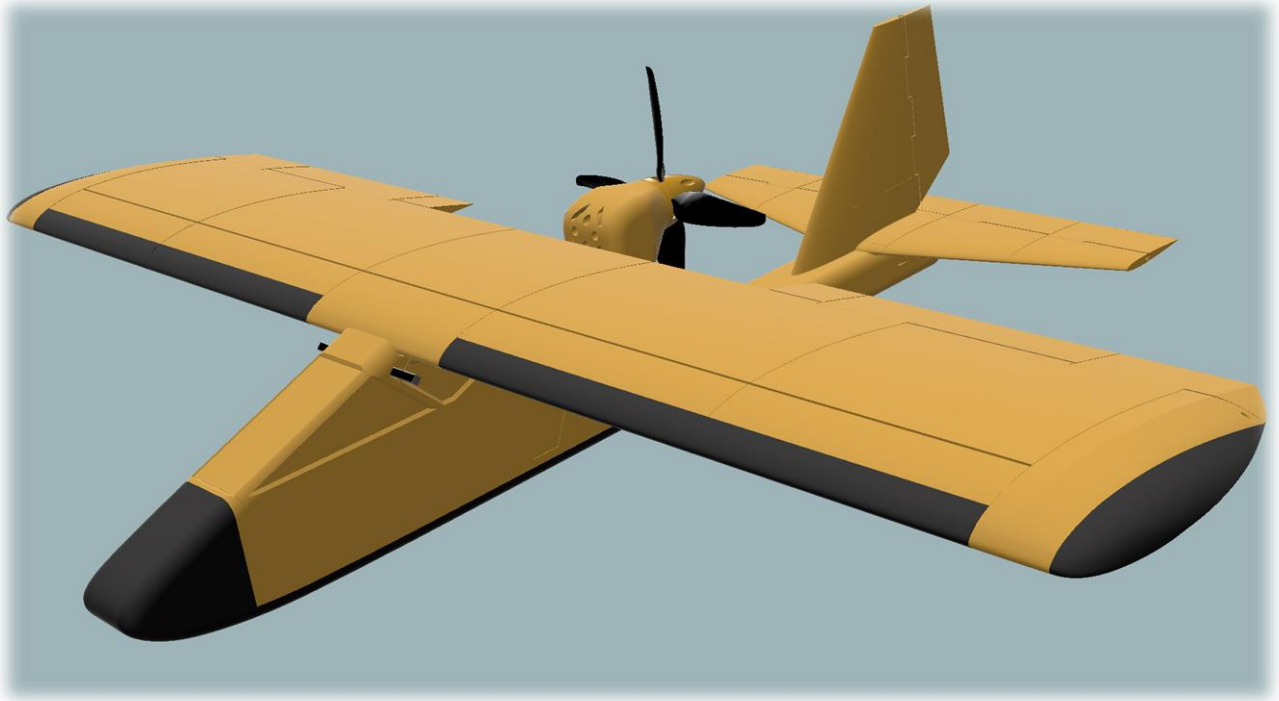


# **Albatross model assembly instructions.**



## **Introduction**

This model is designed for beginner modelers. It is not afraid of drops and hard landings. The nose of the model is made of TPU, the same material is used for the bottom of the model, wing tips and wing leading edge inserts. Due to its springy properties this material will help to avoid breakages in hard landings, not strong impacts or touching obstacles. The rear location of the pusher propeller minimizes its breakage. And the upper wing position gives stability in flight.

Almost all parts are printed on a 3D printer, you only need to buy electronics and various small things. So print, assemble and learn to fly!

The main thing is not to be afraid, try and everything will work out! Well, and if you made a mistake and broke the model, it's okay, just print out the broken parts again and go to the sky!

Good luck in this very exciting hobby!!!

## **General characteristics**

Wingspan – 980 mm.

Length – 735 mm.

Height – 187 mm.

Wing area – 53 dm<sup>2</sup>.

Wing profile – CLARK Y airfoil.

Weight of plastic – 470 g.

Weight without battery – 630 g.

Take-off weight (3s 1300 LiPo) – 750 g.

