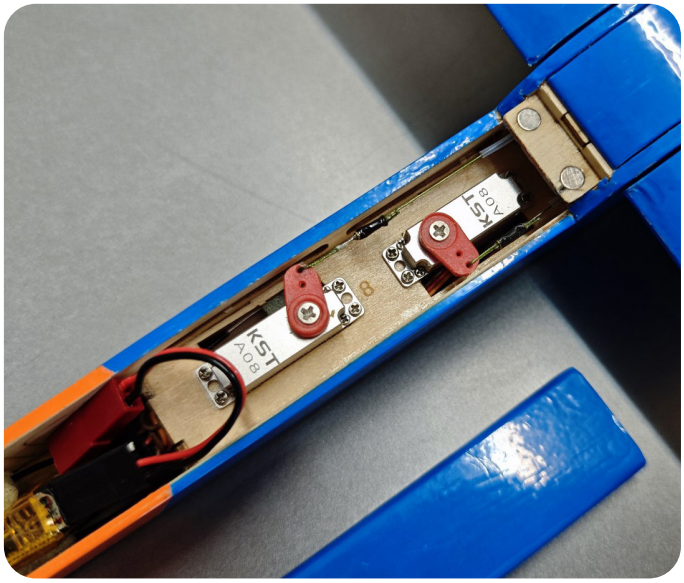
Covering

TBA

Electronic assembly



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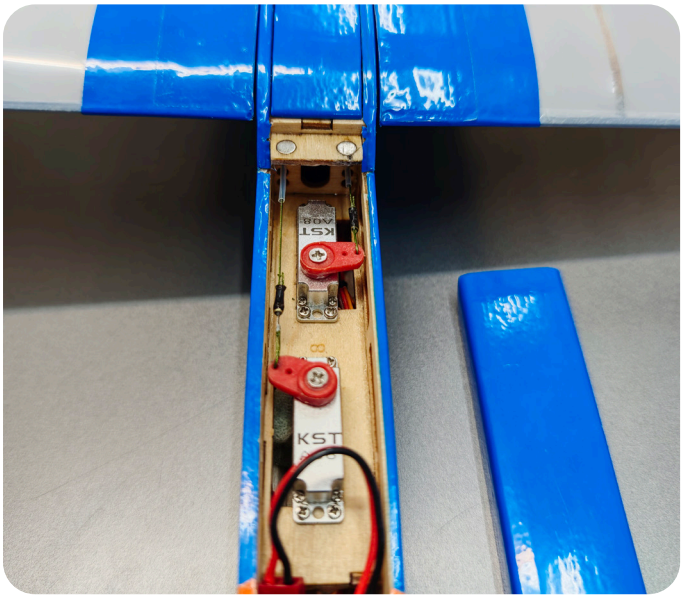
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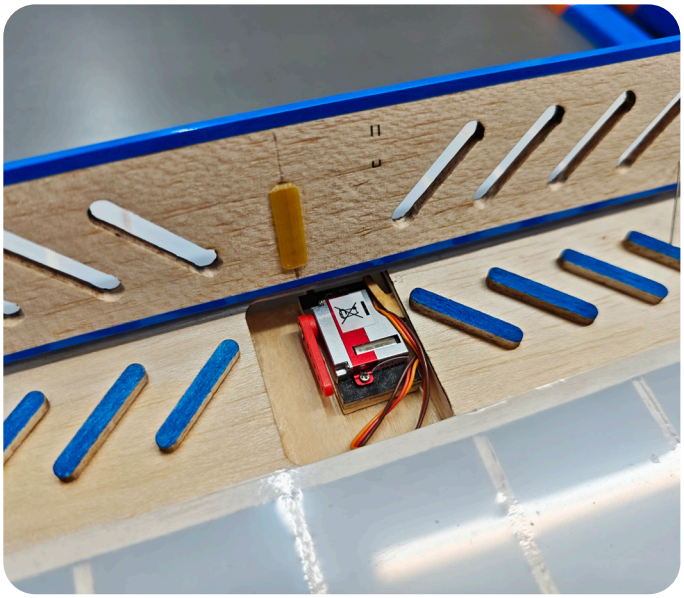

