

DH.82 Tiger Moth 1/6

Building Instructions



<i>Specifications</i>	
Wing Span	1500 mm / 59.05 INCH
Wing Area	59,9 sq dm / 6.44 sq ft
Structure weight	900 Gramm / 31.74 oz.
Flying weight	1900 Gramm / 67.02 oz.
Fuselage length	1180 mm / 46.45 INCH
Scale	1 / 6

<i>Requires</i>
RC transmitter with at least 5 channels
2 x servos for ailerons (approx. 20 grams)
2 x servos for elevator and rudder (approx. 40 grams)
Motor system (from approx. 600 watts power)



Tony Ray's AeroModel

BEFORE YOU BEGIN

Attentions and Tips

1. Read through the manual before you begin, thus you will have an overall idea of what to do.
2. Check all parts in the scope of delivery list. If you find any serious defects or missing parts, please contact Tony and Sebastian directly.
3. Please build your kit in strict accordance with the sequences in the user manual.
4. Pre-Sanding: Before removing any parts from the laser-cut plywood sheets, use some 250 -400 grit sandpaper and lightly sand the back side of the sheet. This is significantly reducing burn marks of the wood and makes the parts match better together.
5. Before building the for example the wings with the wing drawing, it is recommended to cover the paper with a layer of kitchen cling film. This way, you can prevent wood parts from sticking to the drawing and causing damage.
6. Parts Assembly: This products tabs and notches interlock like a 3D puzzle. We highly suggest that when fitting parts, you "dry fit" (use no glue) the parts first. It is advised to work 1 - 2 steps ahead in the instructions, using the dry-fit technique. This allows to inspect the fit and location of assembled components first. Once you arrive at the end of a major assembly sequence, prepare your work on a flat surface and then bond the dry-fit joints with glue. Using the dry-fit technique, you will be able to recover from some minor building mistakes.
7. This is a precision laser-cut kit. Our lasers cut within 0.2mm accuracy. Yet the sheets of our wood supplier may vary in thickness by up to 0.2-0.3mm. This variance in the wood stock can cause some tabs and notches to fit very tightly. So please consider lightly sanding or lightly pinching a tight-fitting tab before assembling rather than forcing the parts together.

KIT INVENTORY

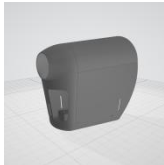
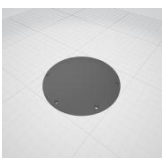



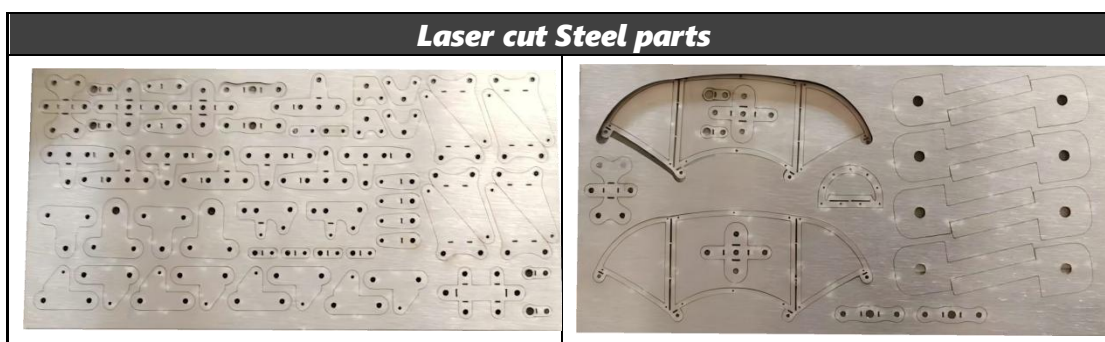
Wood Sheet Inventory		
Item:	Quantity	Mark
3.0 mm Pine	4	A Series: A1-A4
3.0 mm Paulownia	6	A Series: A5-A10
3.0 mm Balsa	12	B Series: B1-B12
3.0 mm Plywood	3	C Series: C1-C3
2.0 mm Plywood	2	D Series: D1-D2
2.0 mm Paulownia	2	E Series: E1-E2
2.0 mm Balsa	4	E Series: E3-E6
1.0 mm Balsa	1	F Series: F1
3.0 mm Plywood	2	G Series: G1-G2

Wood Strips& Strip Parts Inventory	
Item:	Quantity
6 x 6mm Balsa, Length: 72 cm	4
6 x 2mm Pine, Length: 72 cm	5
3 x 3mm Pine, Length: 72 cm	1
Φ3 bamboo rod, Length: 15 cm	2
PVC Tube (Outer Φ: 3 mm, Inner Φ: 2 mm), Length: 72 cm	2
Steel push rod (Diameter 1,2 mm), Length: 72 cm	2

Hardware					
Item	Quantity	Item	Quantity	Item	Quantity
M2 Four claws nut 	4	M3 Four claws nut 	2	Micro Copper hinge 	22
8-Shaped joints 	20	M1.2 x 4 Screw 	Ca.105	Mini Copper Nails 	20
M2 x 9 Screw 	50	M2 x 5 Screw 	20	M2 Screw nut 	45
M3 Screw nut 	8	Copper bushing 	2	Wheel holder 	2
M2 x 8 Screw 	14	M1.6 x 6 Screw 	20	M1.6 Screw nut 	20
3 Inch wheel 	2	Tail wheel 	1	Aluminum buckles 	32
Steel cable 	5m	Plastic hinge 	14	M2 joint 	6
M2 L30 mm stud 	4	M3 L40 stud 	2	Spring 	3
M3 x 10 Screw 	2	M3 L40 mm stud 	2	M3 mini magnet 	16

Sheet Parts	
1:1 drawing	2
Panel decals	1
Pu Leather ca. 15 x 15 cm	1
Laser cut PVC Sheet	1
0,3 mm aluminum sheet 20 x 20 cm	1

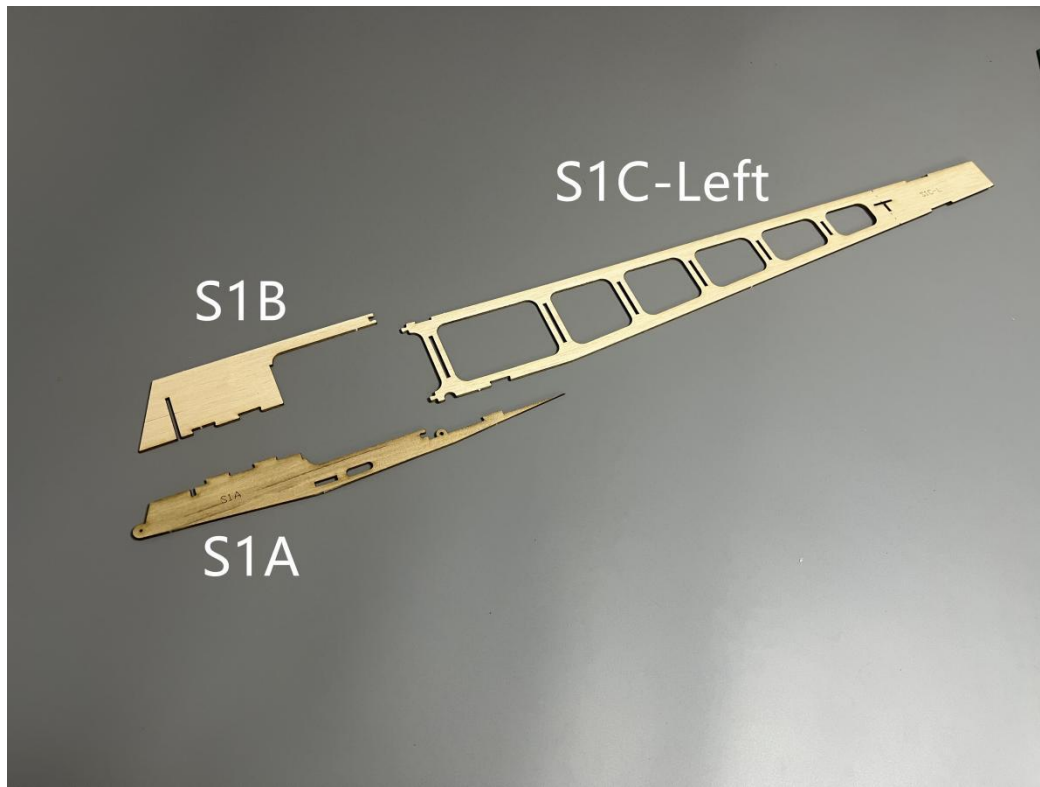
Resin Parts					
Item	Quantity	Item	Quantity	Item	Quantity
Cowl 	1	Wheel hub cover 	2	Side fuel tank 	1



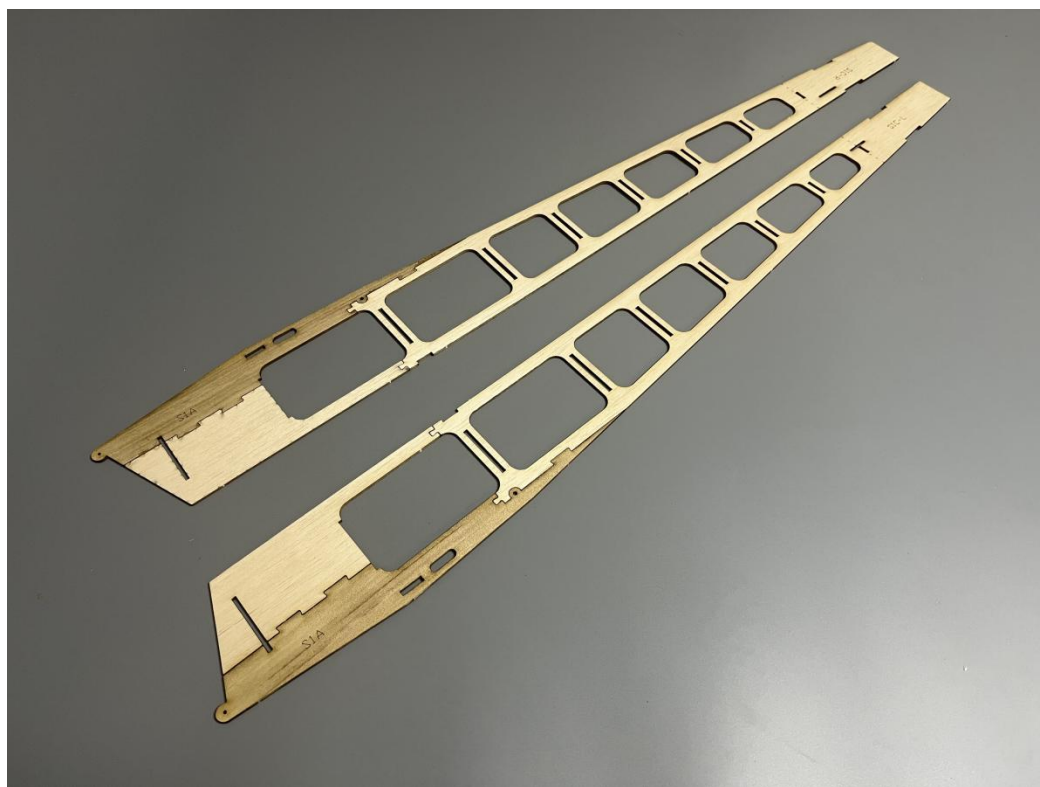
Metal tubes		
Item		Quantity
Tubes For Landing gear	Ø 6 mm Steel tube. Length: ca. 88 mm. Ø 2 mm Hole at the ends	2
	Ø 4 mm Steel tube. Length: ca. 136 mm Ø 2 mm Hole x 2, bent	2
	Ø 3 mm Aluminum tube. Length: ca. 50 mm.	4
	Ø 4 mm Aluminum tube. Length: ca. 125 mm.	2
Tubes For Struts	Ø 4 mm Aluminum tube. Length: ca. 137 mm.	2
	Ø 4 mm Aluminum tube. Length: ca. 152 mm.	2
	Ø 4 mm Aluminum tube. Length: ca. 140 mm.	2
	Ø 3 mm Aluminum tube. Length: ca. 92 mm.	1

1.ASSEMBLY-Fuselage

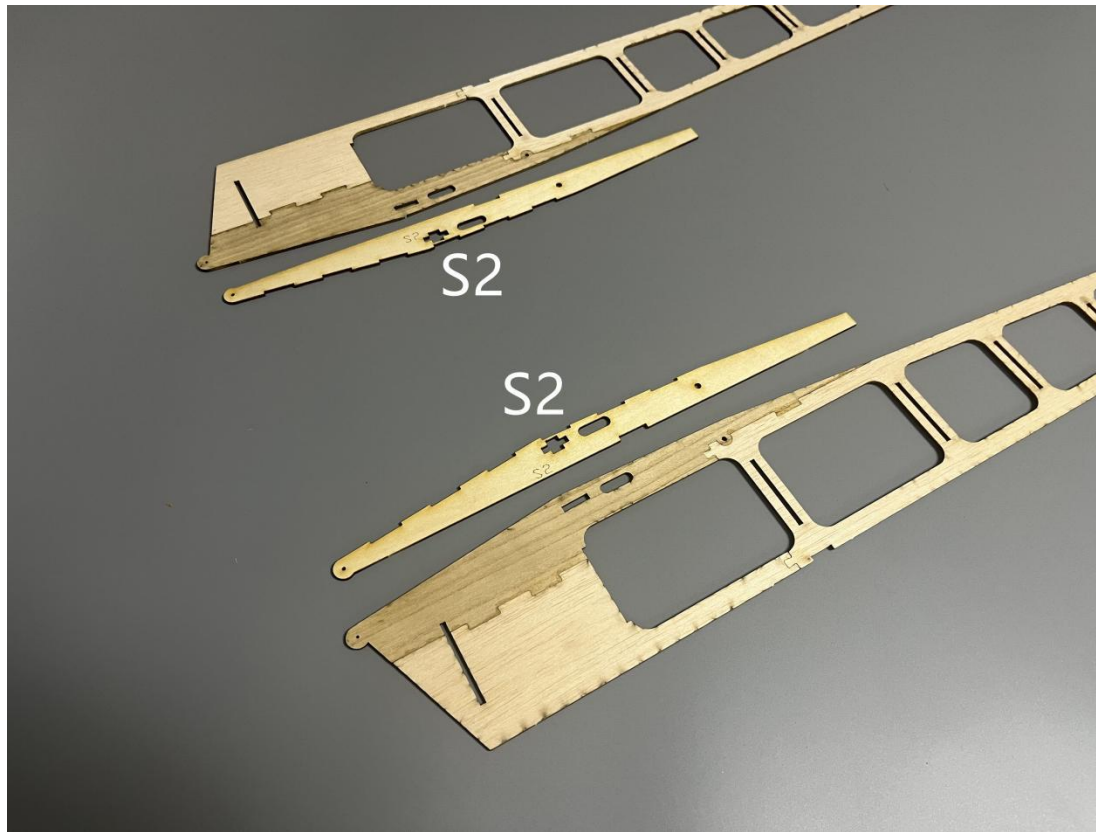
Step 1



Step 2



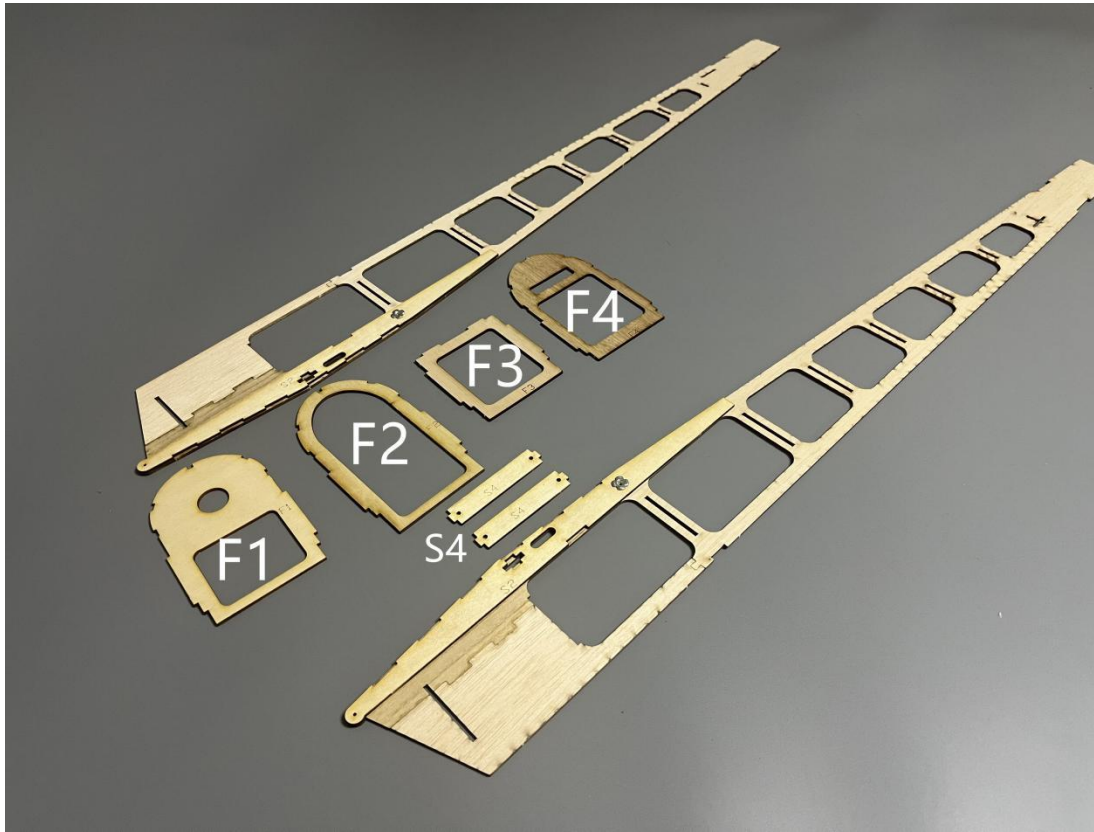
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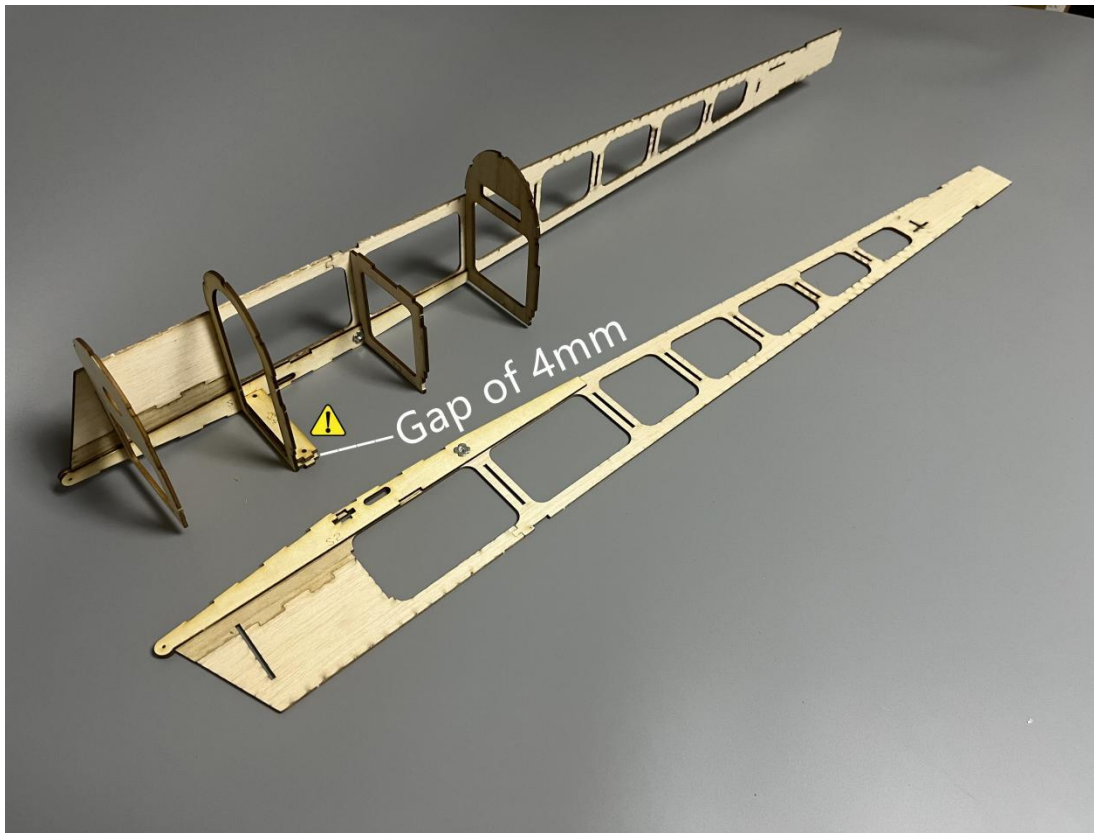
Step 4: M3 Four Claws Nut.



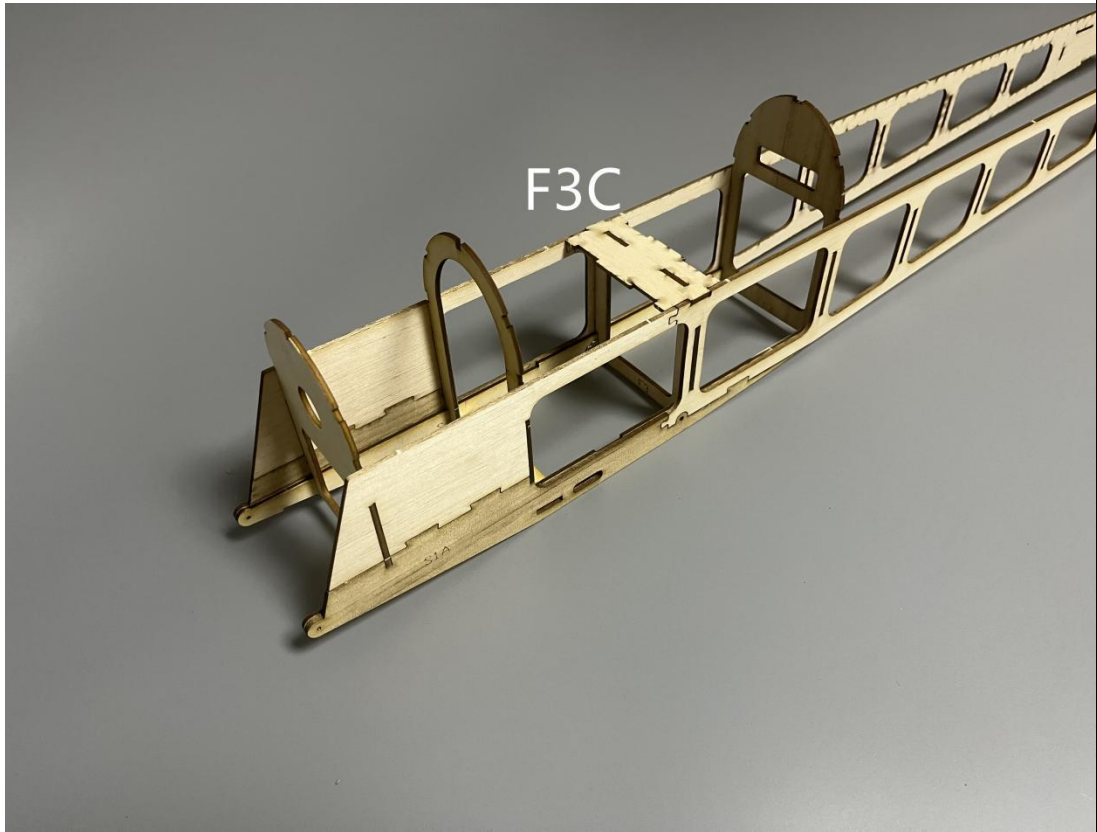
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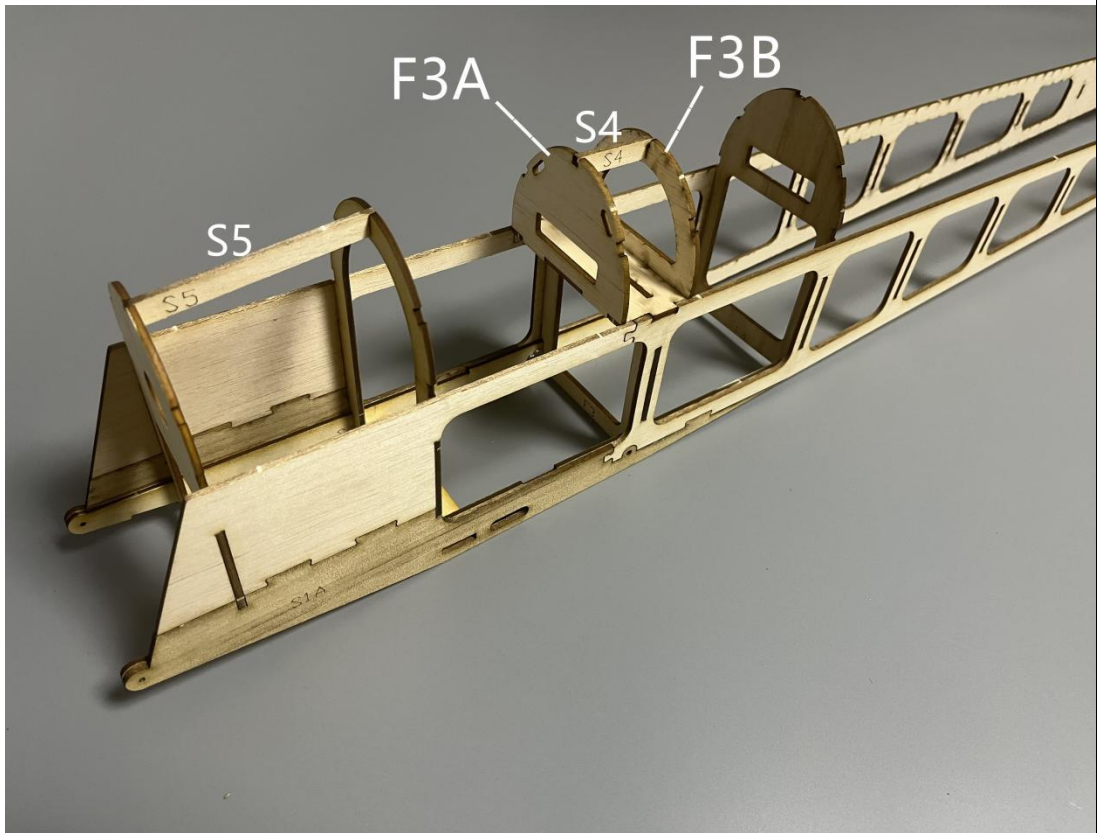
Step 6: Gap of 4 mm.



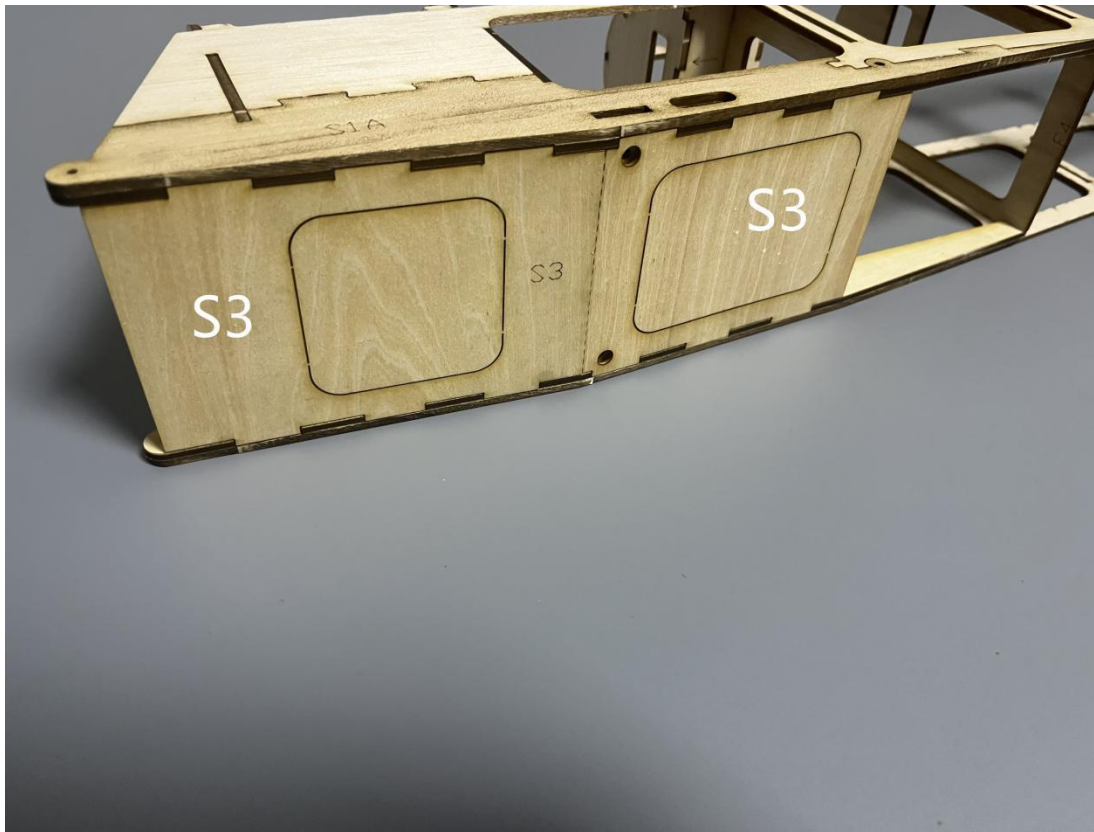
Step 7



Step 8



Step 9



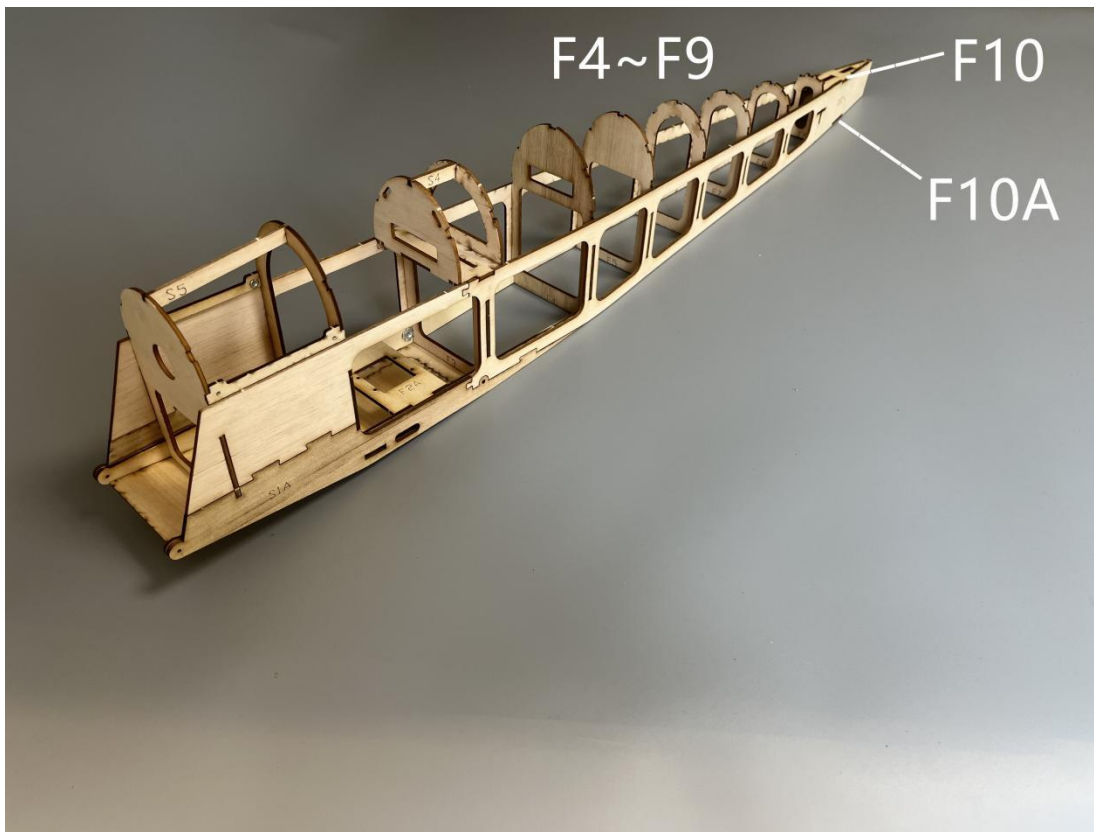
Step 10: M2 Four Claws Nut.



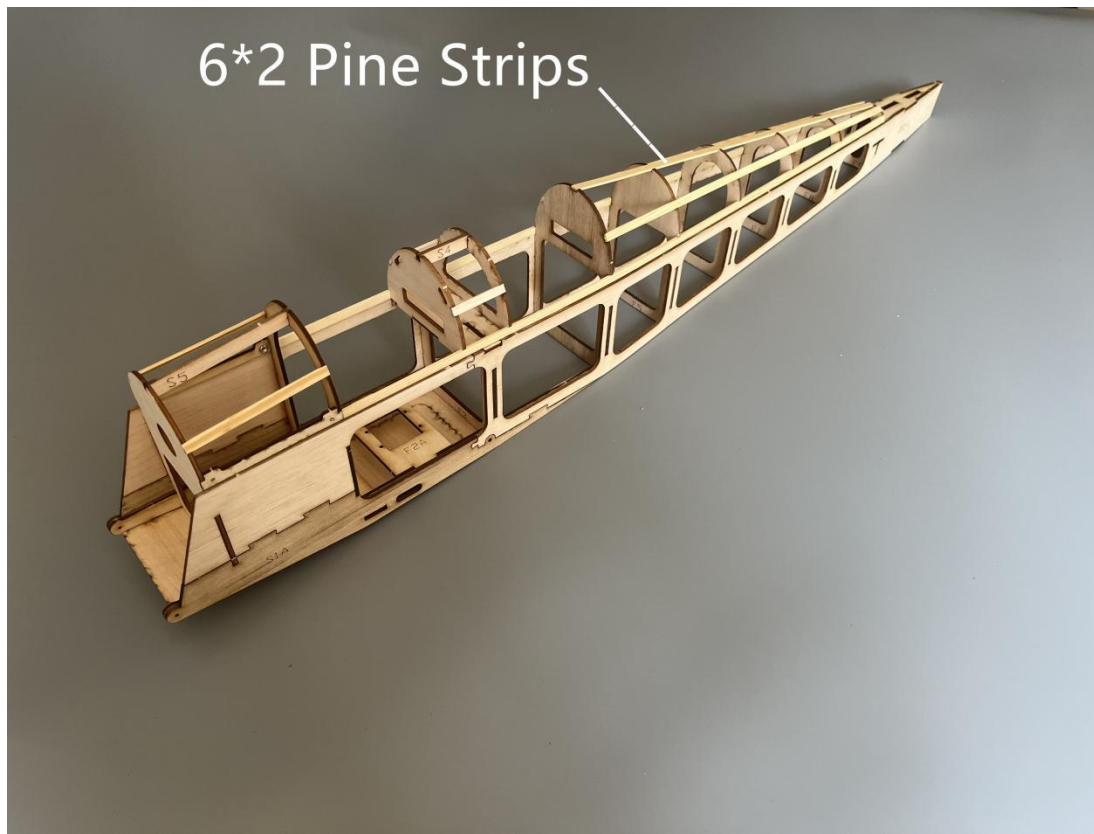
Step 11



Step 12



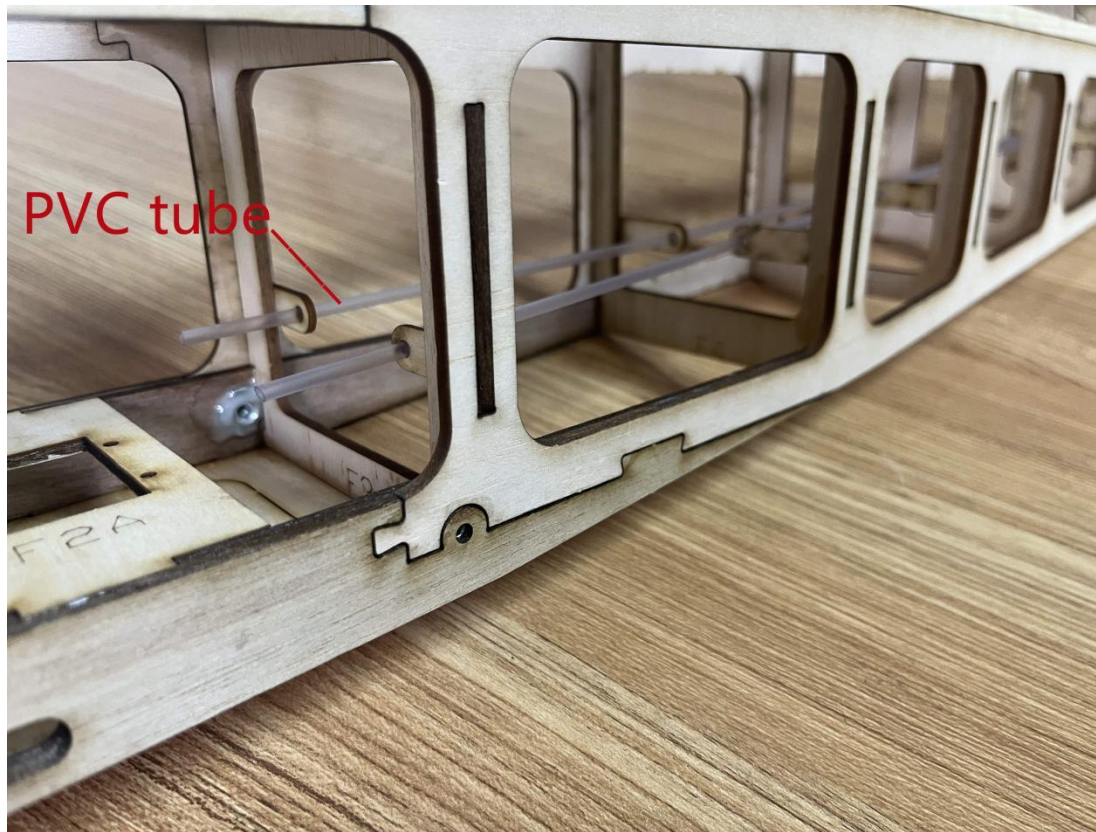
Step 13: 6 x 2 Pine Strips.



Step 14



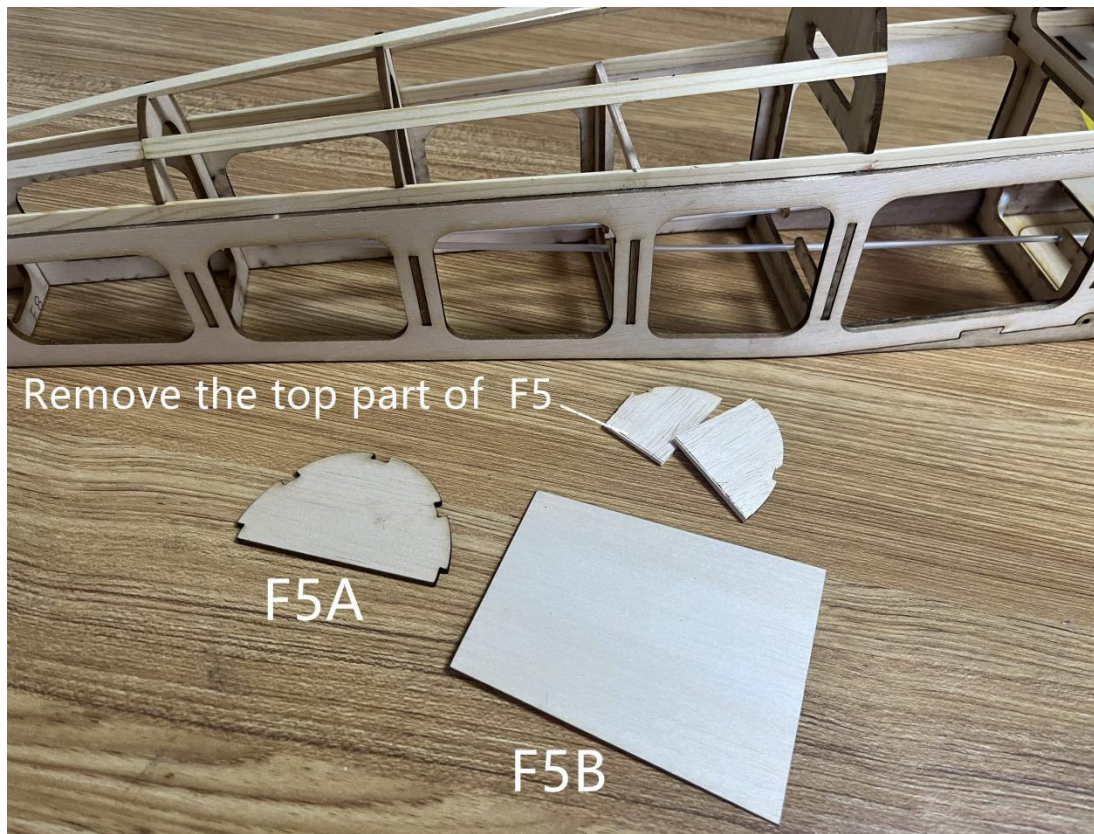
Step 15: PVC tube.



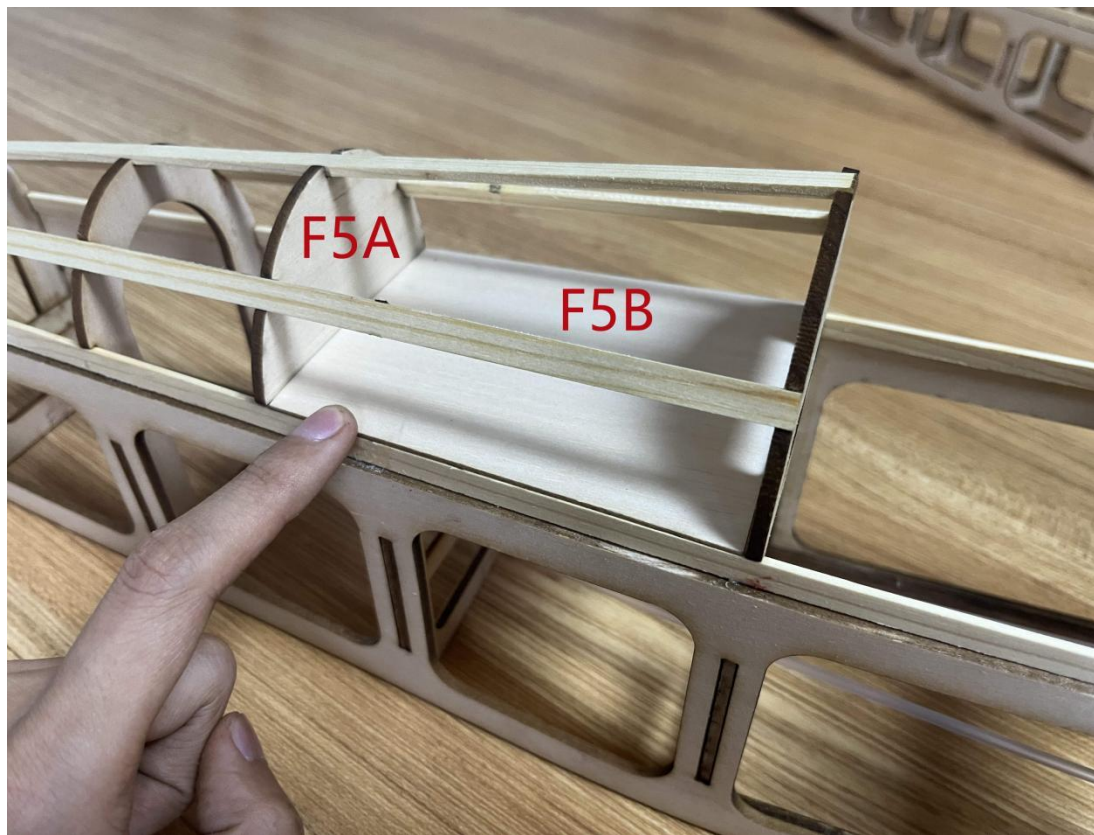
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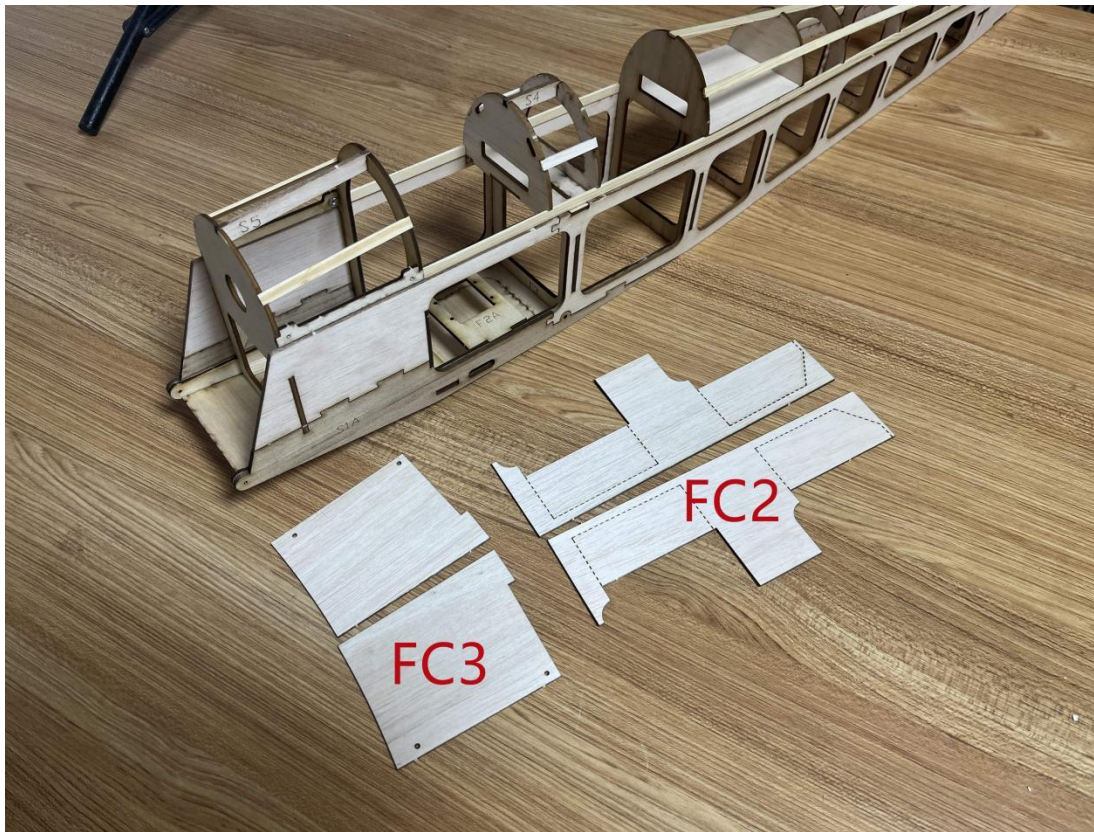
Step 17: Remove the top part of F5.



