

ALBATROS

SkyFOX

L-39

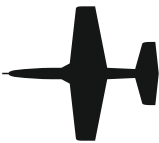
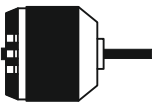


shock style



Aerobatic RC model inspired by the modern jet fighter

Technical data:

				
4	850mm	990mm	>230g	100W MF 2815CA-14.5

INTRODUCTION

Thank you for purchasing the ALBATROS L-39 SKYFOX model from Hacker Model Production a.s. The ALBATROS is a unique aerobatic RC model inspired by a real aircraft. Its modern jet fighter silhouette, durable EPP construction and the unusually positioned propeller in the middle of the fuselage - where it is exceptionally well protected against damage - give the model a truly distinctive character. The Albatros impresses not only with its appearance, but above all with its unique flight characteristics. It offers excellent speed, outstanding agility, precise and immediate control response, and a flying experience that simply cannot be achieved with conventional tractor-propeller aircraft.

FOLLOW THESE IMPORTANT SAFETY PRECAUTIONS

1. Your model should not be considered a toy, but rather a sophisticated, working model that functions very much like a full-size airplane. Because of its performance capabilities, the model, if not assembled and operated correctly, could possibly cause injury to yourself or spectators and damage to property.
2. You must assemble the model **according to the instructions**. Do not alter or modify the model, as doing so may result in an unsafe or unflyable model.
3. You must take time to **build straight, true and strong**.
4. You must use an *R/C* radio system that is in first-class condition. This model requires a small receiver and mini servos.
5. You must correctly install all *R/C* and other components so that the model operates correctly on the ground and in the air.
6. You must check the operation of the model before every flight to insure that all equipment is operating and that the model has remained structurally sound. Be sure to check clevises or other connectors often and replace them if they show any signs of wear or fatigue.
7. If you are not already an experienced *R/C* pilot, you should fly the model only with the help of a competent, experienced *R/C* pilot.

Note: We, as the kit manufacturer, provide you with a top quality kit and great instructions, but ultimately the quality and flyability of your finished model depends on how you build it; therefore, we cannot in any way guarantee the performance of your completed model and no representations are expressed or implied as to the performance or safety of your completed model.

Remember: Take your time and follow directions to end up with a well-built model that is straight and true.

If you're an inexperienced modeler, we recommend that you get assistance from an experienced, knowledgeable modeler to help you with assembly and your first flights. You'll learn faster and avoid risking your model before you're truly ready to solo.

Please inspect all parts carefully before starting to build. If any parts are missing, broken or defective, or if you have any questions about building or flying this airplane, please give us a call at +420 313 562 258 or e-mail us at shop@hacker-model.com and we'll be glad to help. If you are calling for replacement parts, please reference the part numbers and have them ready when calling.

ITEMS REQUIRED TO COMPLETE THE PLANE

This is a partial list of items required to finish the model that must be purchased separately. For some of these items there is more than one option which will require a bit of decision making ahead of time. Order numbers are provided for your convenience.

For the elevator and rudder use two 4-7g servos (MF D53 MGt No. HC4303). For the ailerons, use one 9-12g servo (MF A-1109HB No. HC4301). Use high-quality, precise servos to ensure excellent control and flight performance.

Power system: MASTER FORCE 2815CA-14.5 brushless motor (2300kV) No. HC3503B, ESC Summit 16A No. HC3360A(B), Gemfan 6x3.8" propeller No. HC5430, battery LiPo 3S 600-900mAh.

Depending on your flying style and battery capacity, the typical flight time is approximately 5-7 minutes.

You will also need thin CA glue, CA activator, and basic tools (such as a screwdriver, small pliers, etc.).

STORAGE

The model should preferably be stored lying freely on a flat surface. Otherwise, the airframe may become twisted or warped. Damage may also occur if the model is left in a hot car.

PREFLIGHT

Follow the instructions that came with your radio to charge the batteries the evening before you plan to fly. You should always charge the transmitter batteries before flying and at other times as recommended by the radio manufacturer.

Carefully balance your propeller and spare propellers before you fly. Check if the shaft is not bent. An unbalanced prop or bent shaft can be the single most significant cause of vibration that can damage your model. Not only will motor mounting screws and bolts loosen, possibly with disastrous effect, but vibration may also damage your radio receiver and battery.

Ground Check

Before you fly you should perform one last overall inspection to make sure the model is truly ready to fly and that you haven't overlooked anything. If you are not thoroughly familiar with the operation of R/C models, ask an experienced modeler to perform the inspection. Check to see that you have the radio installed correctly and that all the controls are connected properly. The motor must also be checked by confirming that the prop is rotating in the correct direction and the motor sounds like it is reaching full power. Make certain all control surfaces (elevators, rudder, ailerons) are secure, the pushrods are connected, the controls respond in the correct direction, radio components are securely mounted and the C.G. is correct.

Range Check

Ground check the operational range of your radio before the first flight of the day. To check the range refer to the instruction manual supplied with your RC set (transmitter). If the control surfaces do not respond correctly, do not fly! Find and correct the problem first. Look for loose servo connections or broken wires, corroded wires on old servo connectors, poor solder joints in your battery pack or a defective cell.

MOTOR SAFETY PRECAUTIONS

Failure to follow these safety precautions may result in severe injury to yourself and others.

Get help from an experienced pilot when learning to operate motors. Use safety glasses when starting or running motors. Do not run the motor in an area of loose gravel or sand; the propeller may throw such material in your face or eyes. Keep your face and body as well as all spectators away from the plane of rotation of the propeller as you start and run the motor. Keep these items away from the prop: loose clothing, shirt sleeves, ties, scarfs, long hair or loose objects such as pencils or screwdrivers that may fall out of shirt or jacket pockets into the prop. The motor gets hot! Do not touch it during or right after operation.

The electric motor and battery used in your are very powerful and the spinning propeller has a lot of momentum; therefore, if you touch the propeller while it is spinning it may inflict severe injury. Respect the motor and propeller for the damage it is capable of and take whatever precautions are necessary to avoid injury. Always disconnect and remove the battery until you are ready to fly again and always make sure the switches are turned off before connecting the battery.

FLYING

ALBATROS is a great-flying model that fly smoothly and predictably. The model does not, however, possess the self-recovery characteristics of a primary R/C trainer and should be flown only by experienced R/C pilots. If you are an inexperienced modeler we strongly urge you to seek the assistance of a competent, experienced R/C pilot to check your model for airworthiness and to teach you how to fly.