Maximum weight – 900 g.

## **What include**

The delivery contains three file folders.

PS\_3MF – project files for Prusa-Slicer program with all necessary settings for printing. The settings are given for understanding what should be printed after printing the model. If you use other programs for cutting models, you can use these settings as an example.

PS\_G-CODE – model files converted to g-code. Suitable for most printers, can also be used as an example to generate g-code for your printer.

PS\_STL – model files in universal stl format. If you use other programs for cutting models than Prusa-Slicer, this folder is for you.

The root of the directory contains a file Albatross assembly instructions.pdf – these instructions for assembling the model.

### **General terms and conditions**

All printed parts of the model should be pre-processed before assembly, remove irregularities, technical support, excess plastic, etc. This should be done with a sandpaper, a sharply knife, you may need an engraver or a screwdriver to calibrate the holes. Make sure that the adjacent parts fit together normally, only then lubricate with glue and carry out the final assembly.

The assembly should preferably be carried out on a large flat surface, e.g. a table can be used. The workplace should be well lit and have good ventilation. The final result and appearance of the model depends on your convenience.

Fully assembled and ready for takeoff the model should weigh no more than 900g. The center of gravity is 40 – 50 mm from the wing leading edge.

### **What you need to assemble the model**

#### **Electronics:**

RC FlySky I6 (transmitter and receiver for 6 channels) or similar, 5 channels used.

Motor class A2212 980 – 1400KV.

ESC 30A.

MG90 servos 4 pieces (9g).

LiPo 3S 1300 – 2200 mAh battery.

**Propeller:** 7x6 CW 4 blades. It is possible to print and make the propeller yourself.

#### **Plastic:**

LW-PLA – 400 g.

LW-TPU – 40 g.

PLA – 20 g.

PETG – 10 g.

#### **Additional accessories:**

Medium cyanoacrylate glue.

Accelerator for cyanoacrylate.

N35 magnets 6x1 mm – 8 pieces.

Sewing elastic band 20 mm wide.

Sewing Velcro 15 mm wide.

Wire for tie rods 0.8 – 1.0 mm.

Various screws and self-tapping screws.

Ties, double-sided tape, wipes, wires and connectors.

Acrylic paint for painting the cab glazing and additional lettering - optional.

### **Fuselage assembly**

In the ALB fuselage 1 part, remove the technical supports from the inside, near the front wall. Glue the ALB battery mount part into the grooves in the middle of the interior of the part. Before gluing, for convenience, install Velcro fasteners in the grooves of the ALB battery mount part to hold the battery. To the resulting construction glue ALB fuselage 2 and ALB fuselage 3 parts one by one.

All fuselage parts are assembled by inserting ribs that are cut from the ALB connectors part and inserted into slots in the ends of each part.

From the bottom of ALB fuselage 2 and ALB fuselage 3 parts ALB mount equipment part is glued into the groove. Glue the ALB stiffener to the ALB fuselage 1, ALB battery mount and ALB mount equipment.

In the ALB fuselage 4 part, remove the technical support from the inside and glue it to the assembly. Glue ALB fuselage 5 and ALB fuselage 6 to the ALB fuselage 4 part in sequence.

Glue ALB bottom 1 and ALB bottom 2 parts to the bottom of the fuselage, having glued them together beforehand.

ALB nose glued to the front.

Glue 4 magnets N35 into the ALB cover part, 4 magnets also glued into ALB fuselage 1. Make sure that the ALB cover part fits properly and is held securely by the magnets.

Adjust ALB front holder and ALB rear holder parts to fit tightly, but without significant effort, into their seats in the fuselage.

Approximate mass of the resulting fuselage – 200 g.

### **Wing assembly**

In the ALB wing CENTRE part, cut out the excess plastic in the sidewalls in the front part so that the ALB wing L1 and ALB wing R1 parts fit snugly in place.