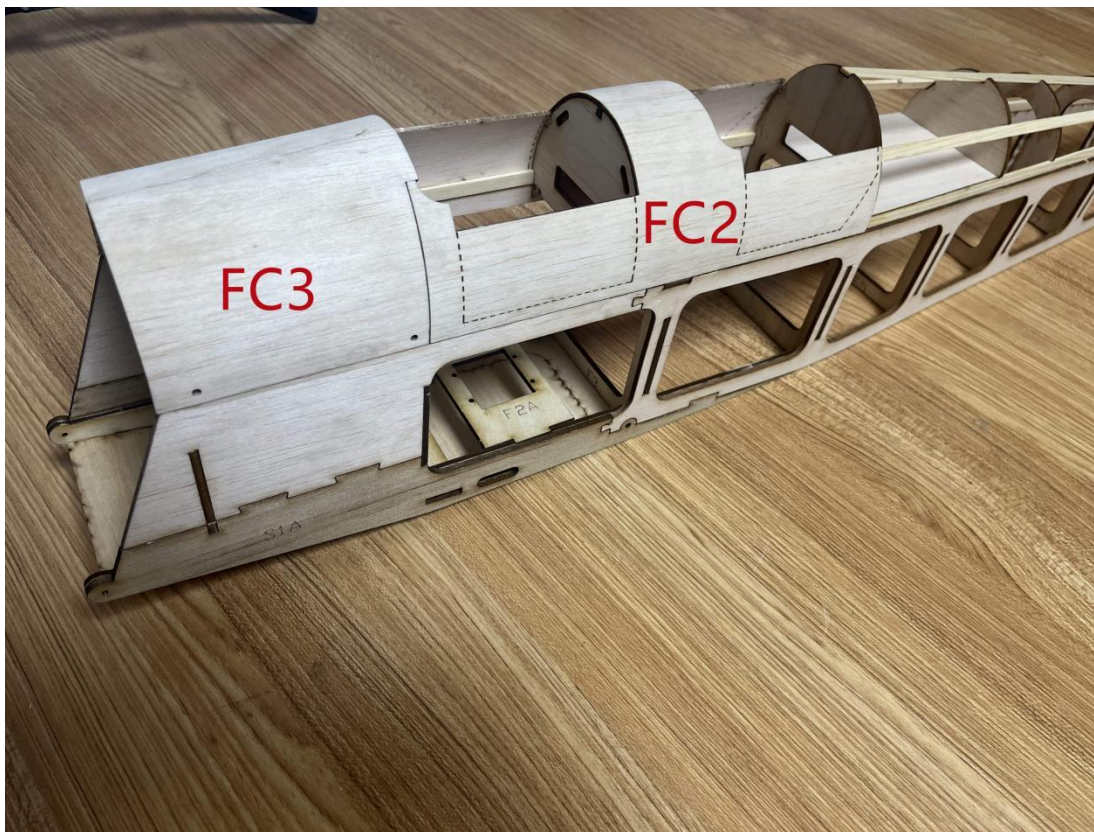
Step 18



Step 19



Step 20



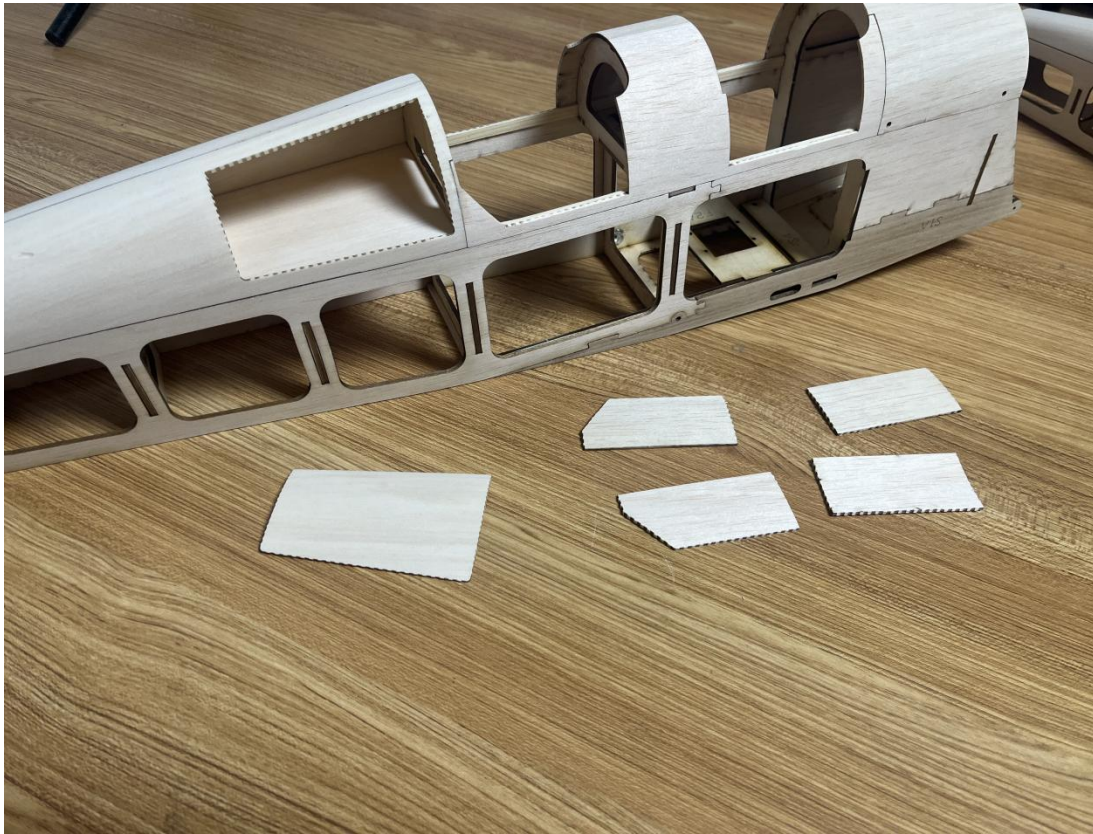
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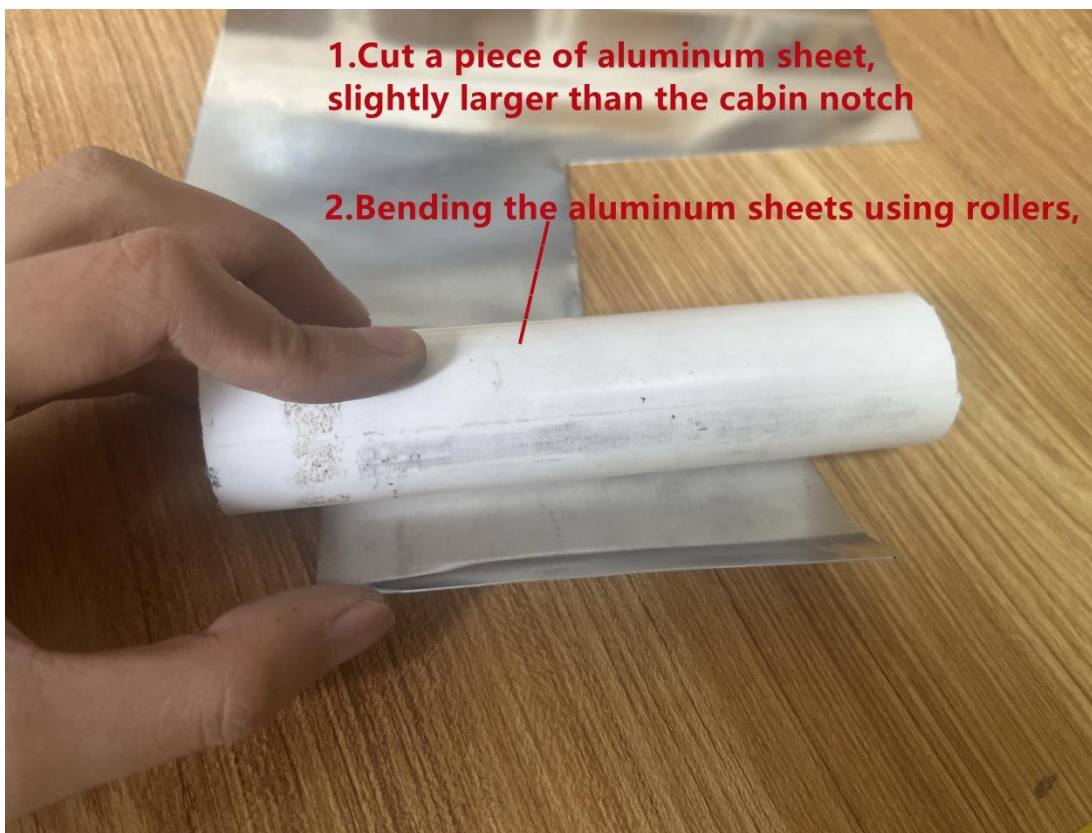
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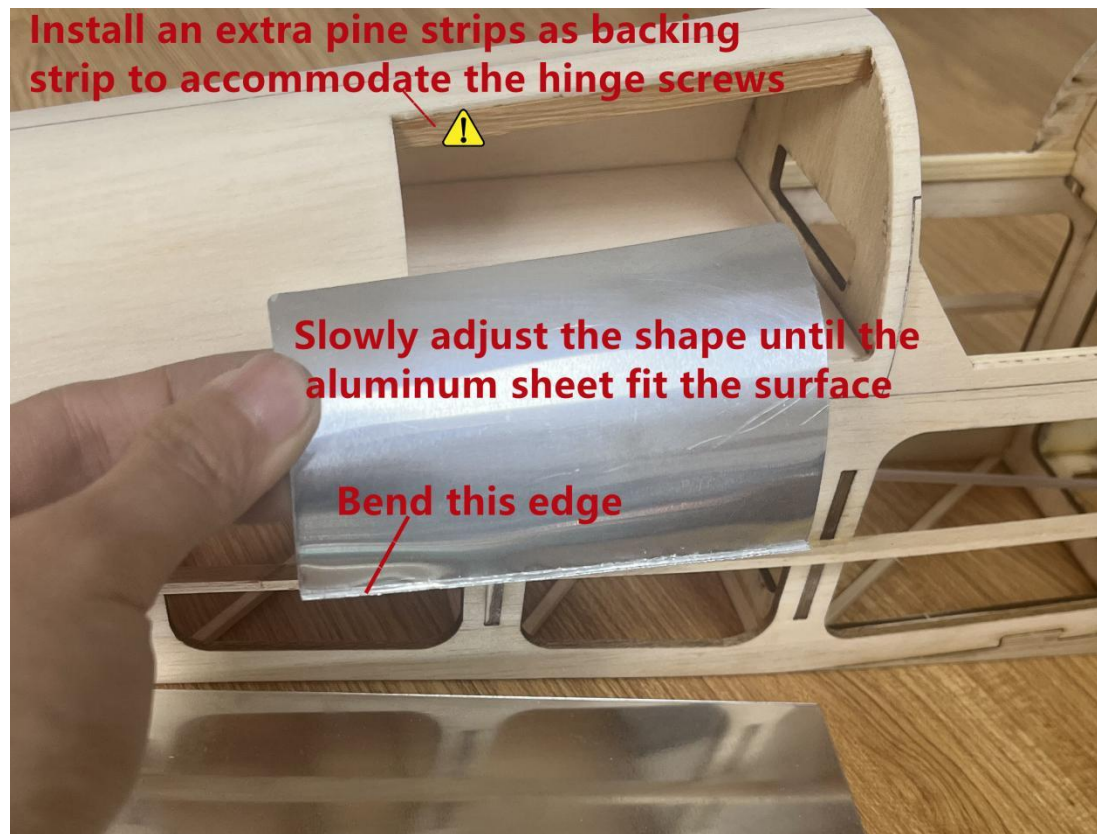
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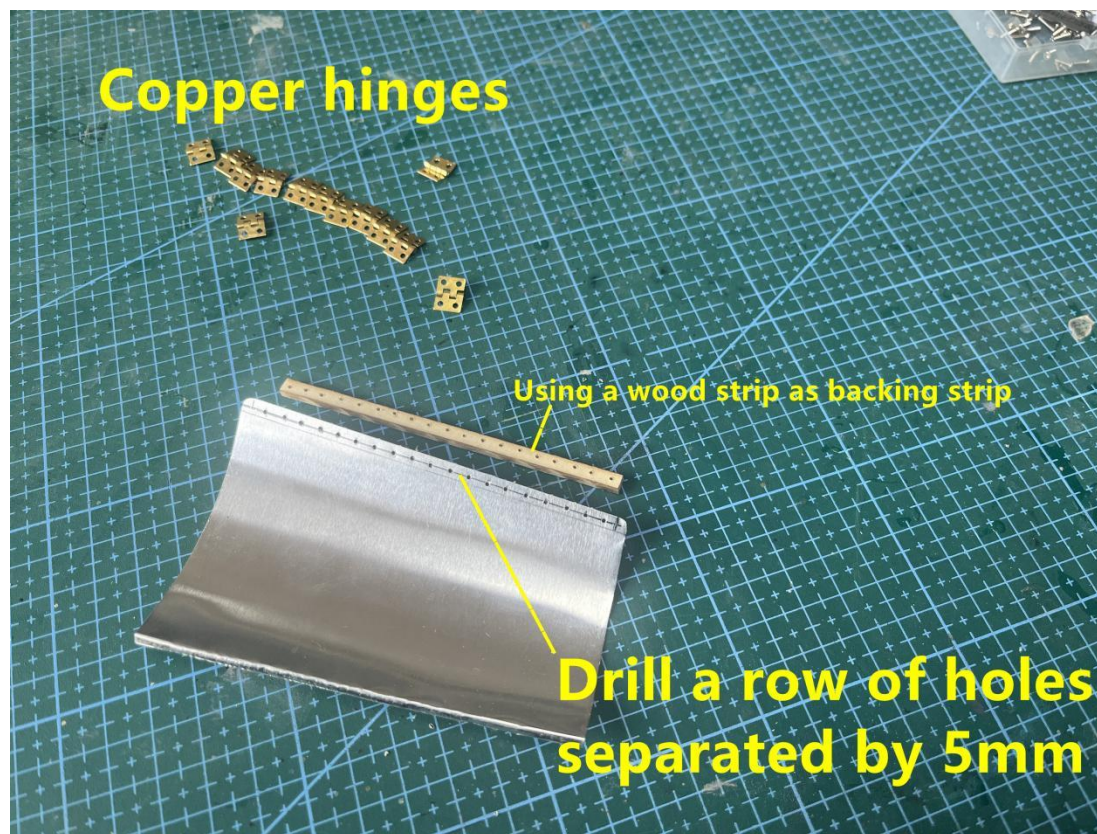
Step 24: 1. Cut a piece of aluminum sheet, slightly larger than the cabin notch. 2. Bend the aluminum sheets using rollers.



Step 25: Install an extra pine strip as backing strip to accommodate the hinge screws. Slowly adjust the shape until the aluminum sheet fits the surface. Bend this edge.



Step 26: Copper hinges. Using a wood strip as backing strip. Drill a row of holes separated by 5 mm.



Step 27: Copper nails.



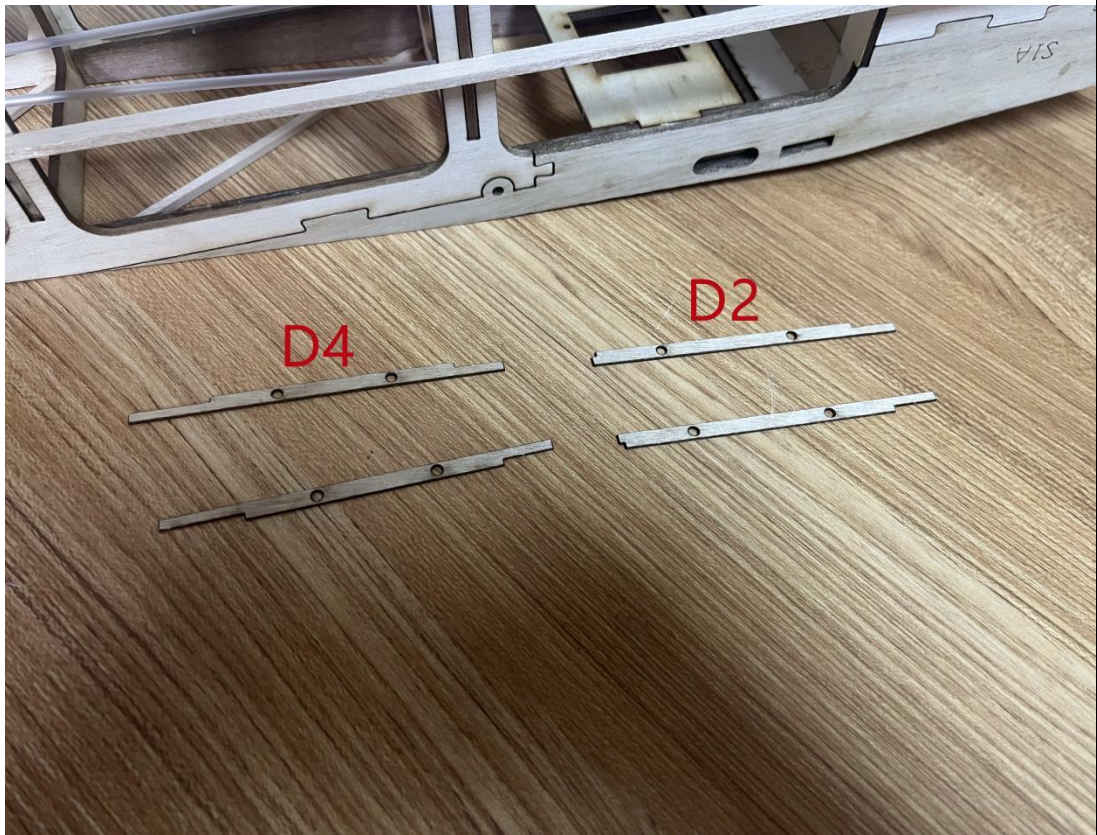
Step 28: Remove the nail tips and sand the backing strips.



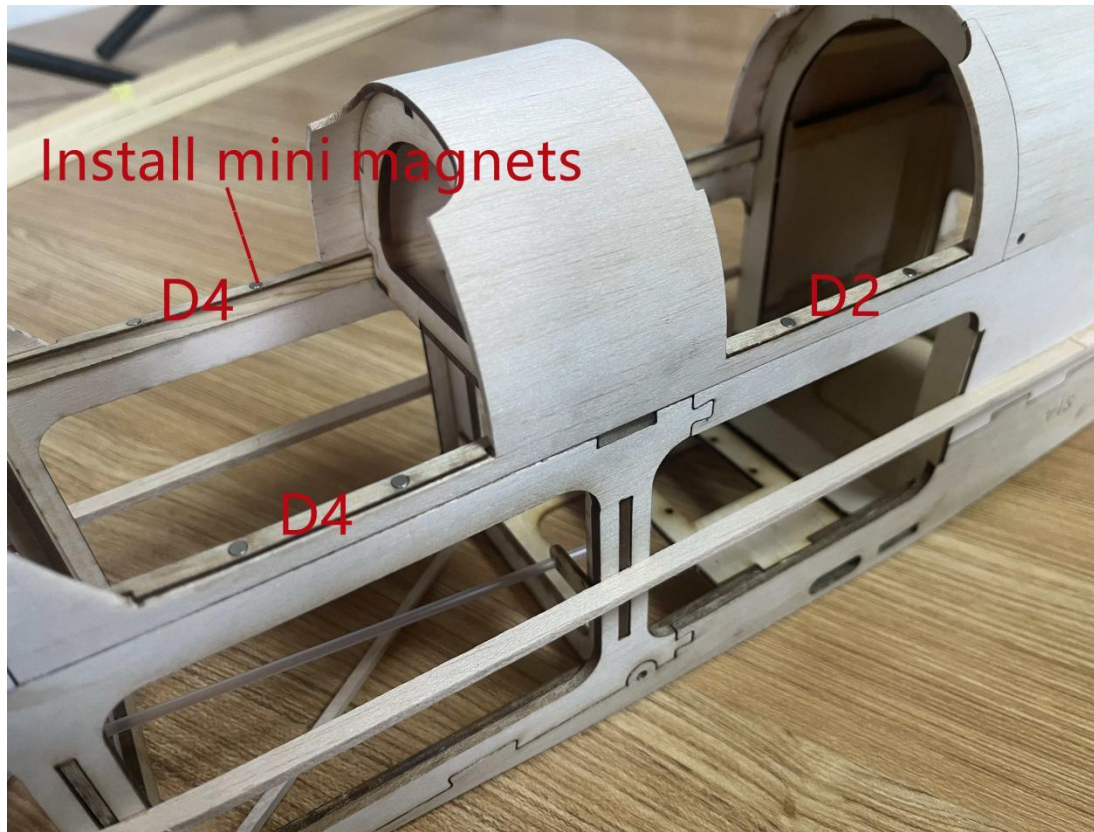
Step 29



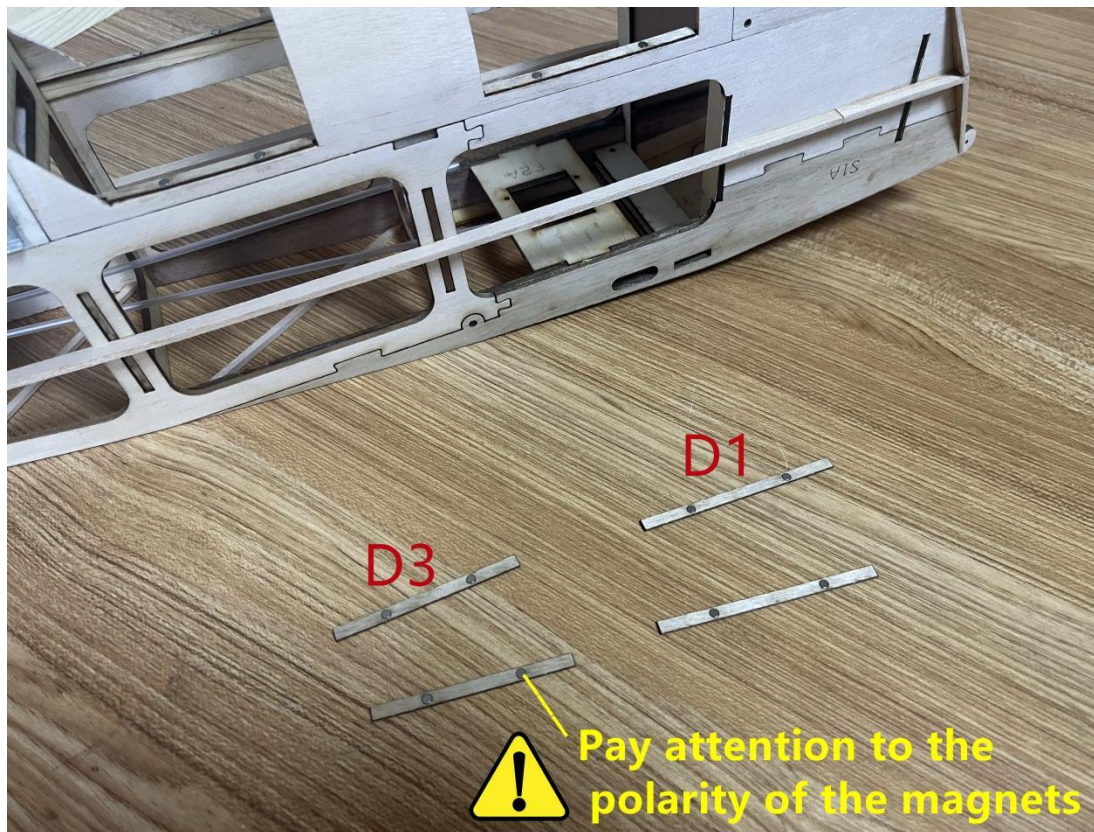
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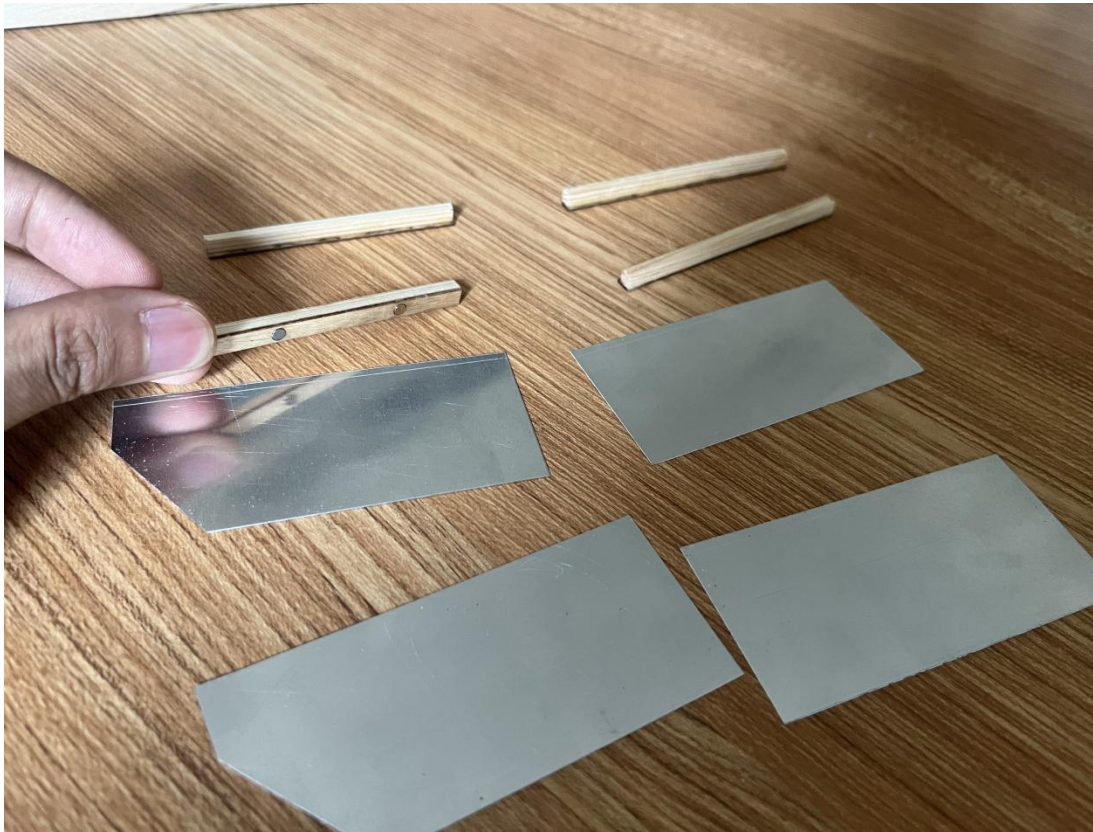
Step 31: Install mini magnets.



Step 32: Pay attention to the polarity of the magnets!



Step 33



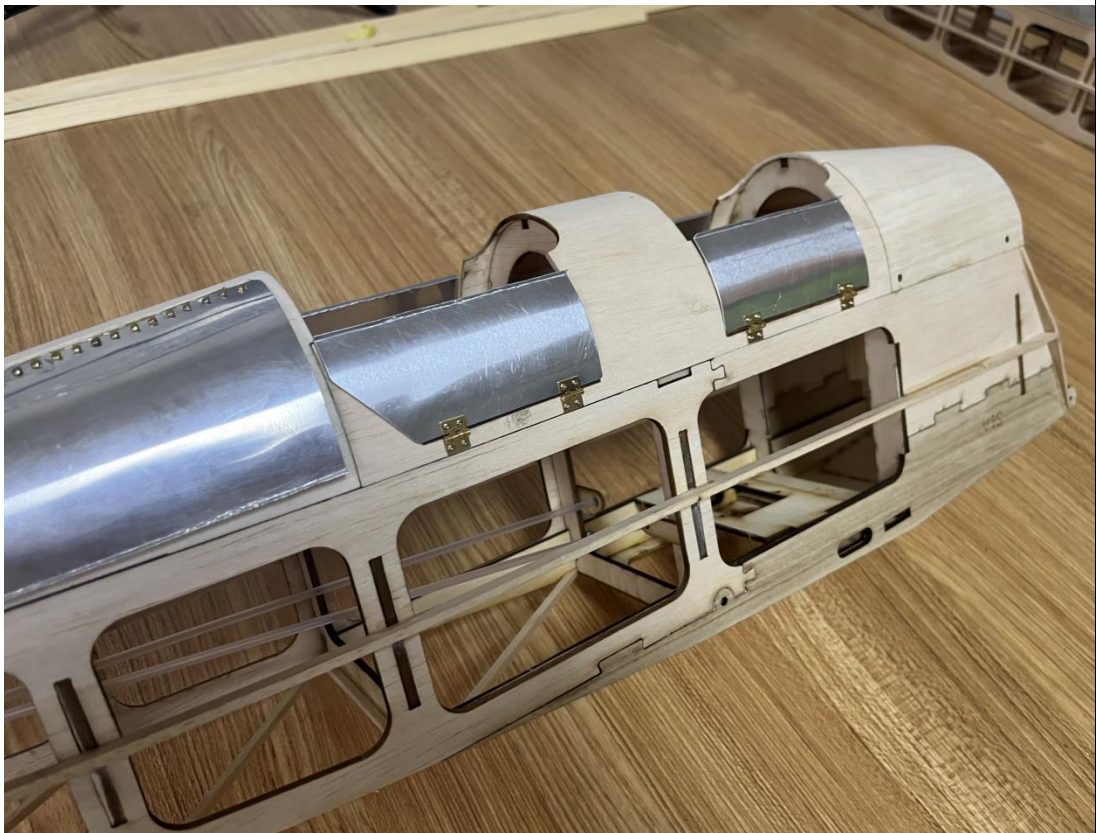
Step34



Step 35



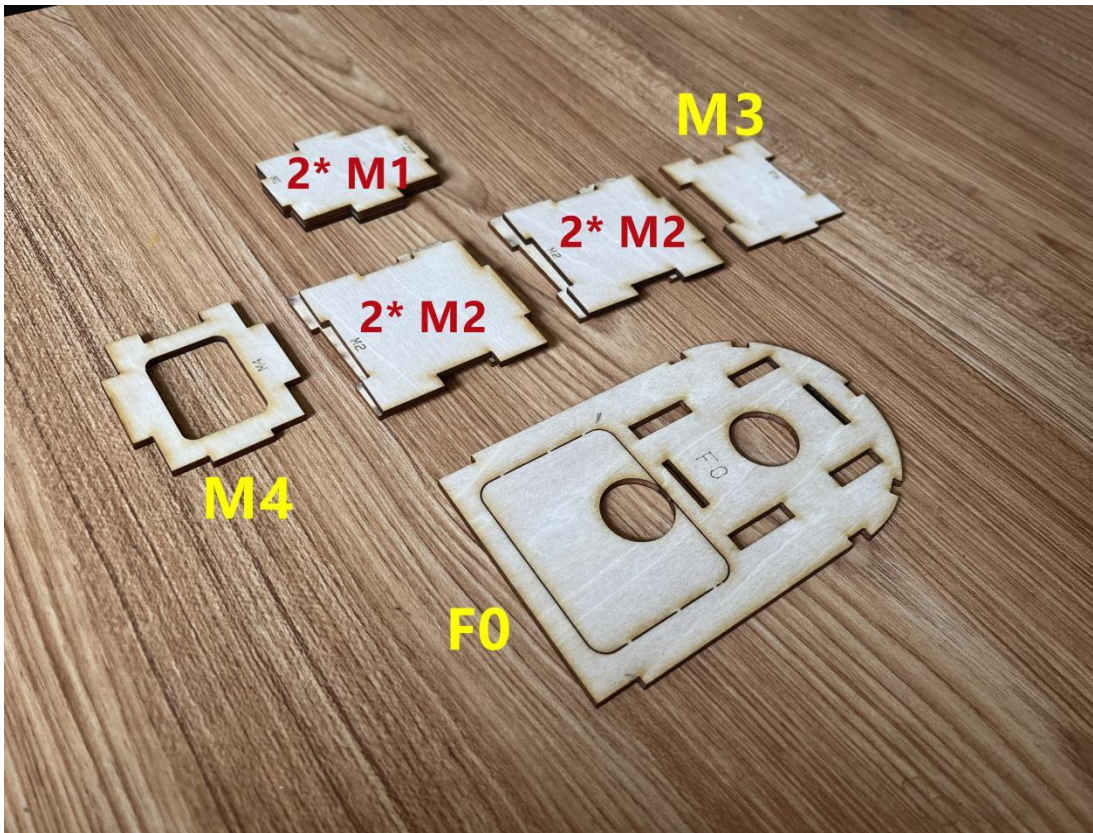
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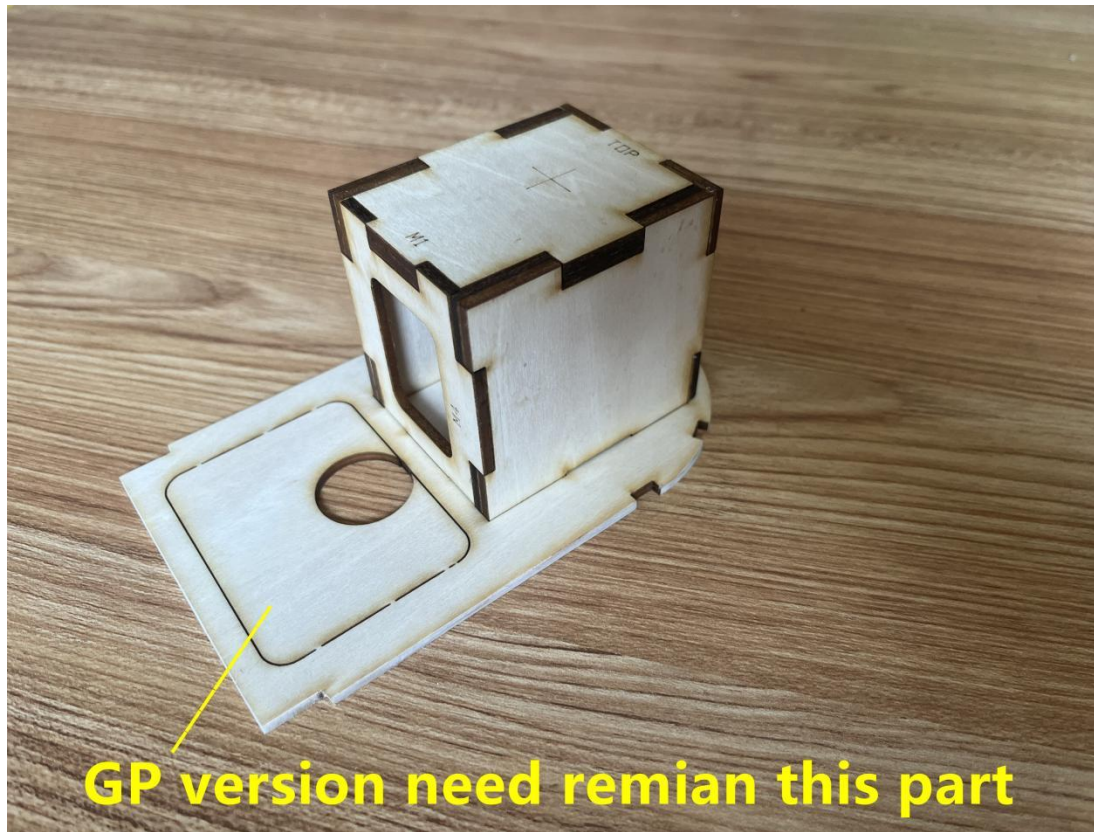
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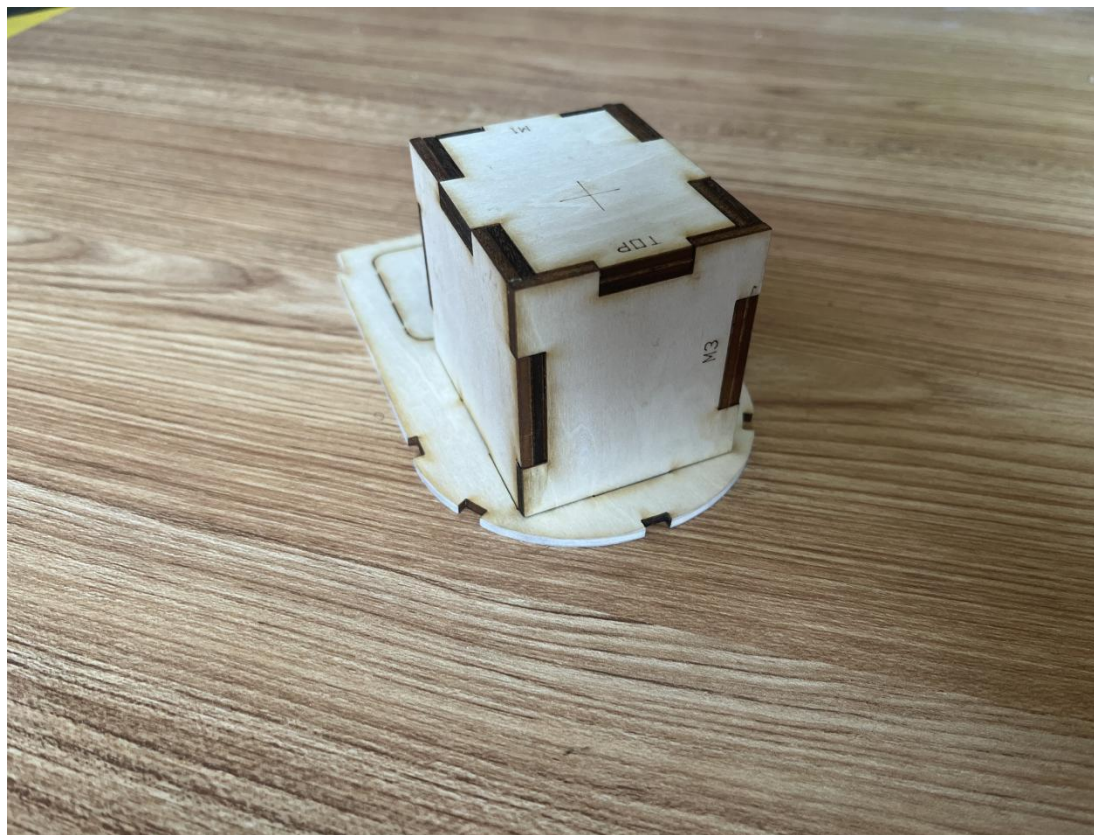
Step 38



Step 39: GP version needs to remain this part.



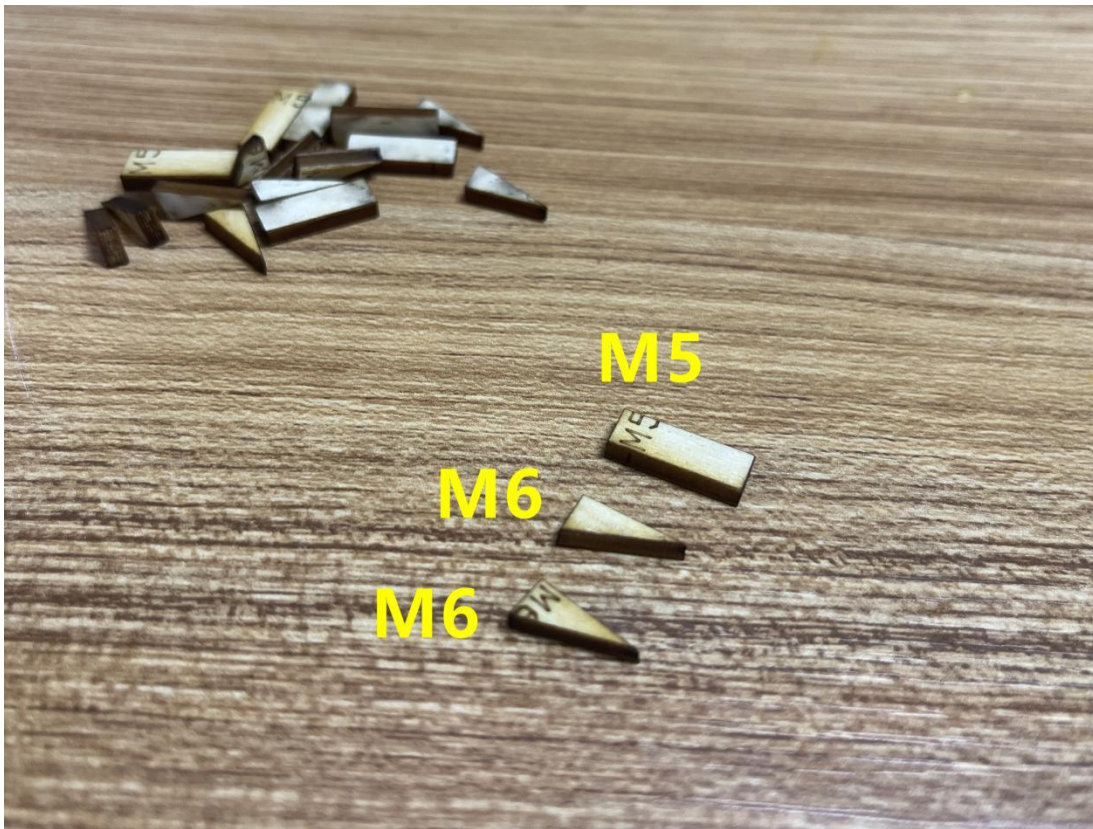
Step 40



Step 41



Step 42



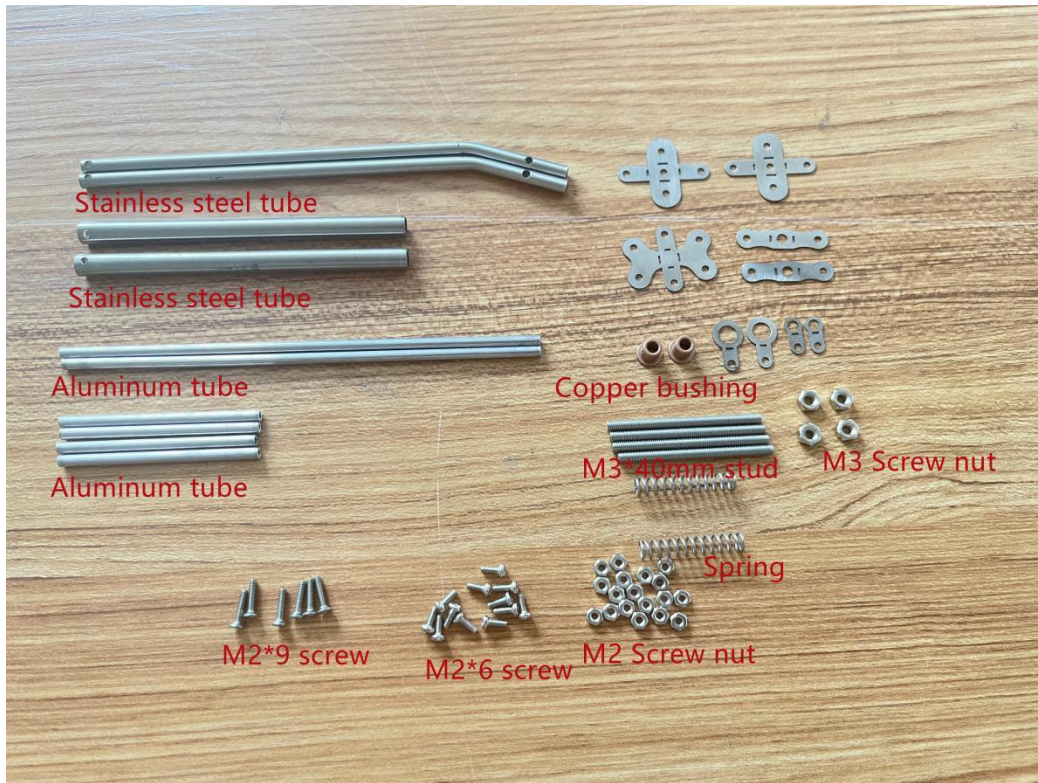
Step 43



My Notes:

2.ASSEMBLY-Landing Gear

Step 1: Stainless steel tube. Aluminum tube. Copper bushing. M3 x 40 mm stud. Spring. M3 Screw Nut. M2 x 9 screw. M2 x 6 screw. M2 screw nut.