CAUTION (THIS APPLIES TO ALL R/C AIRPLANES): If, while flying, you notice an alarming or unusual sound such as a low-pitched "buzz," this may indicate control surface *flutter*. Flutter occurs when a control surface (such as an aileron or elevator) or a flying surface (such as a wing or stab) rapidly vibrates up and down (thus causing the noise). In extreme cases, if not detected immediately, flutter can actually cause the control surface to detach or the flying surface to fail, thus causing loss of control followed by an impending crash. The best thing to do when flutter is detected is to slow the model **immediately** by reducing power, then land as soon as safely possible. Identify which surface fluttered (so the problem may be resolved) by checking all the servo grommets for deterioration or signs of vibration. Make certain all pushrod linkages are secure and free of play. If it fluttered once, under similar circumstances it will probably flutter again unless the problem is fixed. Some things which can cause flutter are; Excessive hinge gap; Not mounting control horns solidly; Poor fit of clevis pin in horn; Sideplay of wire pushrods caused by large bends; Excessive free play in servo gears; Insecure servo mounting; and one of the most prevalent causes of flutter; Flying an overpowered model at excessive speeds.

Takeoff

Takeoff from hand or from smooth indoor floor. Gain adequate speed before gently applying up elevator, lifting the model into the air. Be smooth on the elevator stick, allowing the model to establish a **gentle** climb to a safe altitude before turning into the traffic pattern. OK - this is a highly aerobatic model. After the first flight, a takeoff run of a few meters with a vertical climb might be in order. But please, don't do this on the first flight. Get used to the control throws first.

Landing

To initiate a landing, lower the throttle while on the downwind leg. Have a goal or flight plan in mind for **every** flight. This can be learning a new maneuver(s), improving a maneuver(s) you already know, or learning how the model behaves in certain conditions (such as on high or low rates). This is not necessarily to improve your skills (*though it is never a bad idea!*), but more importantly so you do not surprise yourself by impulsively attempting a maneuver and suddenly finding that you've run out of time, altitude or airspeed. Every maneuver should be deliberate, not impulsive. A flight plan greatly reduces the chances of crashing your model just because of poor planning and impulsive moves. **Remember to think.**

Flight

For reassurance and to keep an eye on other traffic. Take it easy with the model for the first flight, gradually getting acquainted with it as you gain confidence. Adjust the trims to maintain straight and level flight. After flying around for a while and while still at a safe altitude with plenty of battery life, practice slow flight and execute practice landing approaches by reducing the throttle to see how the model handles at slower speeds. Add power to see how she climbs as well. Continue to fly around, executing various maneuvers and making mental notes (or having your assistant write them down) of what trim or C.G. changes may be required to fine tune the model so it flies the way you like. Mind your battery charge, but use this first flight to become familiar with your model before landing.

Control surface deflection settings

(MODE 1 -

left hand elevator + rudder; right hand gas + ailerons)

Controlled surface Settings	AILERONS		ELEVATOR		RUDDER	
	DEFLECTION	EXP	DEFLECTION	EXP	DEFLECTION	EXP
BASIC	±25°	30%	±25°	30%	±25°	30%
AEROBATIC	±40°	40%	±30°	40%	±30°	40%
CRAZY	±50°	45%	±50°	45%	±50°	45%

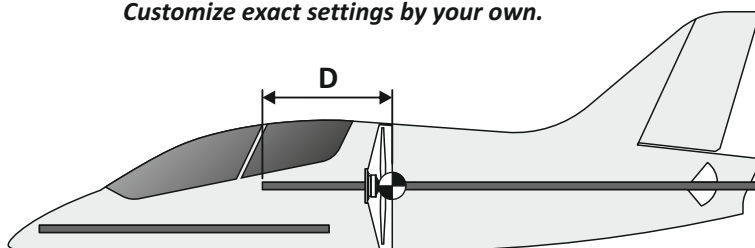
Customize exact settings by your own.

Center of gravity:

D = 165-170mm

Don't forget to balance your plane side-to-side.

Motor thrust angles:



The propeller slipstream has only a minimal effect on this model's flight characteristics, so the motor is mounted with no side thrust. This allows you to use either standard clockwise (CW) propellers (rotating clockwise when viewed from behind) or counter-clockwise (CCW) propellers. This is particularly convenient because the propellers used on this model are commonly intended for multirotors and are usually supplied in matched CW and CCW pairs. Both propellers can therefore be used – simply reverse the motor rotation, most easily by swapping any two of the three wires between the motor and the ESC. If you still wish to experiment with motor side thrust, it can be easily adjusted by placing washers between the motor and the motor mount.

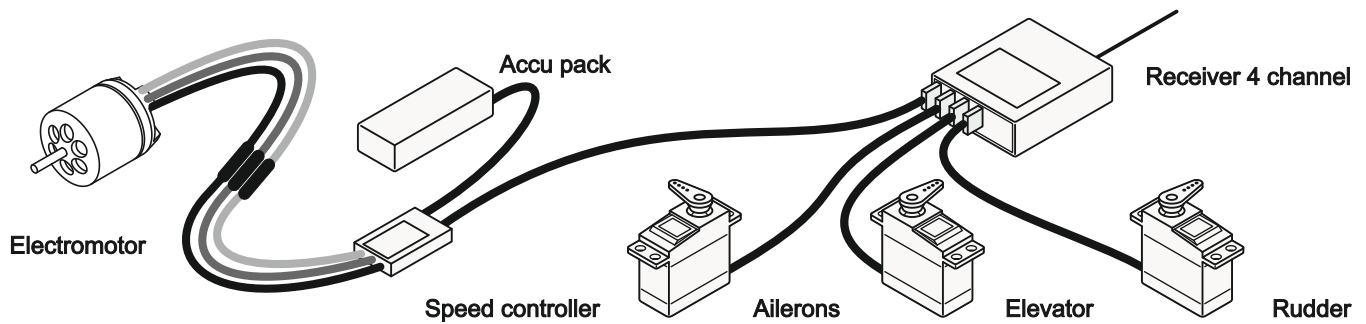
Required Equipment and Accessories:

- Min. 4-channel Set with Tx and small Rx
- 3pcs high quality servo, 2pcs 4-7g size, 1pc 9-12g size
- brushless motor 100-150W (kV 2300) with ESC 16A
- Propeller 4-blades 6/3.8"
- Battery LiPo 3S 600-900mAh

Symbols used in building

L+R	Do operation on both sides, left and right.		Right!		Bad!
T+B	Do operation on both sides, top and bottom.				
	Screw it.		Wait a minute till glue fill the gap and use CA kicker (accelerator) spray.		Heat up with lighter or with heat gun.
	Cut off / Cut the slot.		Wait for 1 hour.		Drill the hole diameter 2mm.
	Glue with contact glue.		Be careful, orient correctly, use picture for reference.		Abrade with sandpaper.
	Glue with thin CA glue.		Push.		Paint the piece.
	Trim with scissors.		Press together.		Maintain balance - lead ballast.
	Use hand saw.				