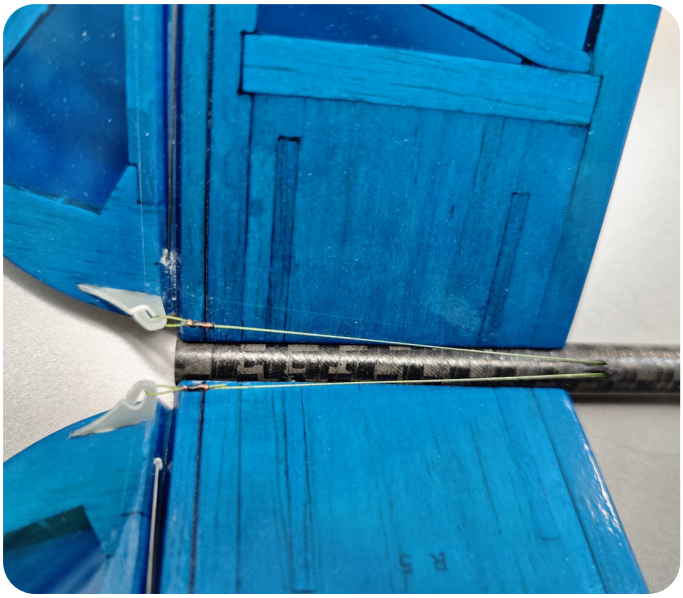

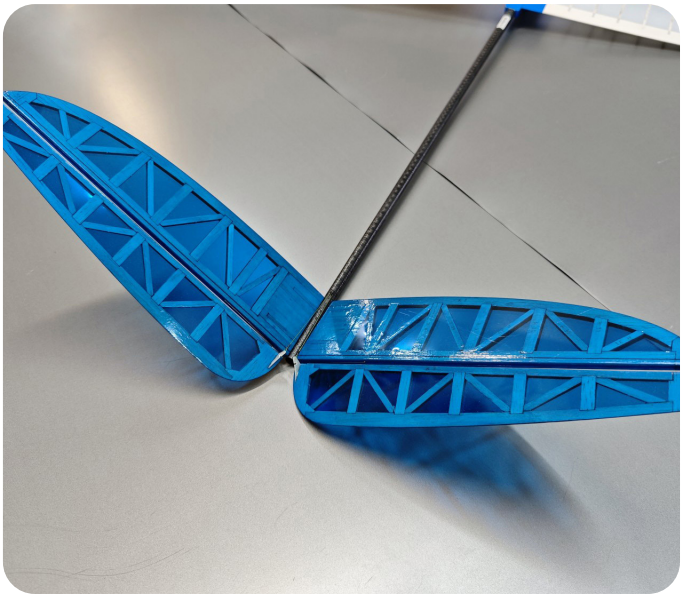

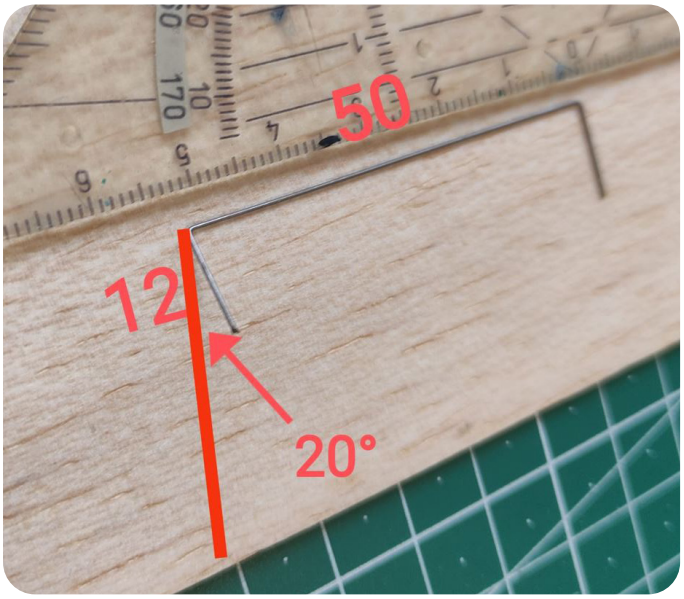
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