Step 2



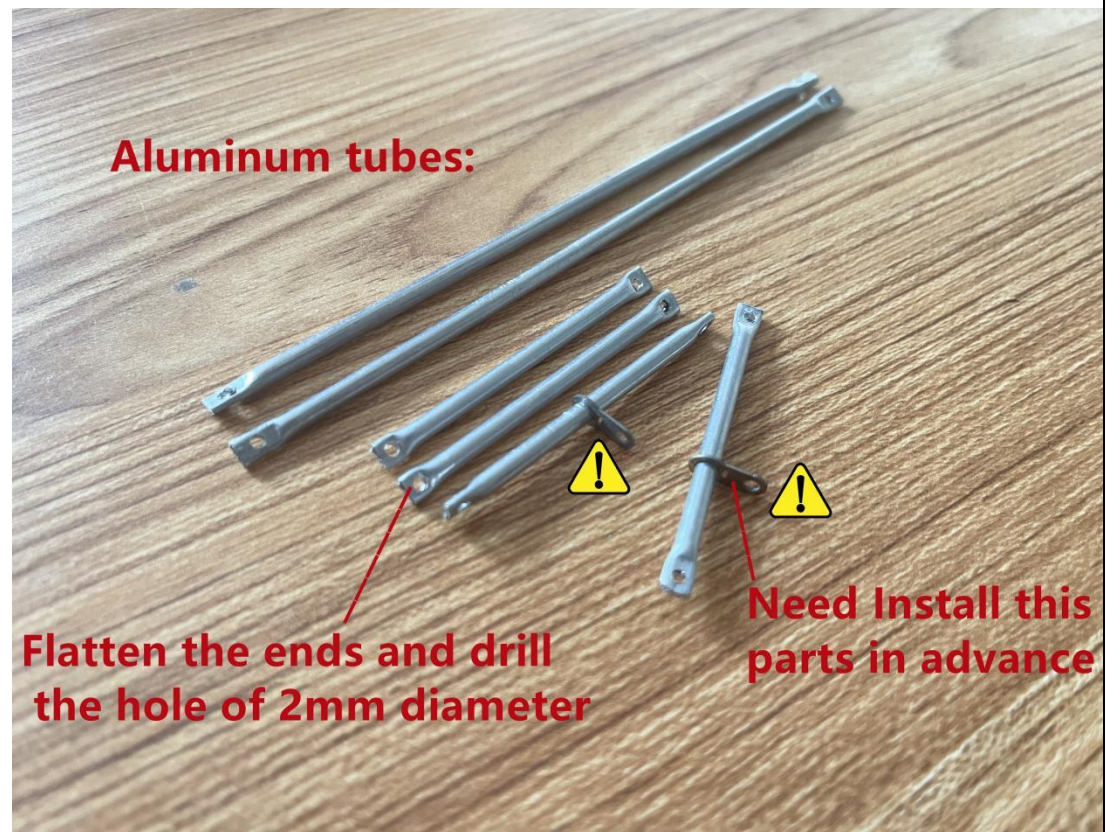
Step 3: Warp the end with Kevlar wire & CA glue, this prevents it from sliding out!



Step 4



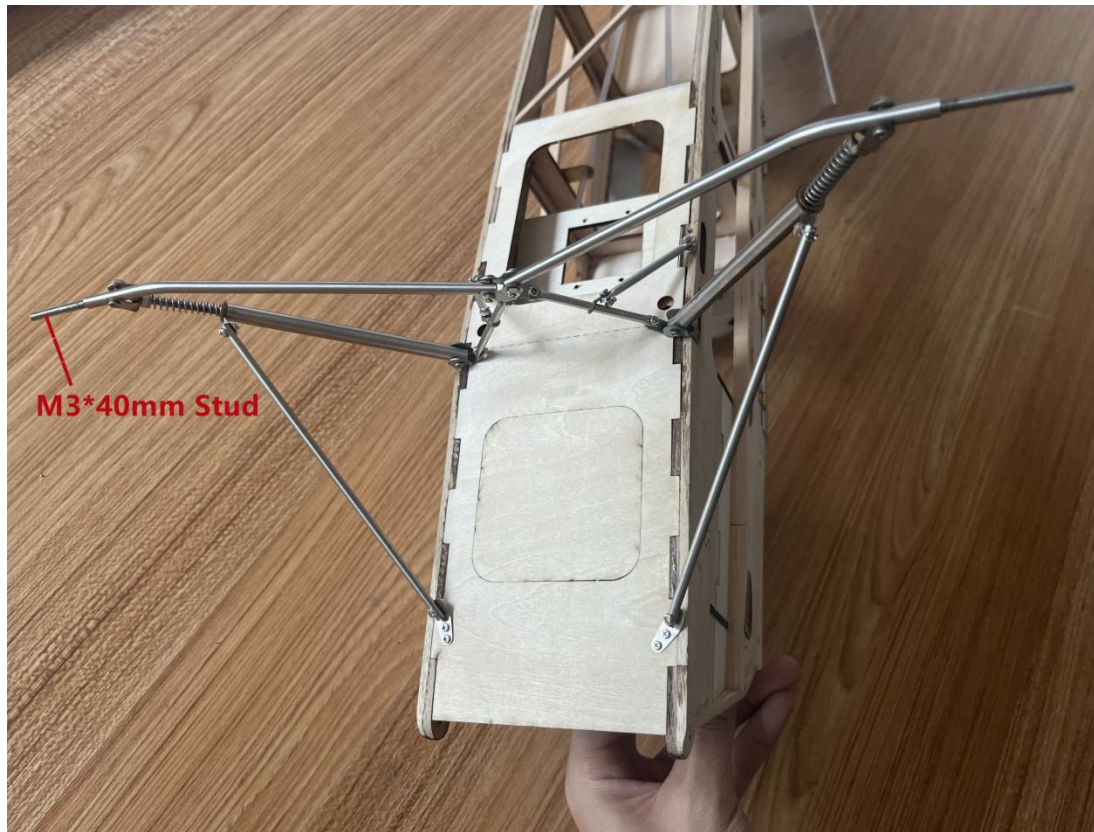
Step 5: Aluminum tubes: Flatten the ends and drill a hole of 2 mm diameter! You need to install these parts in advance!



Step 6



Step 7: M3 x 40 mm Stud.



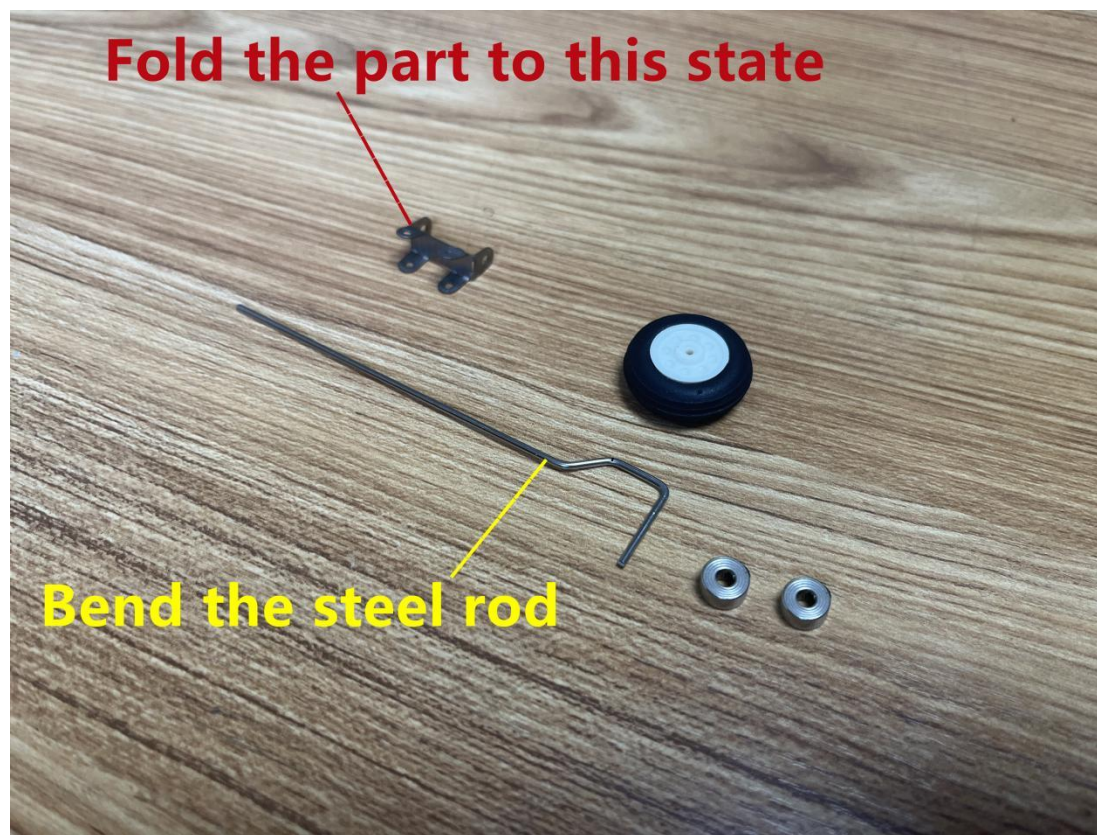
Step 8



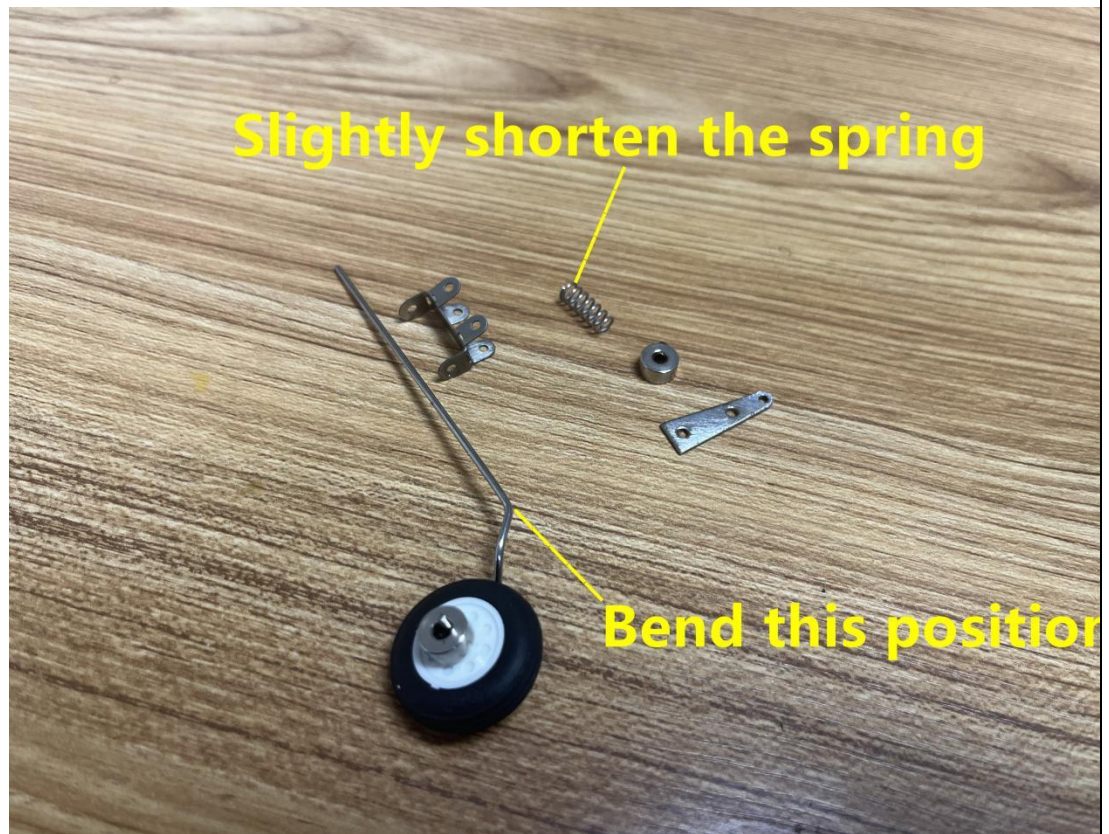
Step 9: Tail wheel module. \varnothing 25 mm wheel. \varnothing 1.2 mm Steel rod.



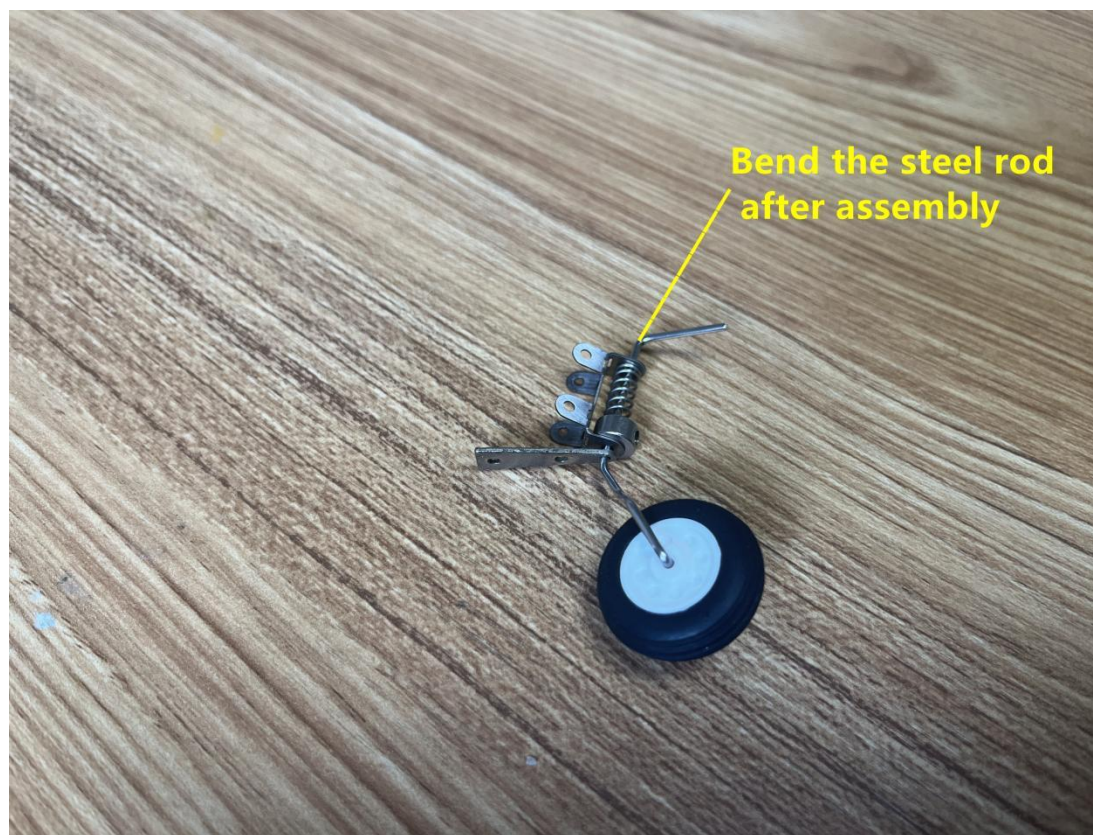
Step 10: Fold the part to this state. Bend the steel rod.



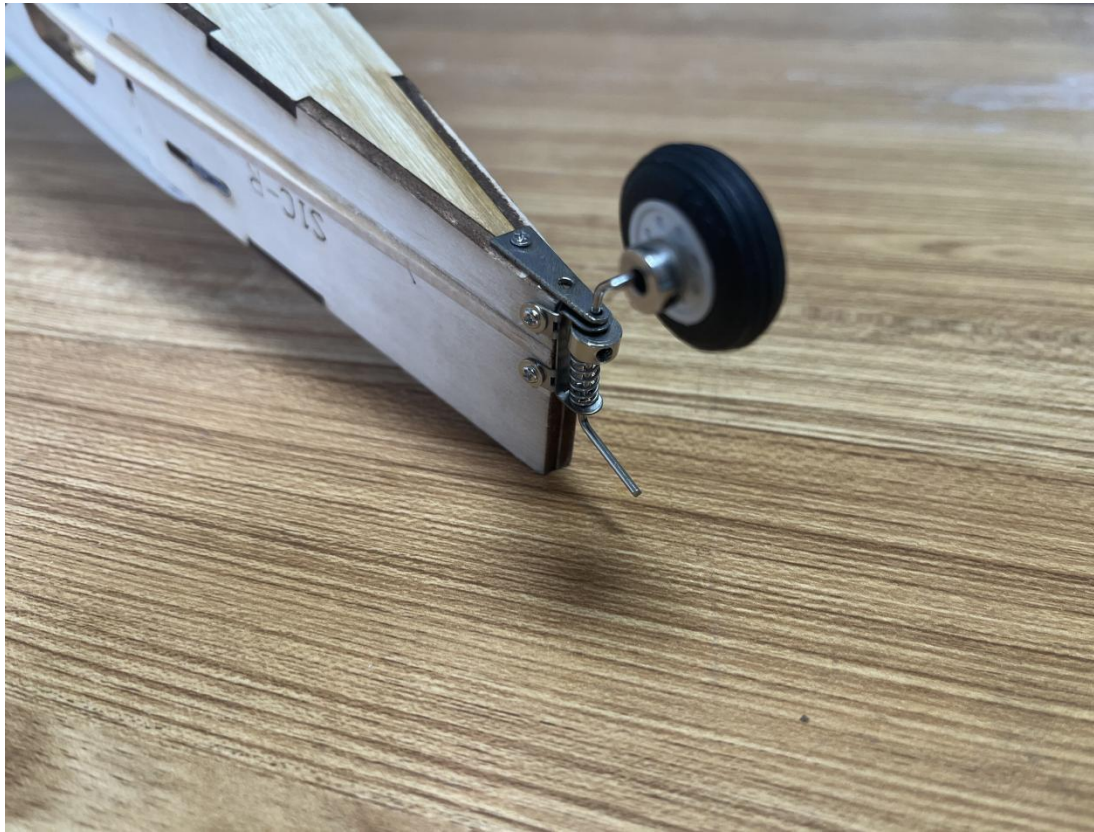
Step 11: Slightly shorten the spring. Bend this position.



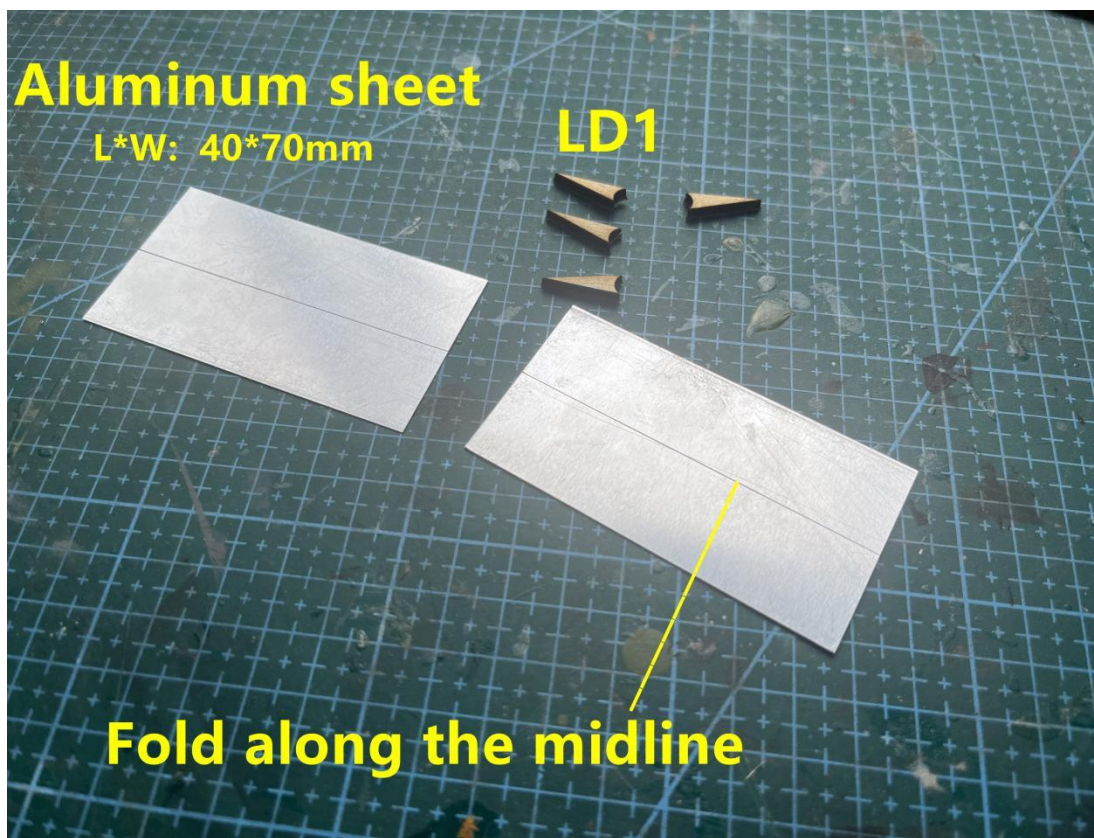
Step 12: Bend the steel rod after assembly.



Step 13



Step 14: Aluminum sheet. L x W: 40 x 70 mm. Fold along the midline.



Step 15

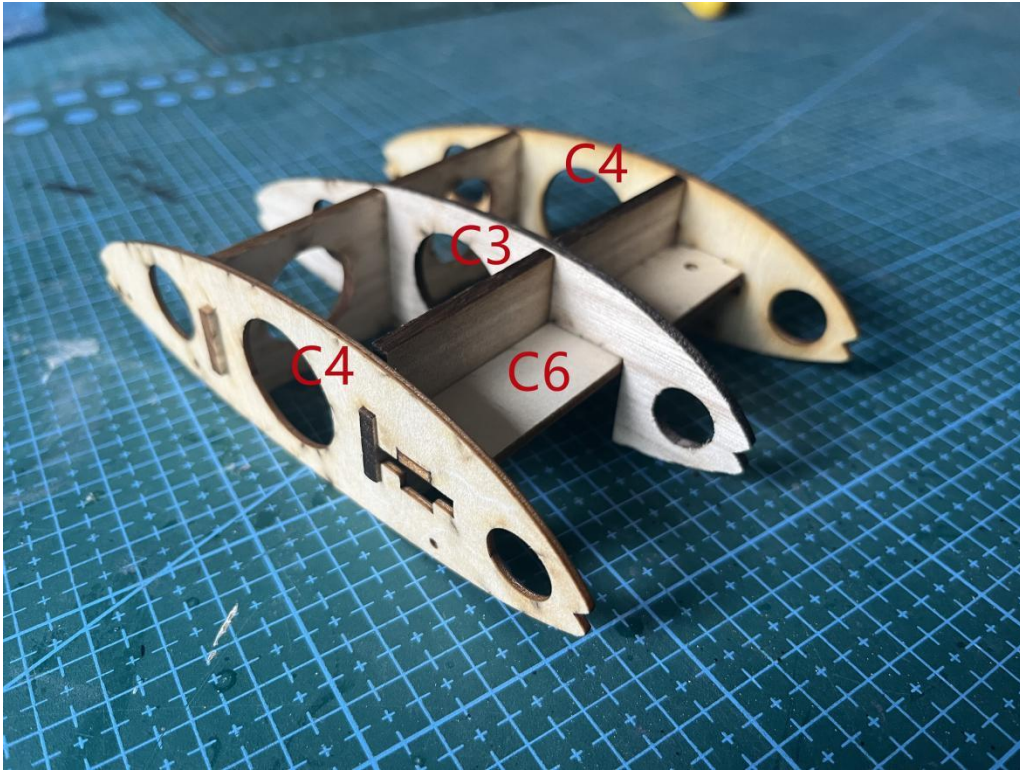


Step 16

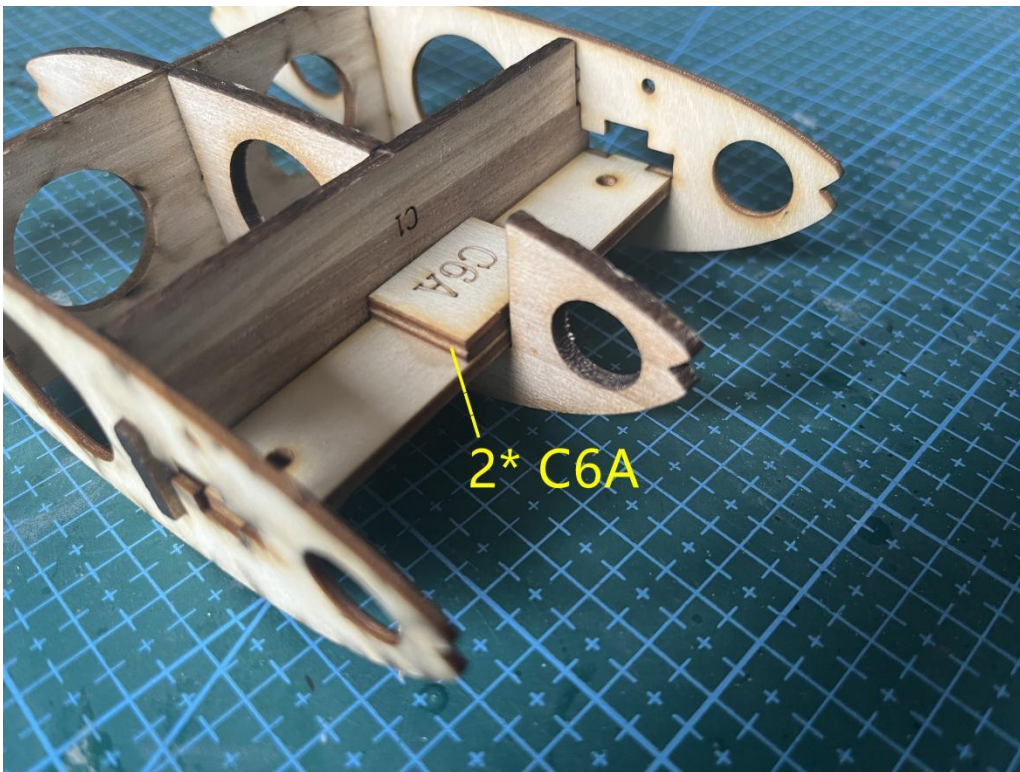


3.ASSEMBLY-Center Fuel Tank

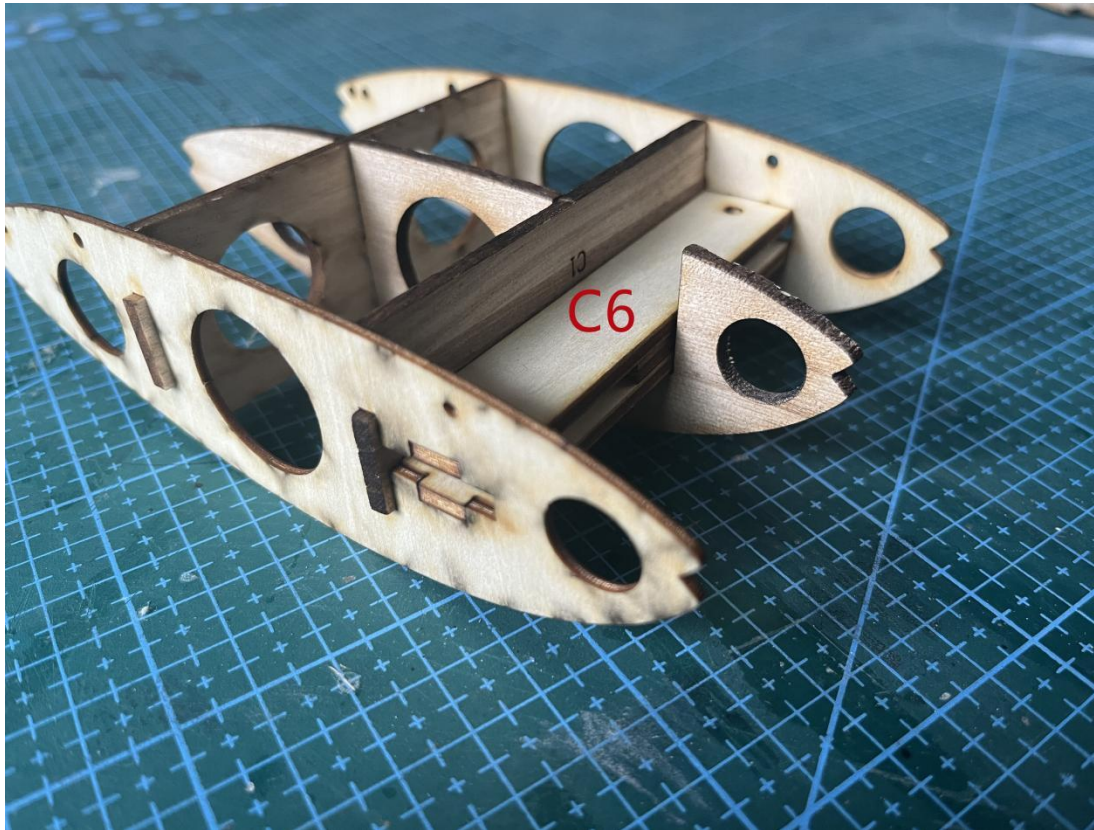
Step 1



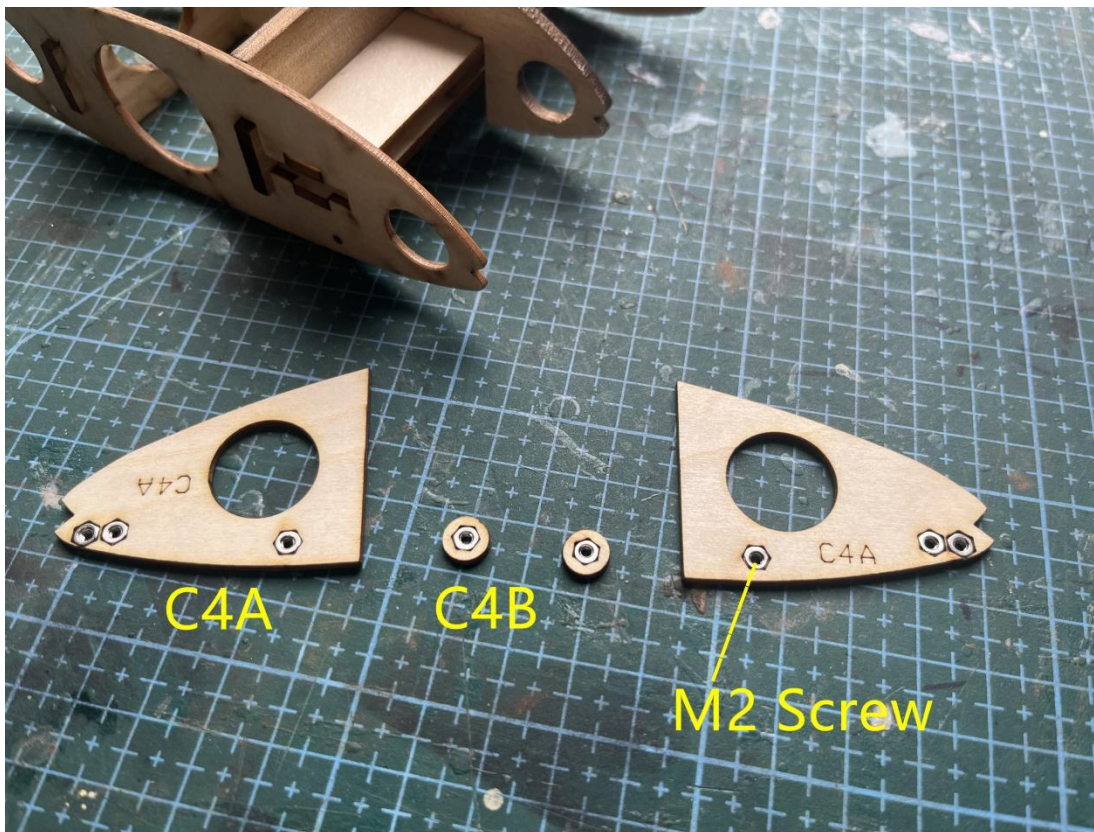
Step 2: 2 x C6A.



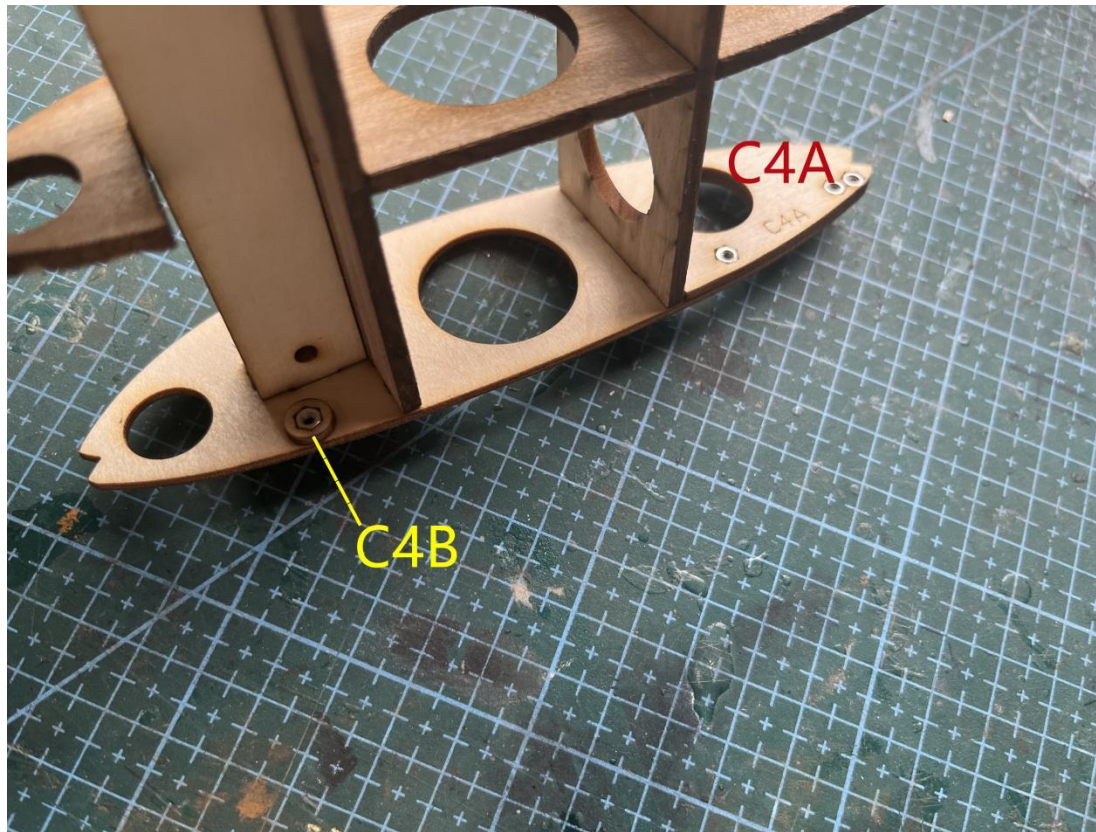
Step 3



Step 4: M2 Screw.



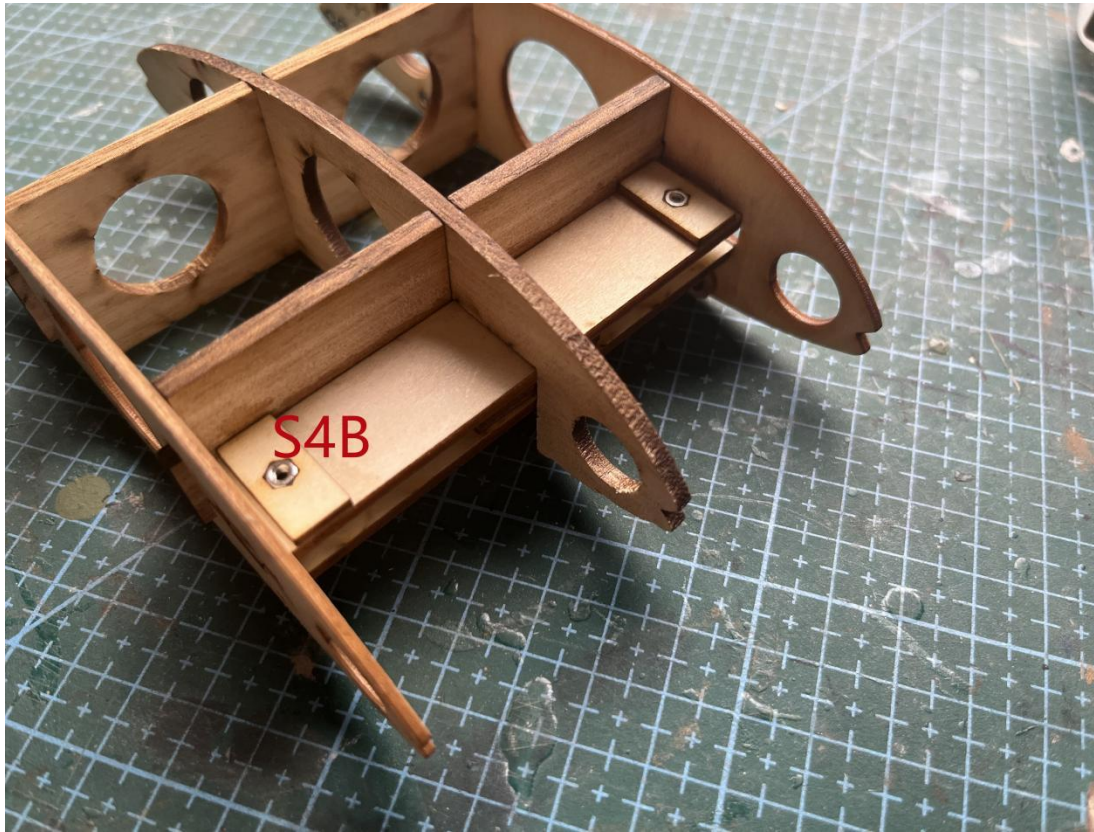
Step 5



Step 6



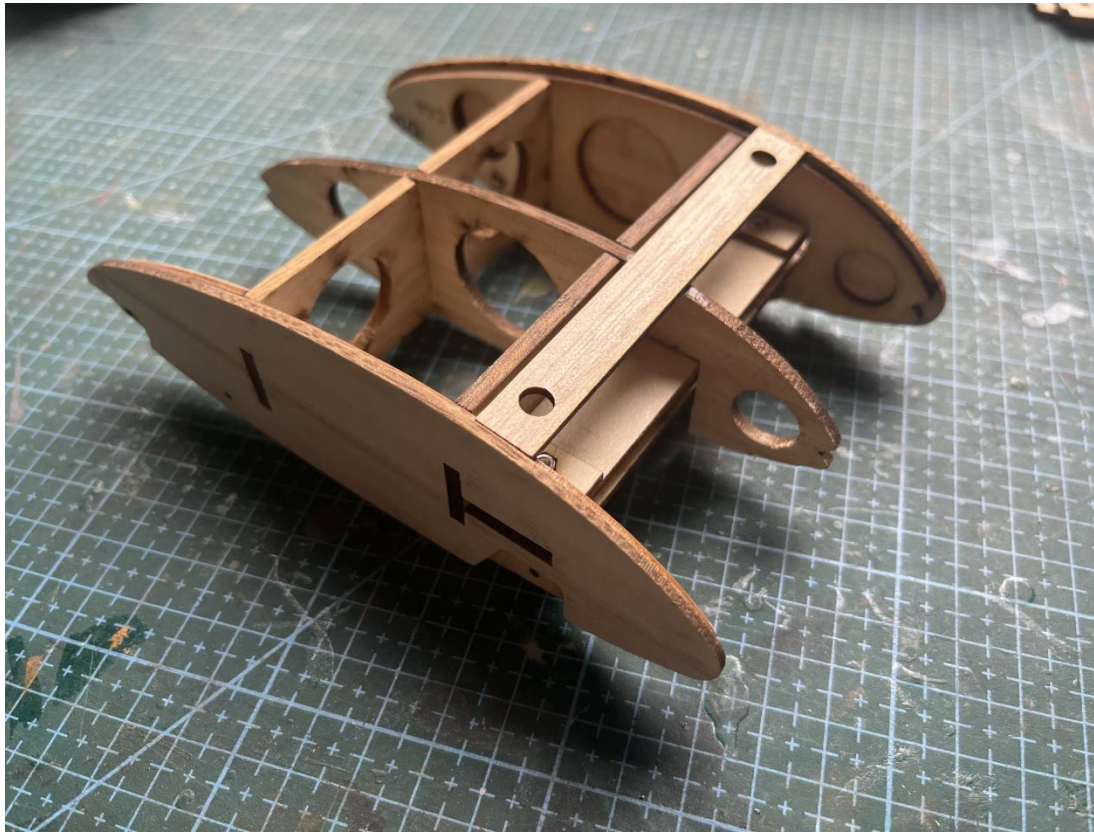
Step 7



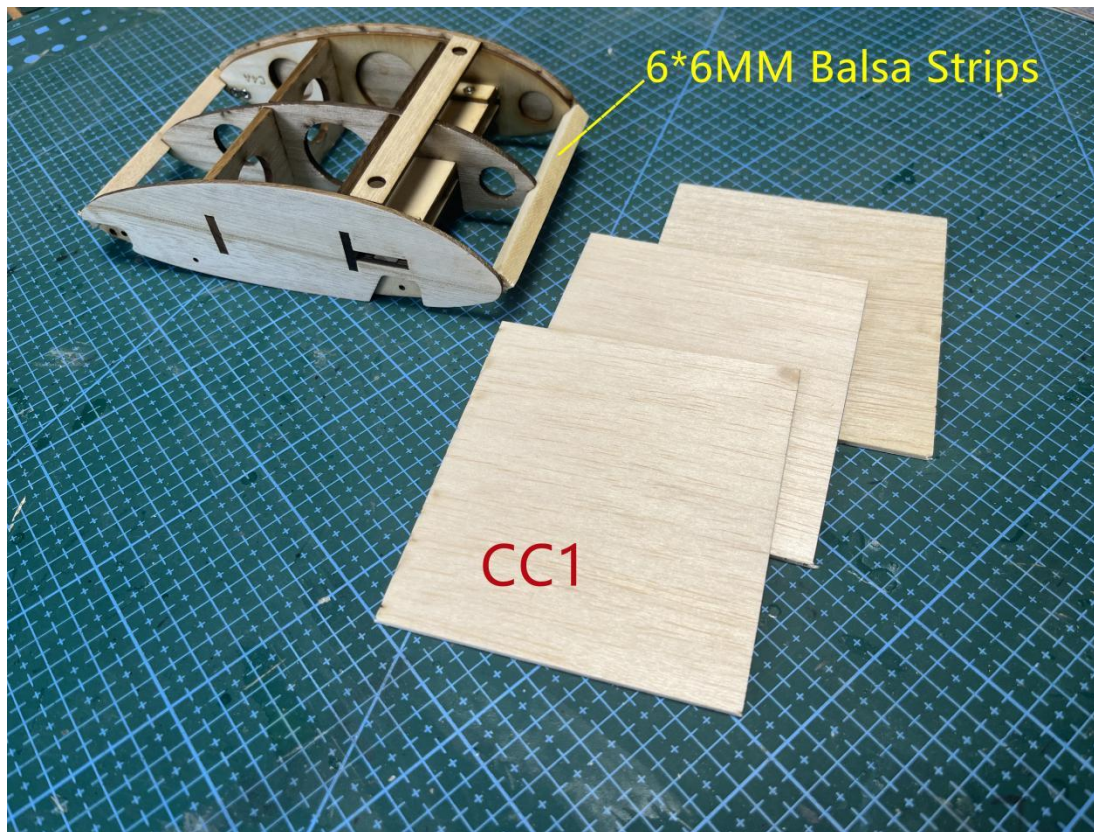
Step 8



Step 9



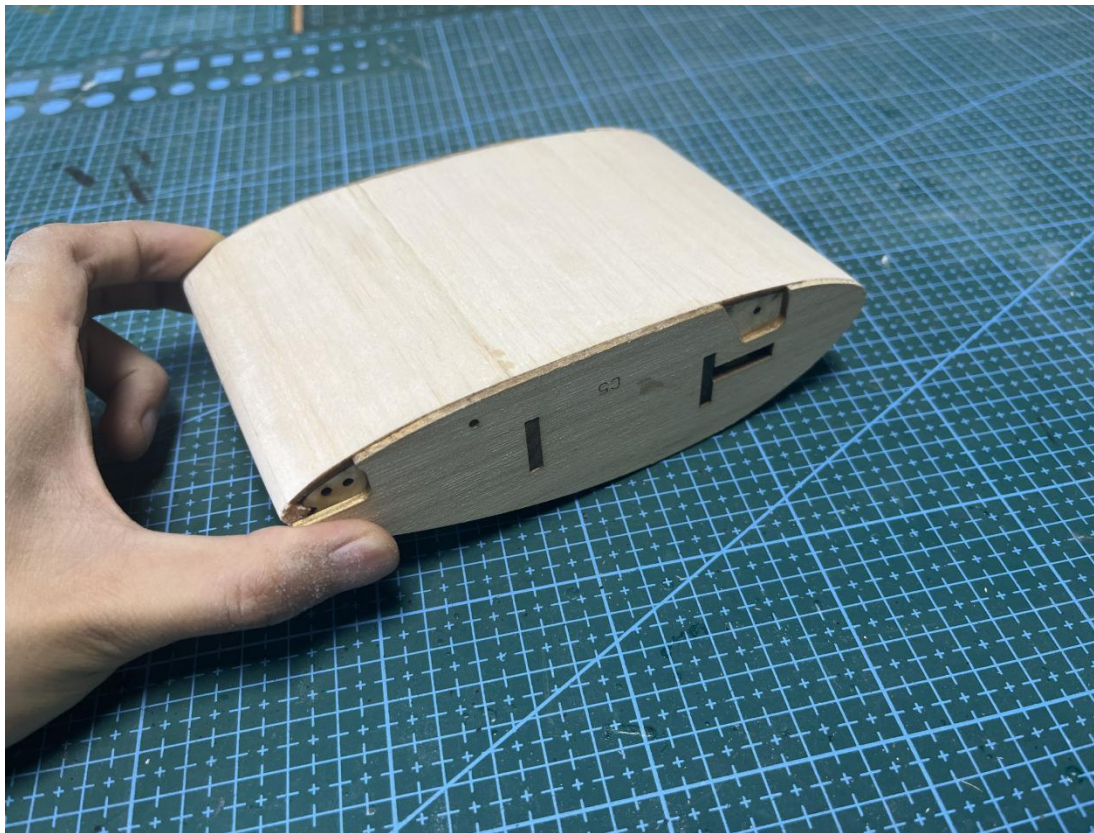
Step 10: 6 x 6 mm Balsa Strips.