Scheme - minimally 4 channel R/C set with power set



Tools (not included):

- Sharp hobby knife
- Crosshead screwdriver
- Flathead screwdriver
- Sandpaper 120-320
- Small pliers
- Nippers
- Ruler
- CA thin + CA kicker (accelerator) spray



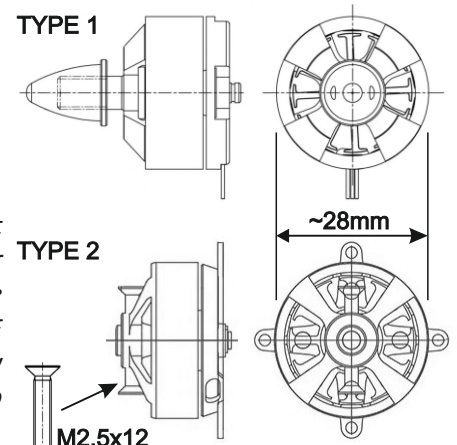
thin plastic wrap or greaseproof paper like separation pad as protection against sticking table and model parts

Contact glue UHU Por (foam friendly) - yellow-green tube

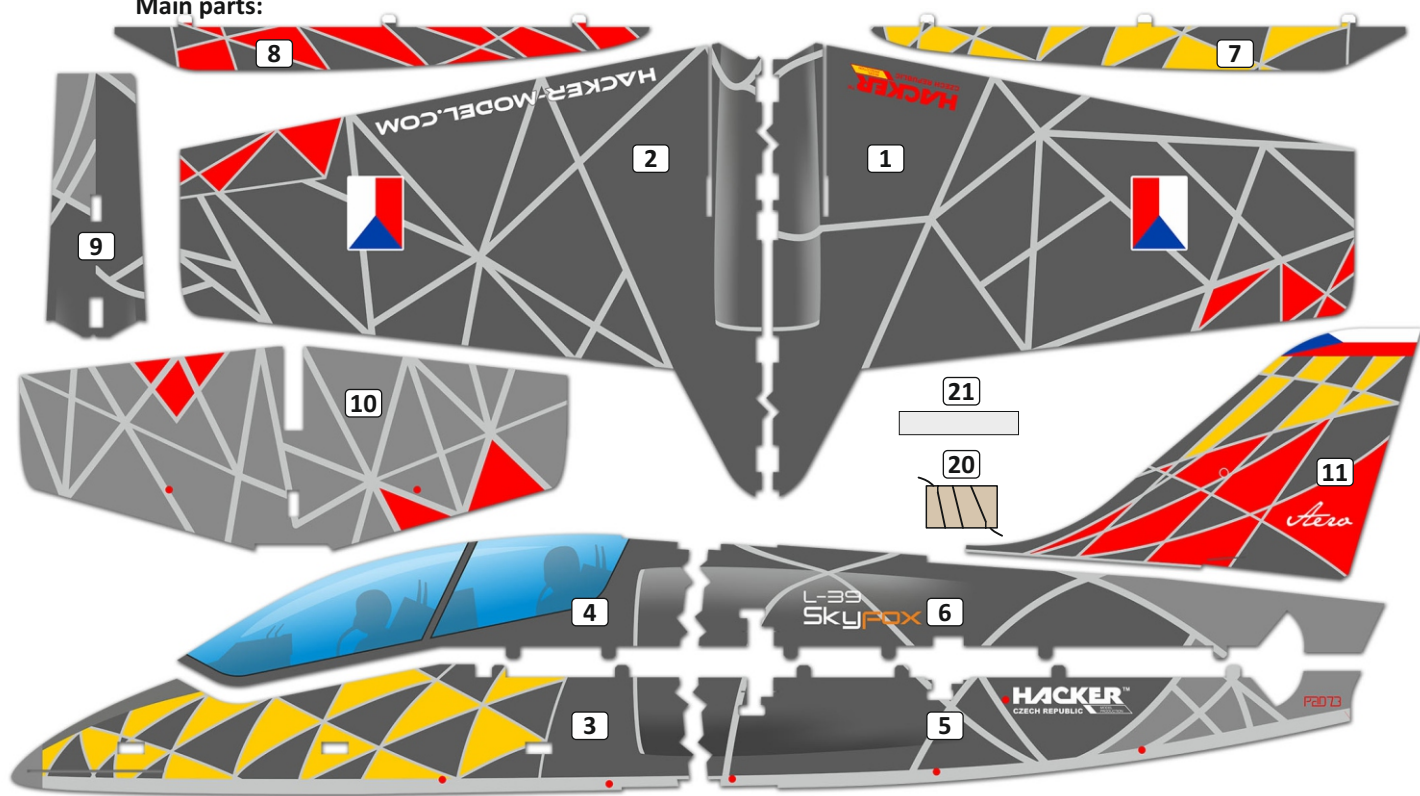
Motor options

M2.5x12

The model is powered by a 4-blade propeller. If your motor uses an O-ring propeller mount (TYPE 2), you will most likely need to replace the mounting screws with longer ones. For the recommended **MASTER FORCE 2815CA-14.5 (kV2300) motor No. HC3503B**, replace the prop driver screws with longer **M2.5x12** screws. Motors with a threaded shaft (TYPE 1) allow any propeller to be mounted easily, regardless of the number of blades, simply by tightening the propeller nut. Before assembling the model, check that your motor fits into the fuselage and enlarge the motor mount opening if necessary.