Glue ALB wing L1 of the left-wing part to ALB wing CENTRE, then ALB wing L2 and ALB wing L3 in sequence. Start gluing the right-wing part by gluing ALB wing R1 to ALB wing CENTRE. Then glue ALB wing R2 and ALB wing R3 similarly to the left-wing part. To the front edge of the wing on the left side we glue the inserts ALB wing front L1 and ALB wing front L2. On the right side - ALB wing front R1 and ALB wing front R2. To the left edge glue ALB wing tip L, to the right edge glue ALB wing tip R.

At the top and bottom of the wing there is a groove located along the leading edge, in it you need to glue a rod of filament, for example PLA, pre-measuring the desired length.

The left aileron is assembled by gluing parts ALB aileron L1, ALB aileron L2 and ALB aileron L3. Right aileron – ALB aileron R1, ALB aileron R2 and ALB aileron R3.

The ailerons are suspended from the wing by means of a filament rod. For this purpose, holes are made in the wing and ailerons, the rod is inserted into them until it stops and cut to the level with the wing surface.

Approximate mass of the resulting wing – 230 g.

### **Tail assembly**

Start assembling the elevator by gluing ALB elevator L1 and ALB elevator R1 on the left and right side respectively to the ALB elevator CENTRE part. Then glue ALB elevator L2 on the left and ALB elevator R2 on the right.

Glue the left side of the stabilizer – parts ALB stabiliser L1 and ALB stabiliser L2.

Glue the right side of the stabilizer – parts ALB stabiliser R1 and ALB stabiliser R2.

Glue the assembled stabilizer parts to the ALB fuselage part fuselage 6. The rudder is suspended from the stabilizer by means of a filament rod. For this purpose, appropriate holes are made in the stabilizer and rudder, the bar is inserted into them up to the stop and cut to the same level as the rudder surface.

Glue ALB keel 1 and ALB keel 2 to ALB fuselage part 6 in sequence.

The rudder is assembled by gluing together ALB rudder 1, ALB rudder 2 and ALB rudder 3. The rudder is suspended from the keel by means of a filament rod. For this purpose, appropriate holes are made in the keel and rudder, the rod is inserted into them up to the stop and cut to level with the keel surface.

Approximate weight of tail – 50 g.

### **Installation of electronics**

The servos for the elevator and rudder are mounted on the ALB Servo Mount Fuselage parts, then the assembled structures are screwed to the ALB mount equipment part of the fuselage. The rods are routed into special tubes that are provided in the fuselage walls. The length of the rods is selected locally, beforehand the rudder should be set vertically, the rudder horizontal, servos in neutral position.

Aileron servos are mounted on ALB Servo Mount Wing parts and screwed from the bottom of the wing into the corresponding recesses. The length of the rods is selected locally, the ailerons are pre-mounted horizontally, servos in neutral position.

The engine is screwed to the ALB motor mount 16x19, then the motor mount is glued into the fuselage – part ALB fuselage 4.

Attach the battery to the ALB battery mount part with Velcro. Connect the stroke controller to the battery and the motor to the stroke controller. Fasten the connection cables and the stroke controller to the inner side wall of the fuselage using the ties provided with perforations for this purpose.

Install the receiver on the other side panel and connect the servos, stroke controller and power supply to it. Orient the receiver antennas at 90 degrees to each other and secure them inside the fuselage with cable ties.

Check engine startup, operation of servos, ailerons, elevator and rudders.

### **General assembly**

Connect all control wires from the servos and travel controller, as well as the power cable, to the receiver.

Install the wing holders, ALB front holder and ALB rear holder in the corresponding slots in the fuselage. Place the wing on top of the fuselage and secure it with sewing rubber bands, which are stretched over the top of the wing in the shape of an X and hooked on the protruding parts of the ALB front holder and ALB rear holder. Make sure that the wing is firmly held in place.

Install the 7x6 CW 4 blades propeller on the motor. If the propeller is homemade, it must be pre-skinned, painted and balanced. Optionally, for better aesthetics, the propeller spinner, ALB spinner and ALB spinner plate parts can be installed.

Ensure that the model is fully operational. When the engine is started, the model should tend to break free. The ailerons, rudders and elevators should be free to deflect in the desired directions.

**The model is ready! Have a good flight! Enjoy!**