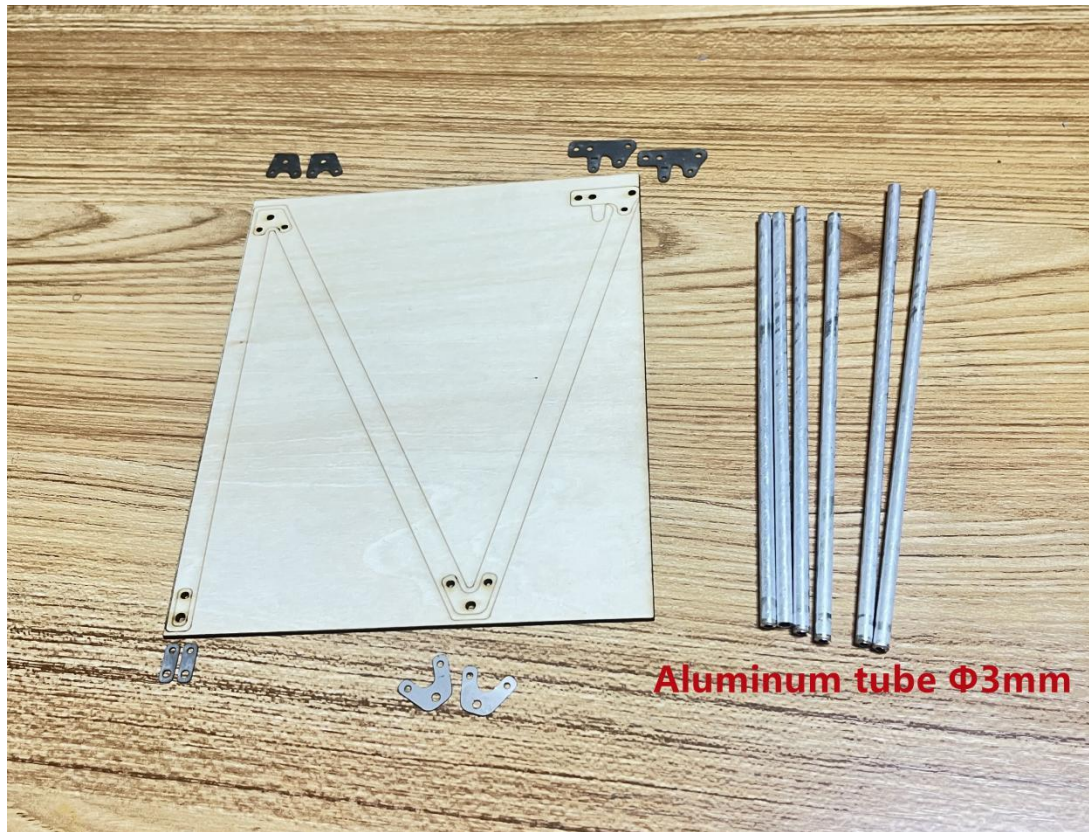
Step 11: Sand the edges.



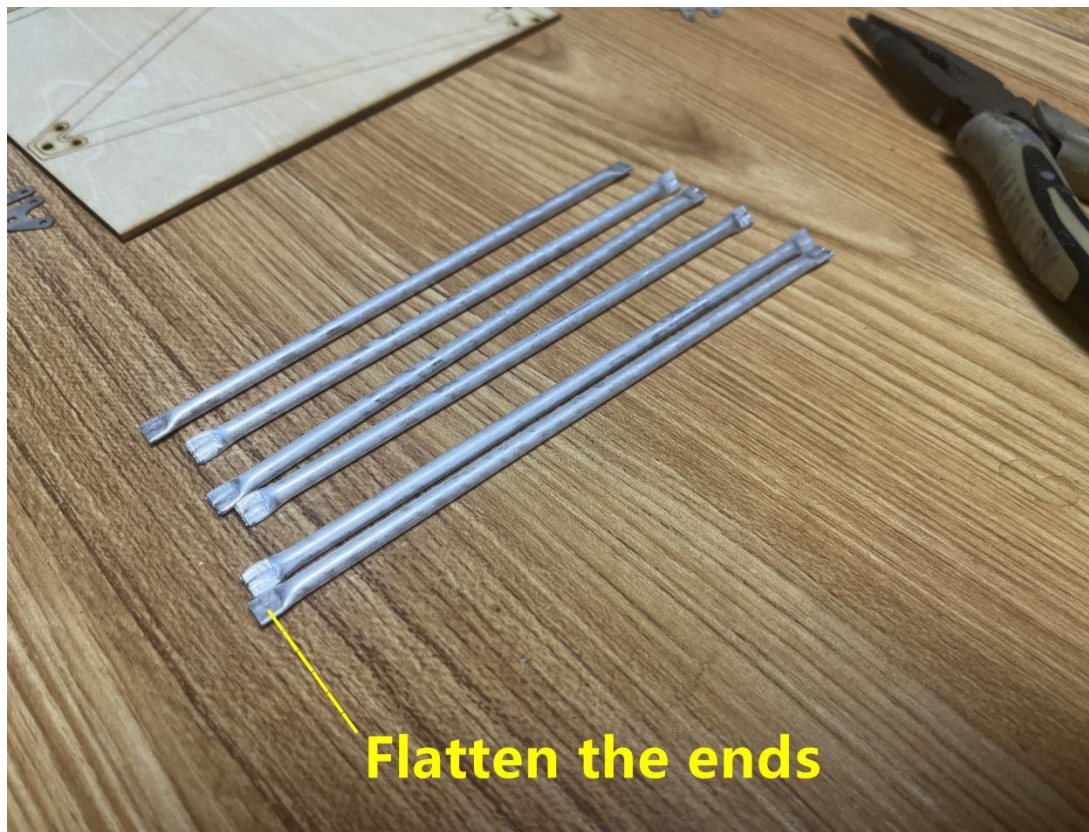
Step 12



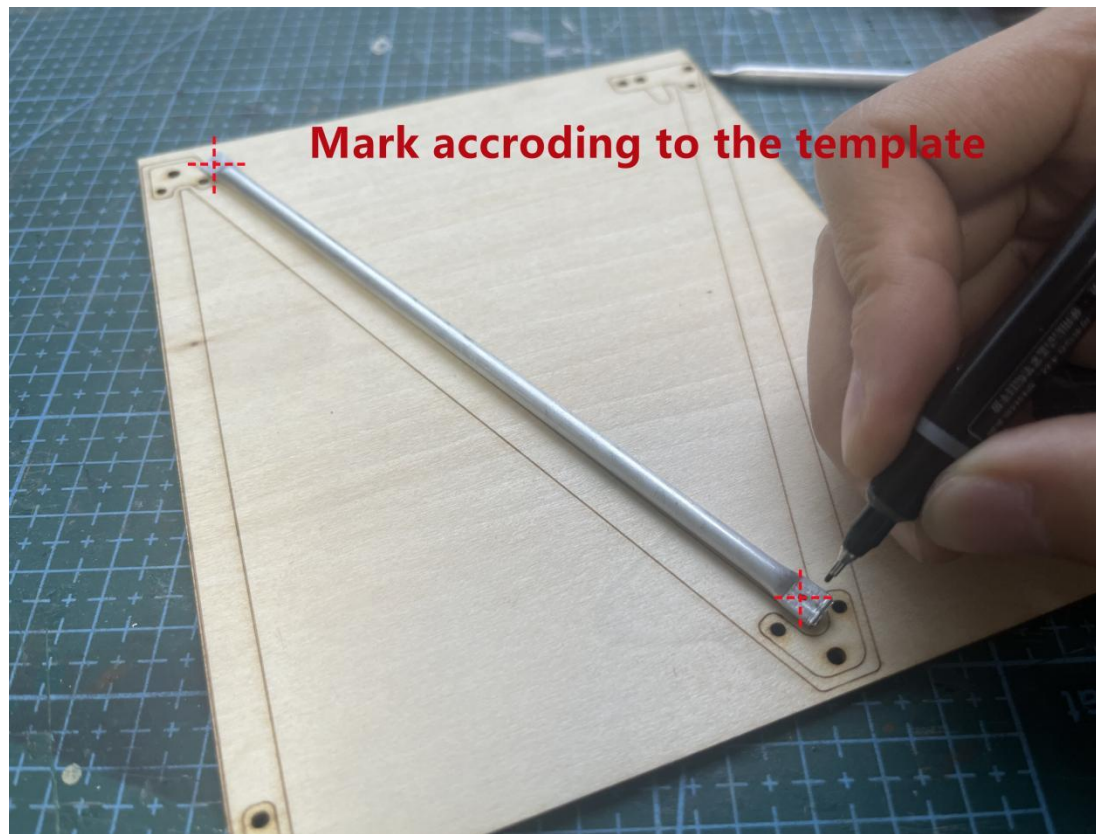
Step 13: Aluminum tube \varnothing 3 mm.



Step 14: Flatten the ends.



Step 15: Mark according to the template.



Step 16: Drill the hole of 1.5 mm diameter.



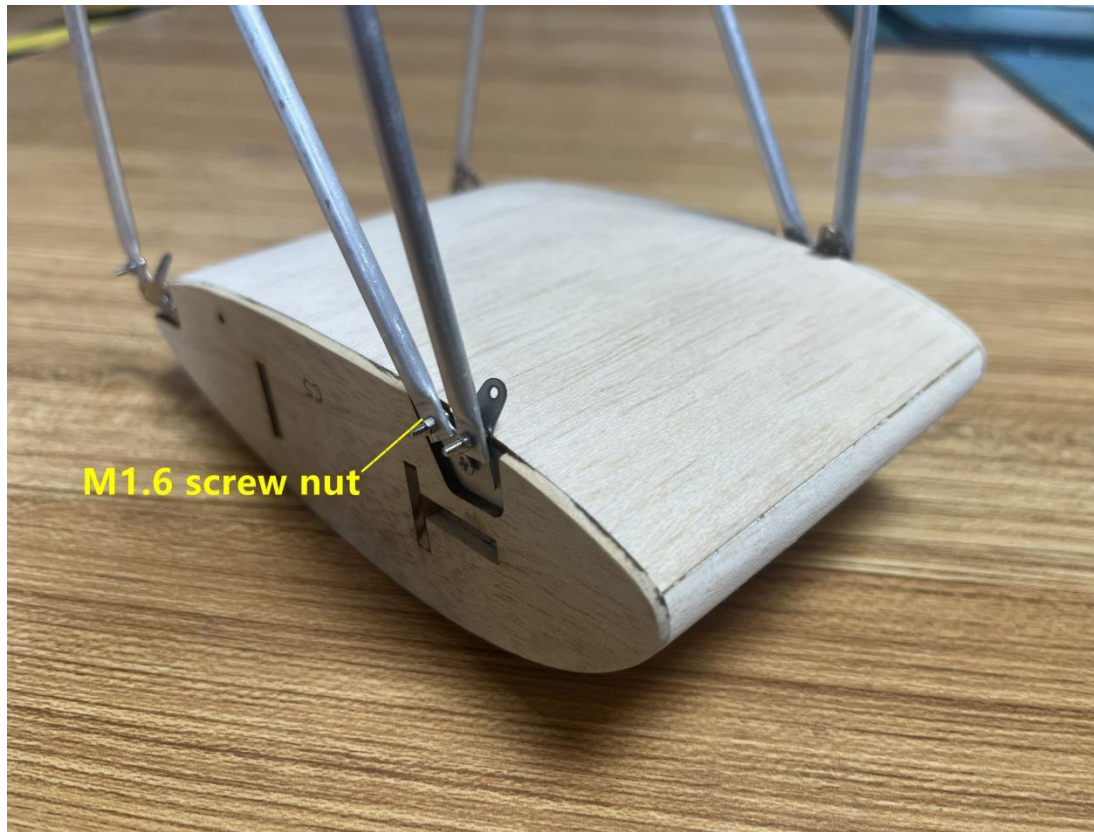
Step 17: M1.6 x 6 screw.



Step 18: M2 x 9 Screw.



Step 19: M1.6 screw nut.

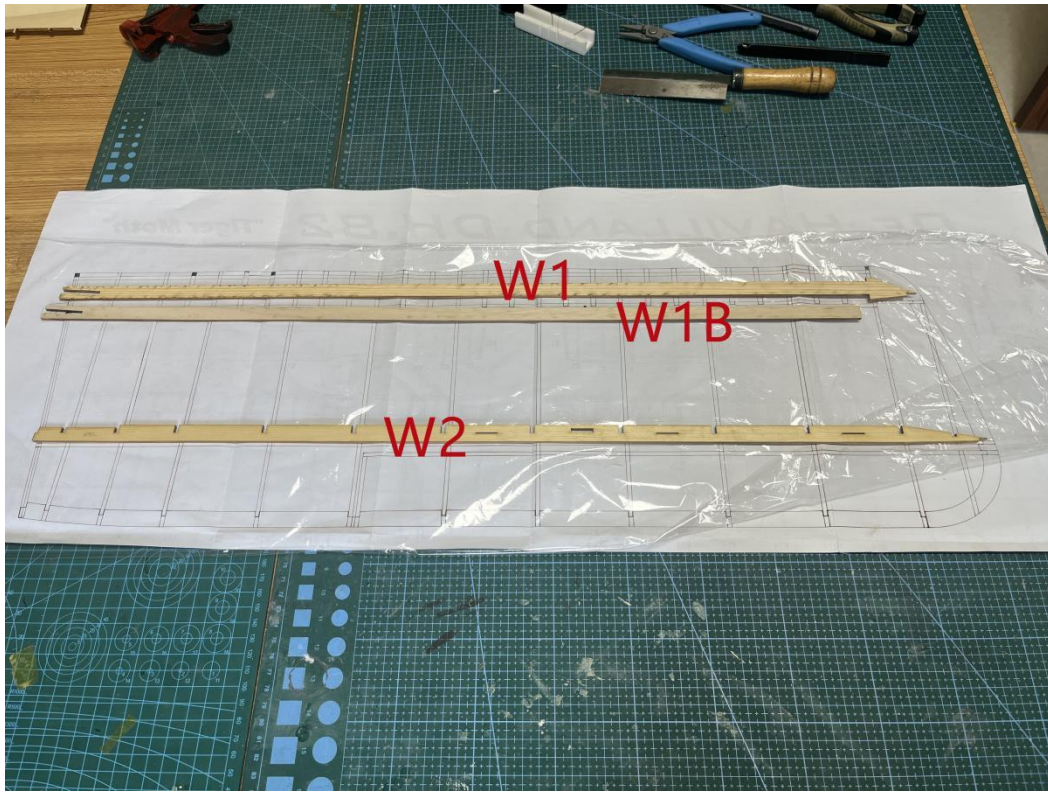


Step 20: Aluminum tube $\varnothing 3$.



4.ASSEMBLY-Wings

Step 1



Step 2



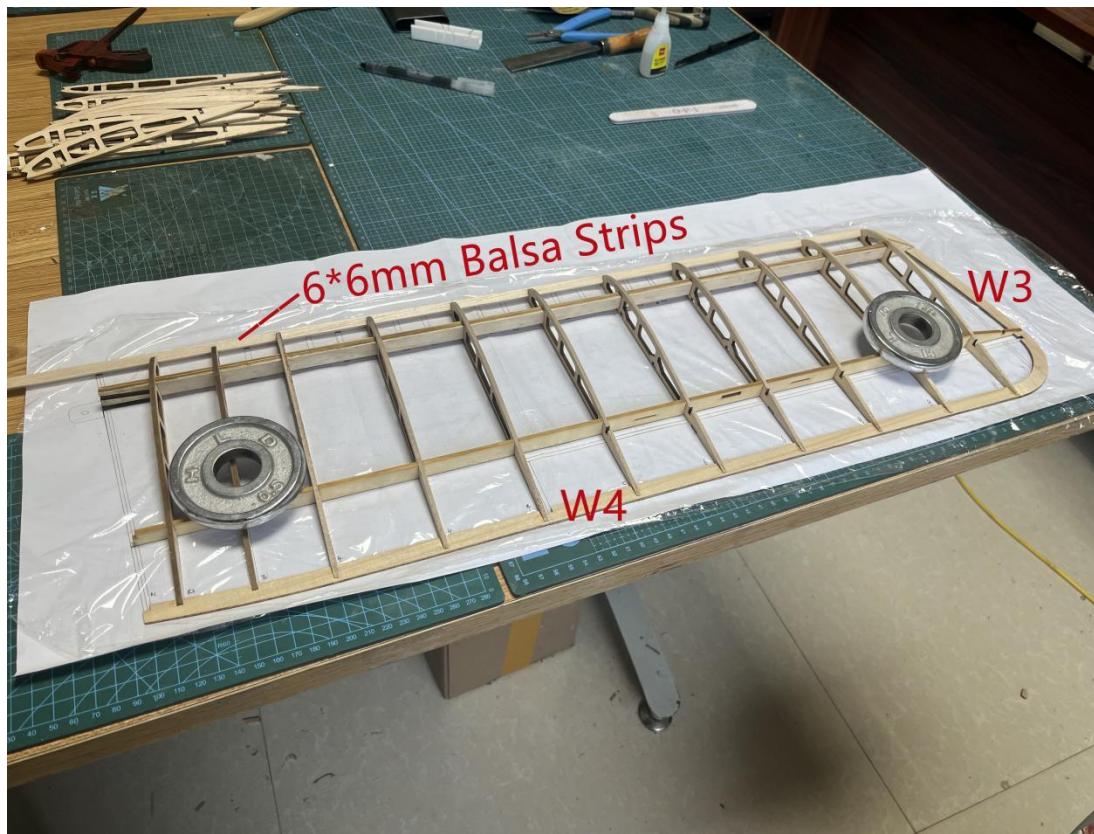
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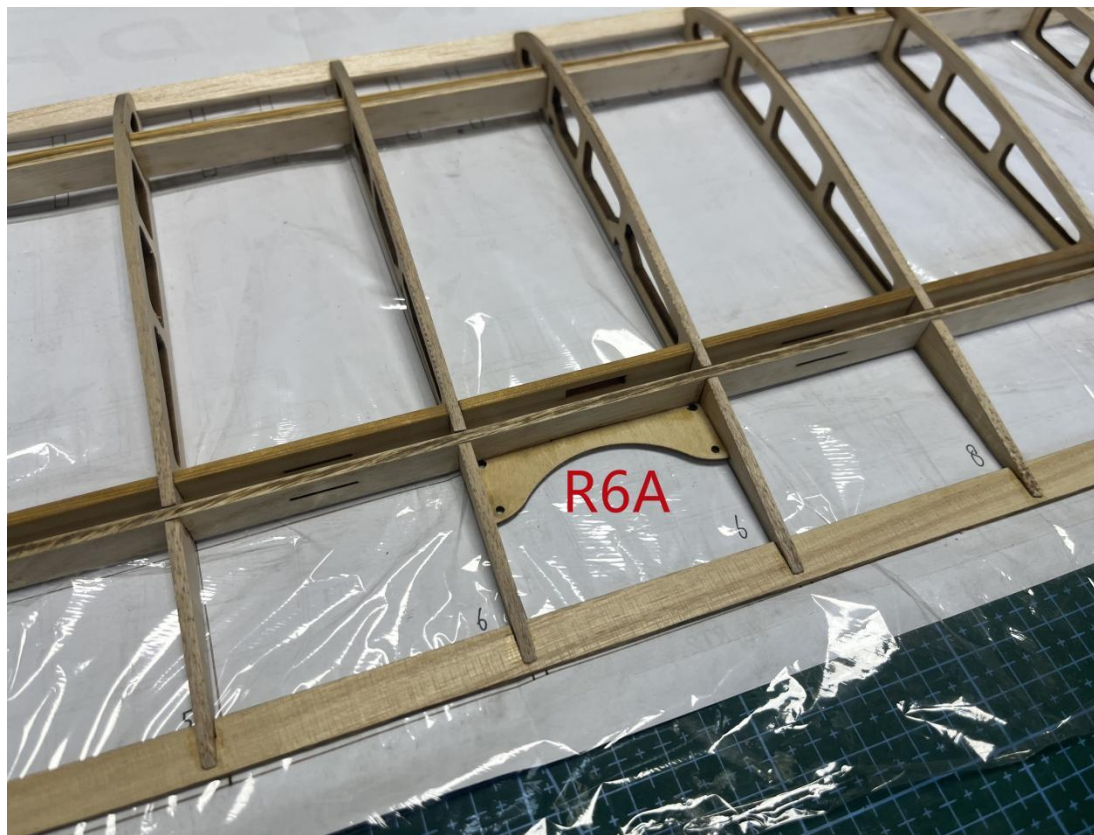
Step 4



Step 5: 6 x 6 mm Balsa Strips.



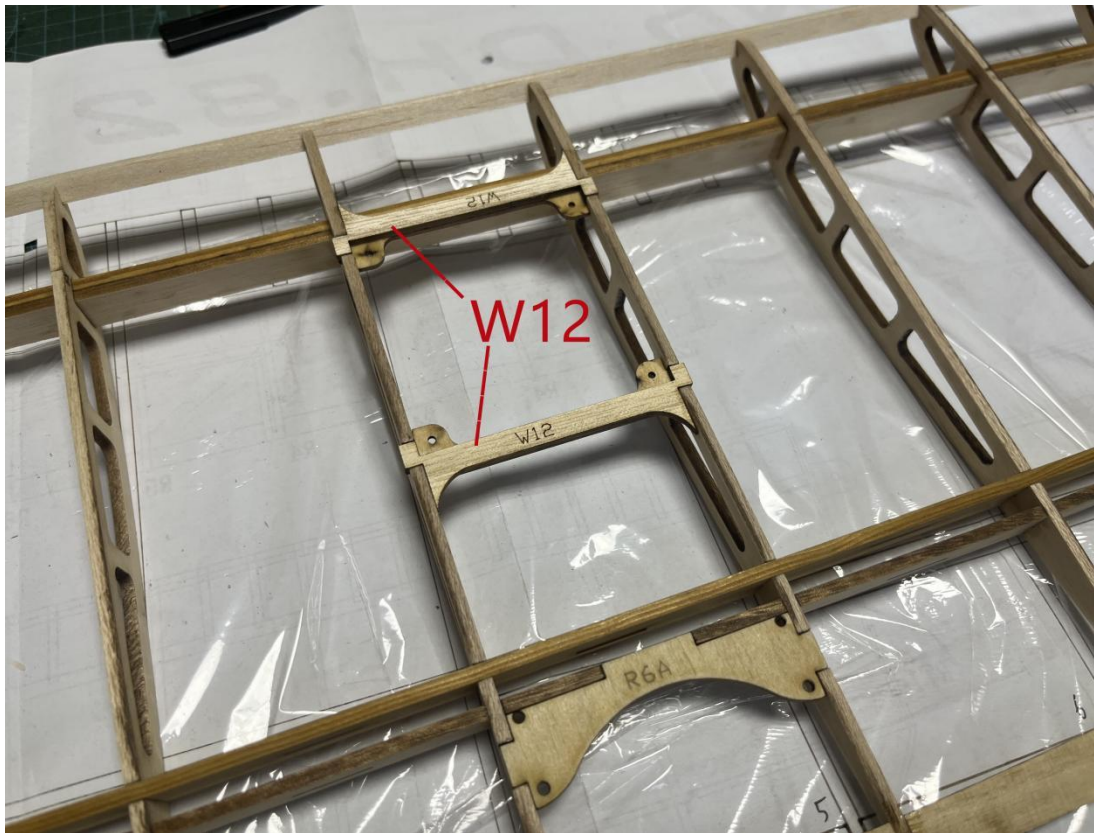
Step 6



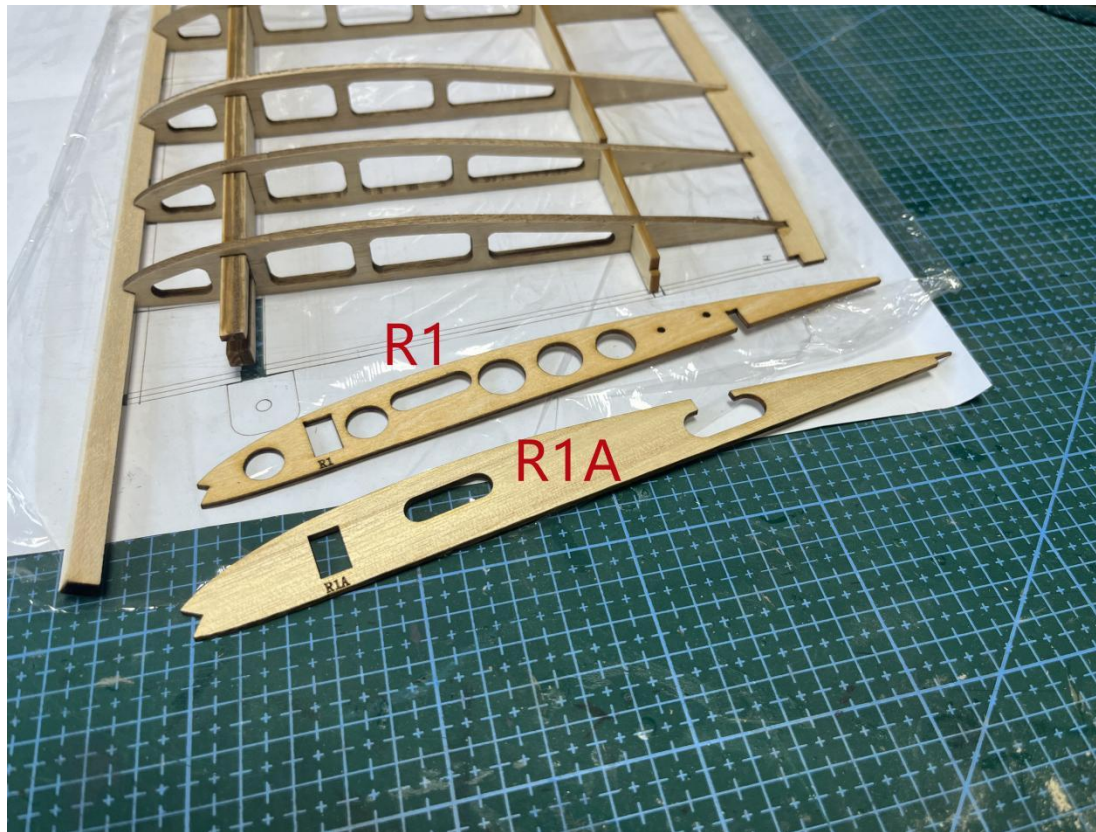
Step 7



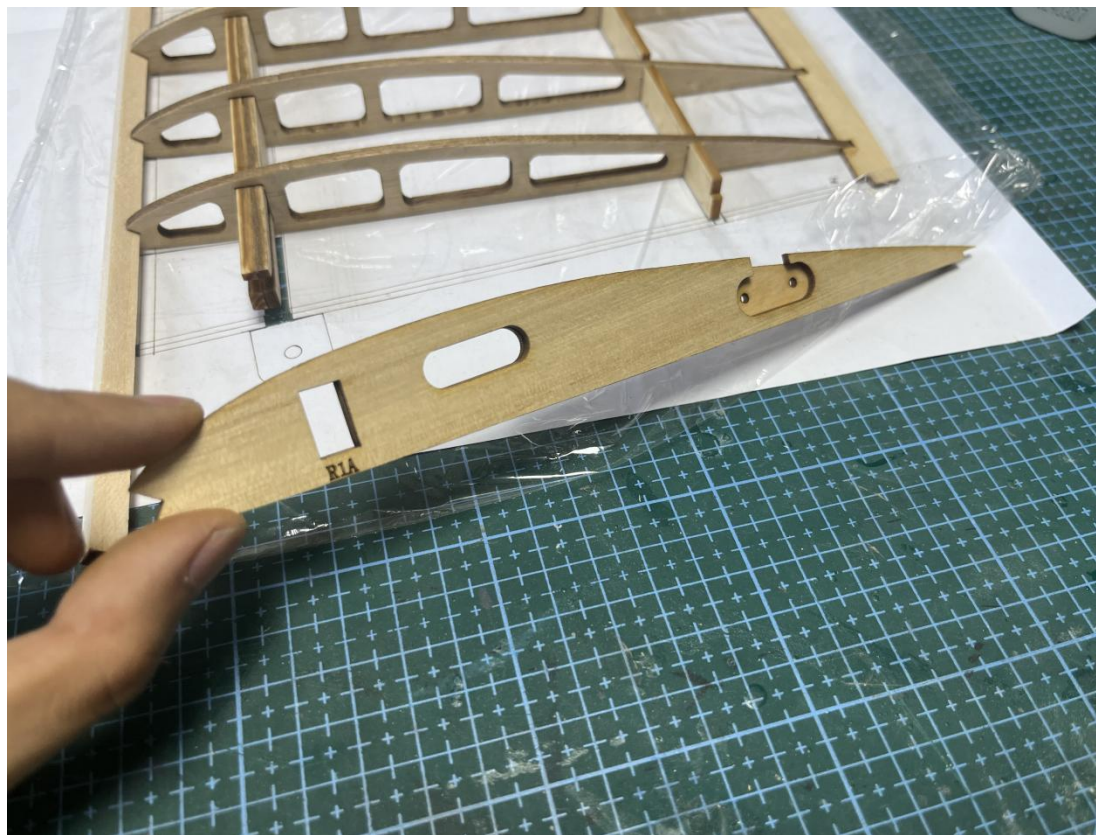
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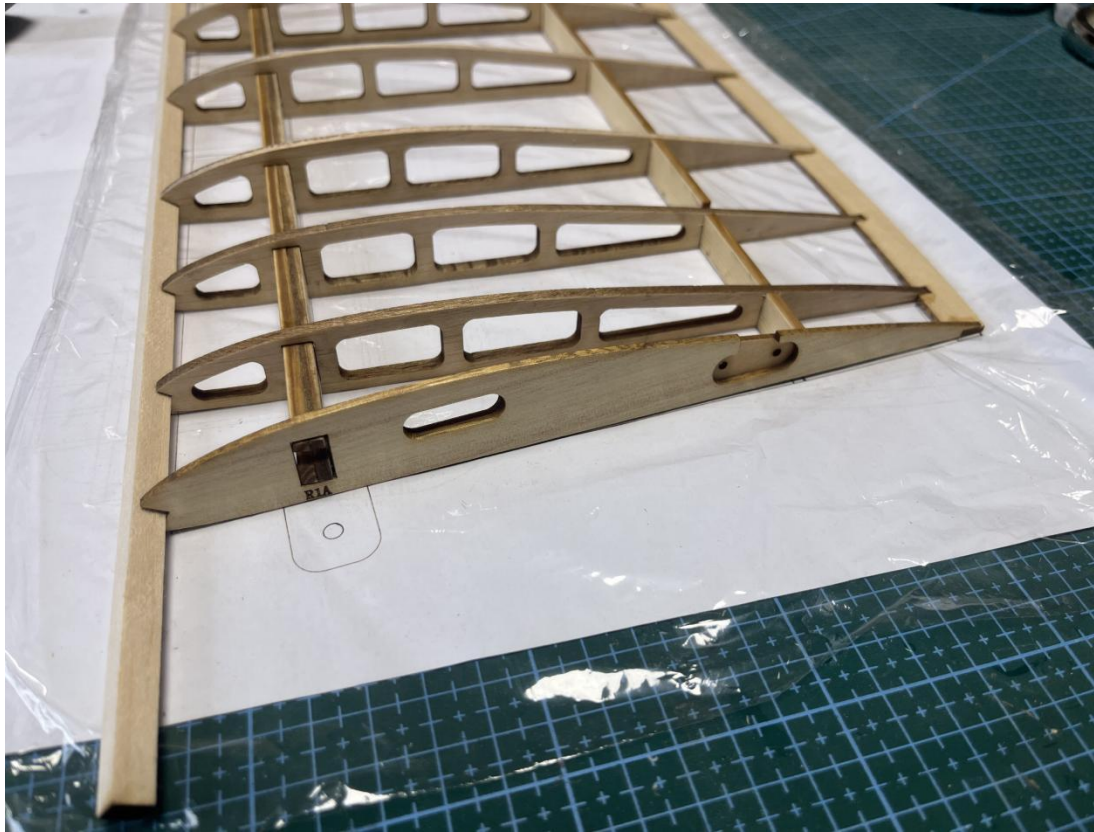
Step 9



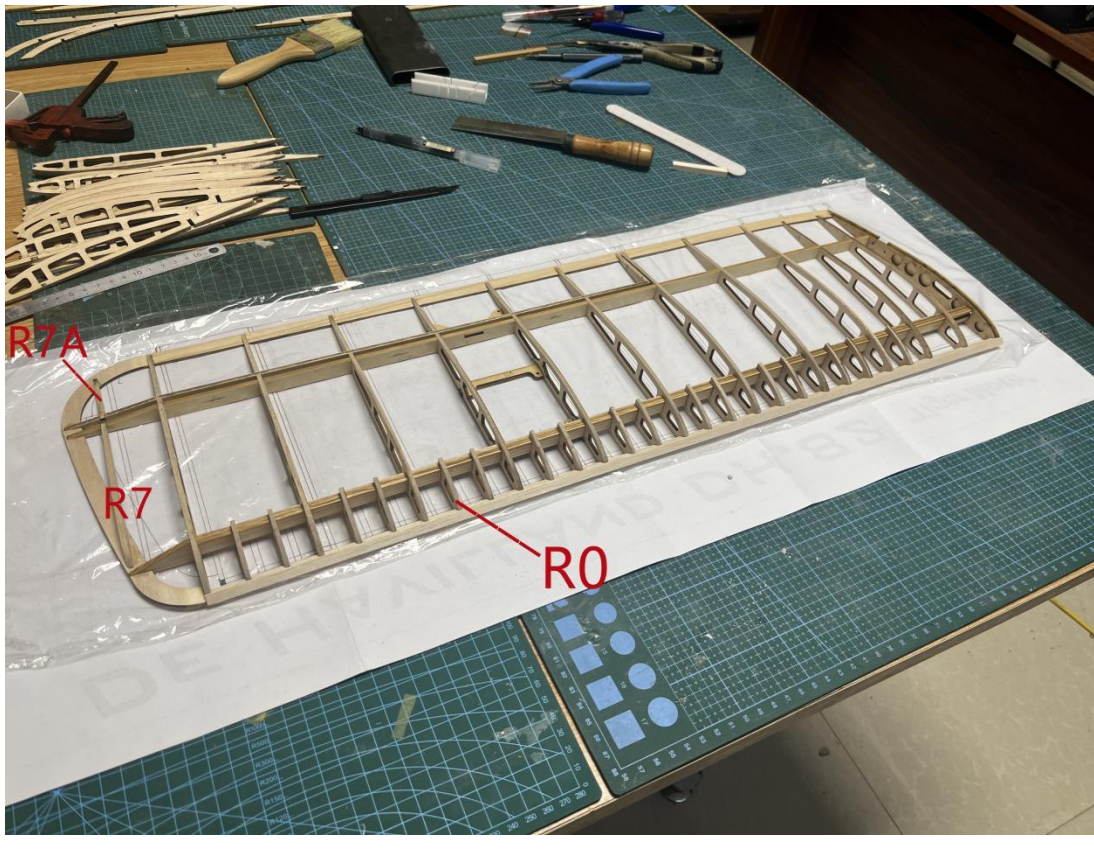
Step 10



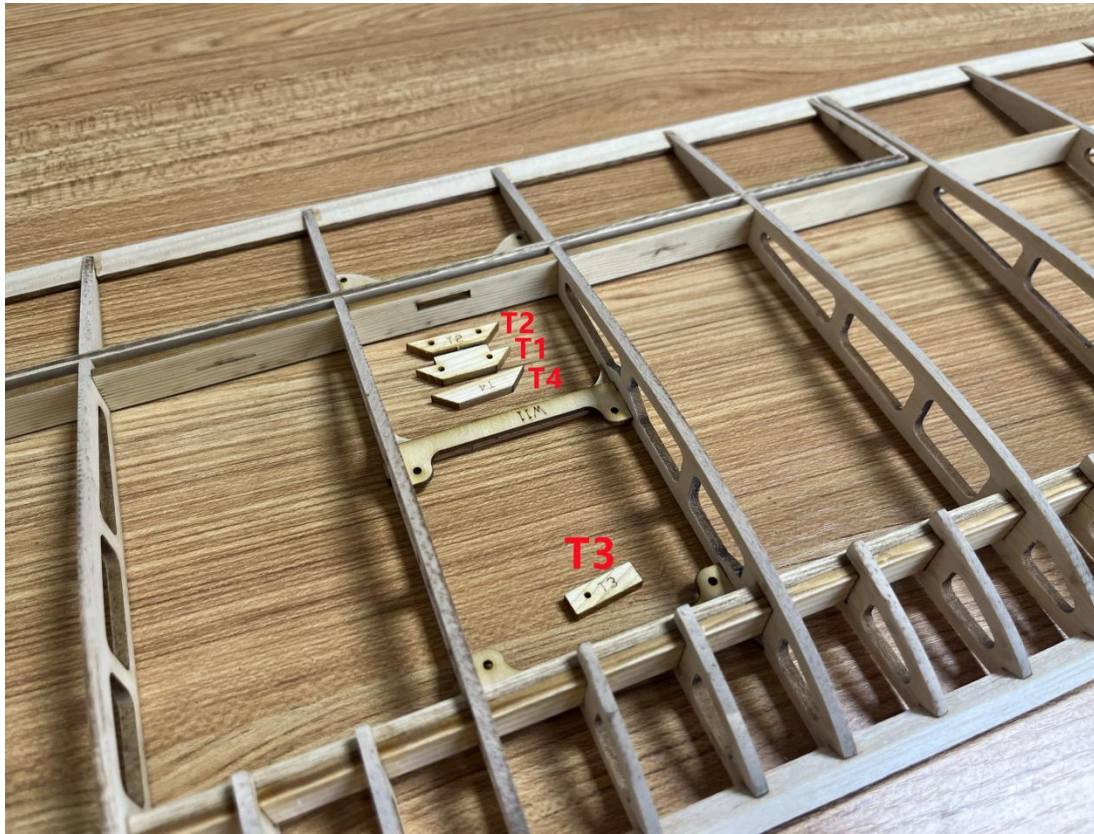
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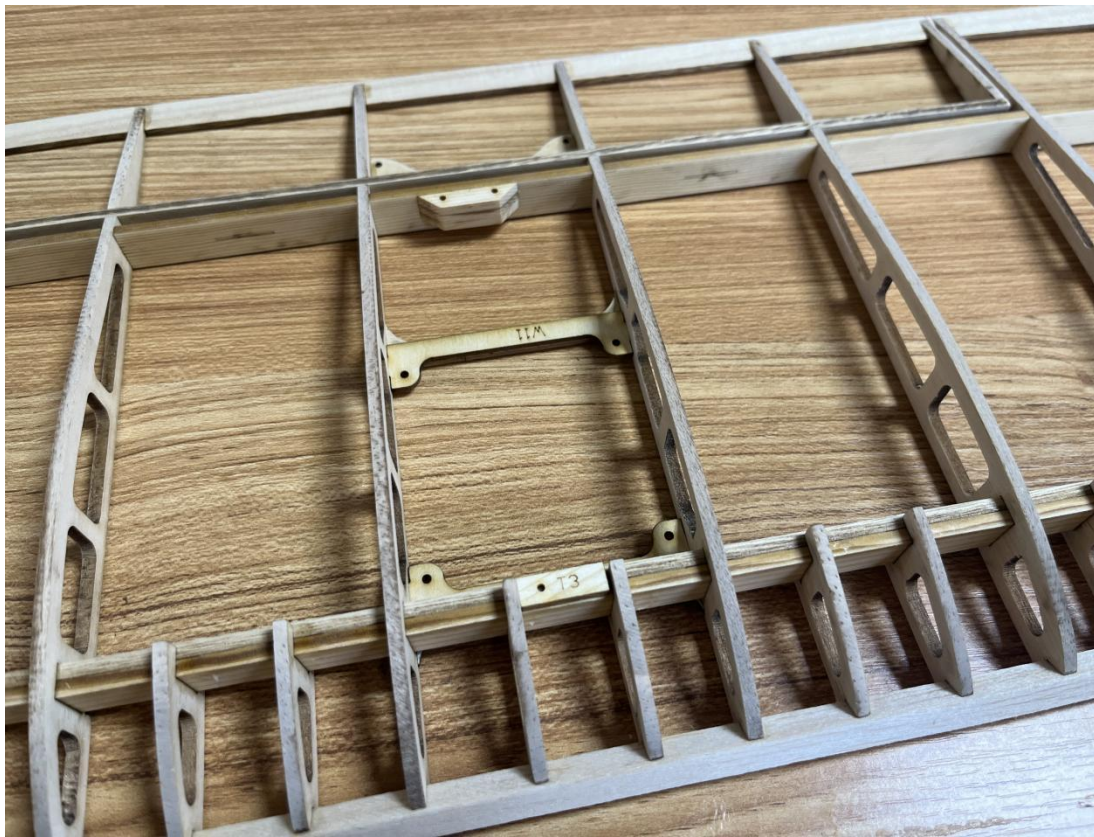
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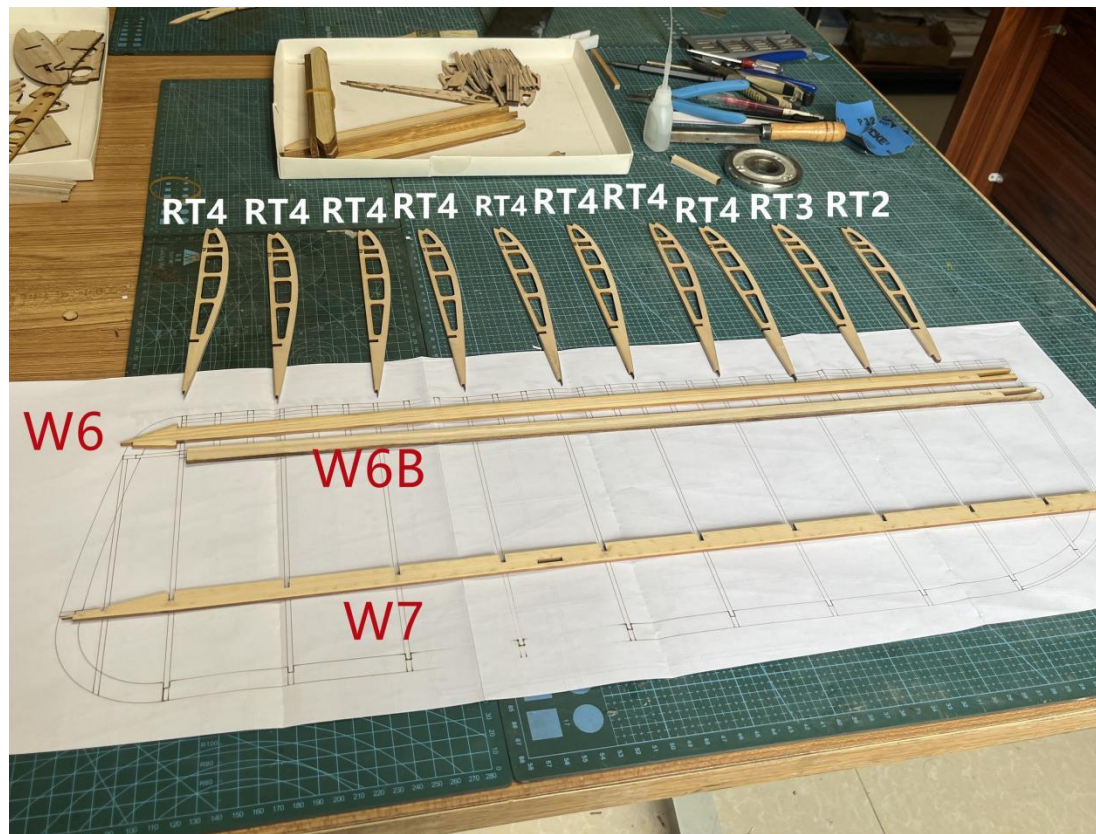
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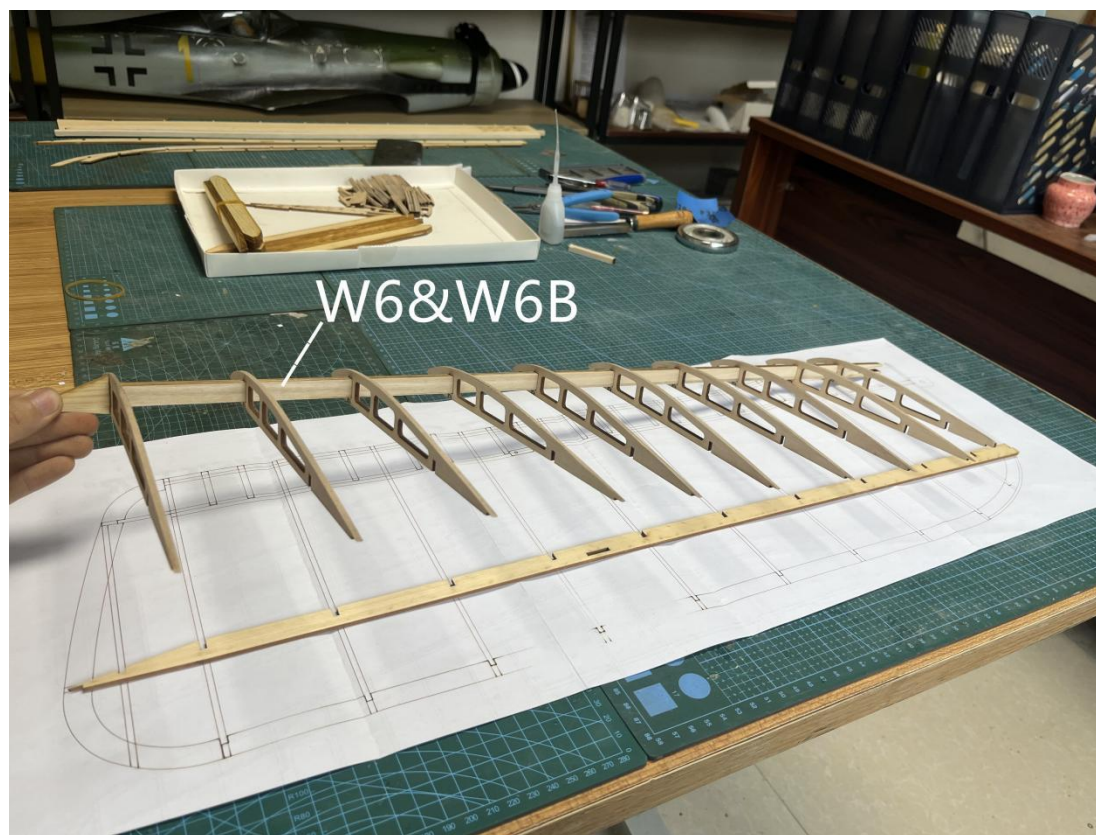
Step 14