Main parts:

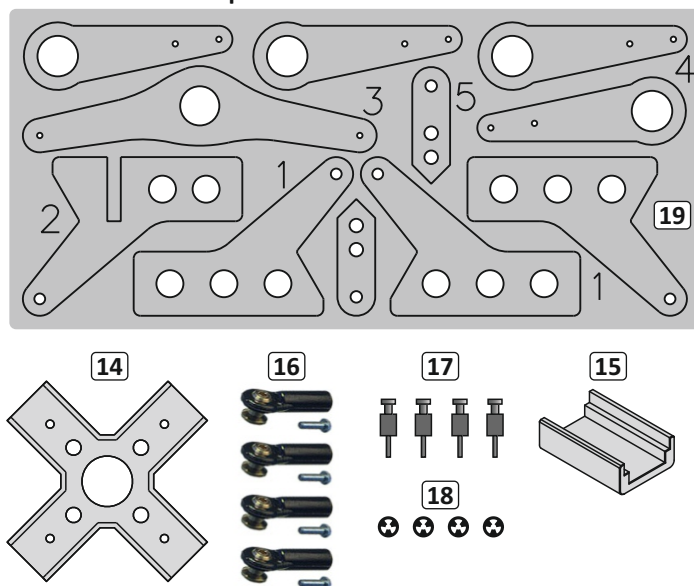


2x9.5-798	12
2x9.5-100	13
ø1-500	22
ø1.5-535	23
ø1.5-465	24

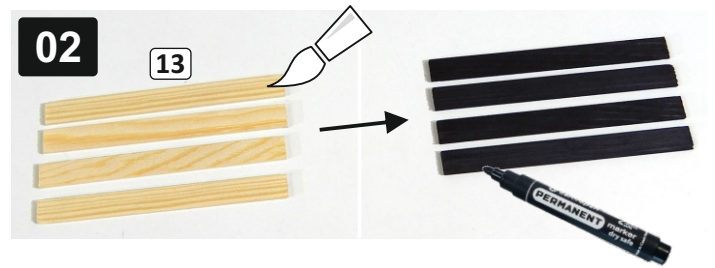
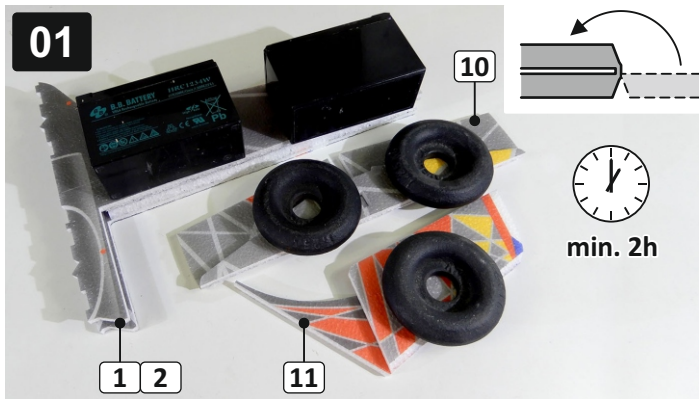
Part list:

No.	Qty.	Description
1	1	Left wing panel
2	1	Right wing panel
3	1	Lower vertical part of fuselage (front)
4	1	Upper vertical part of fuselage (front)
5	1	Lower vertical part of fuselage (rear)
6	1	Upper vertical part of fuselage (rear)
7	1	Horizontal part of fuselage
8	1	(front-left) Horizontal part of fuselage
9	1	(front-right) Horizontal part of fuselage
10	1	Horizontal part of fuselage (rear)
11	1	Elevator
12	1	Rudder
13	4	Wooden spruce 2x9.5-798mm
14	1	Wooden spruce 2x9.5-100mm
15	1	Motor mount
16	4	Protective ESC cable cover
17	4	Ball link
18	4	Pushrod connector small
19	1	Quicklock
20	1	Plastic sheet
21	3	Aileron and rudder horn
22	1	Elevator horn
23	1	Aileron servo arm extension
24	1	Servo arm extension
25	12	Pushrod guides
26	1	Nit / Thread
27	1	Velcro
28	6	Carbon ø1-500mm
29	1	Carbon ø1.5-535mm
30	1	Carbon ø1.5-465mm

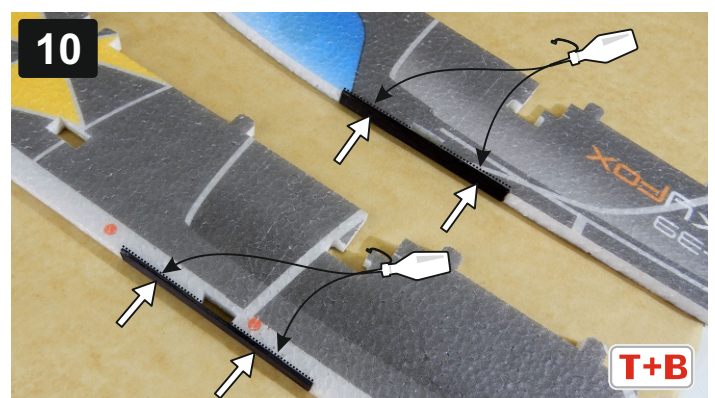
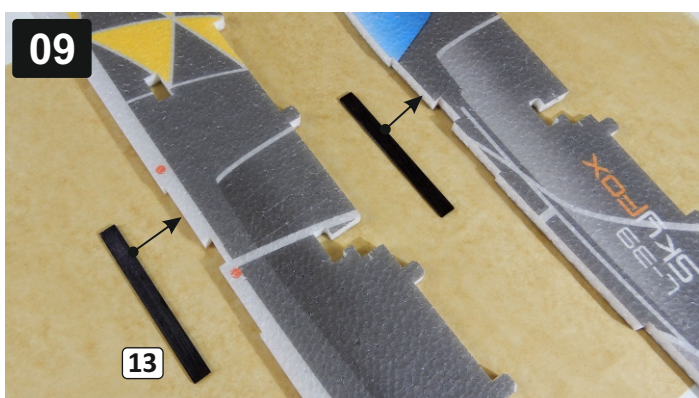
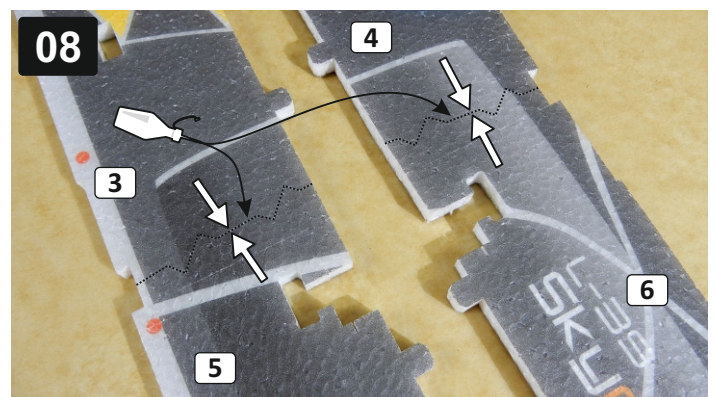
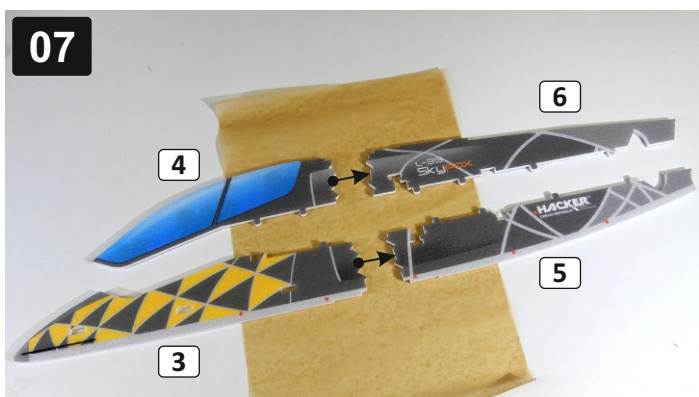
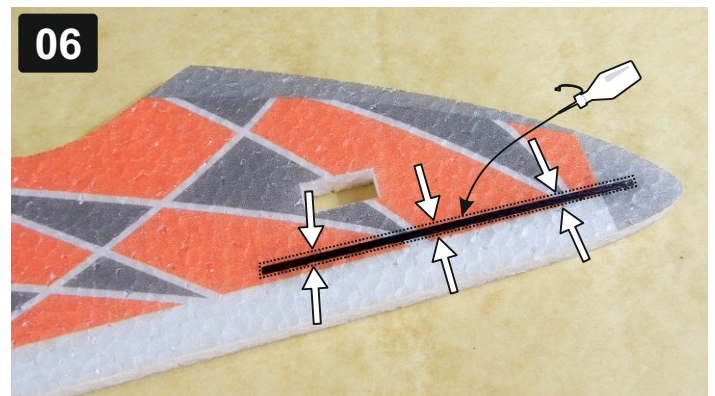
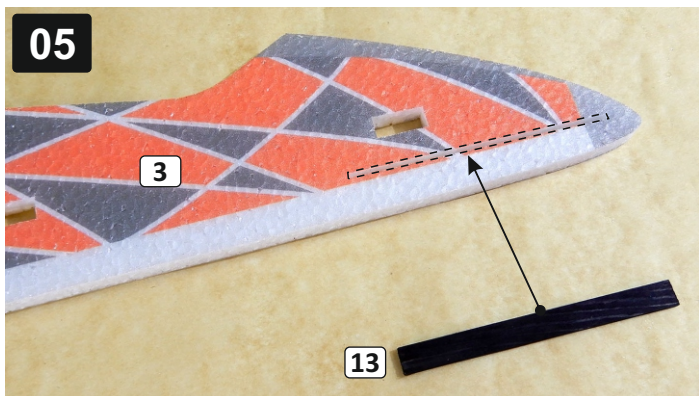
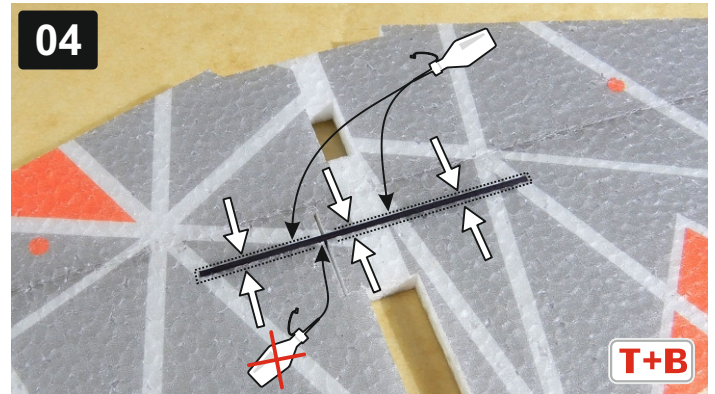
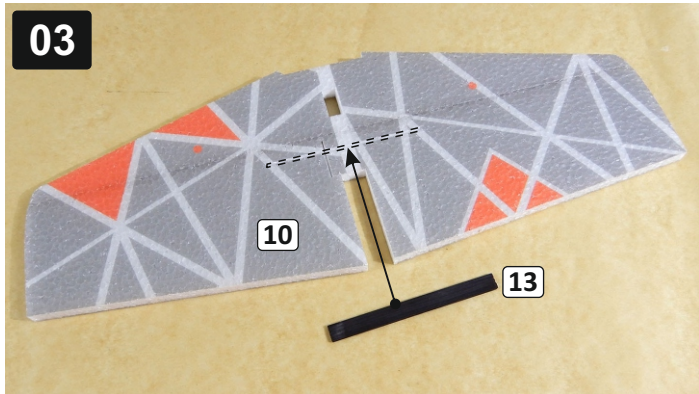
Small parts:

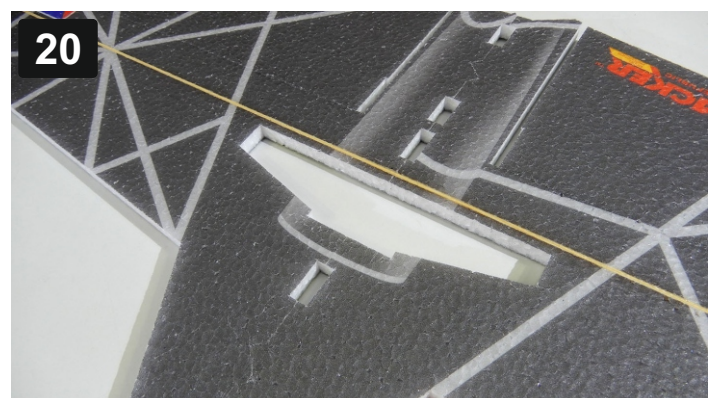
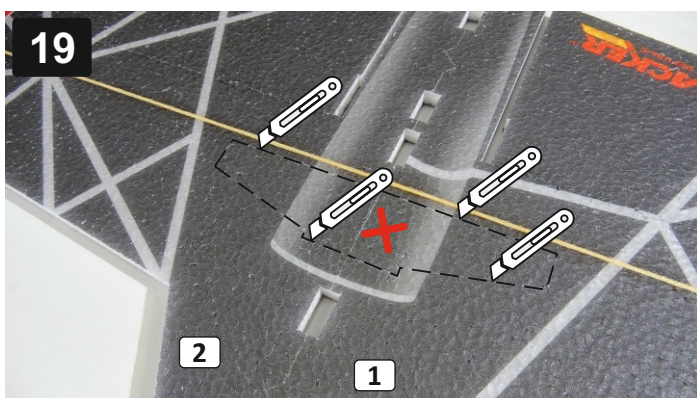
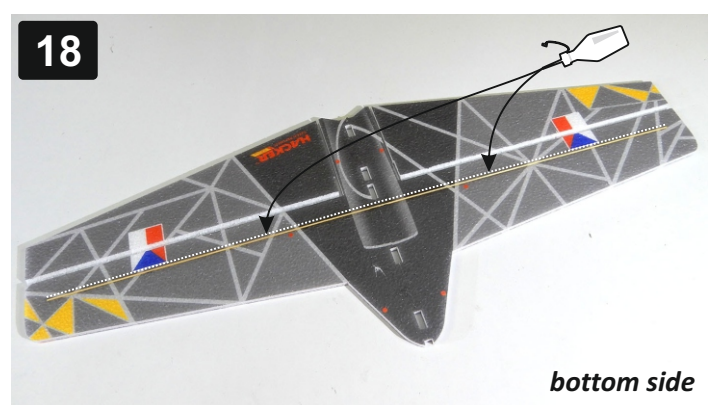
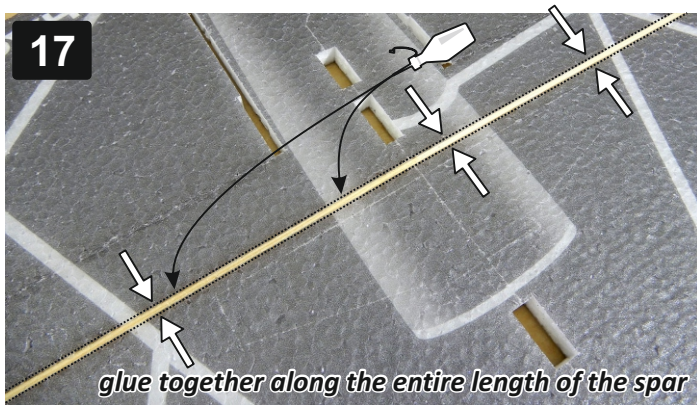
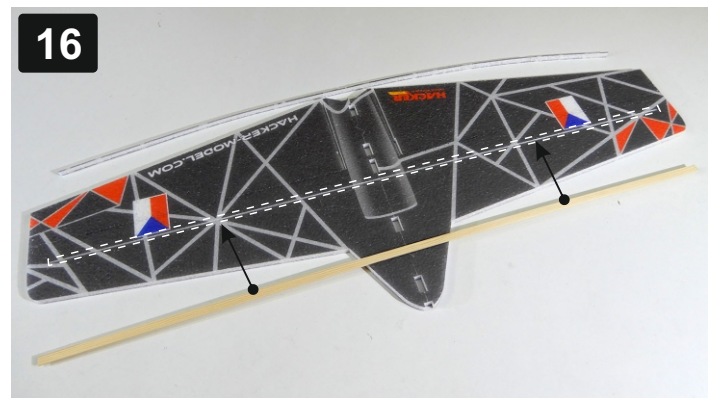
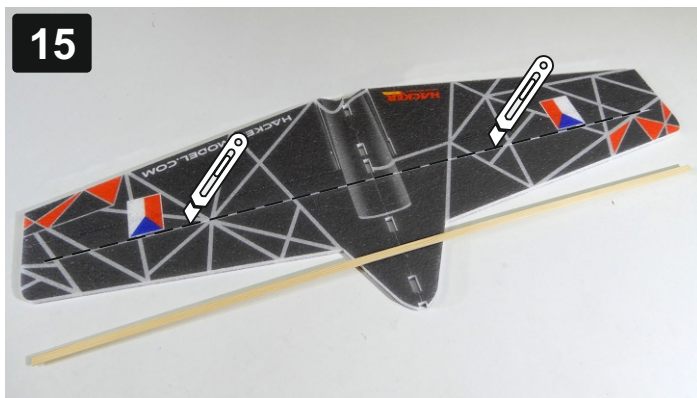
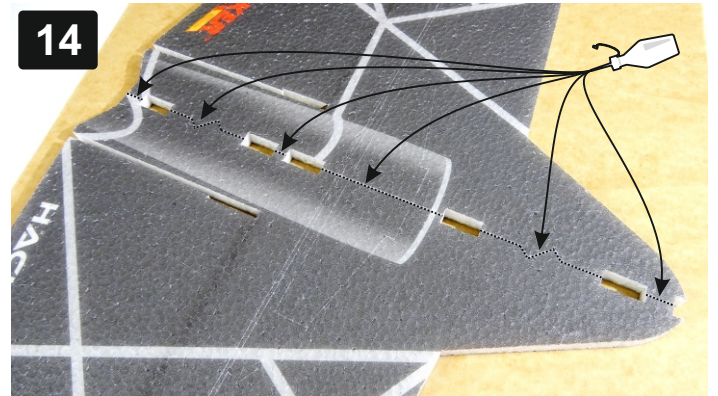
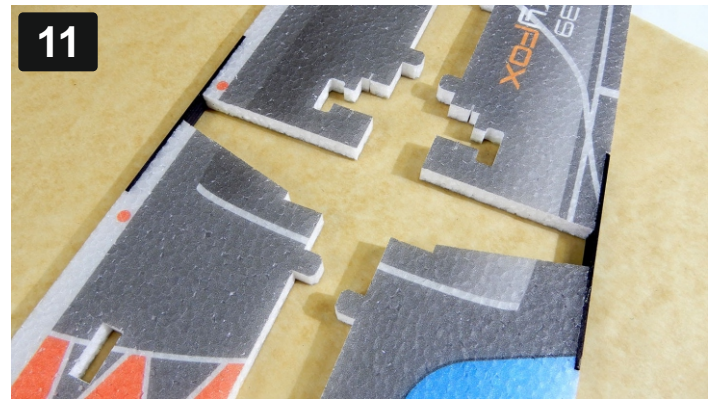
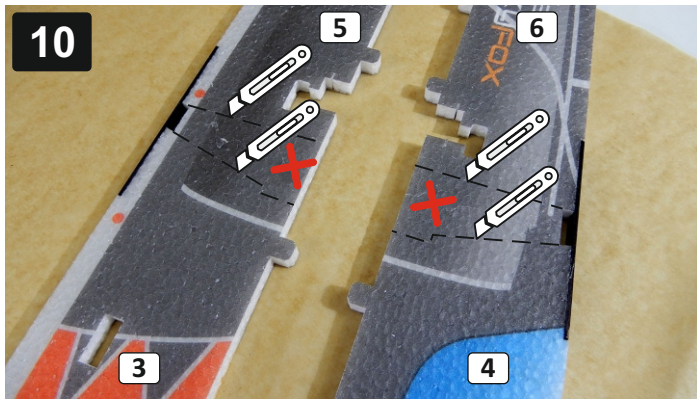