Step 15



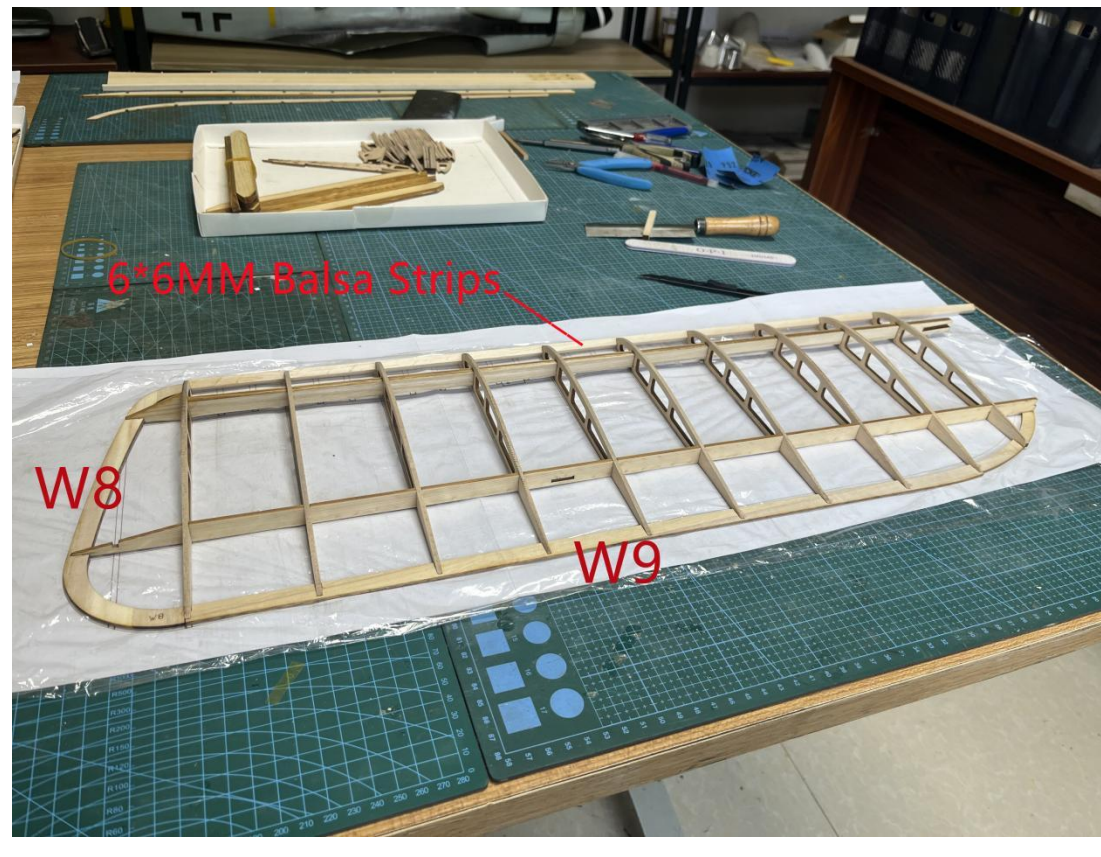
Step 16



Step 17



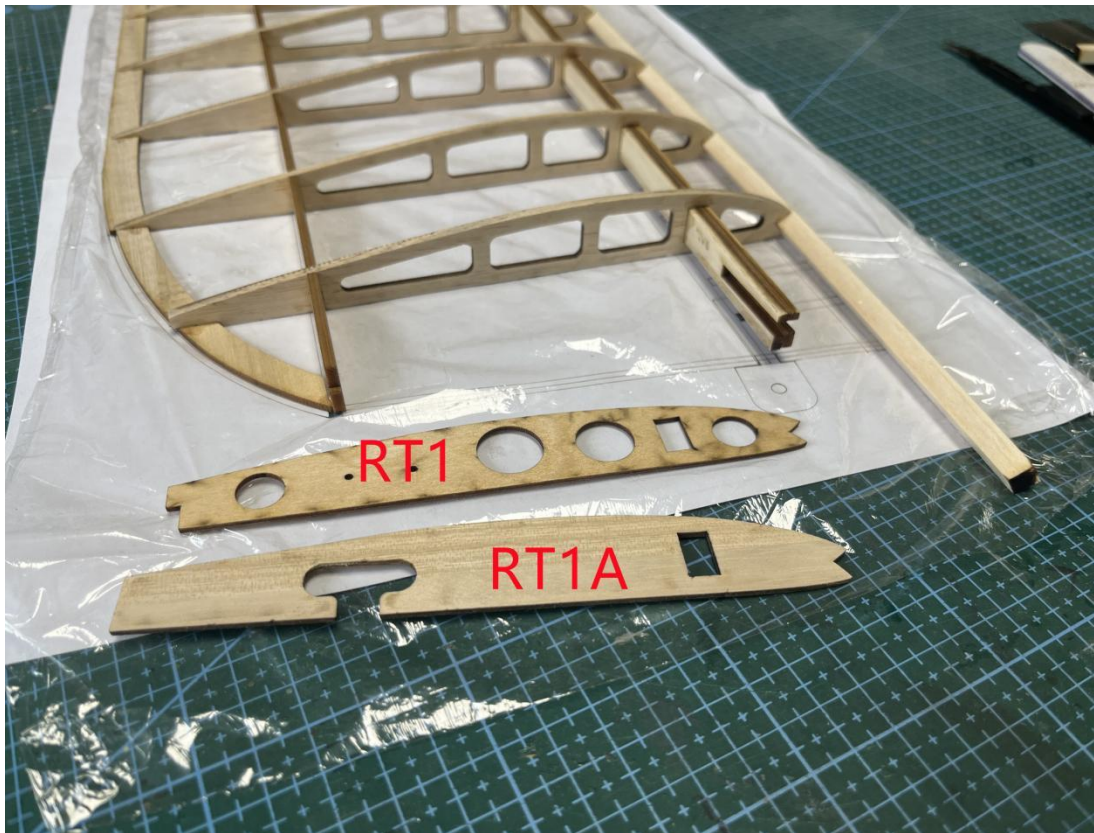
Step 18: 6 x 6 mm Balsa Strips.



Step 19



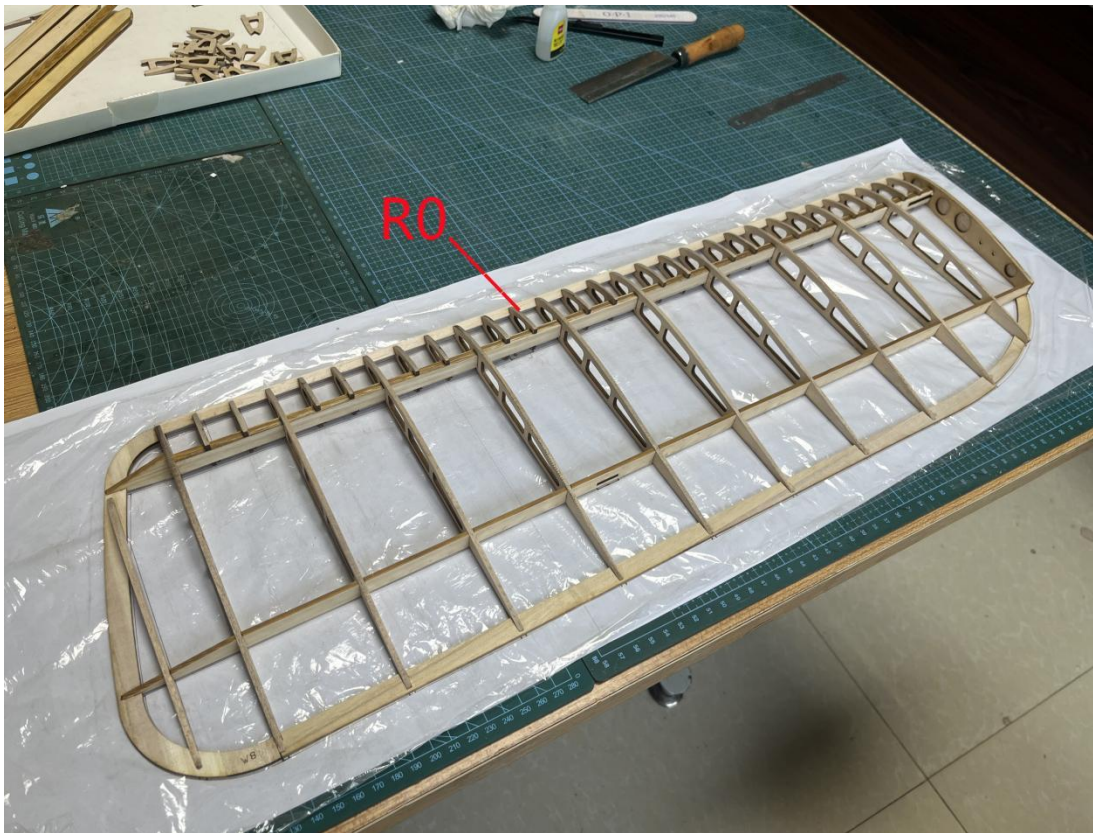
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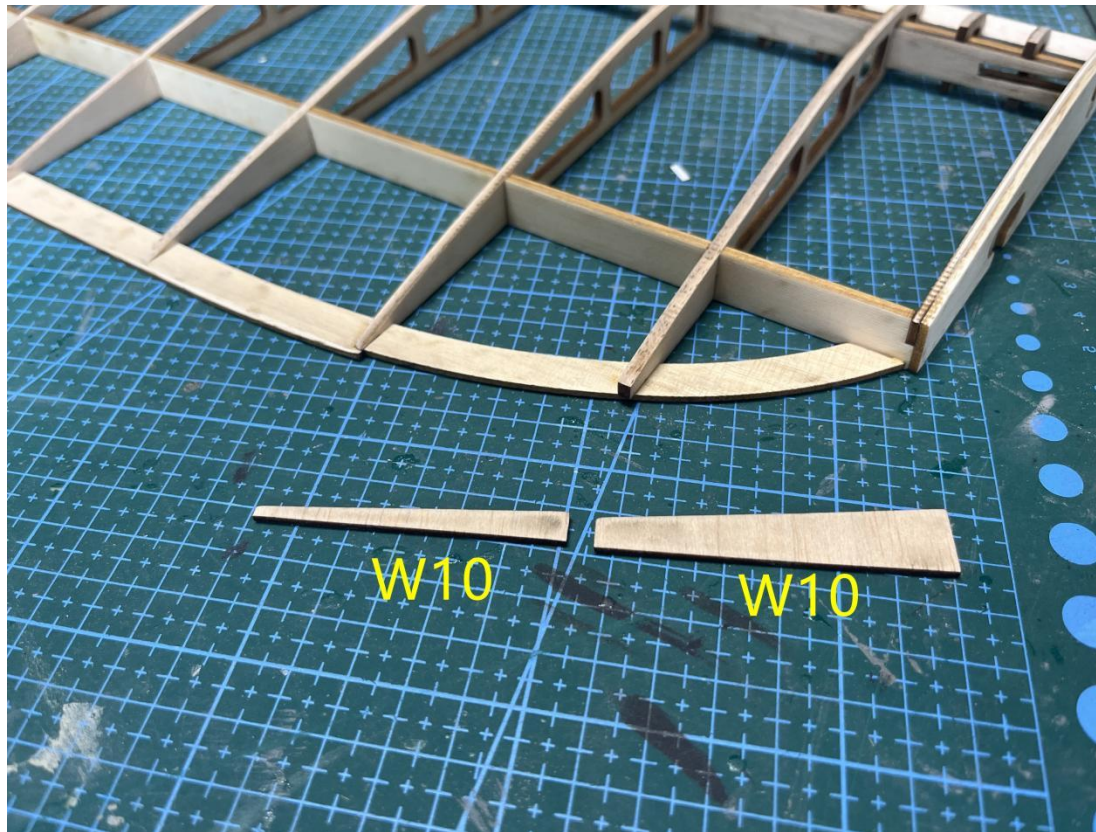
Step 21



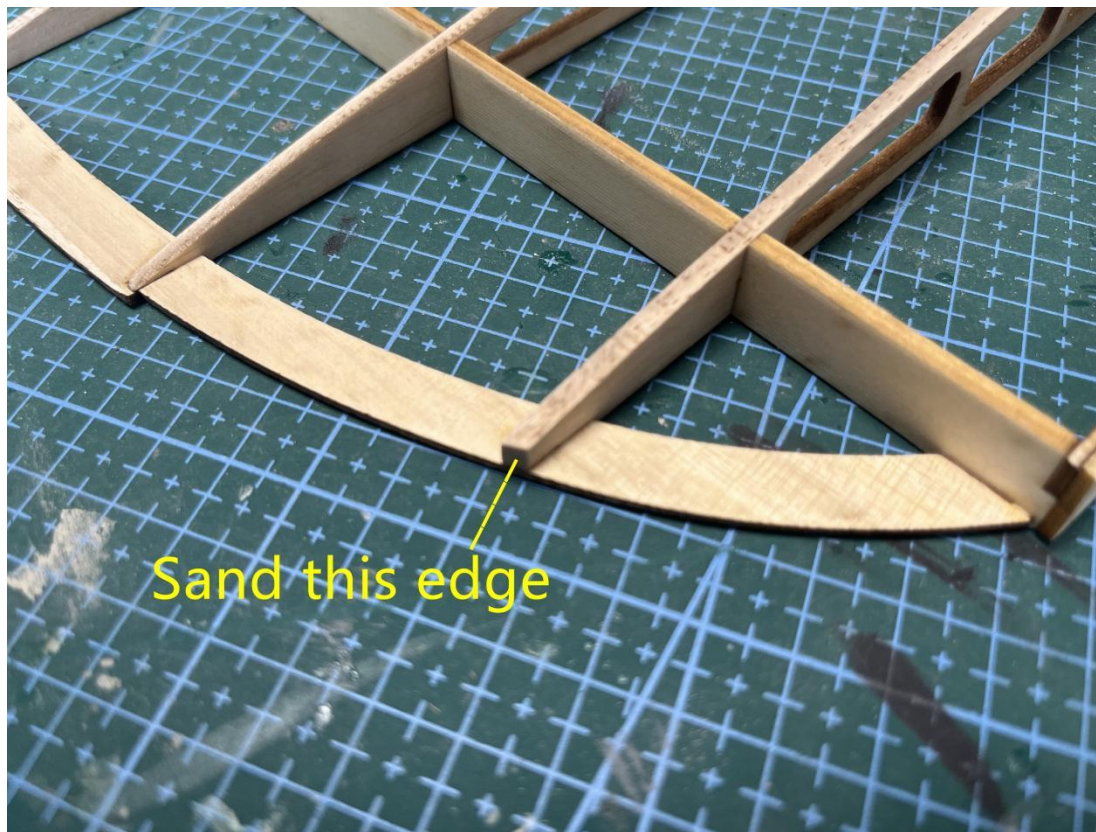
Step 22



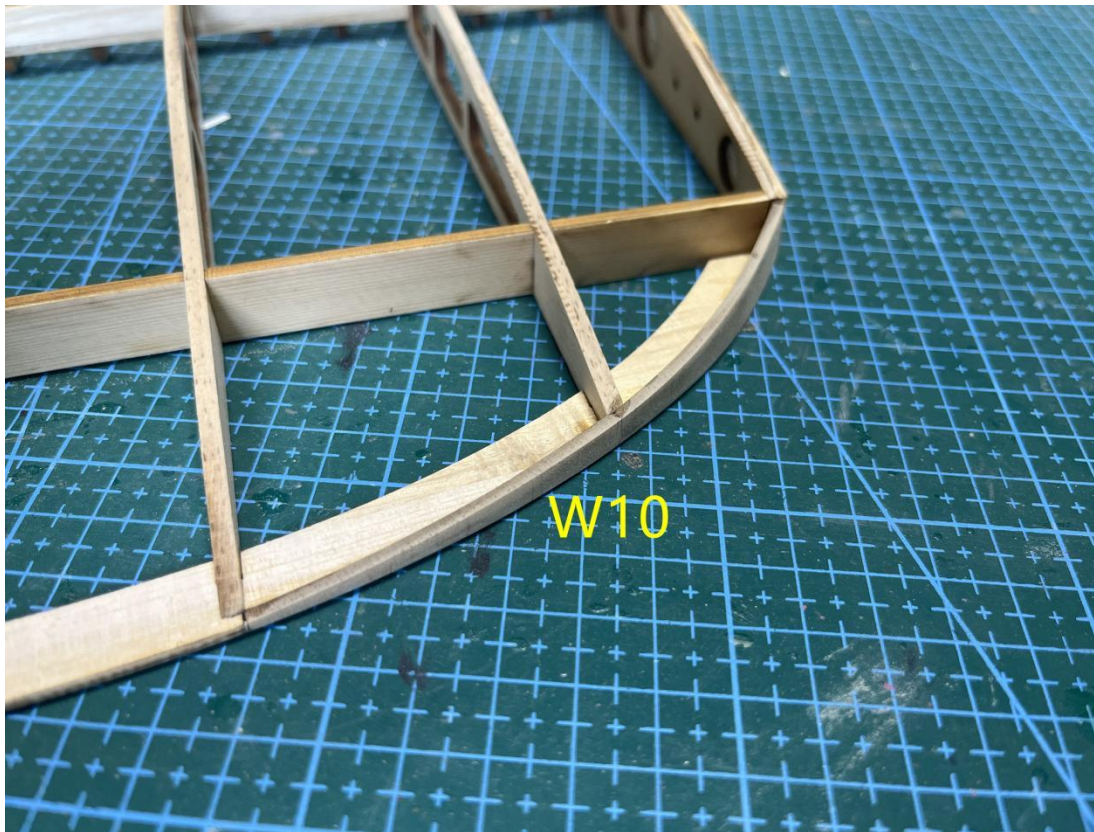
Step 23



Step 24: Sand this edge.



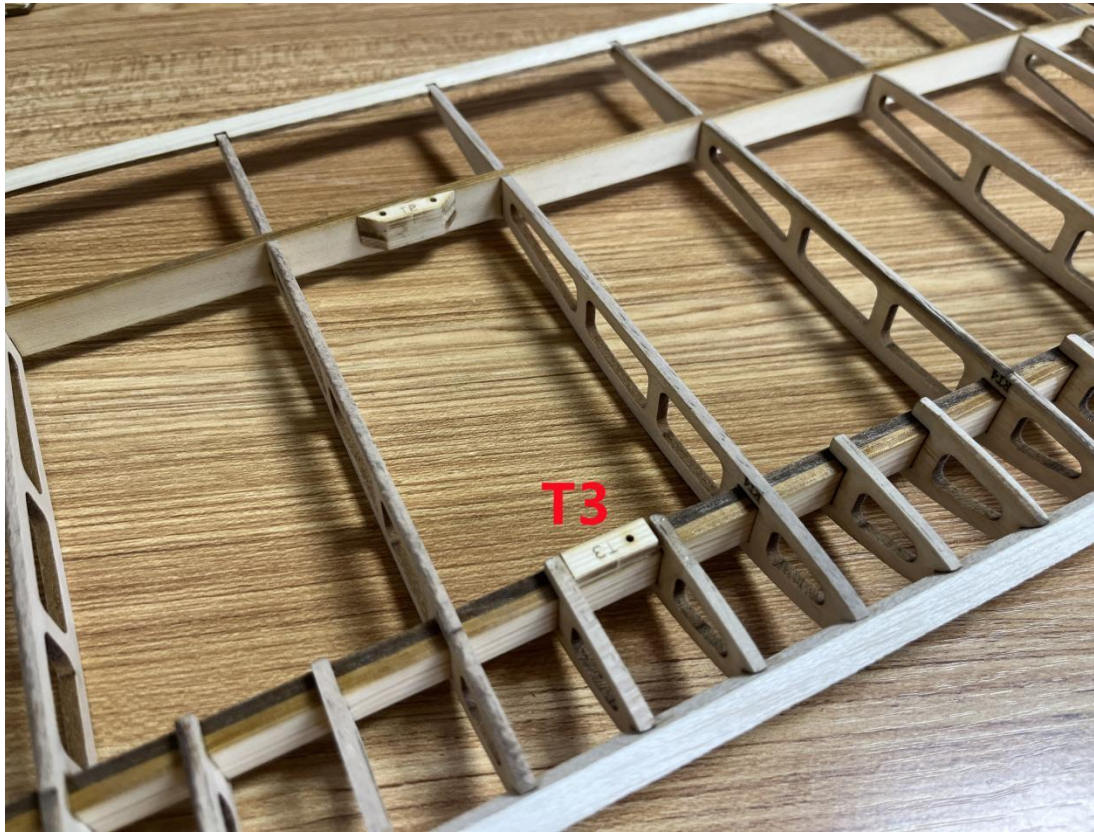
Step 25



Step 26



Step 27



Step 28: Wing joints 0.5 mm steel. 3 mm plywood. 0.5 mm steel.



Step 29



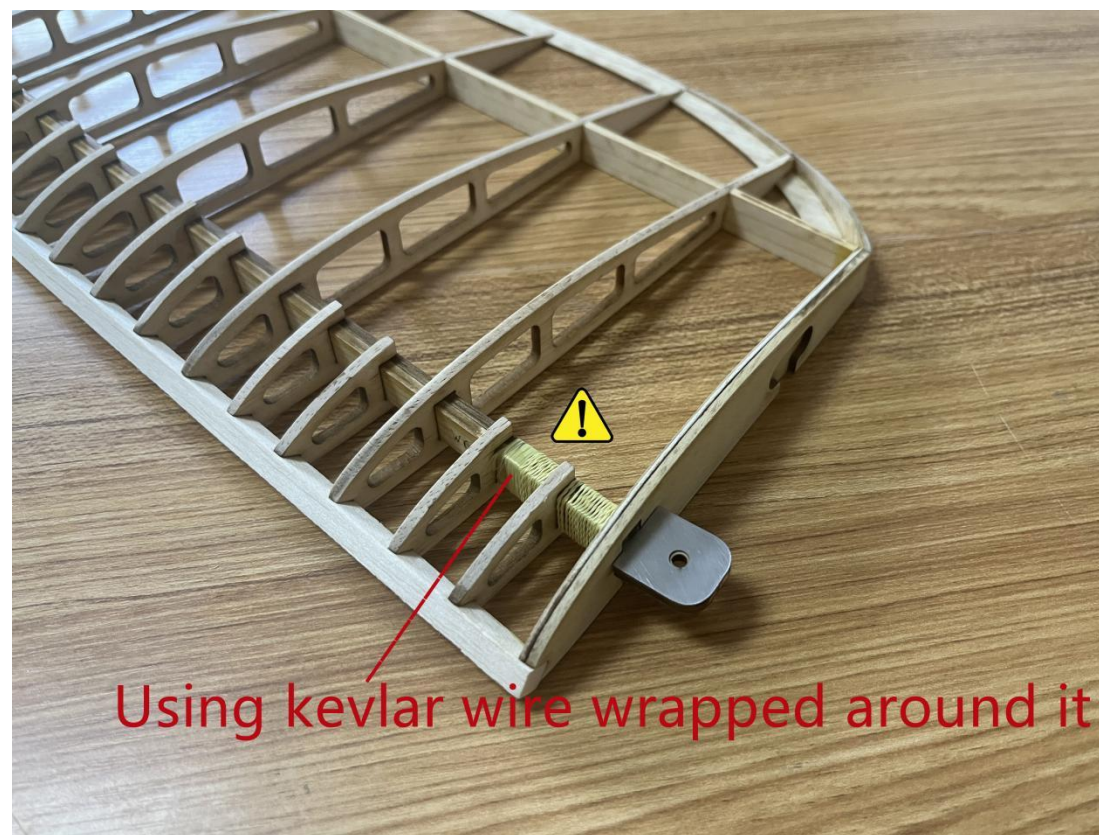
Step 30: Up wings.



Step 31: Bottom wings.



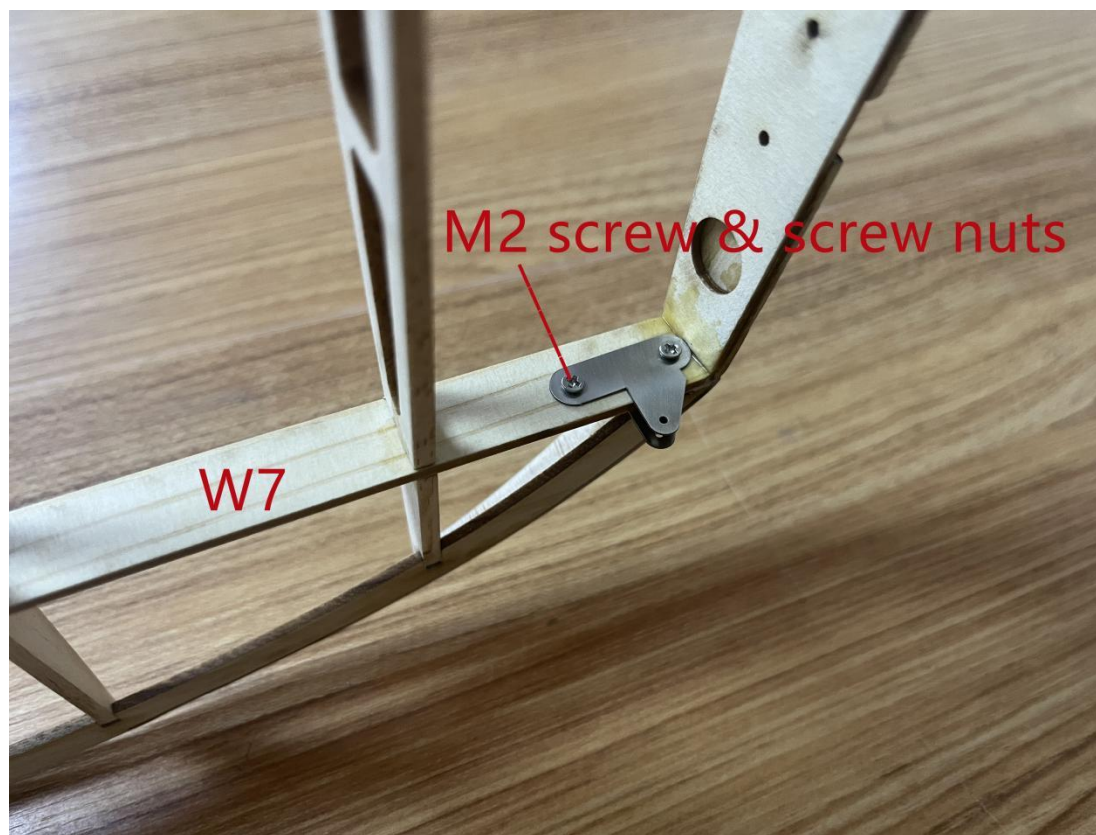
Step 32: Using Kevlar wire wrapped around it!



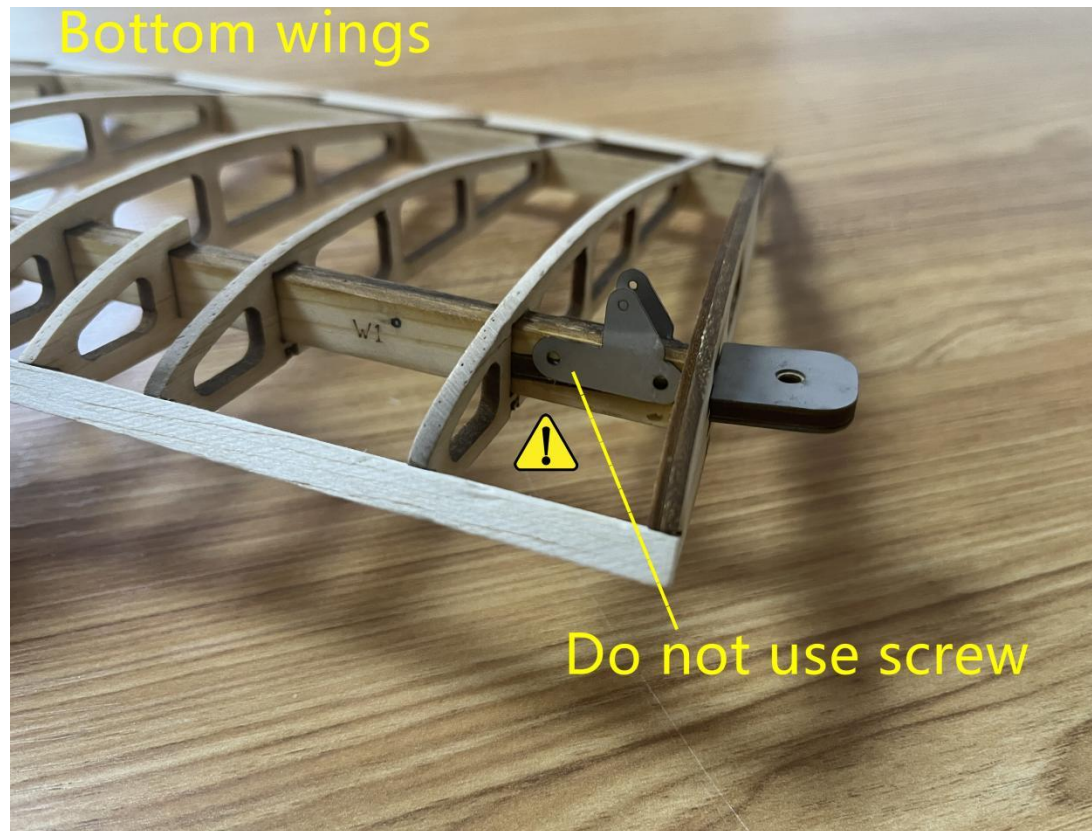
Step 33: Up Wings. 0.5 mm Steel.



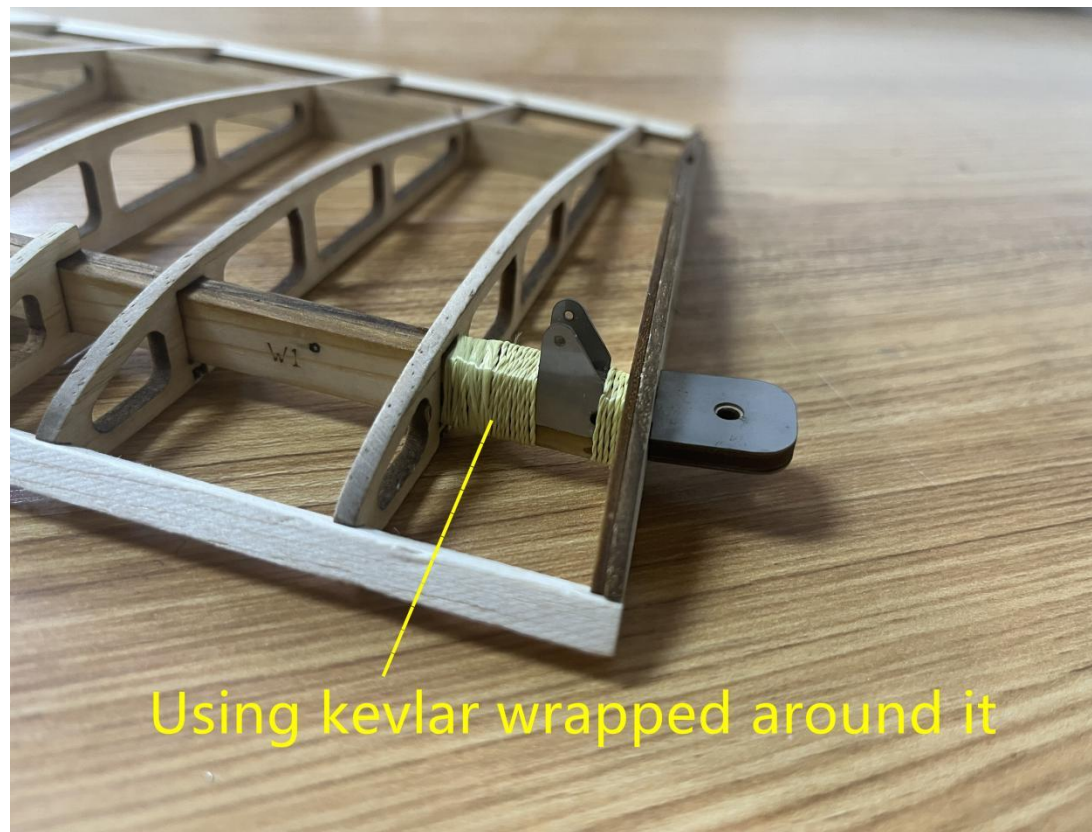
Step 34: M2 screw and screw nuts.



Step 35: Bottom wings. Do not use screw!



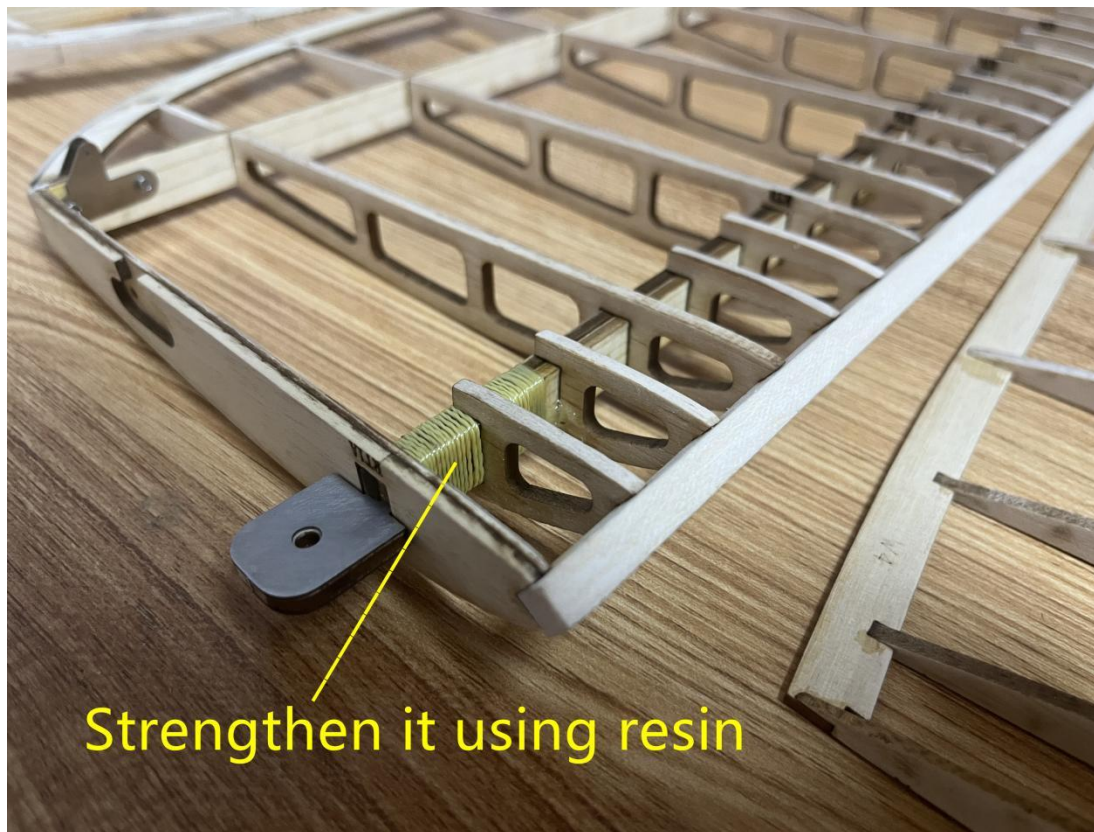
Step 36: Using kevlar wrapped around it.



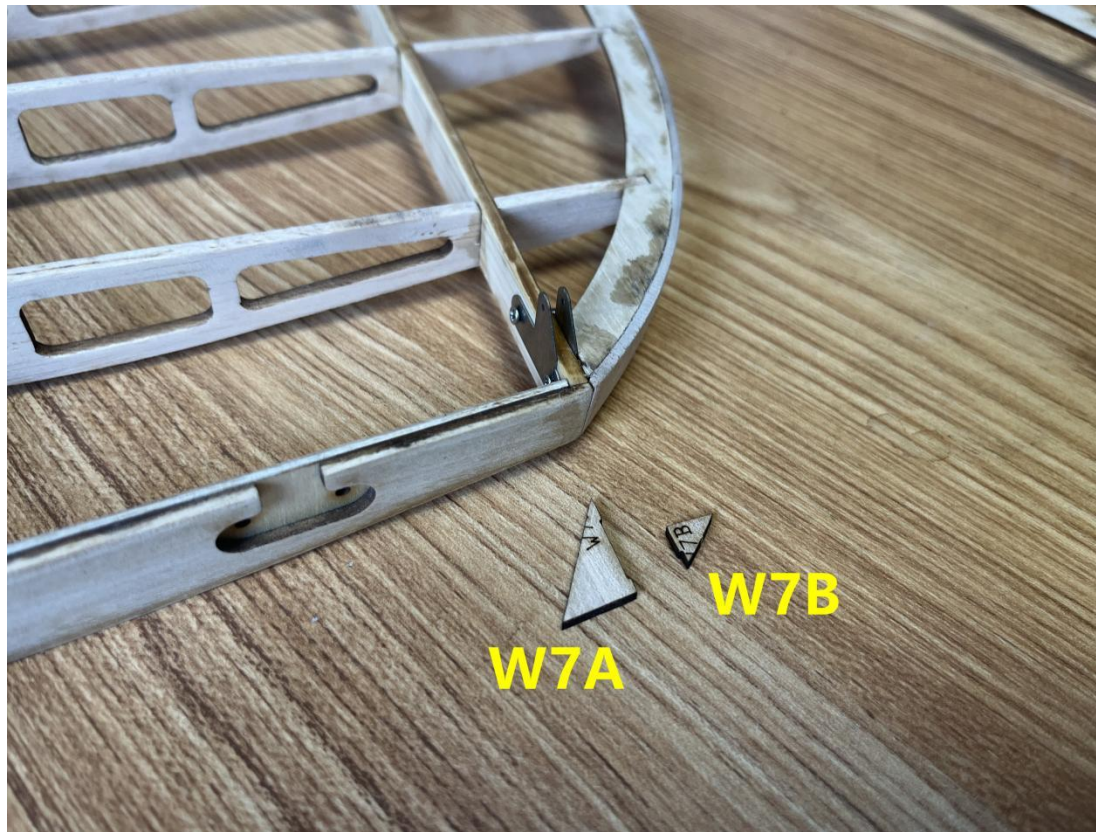
Step 37: Strengthen it using resin.