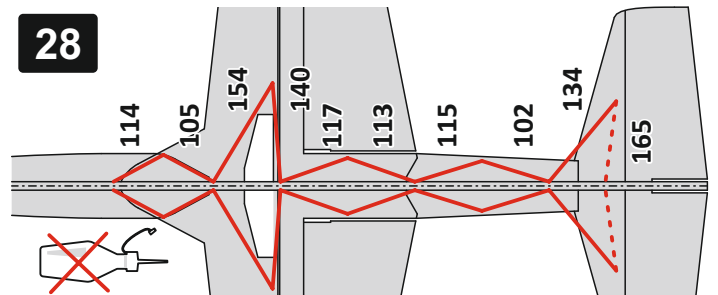
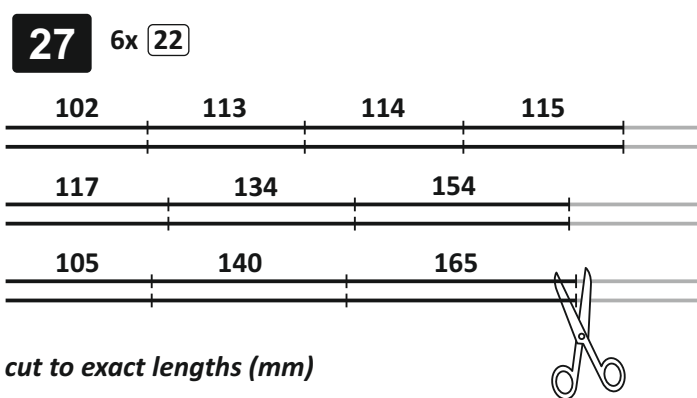
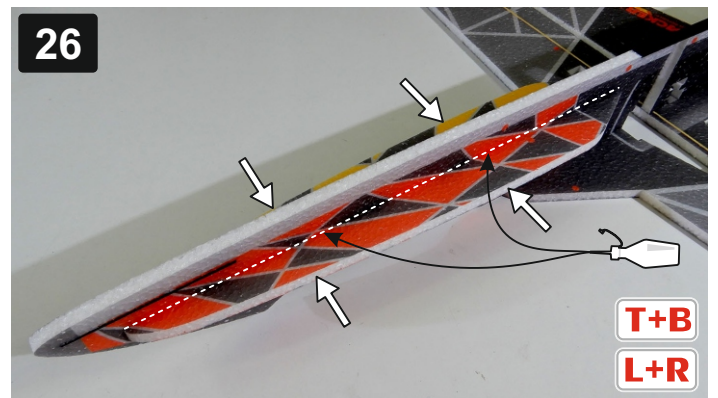
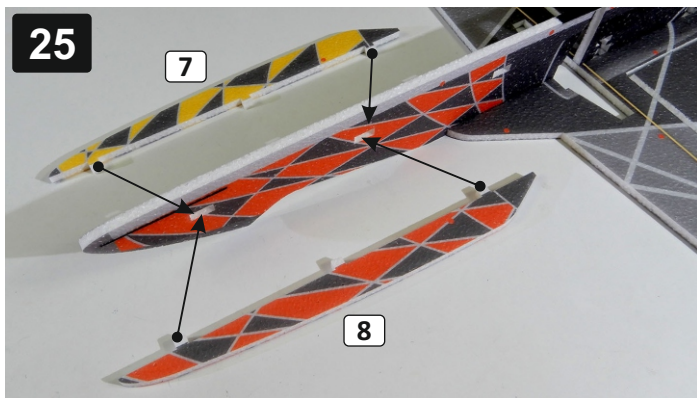
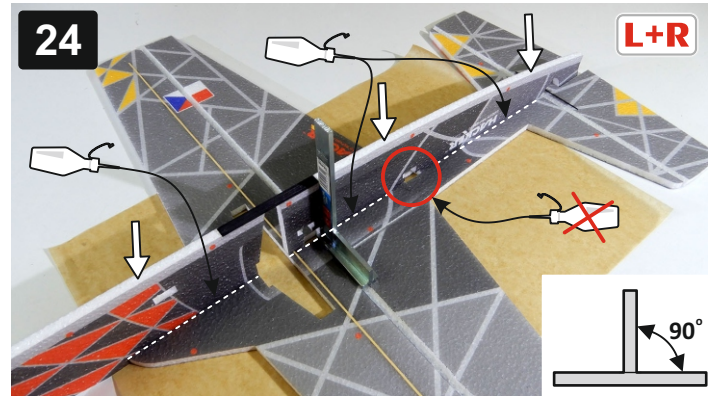
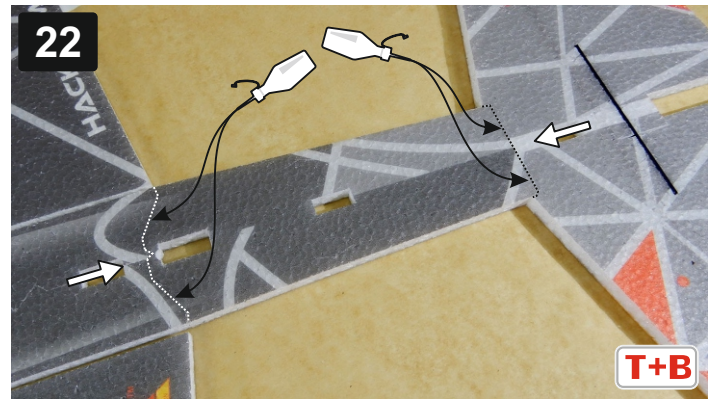
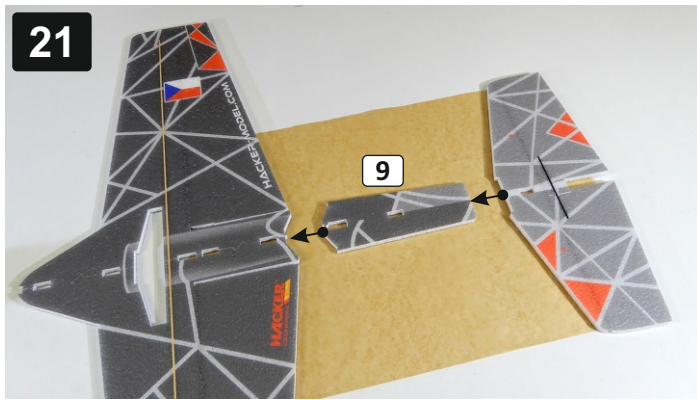
Read this manual carefully before assembling the model.