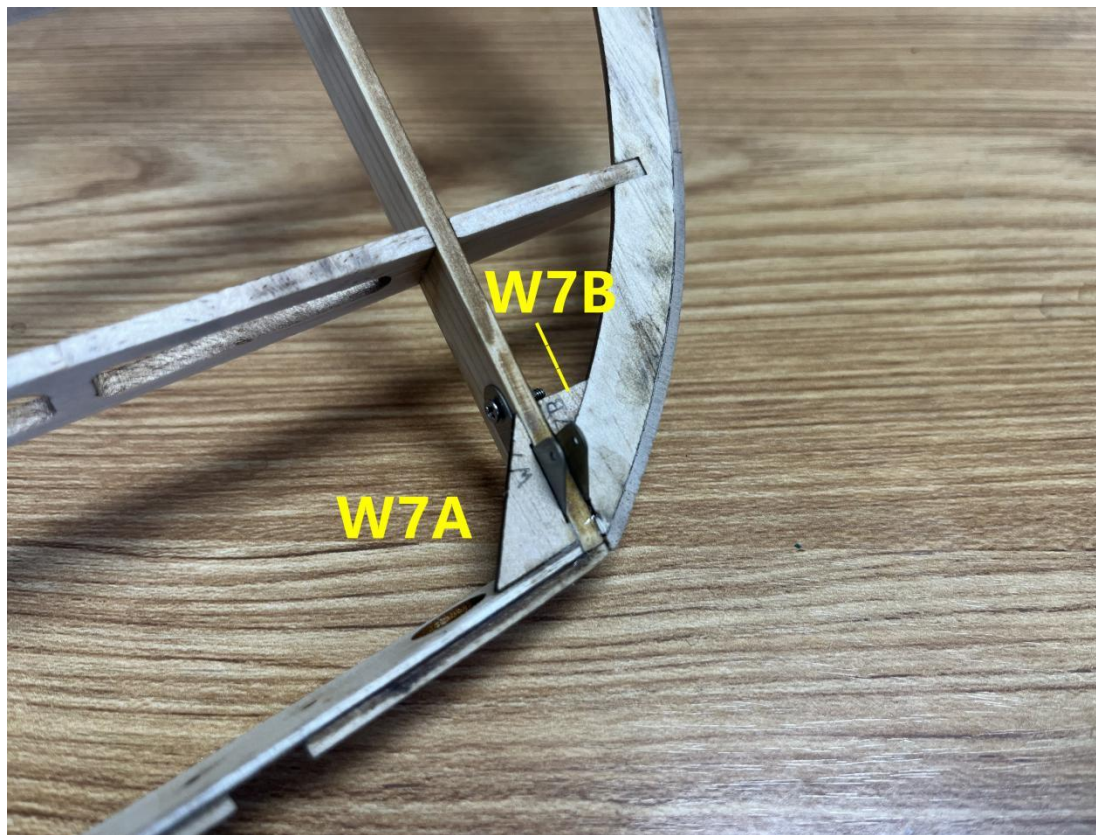
Step 38: Strengthen it using resin.



Step 39



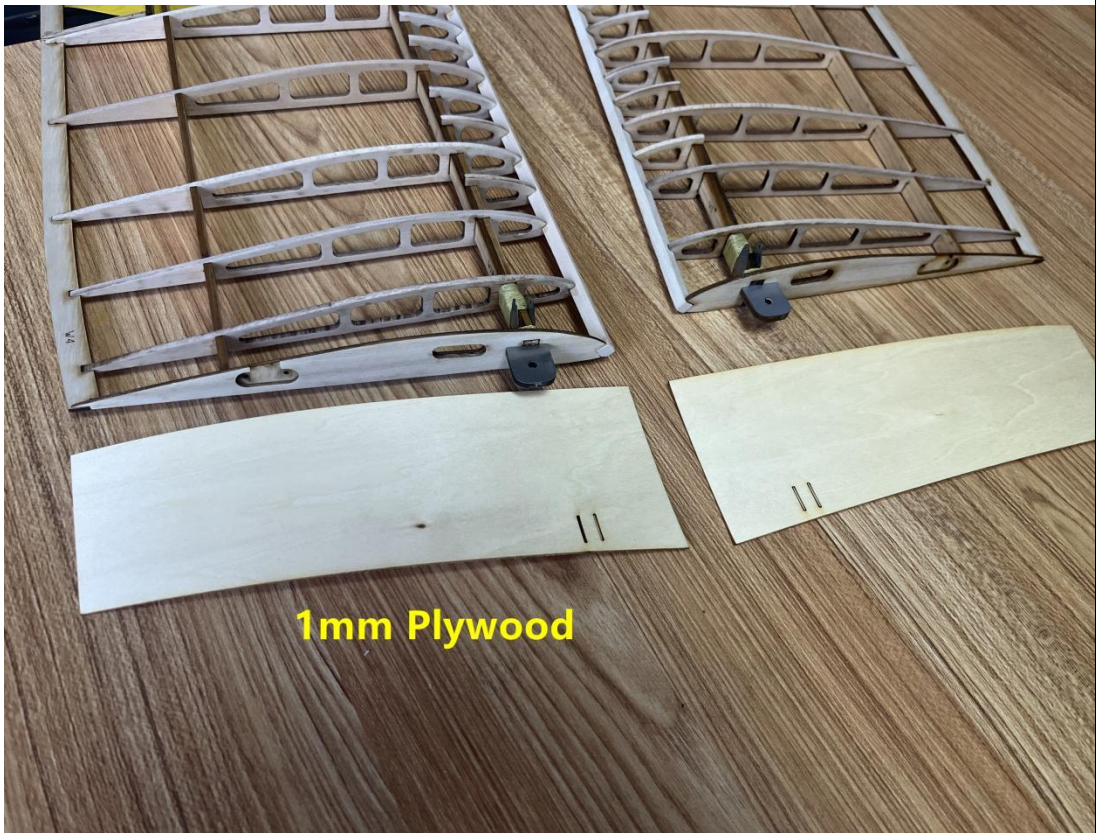
Step 40



Step 41



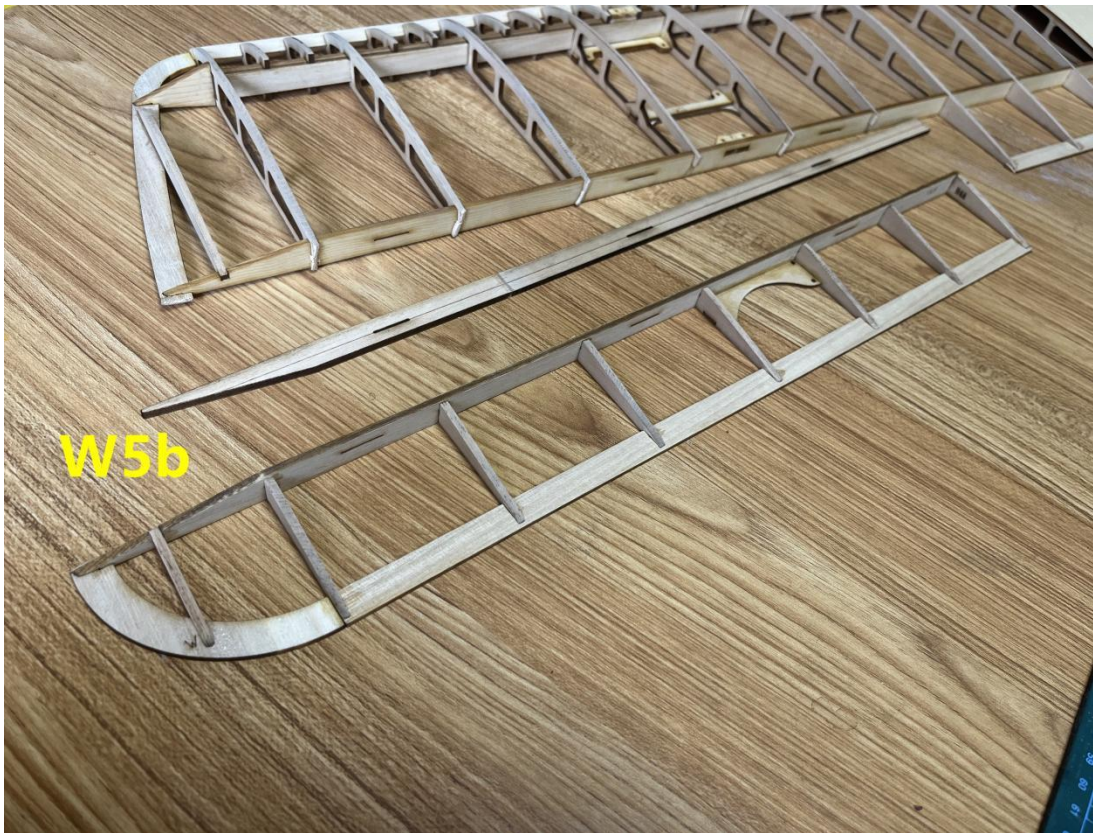
Step 42: 1 mm Plywood.



Step 43



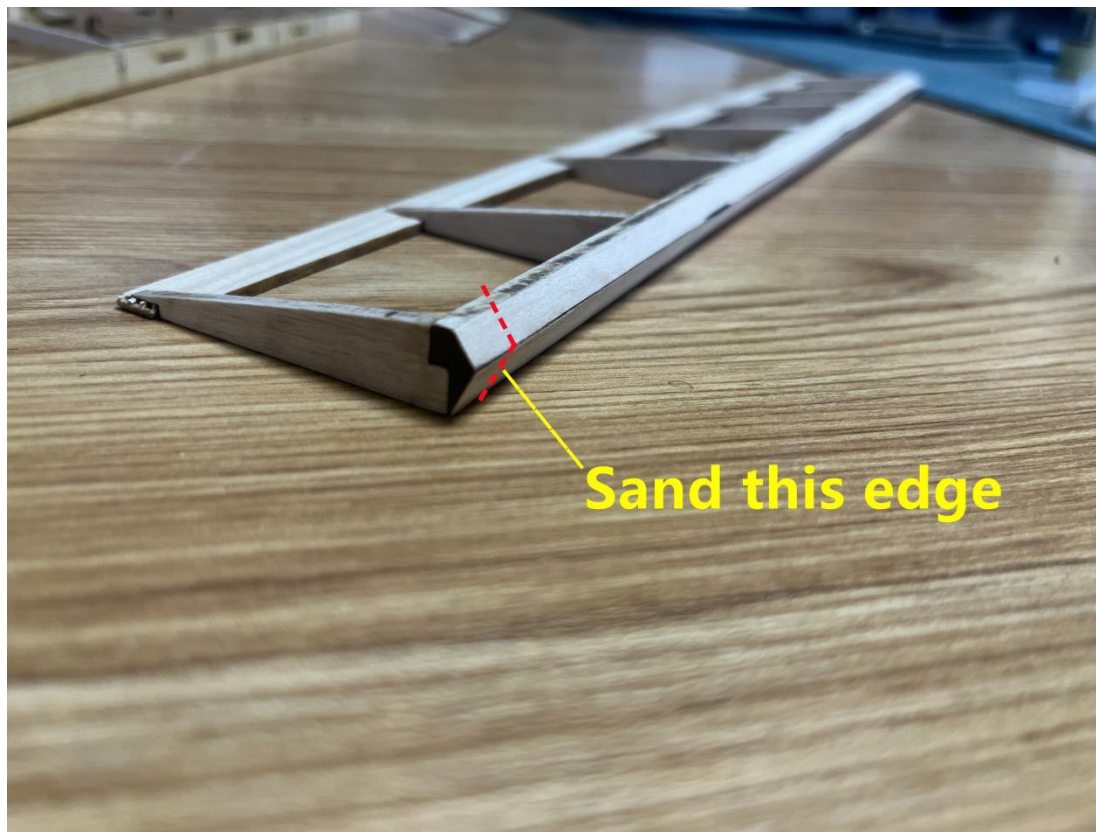
Step 44



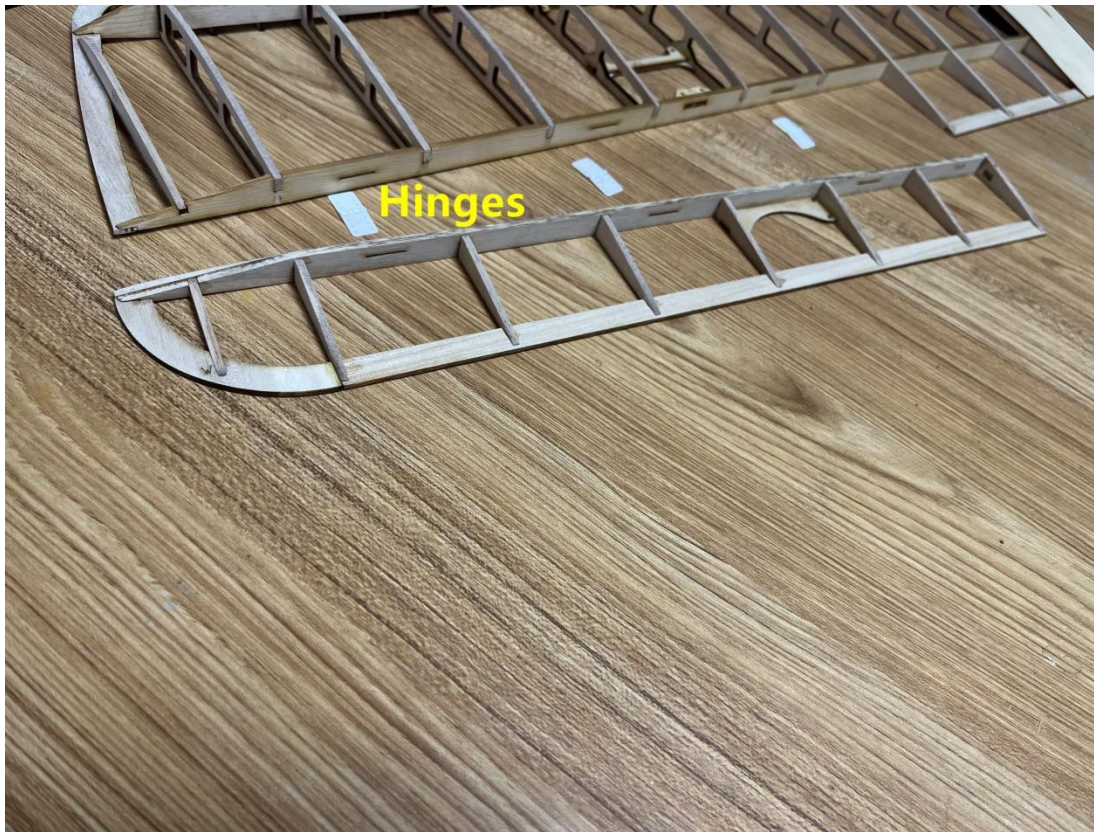
Step 45



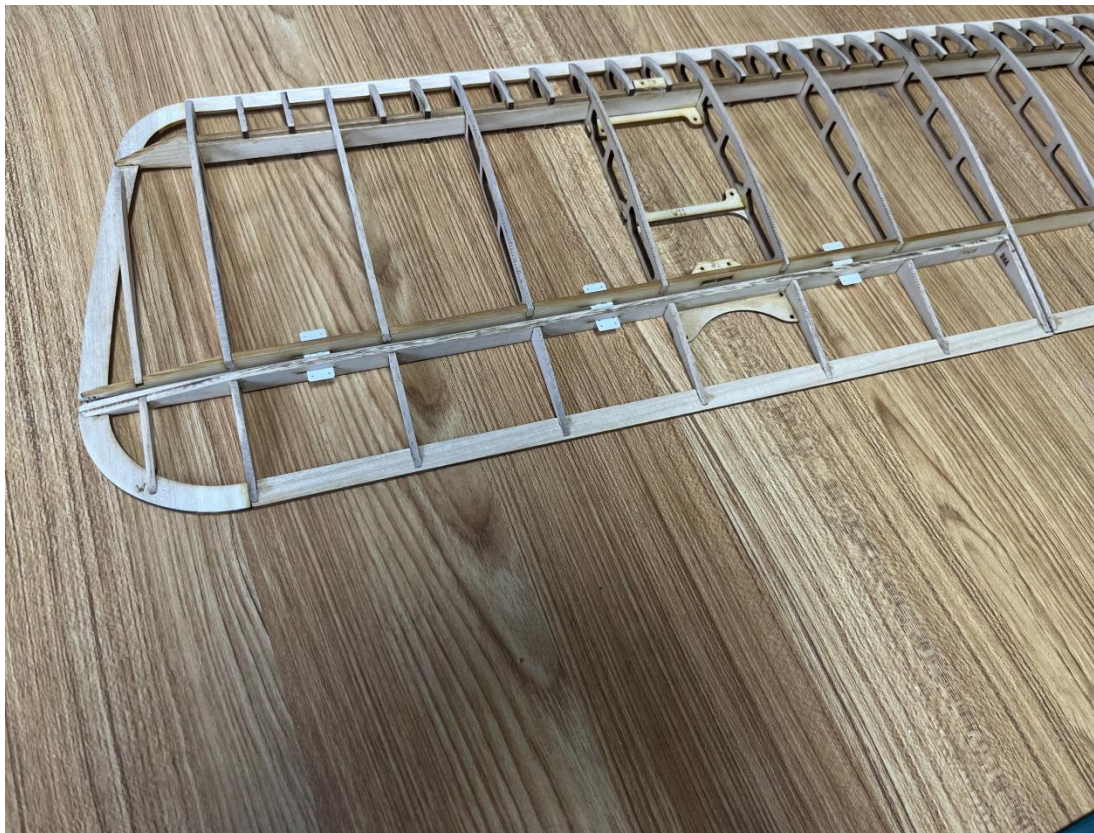
Step 46: Sand this edge.



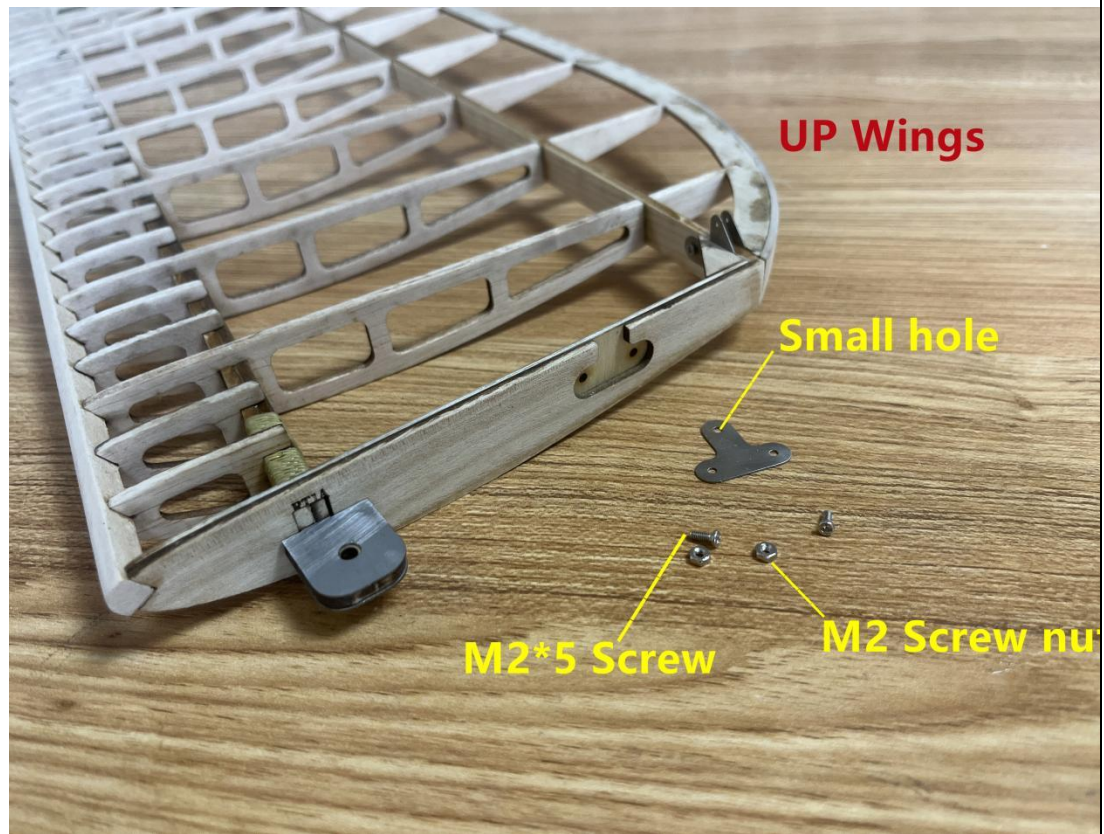
Step 47: Hinges.



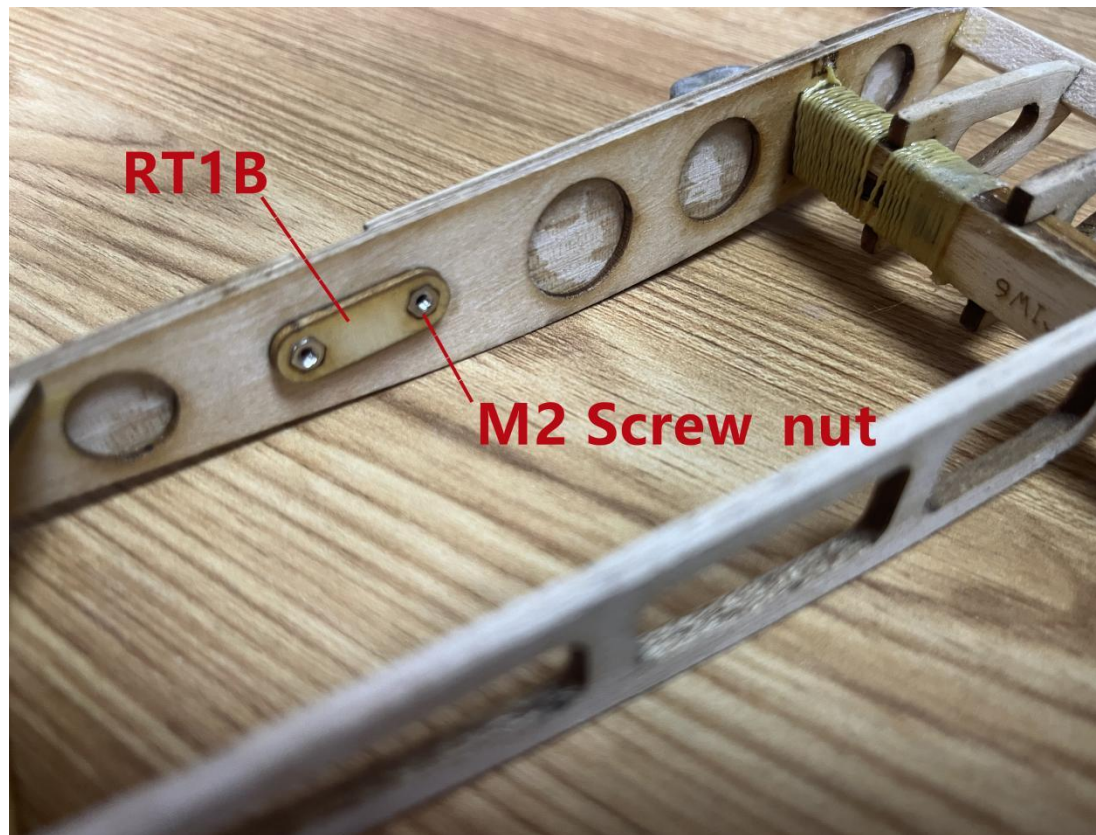
Step 48



Step 49: UP Wings. Small hole. M2 x 5 Screw. M2 Screw nut.



Step 50: RT1B. M2 Screw nut.



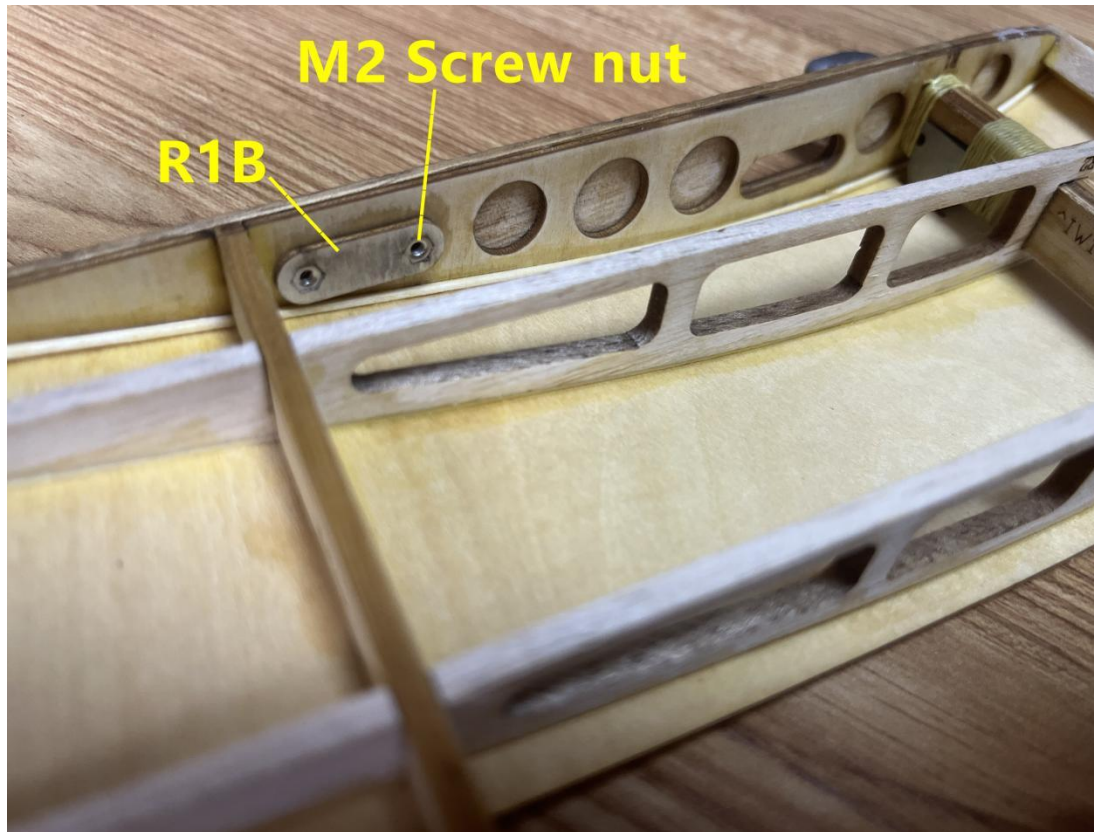
Step 51



Step 52: Bottom Wings. Bigger Hole.



Step 53: M2 Screw nut. R1B.



Step 54



Step 55: Wing Struts. The front struts are shorter than back the struts!



Step 56



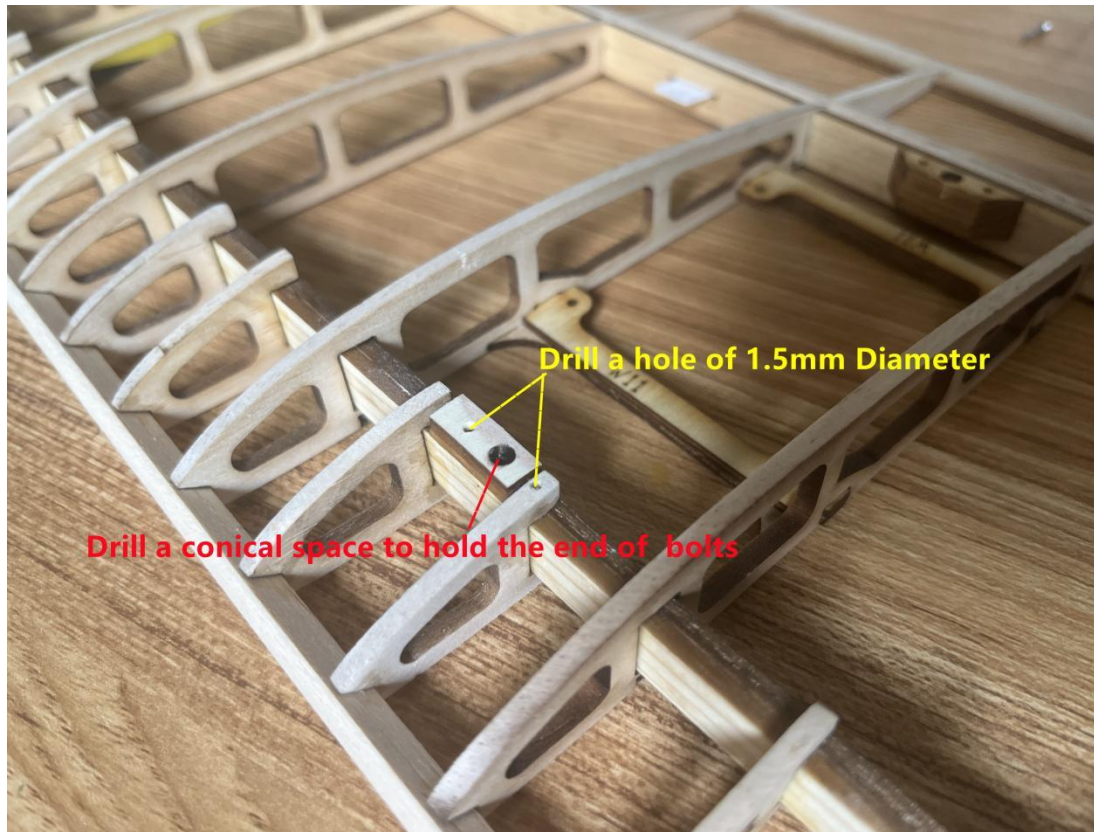
Step 57: Drill a hole of 1.5 mm diameter.



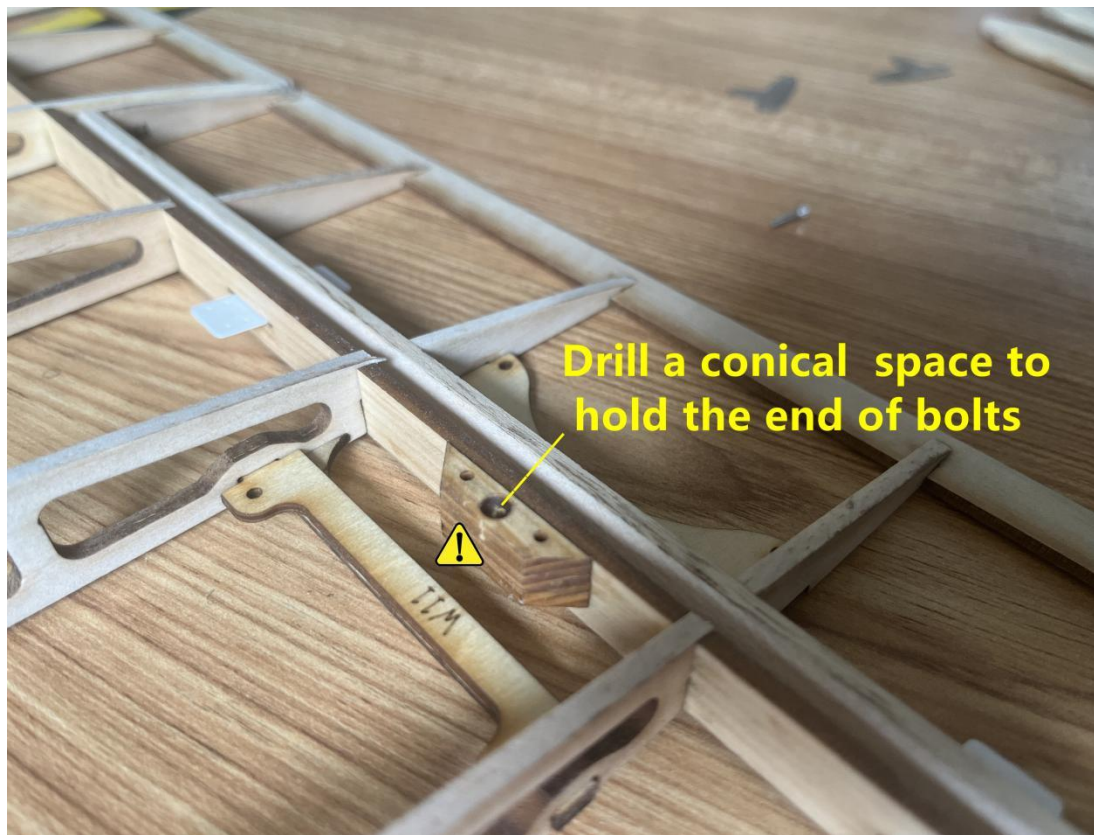
Step 58: Sand the edges. M2 x 9 Screw.



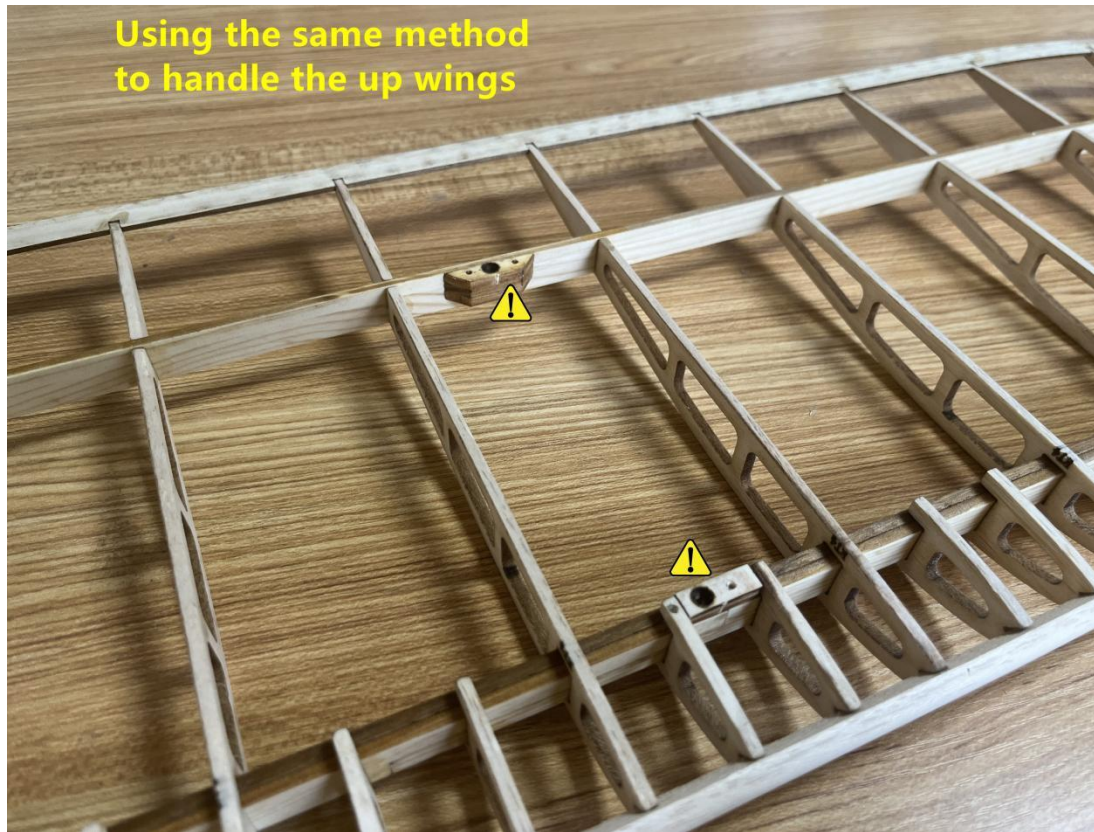
Step 59: Drill a hole of 1.5 mm diameter. Drill a conical space to hold the end of bolts.



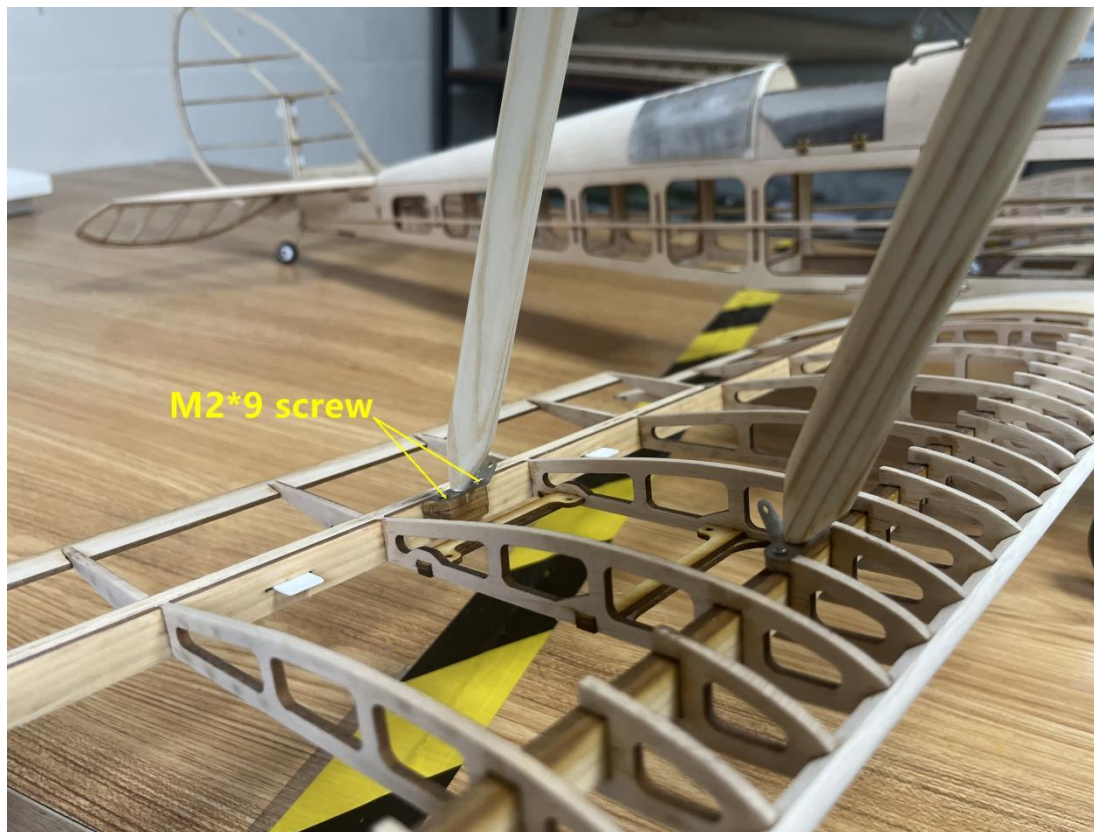
Step 60: Drill a conical space to hold the end of bolts.



Step 61: Using the same method to handle the up wings!



Step 62: M2 x 9 screw.



Step 63

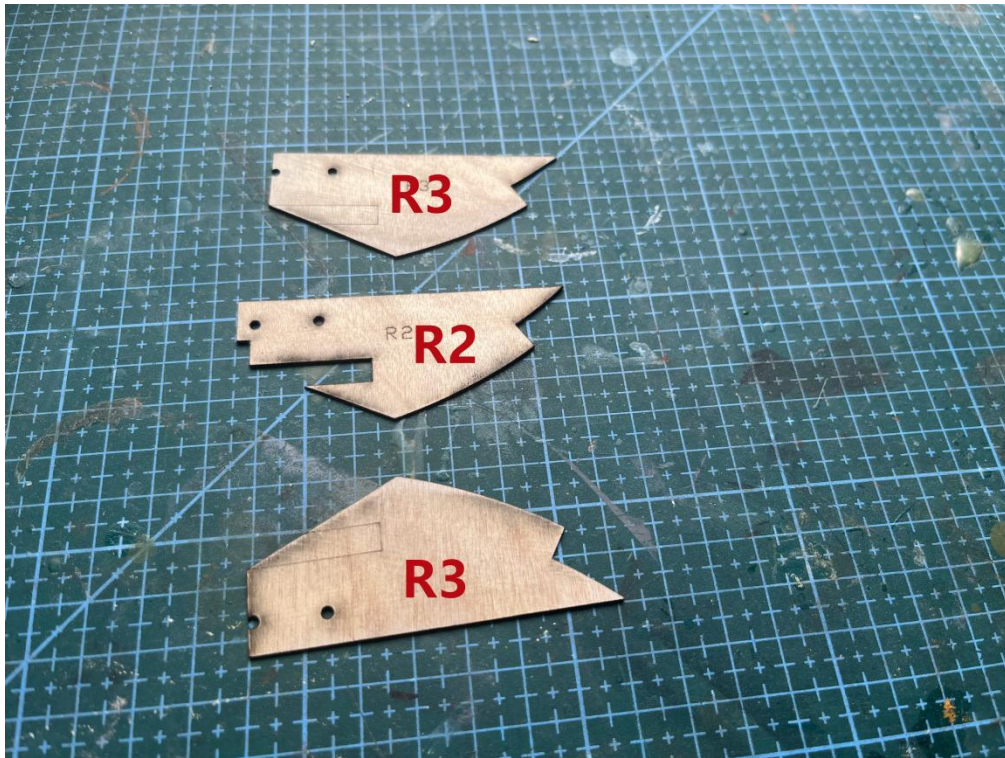


Step 64



5. ASSEMBLY-Tails

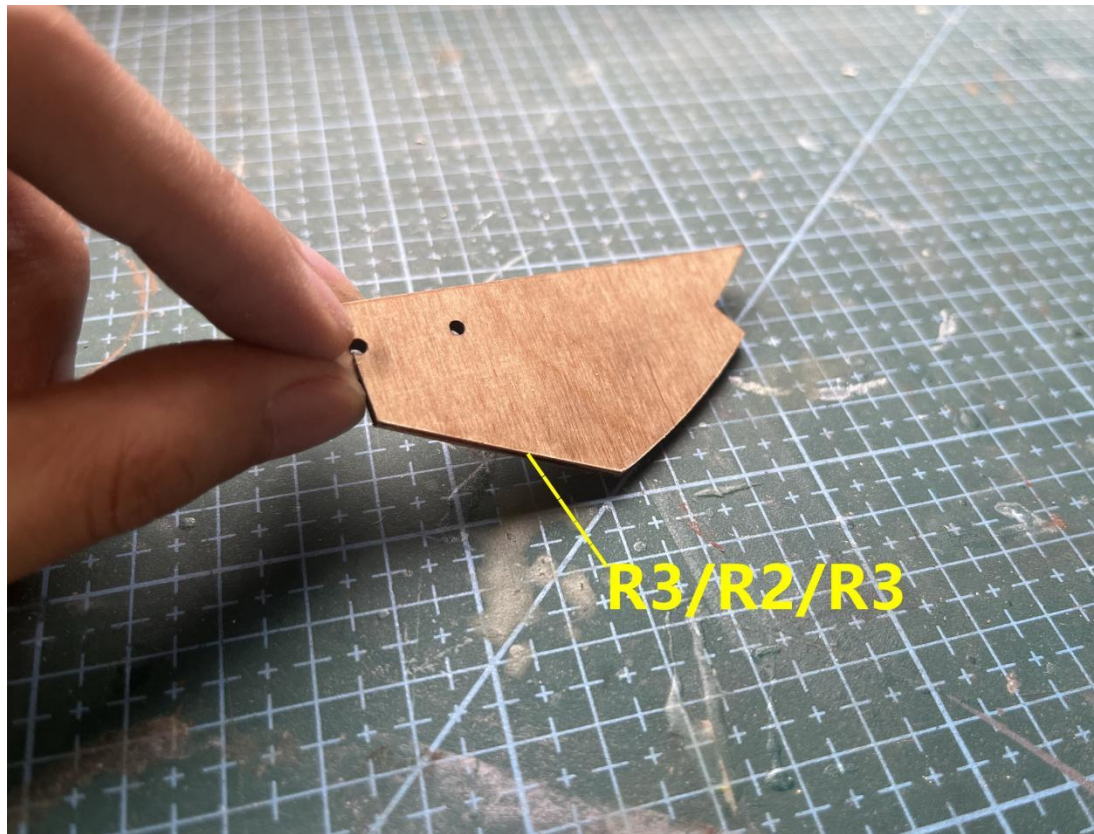
Step 1



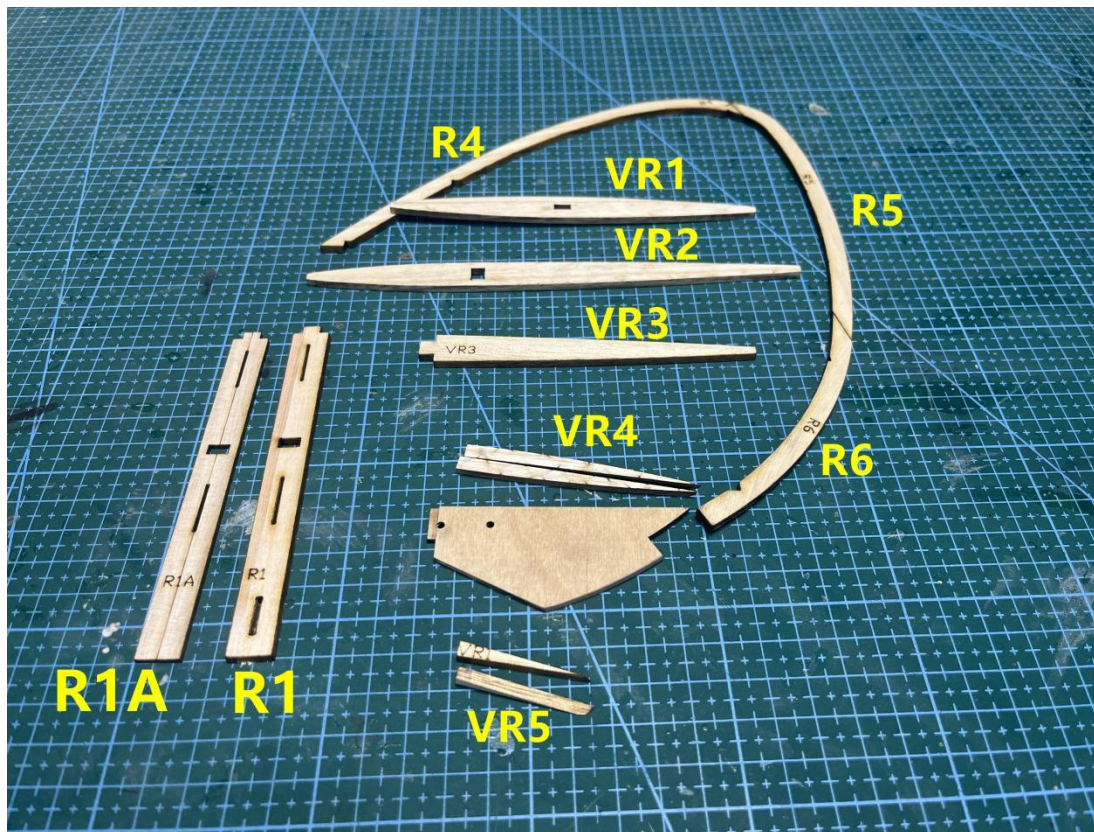
Step 2: Sand this area, reduce thickness by 0.5 mm.



Step 3



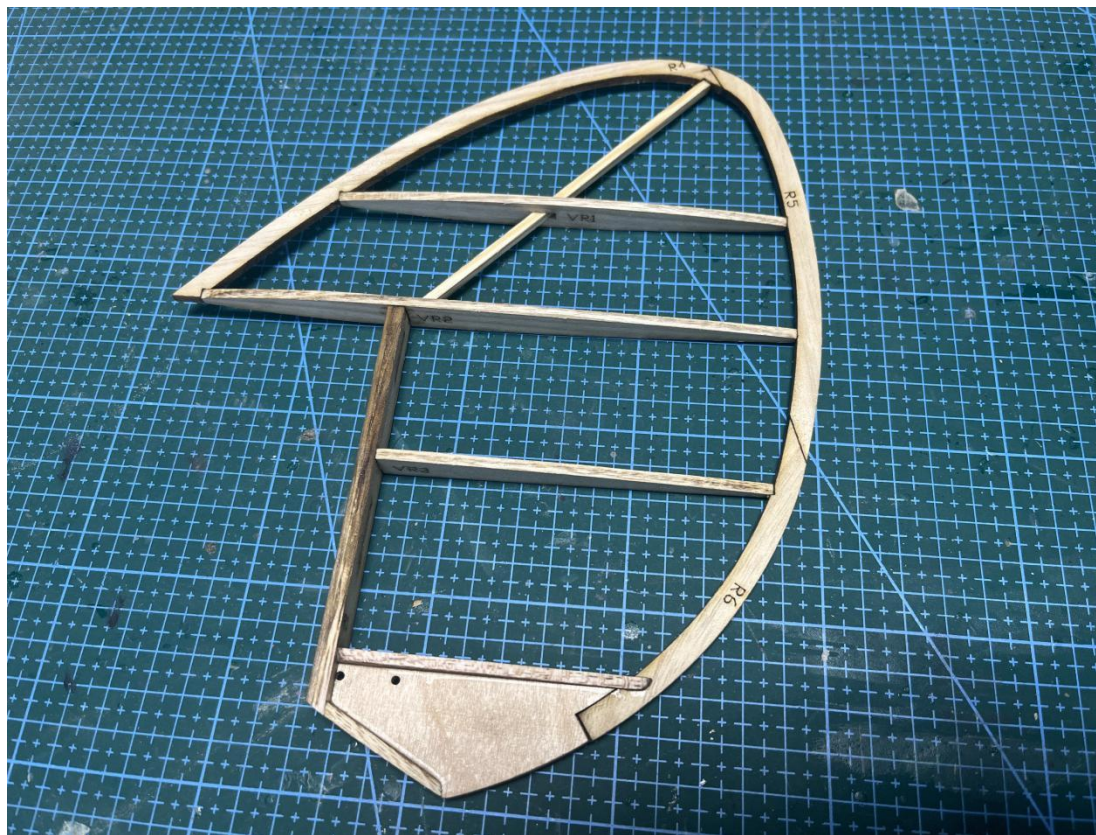
Step 4



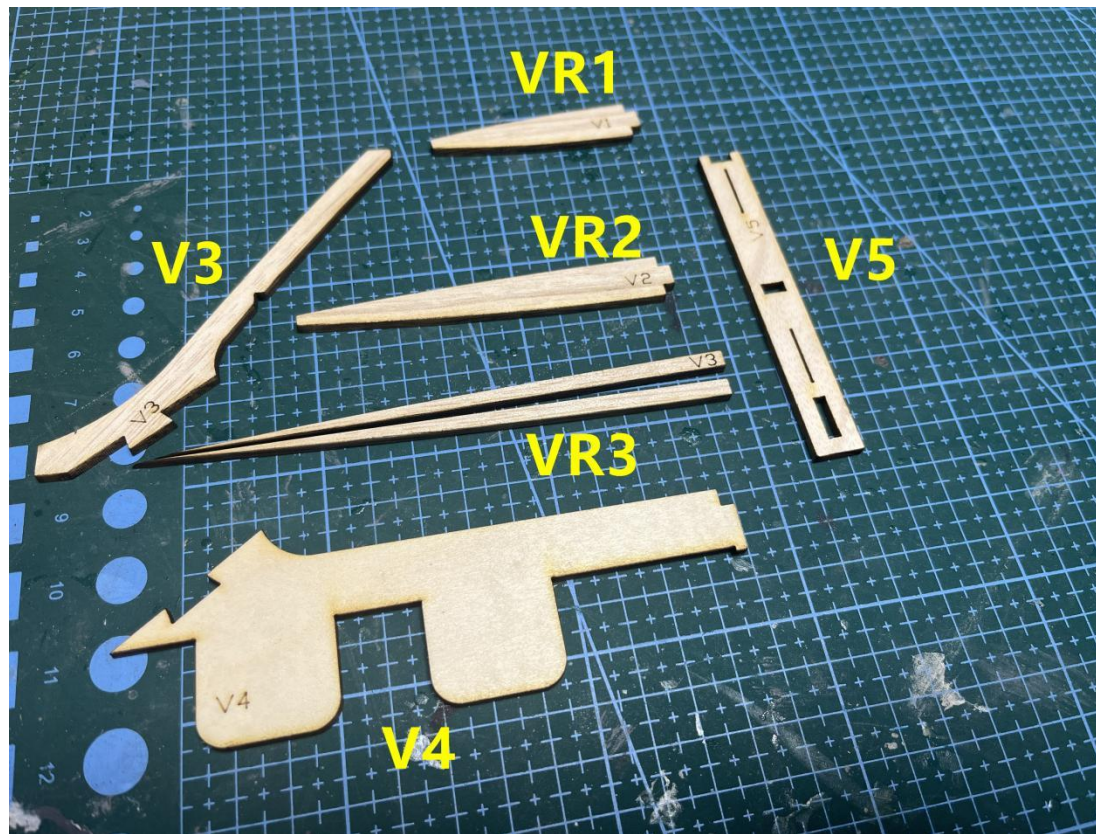
Step 5: 3 x 3 mm pine strips. Sand this edge.



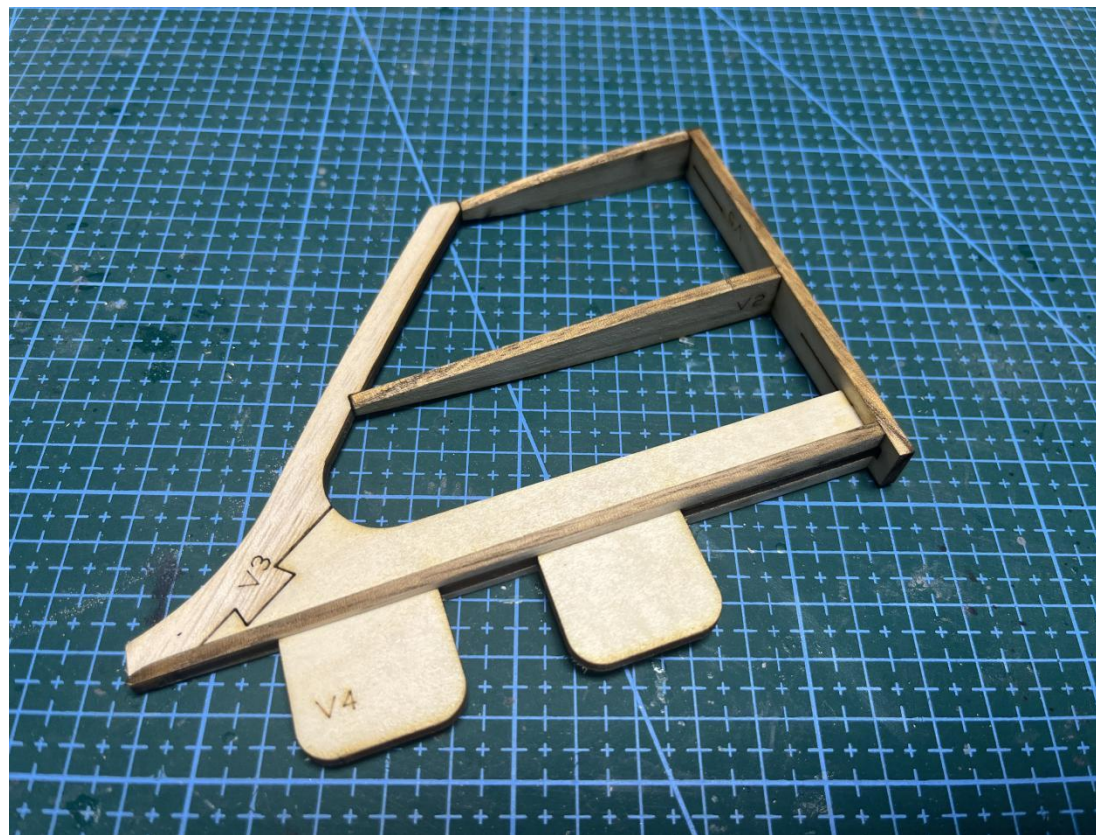
Step 6



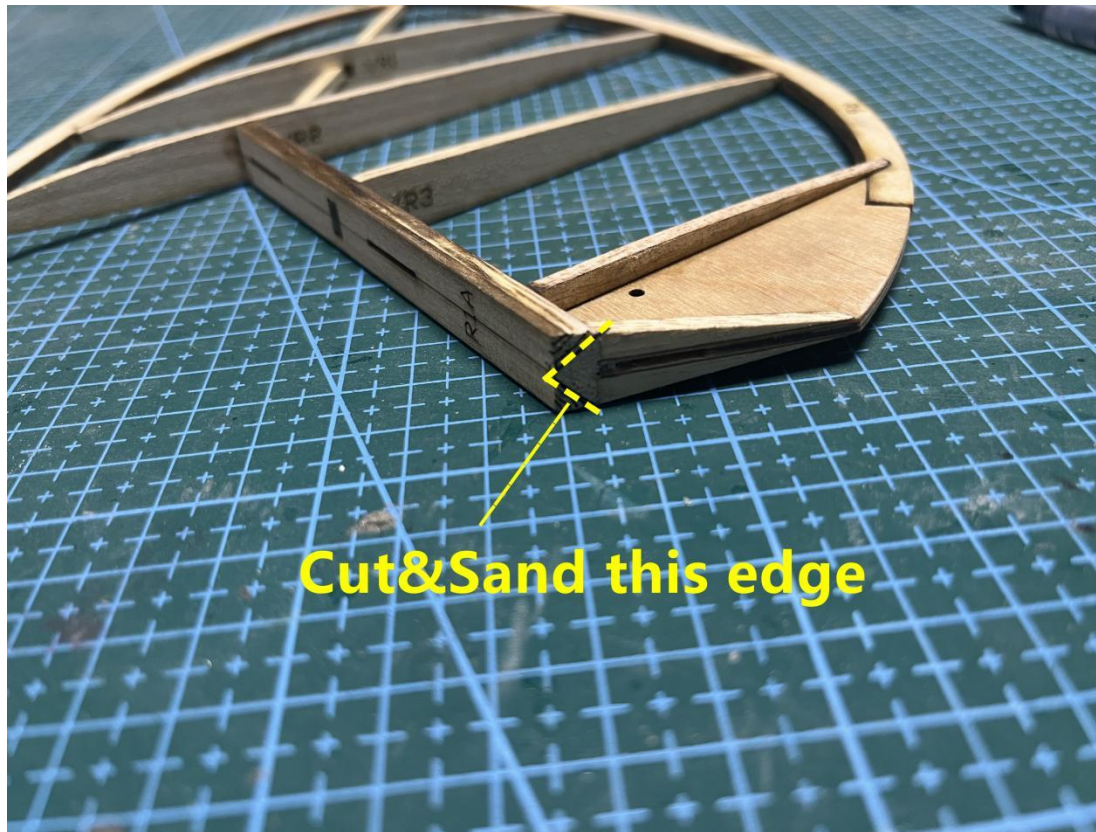
Step 7



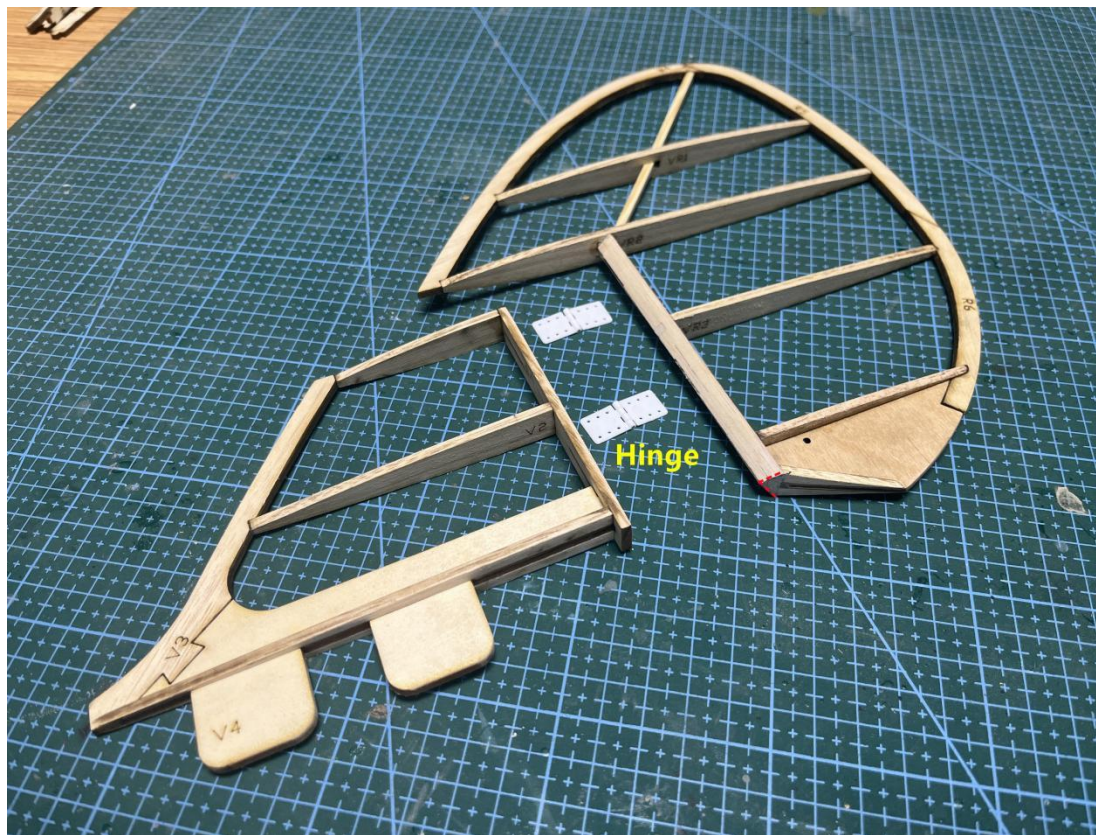
Step 8



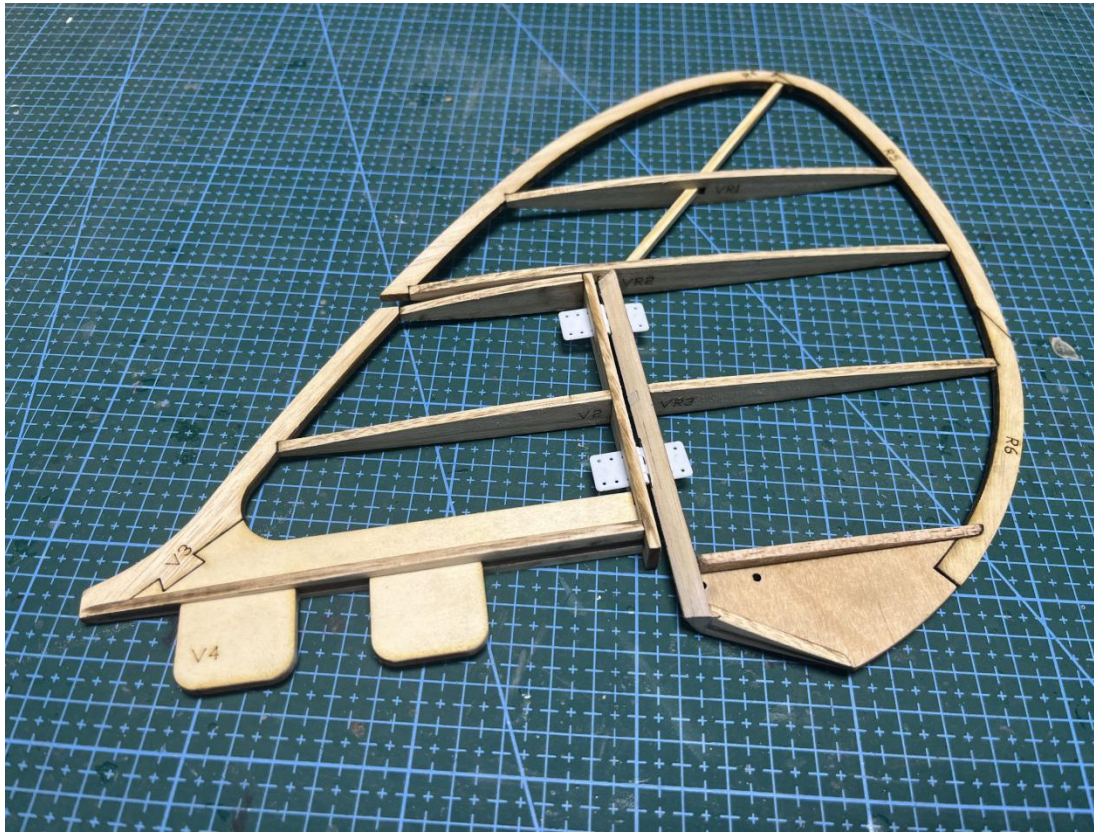
Step 9: Cut and Sand this edge.



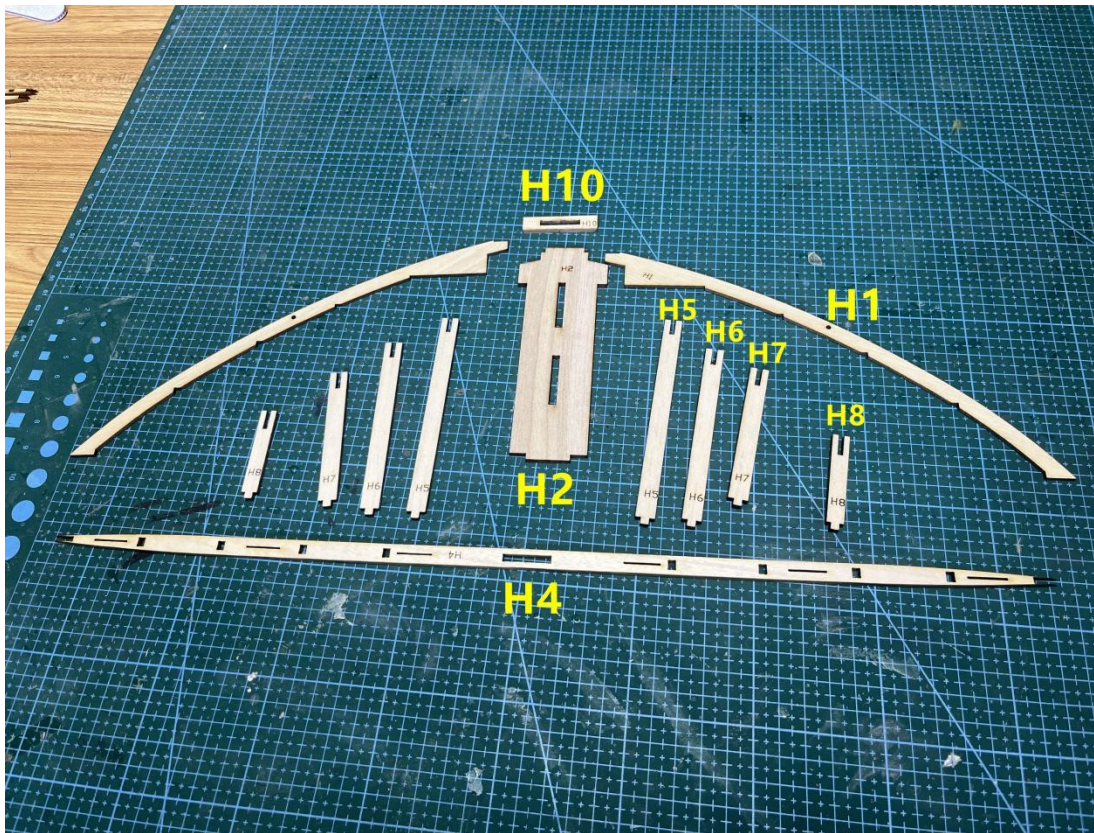
Step 10: Hinge.



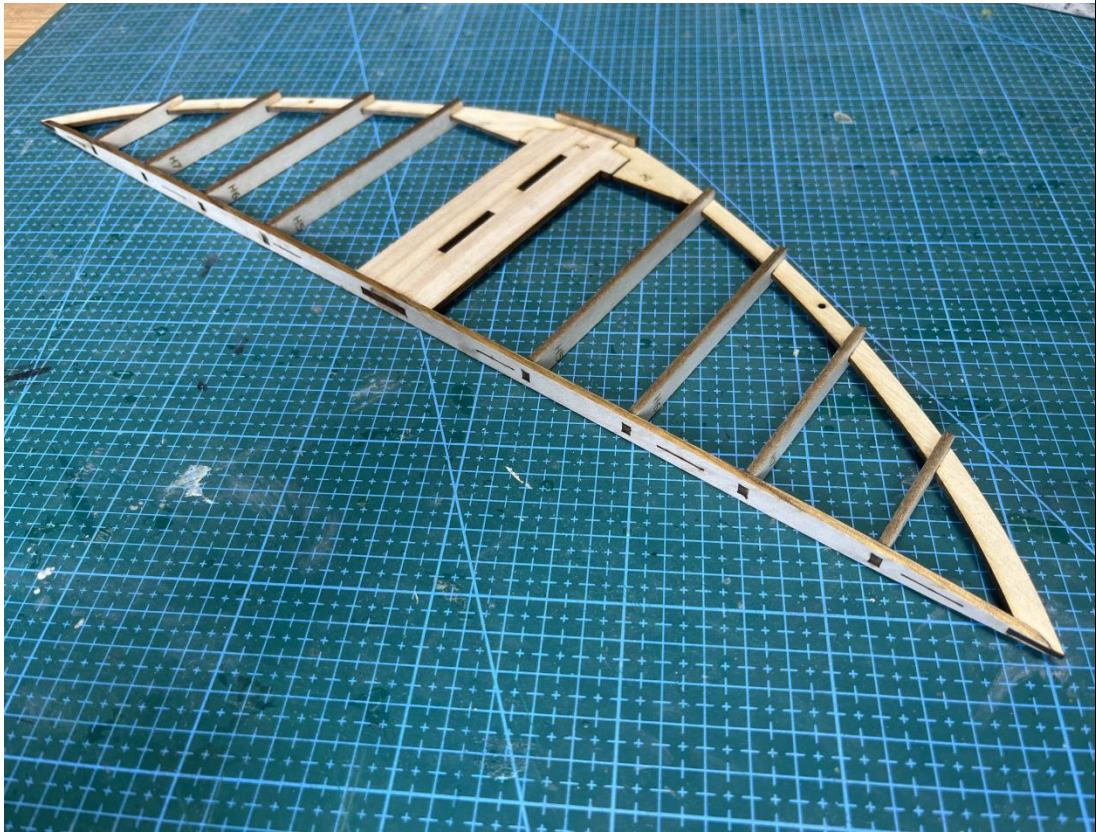
Step 11



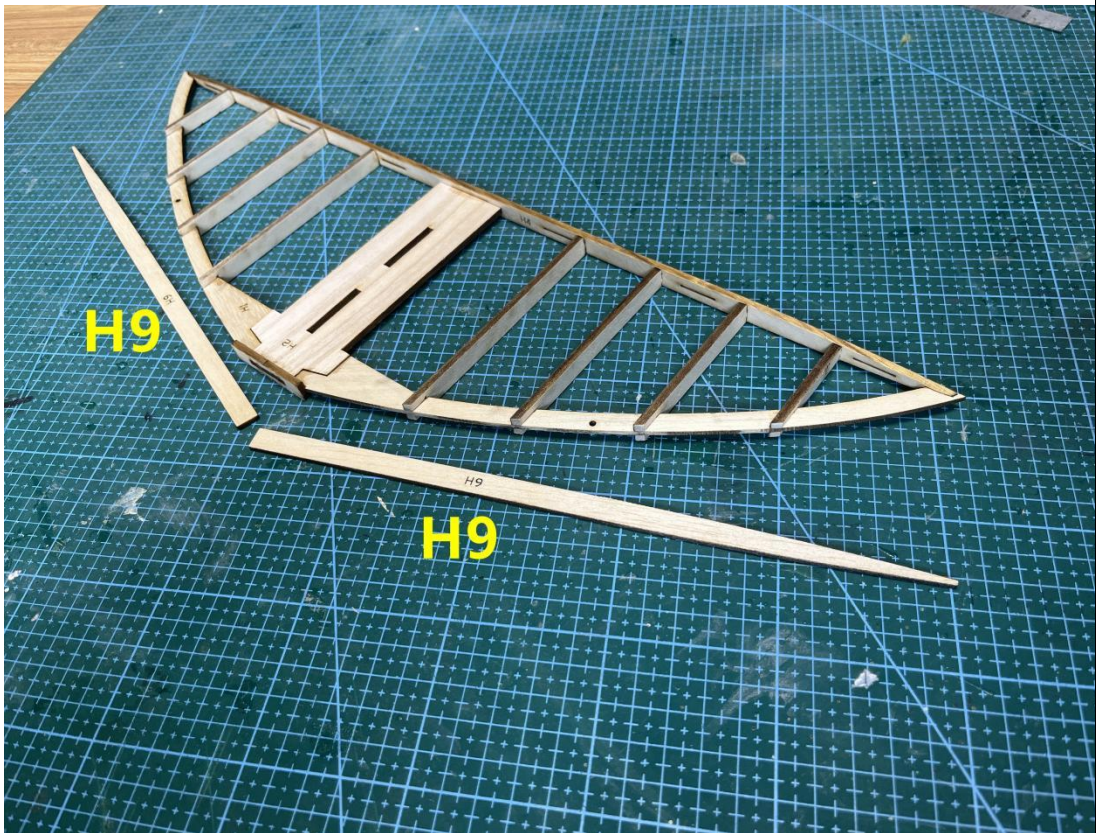
Step 12



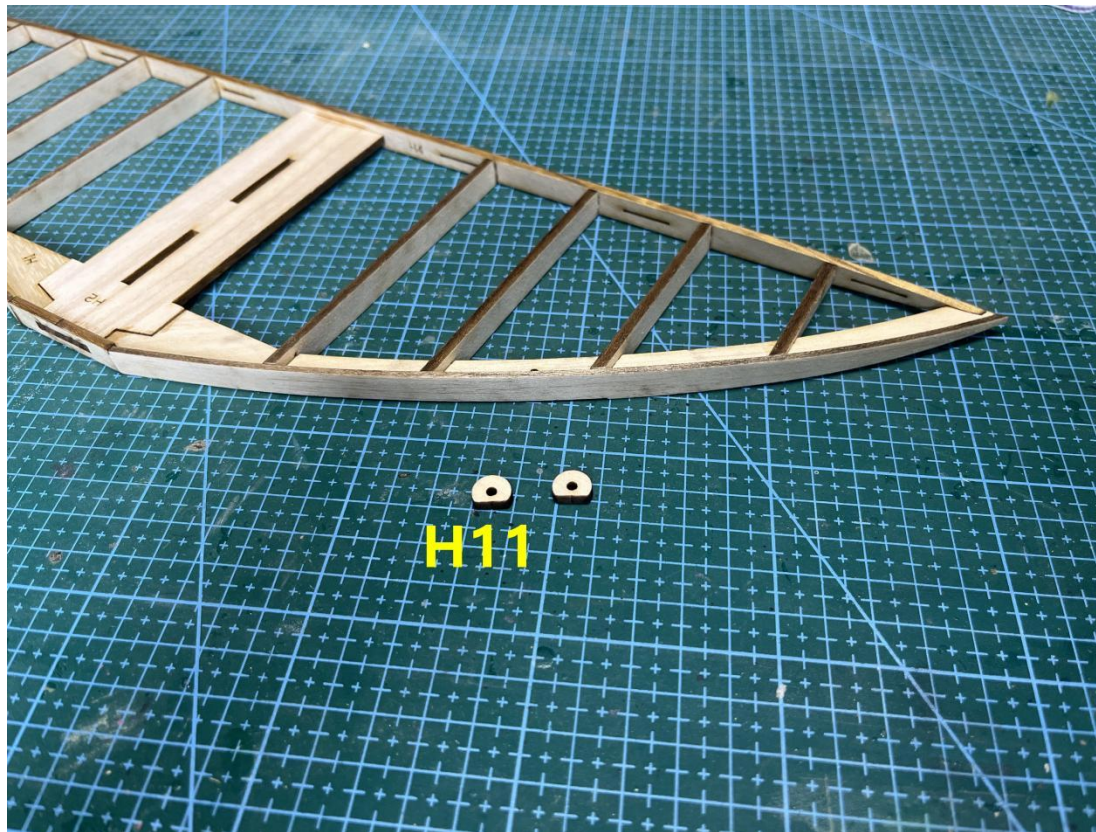
Step 13



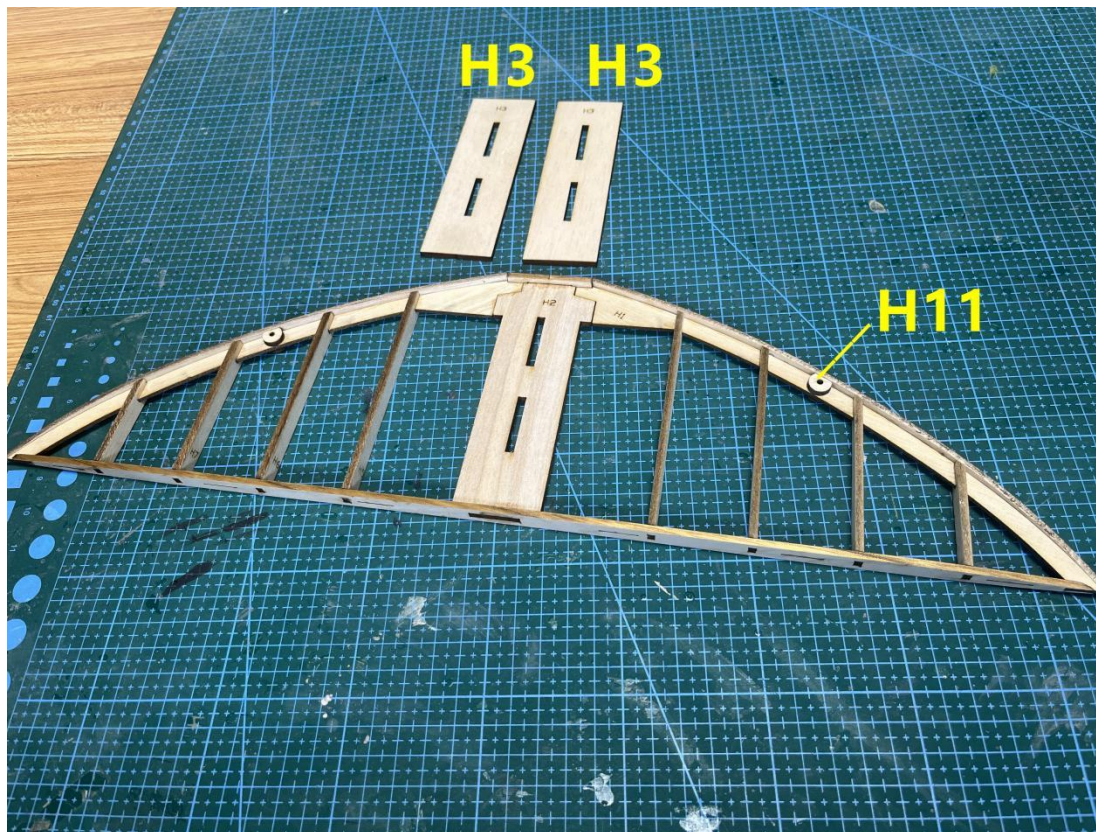
Step 14



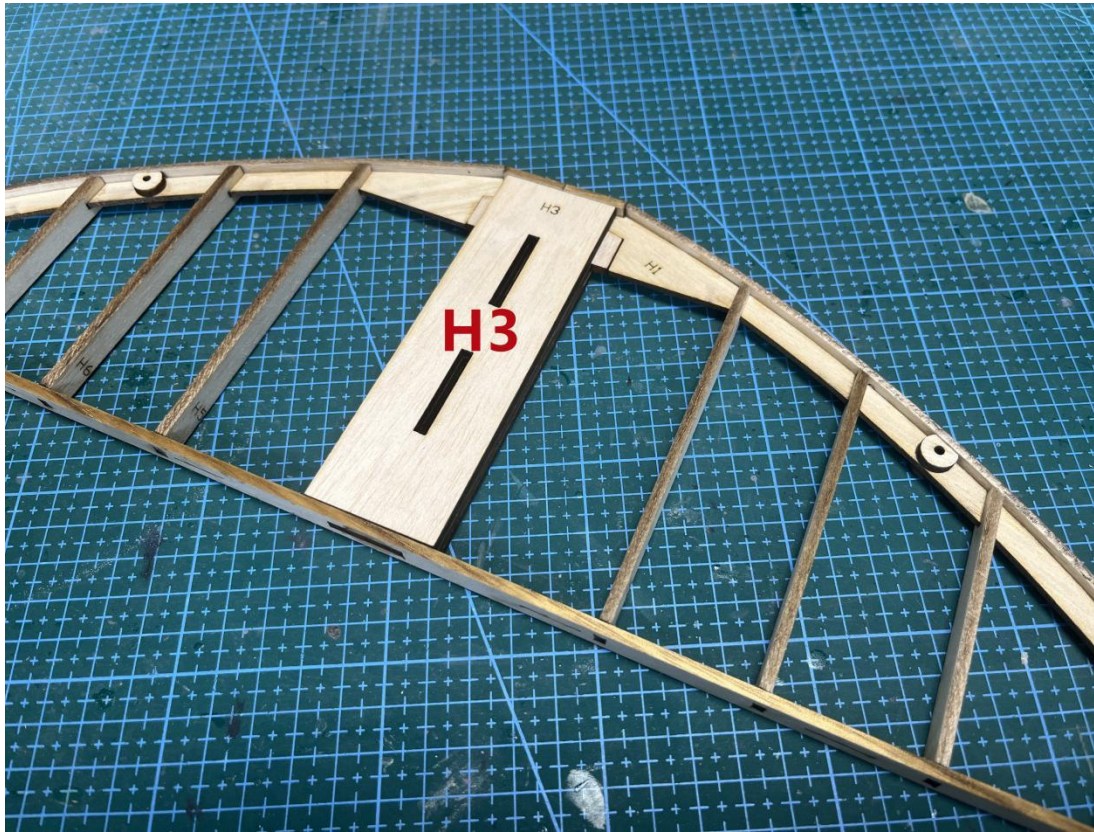
Step 15



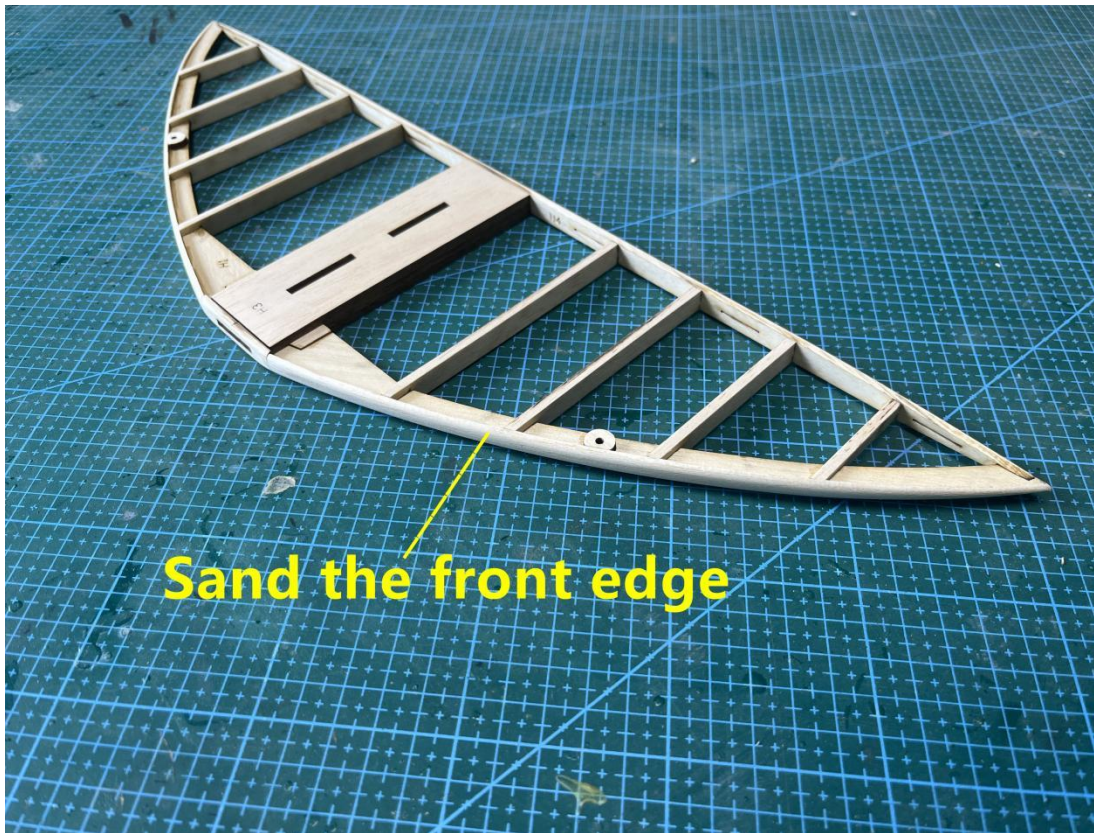
Step 16



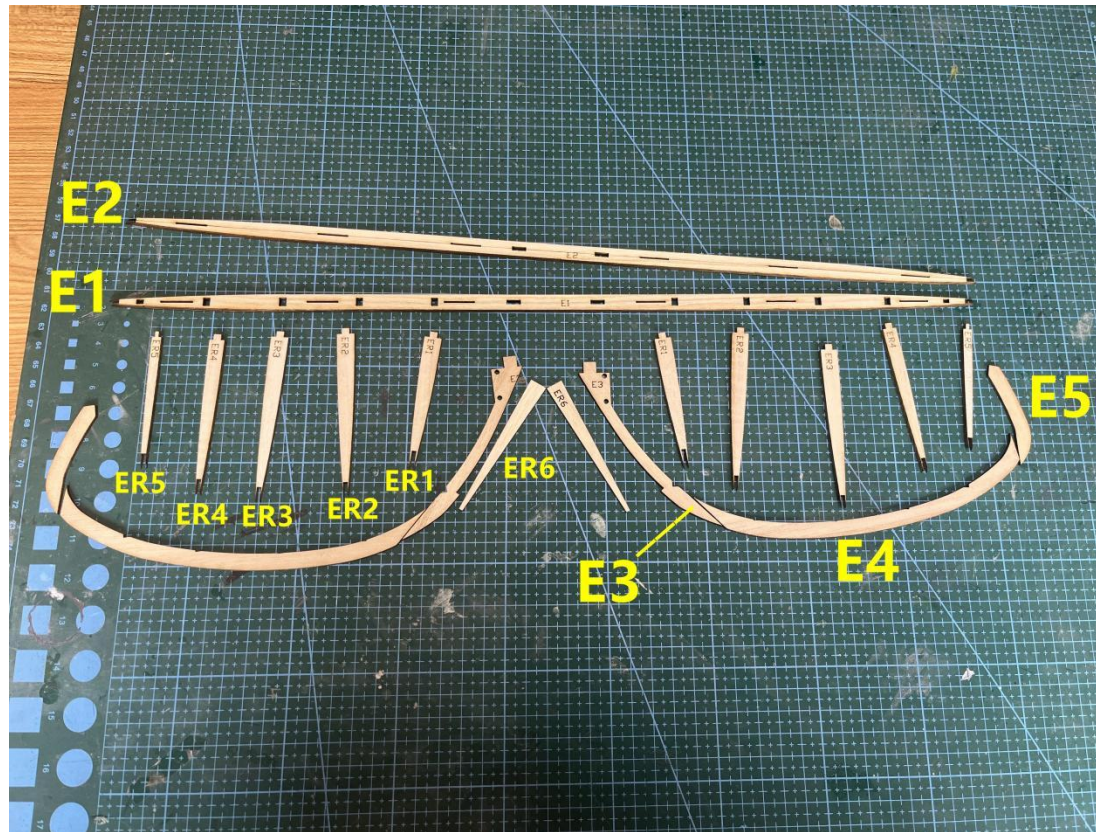
Step 17



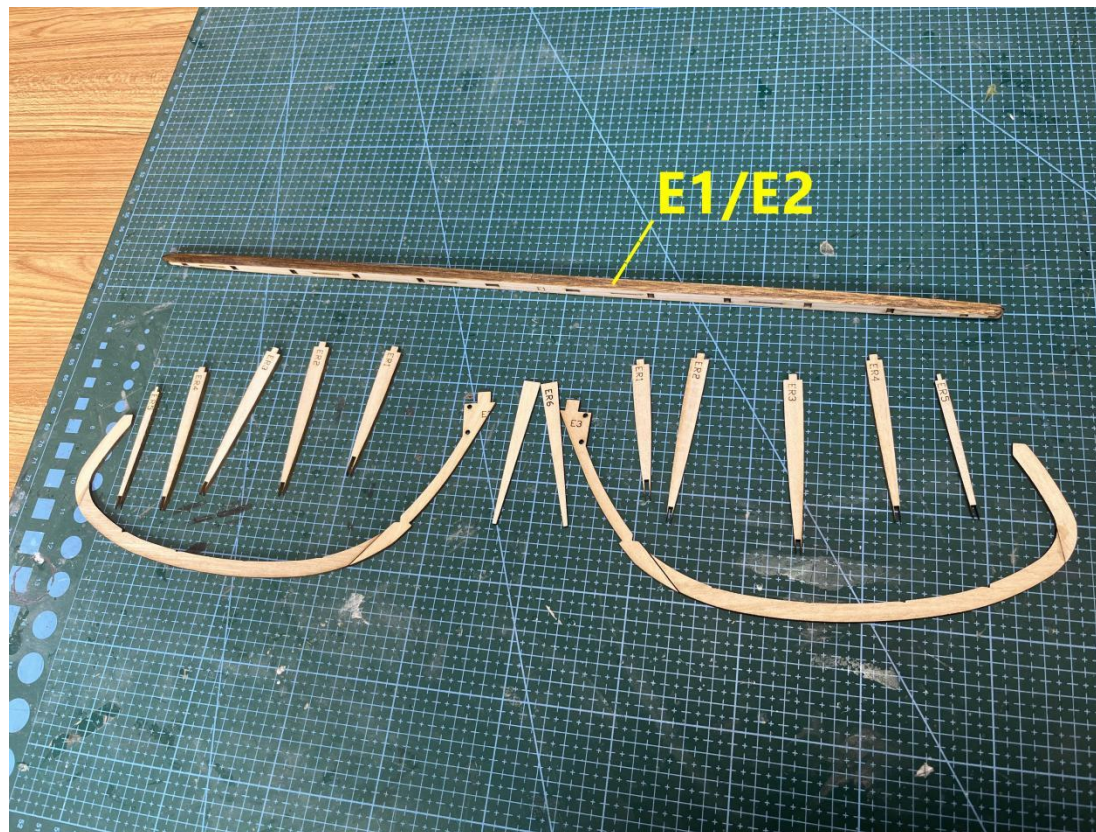
Step 18: Sand the front edge.



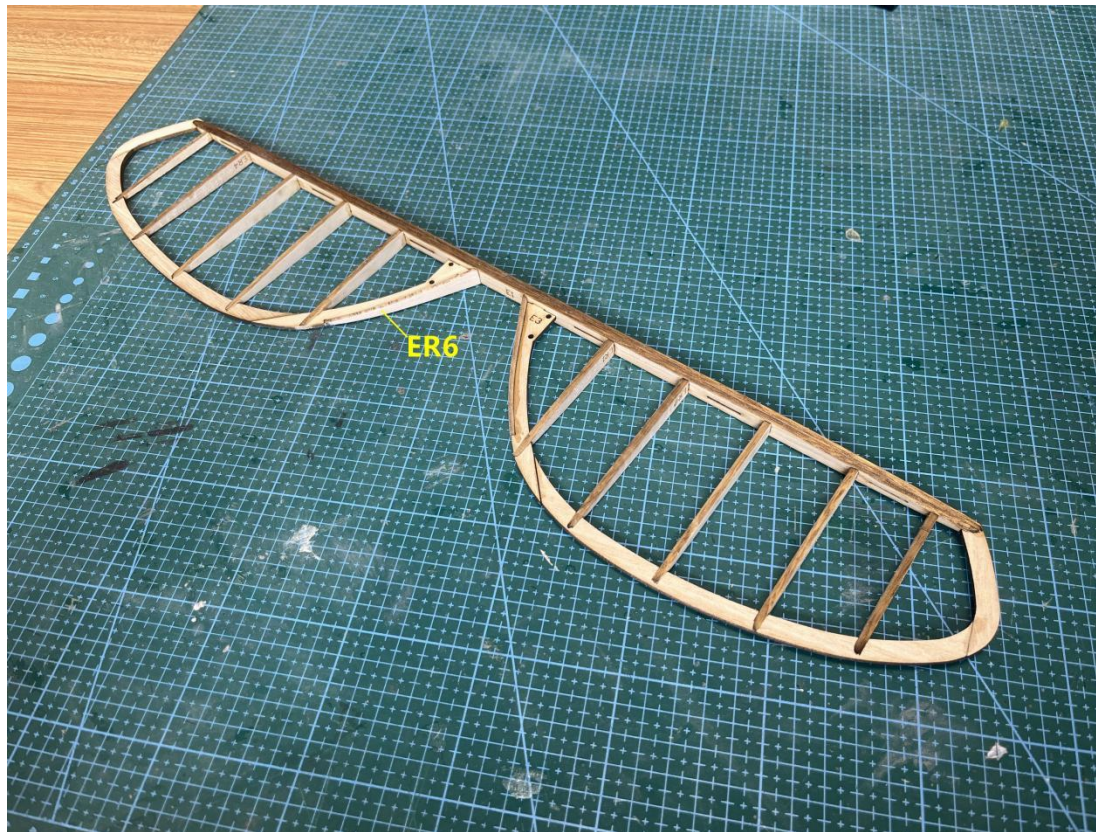
Step 19



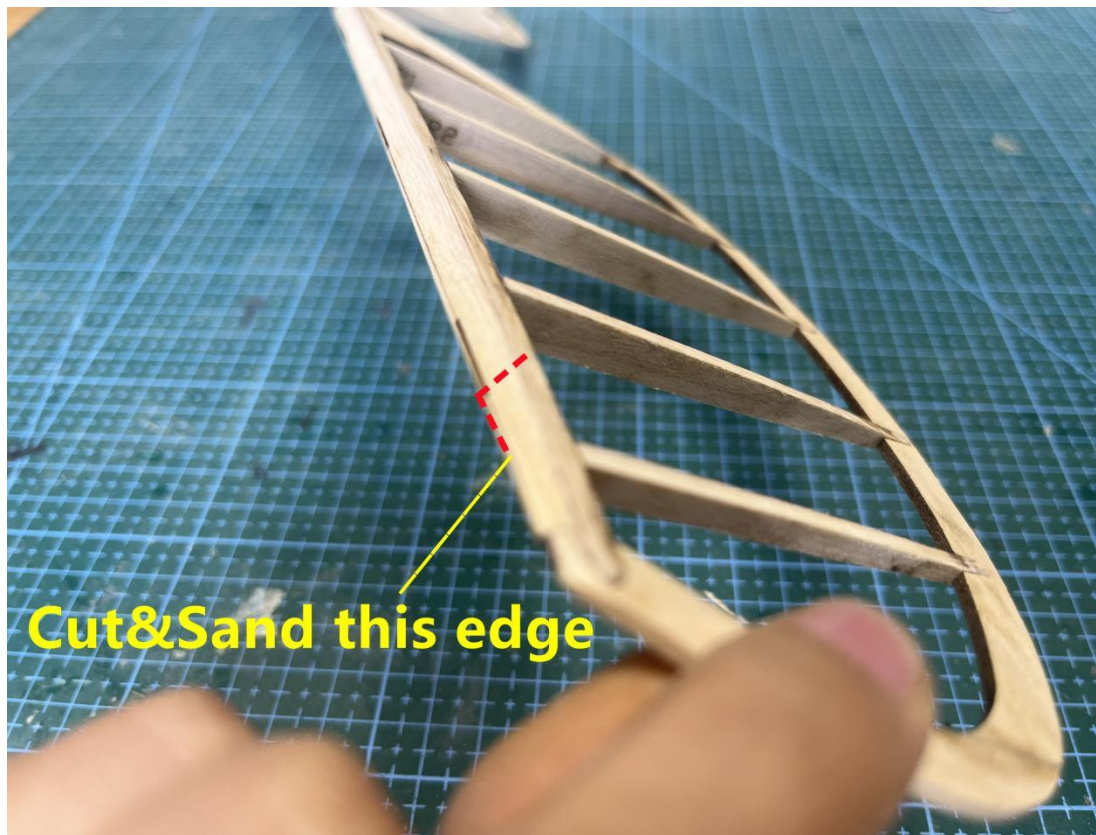
Step 20



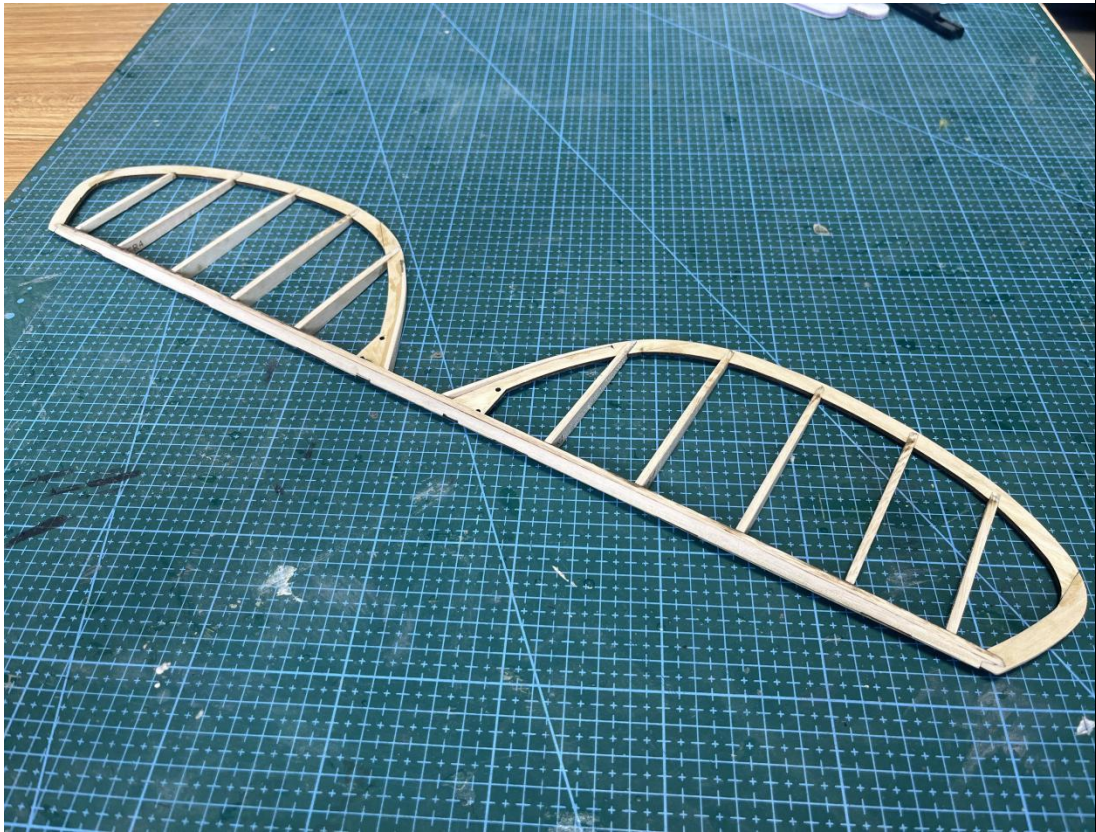
Step 21



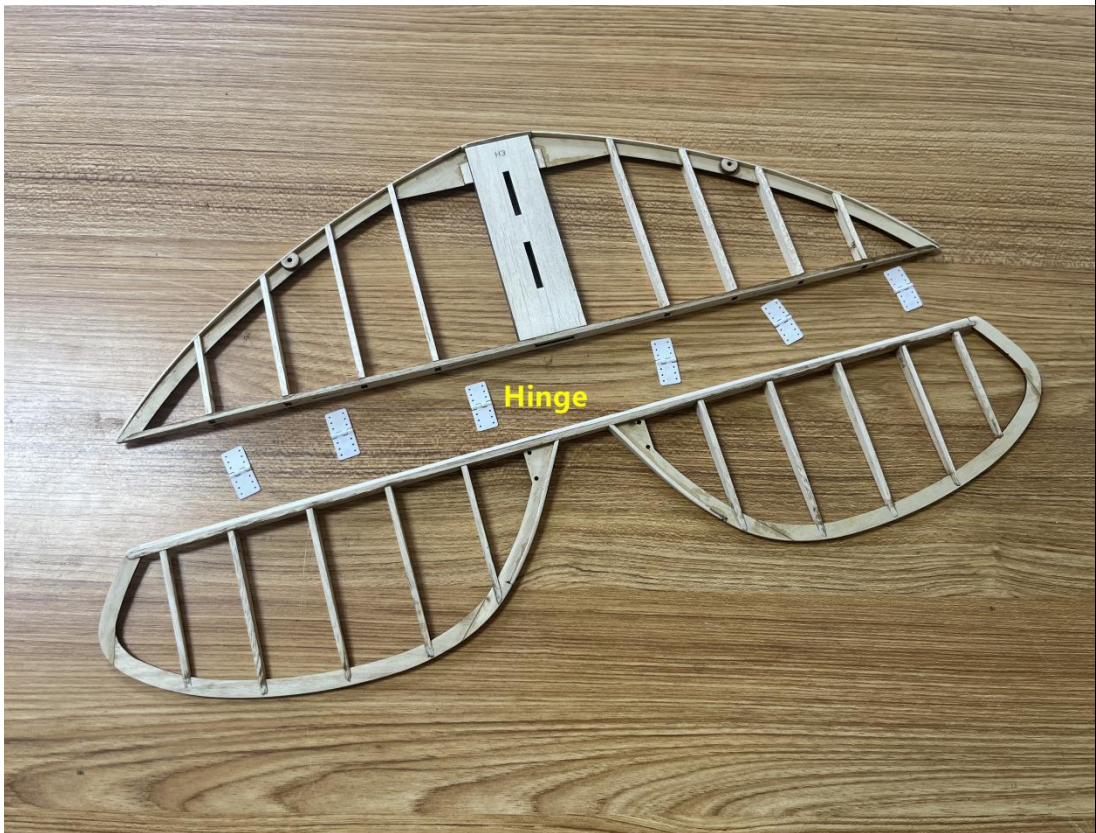
Step 22: Cut and Sand this edge.



Step 23



Step 24: Use hinges.



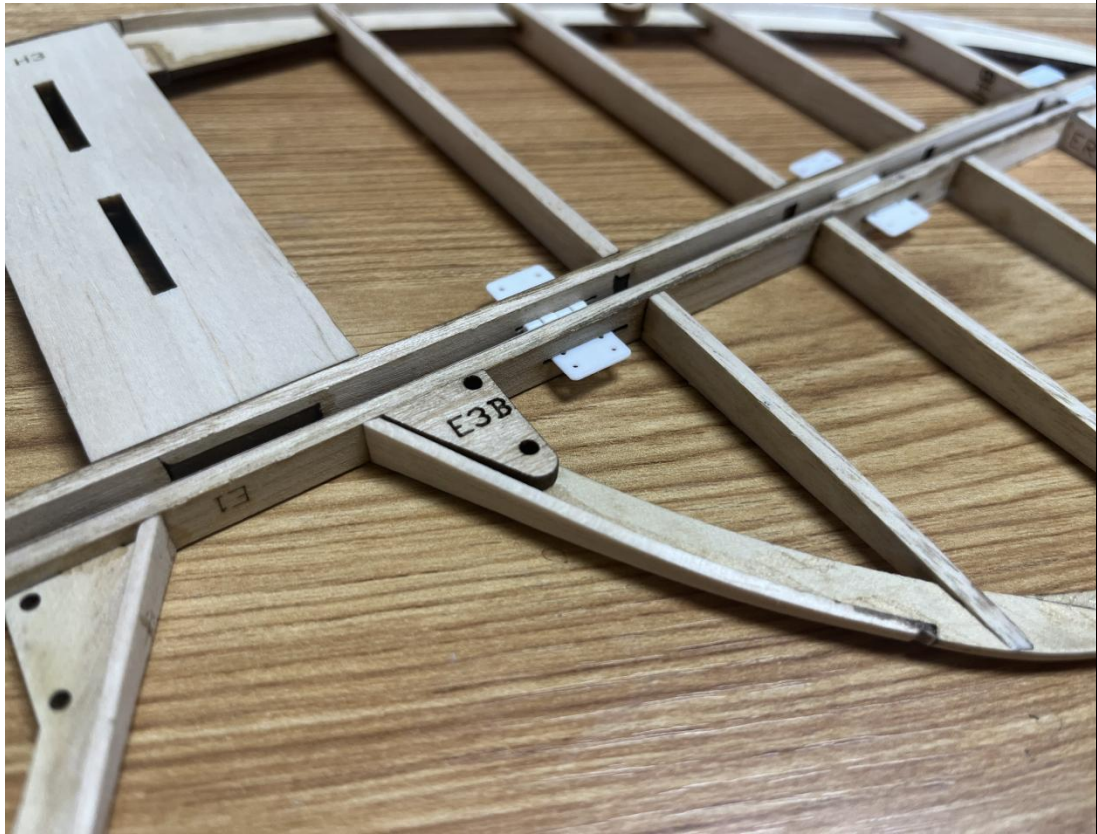
Step 25



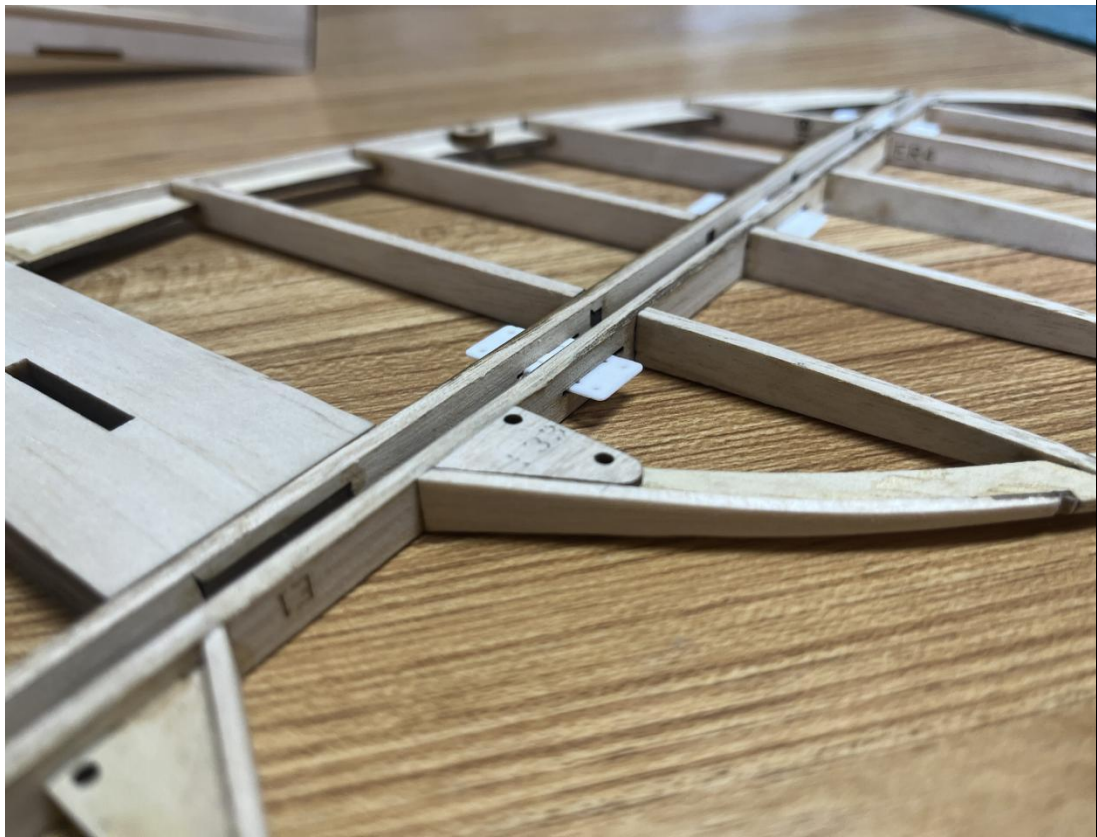
Step 26



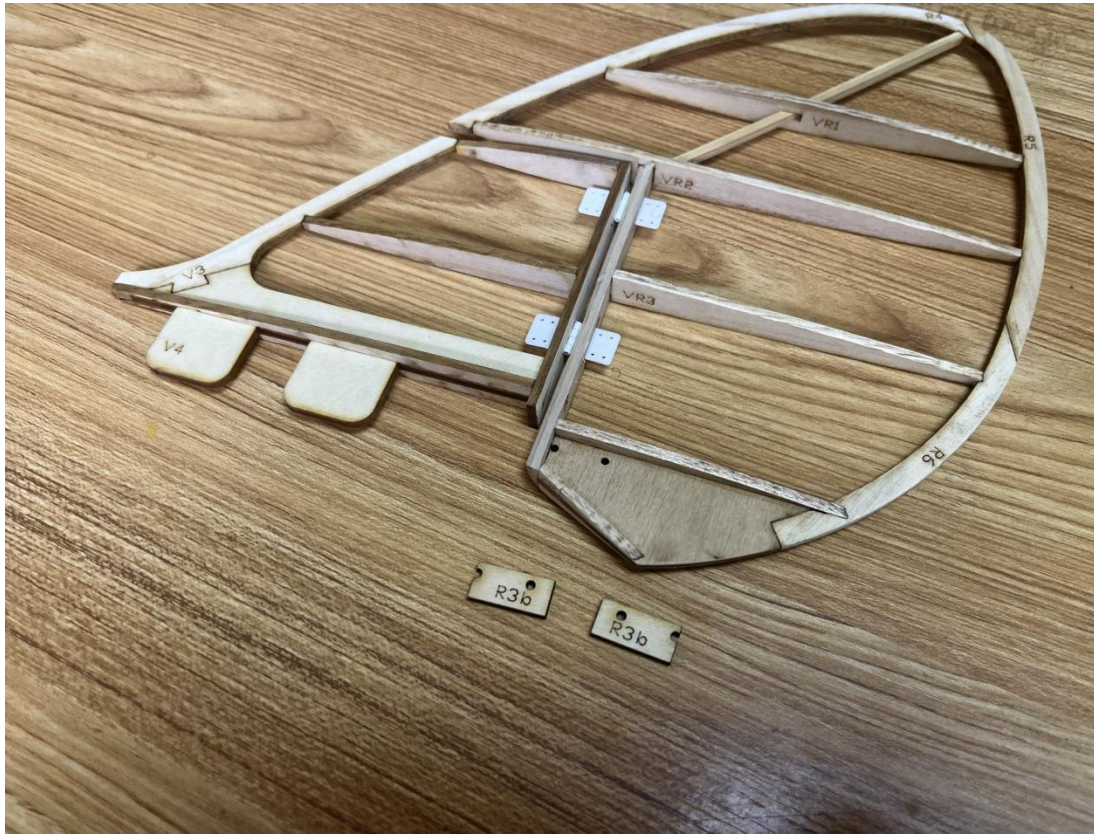
Step 27



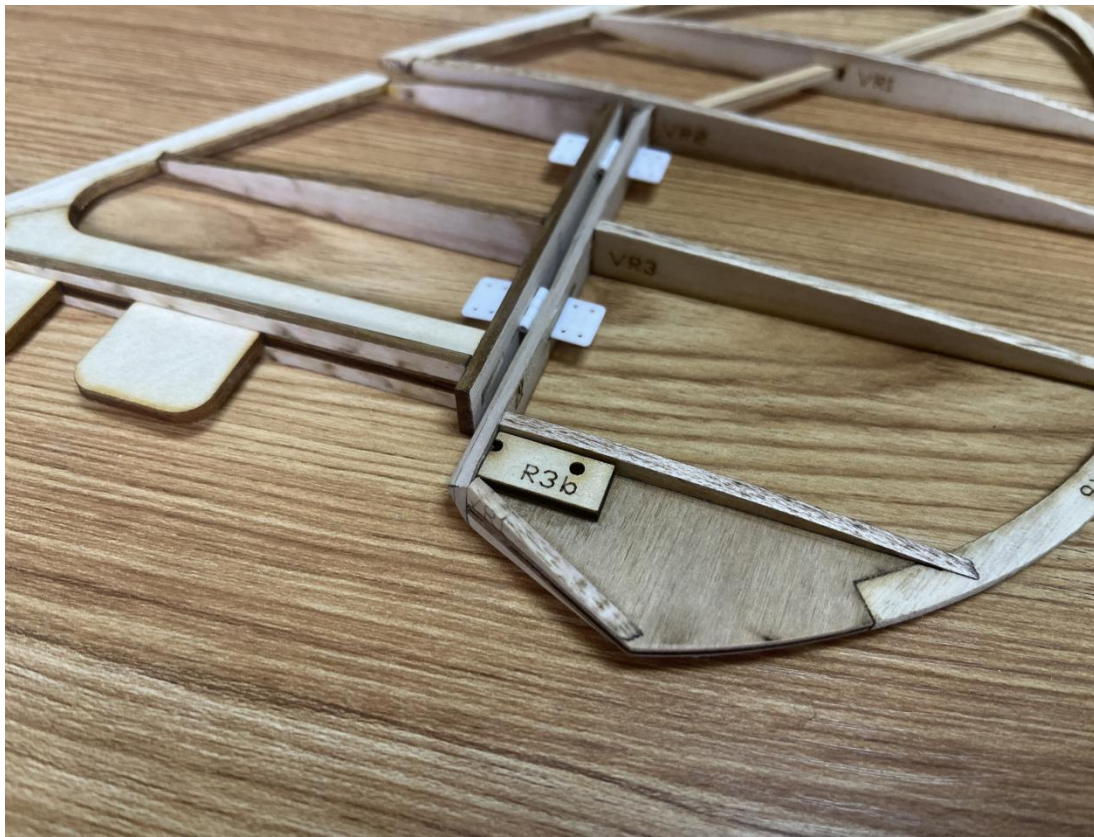
Step 28



Step 29



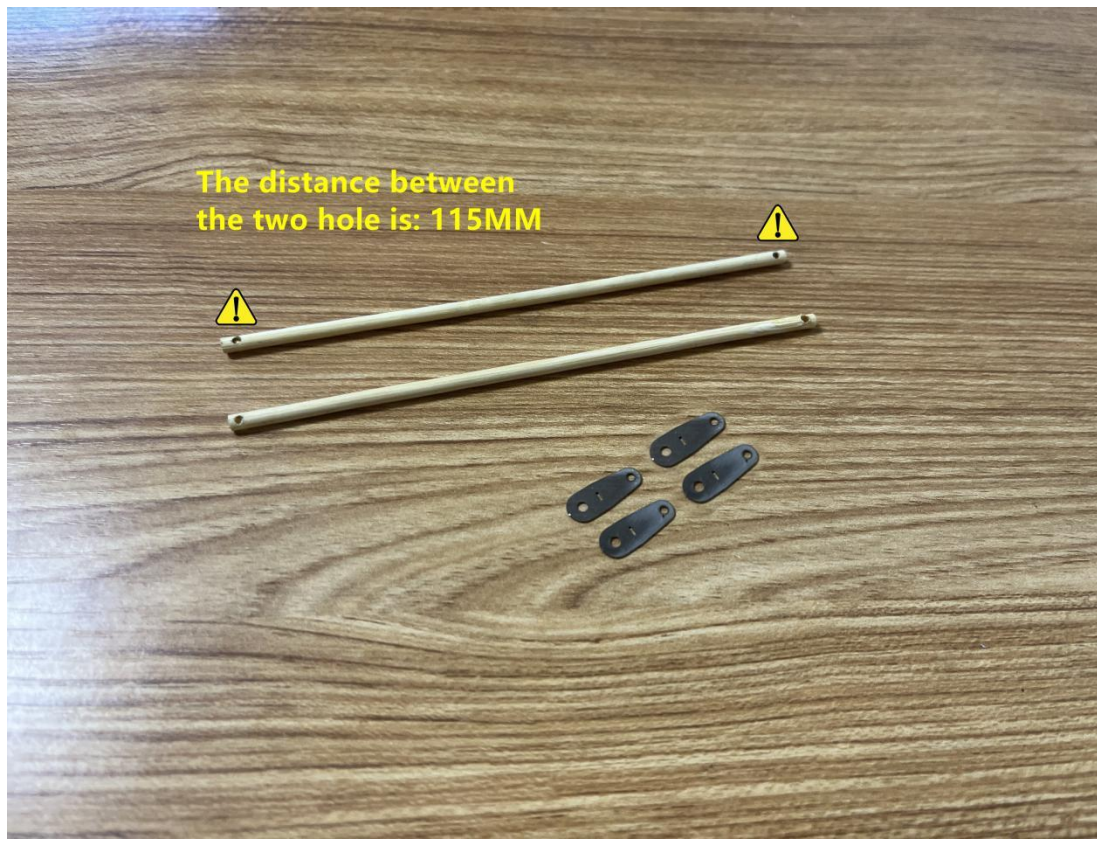
Step 30



Step 31



Step 32: The distance between the two holes is: 115 mm!



Step 33



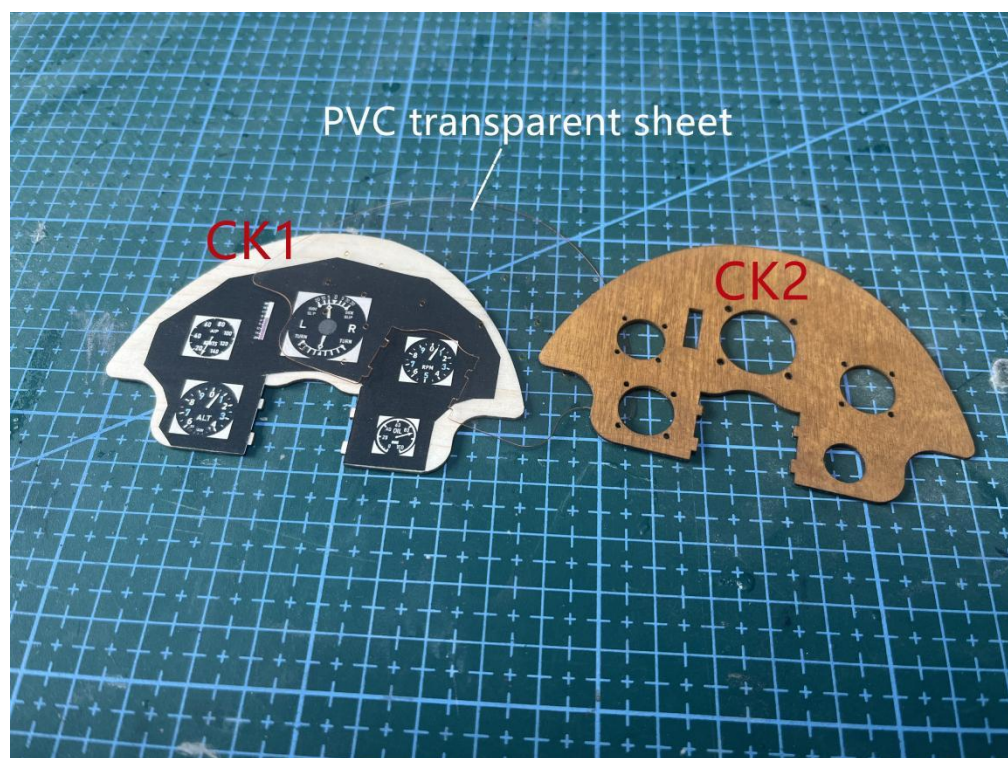
My Notes:

6. ASSEMBLY-Details

Step 1: Paint it in advance.



Step 2: PVC transparent sheet.



Step 3: M1.2 x 4 screws.



Step 4: CK12 (2 mm balsa). CK9 (1 mm plywood). CK13 (2 mm plywood). CK11 (5 mm balsa). CK 10 (1 mm plywood).



Step 5: Compass decals.



Step 6



Step 7: Paint it before installation

Step 7: Paint it before installation

Step 9



Step 10

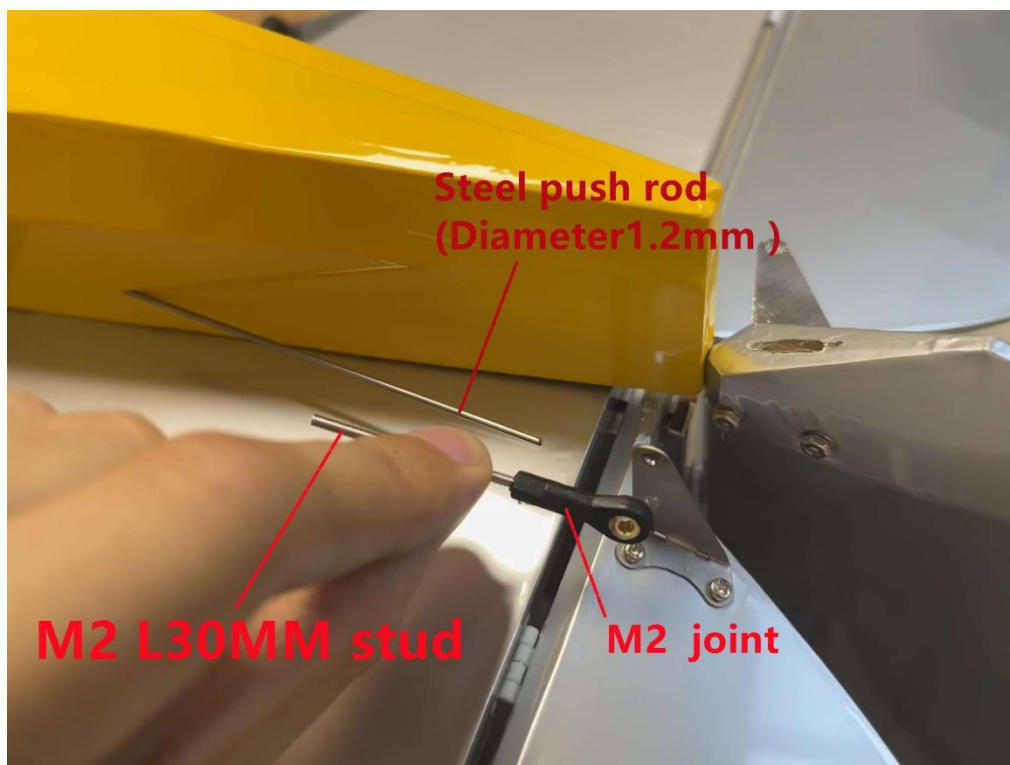


7. ASSEMBLY - Electronics

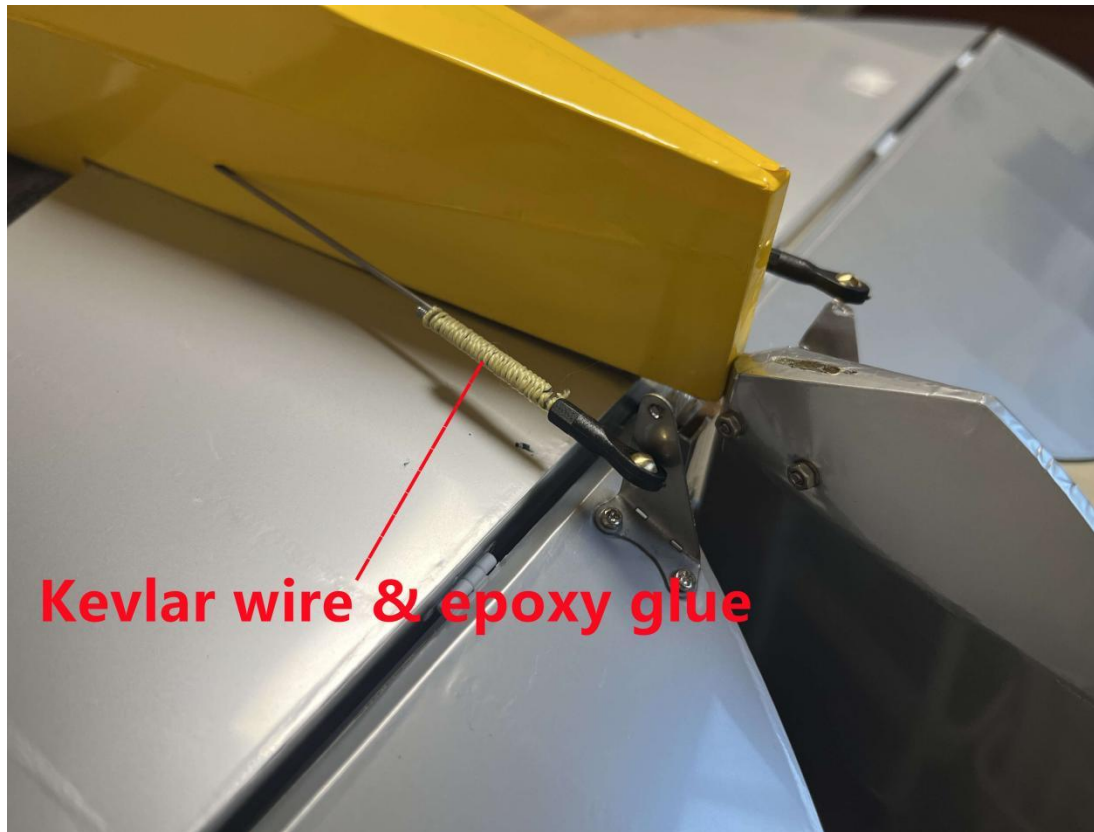
Step 1: 25 gram Servo. Steel push rod (Diameter 1.2 mm)



Step 2: Steel push rod (Diameter 1.2 mm.) M2 L30 mm stud. M2 joint.



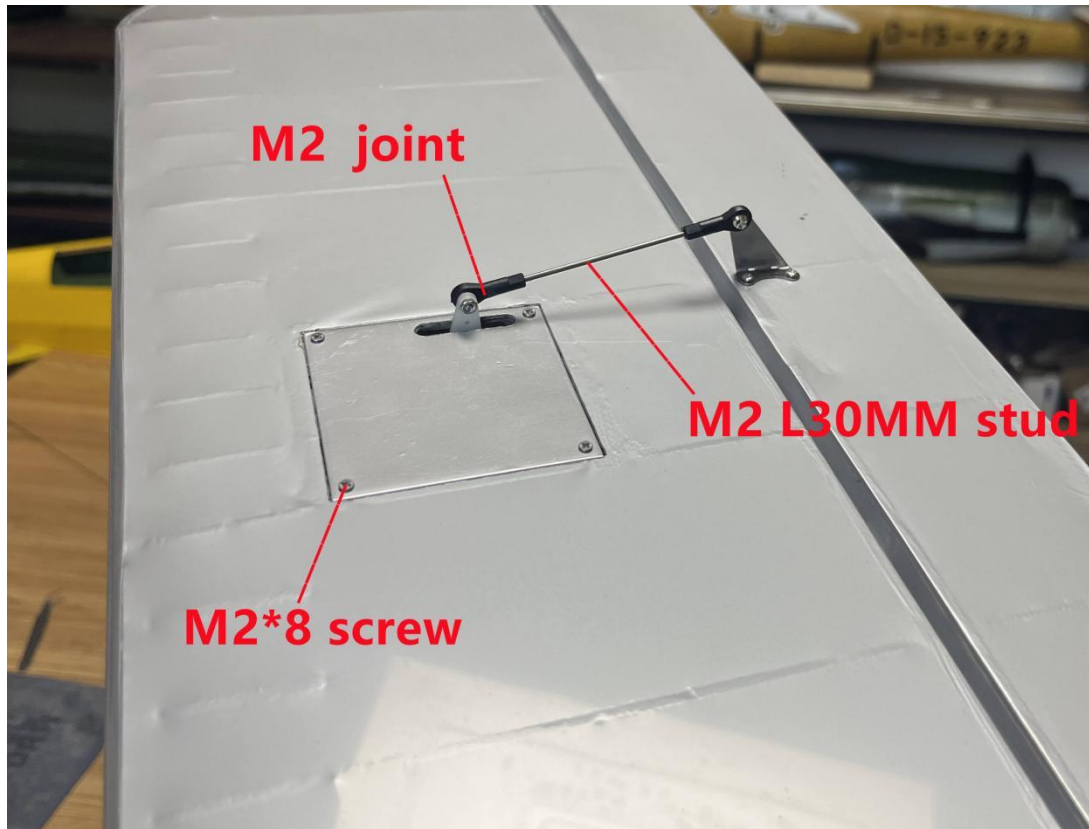
Step 3: Kevlar wire and epoxy glue.



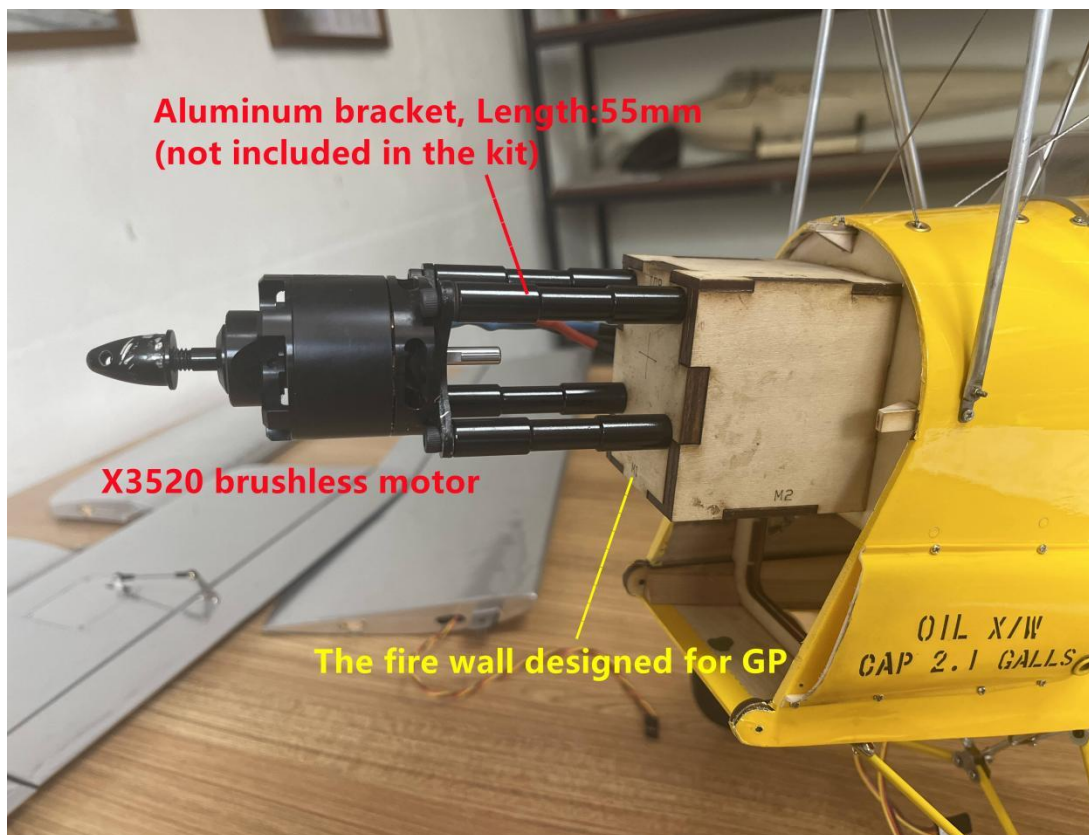
Step 4



Step 5: M2 joint. M2 x 8 screw. M2 L30 mm stud.



Step 6: Aluminum bracket, Length: 55 mm. (Example, not included in the kit) X3520 brushless motor. The fire wall is designed for GP.



Step 7: Cabin door for the battery.



My Notes:

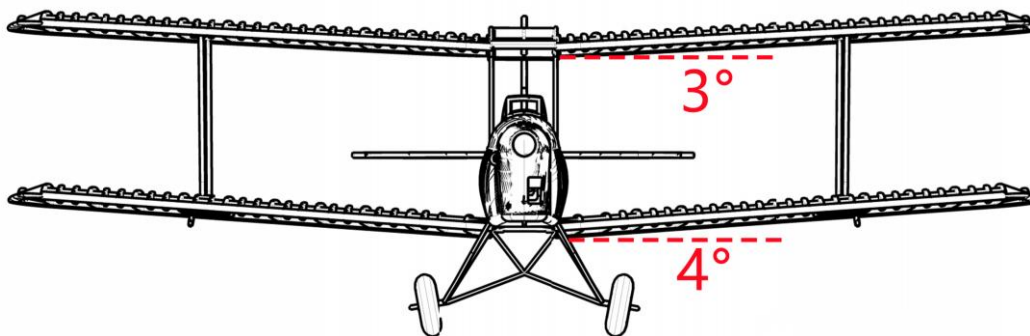
BEFORE YOU FLY

1. CG: Leading edge of bottom wing



2. Horizontal stabilizer mounting angle: 0°

3. Wing installation angle:



3.Control Travel	
ELEVATOR	$\pm 2^\circ$
RUDDER	$\pm 20^\circ$
AILERON	$+20^\circ -10^\circ$

Thank you!



Tony Ray's AeroModel