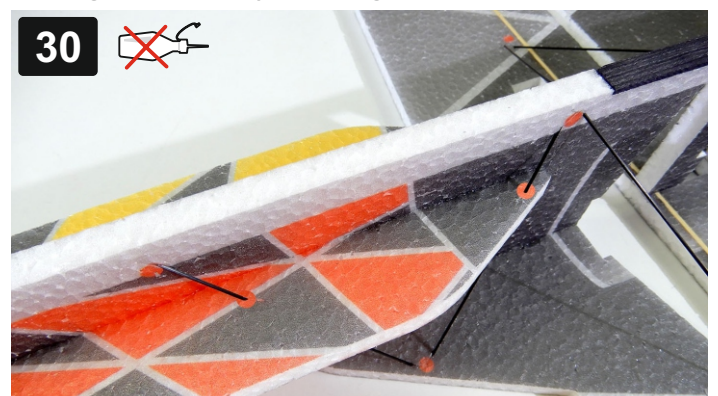
You can paint the wooden reinforcements for a better-looking model.

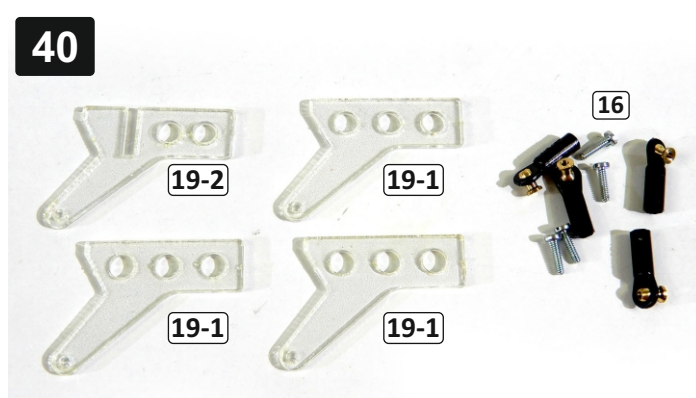
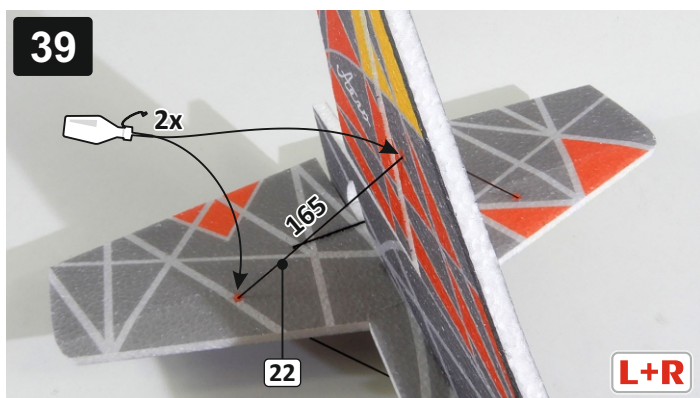
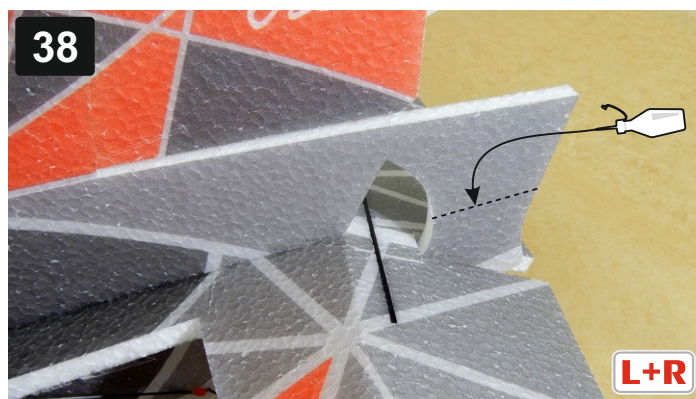
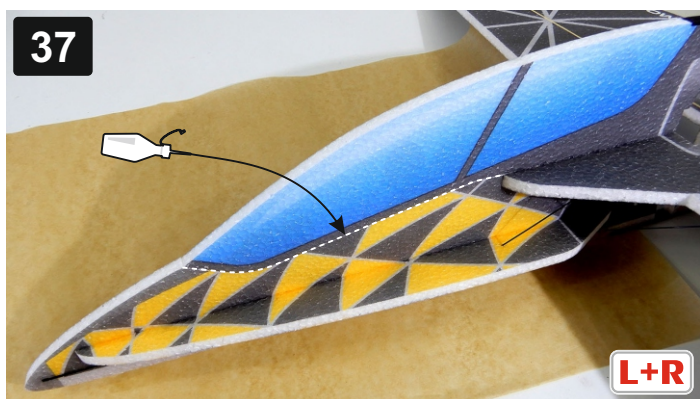
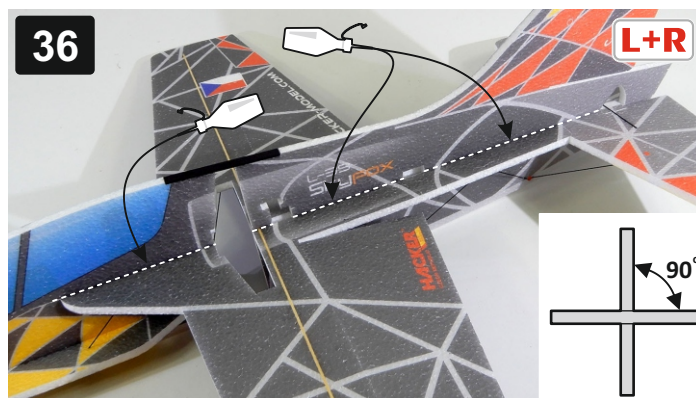
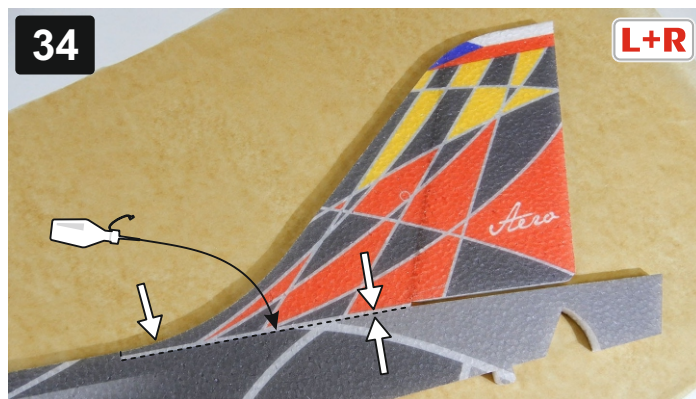
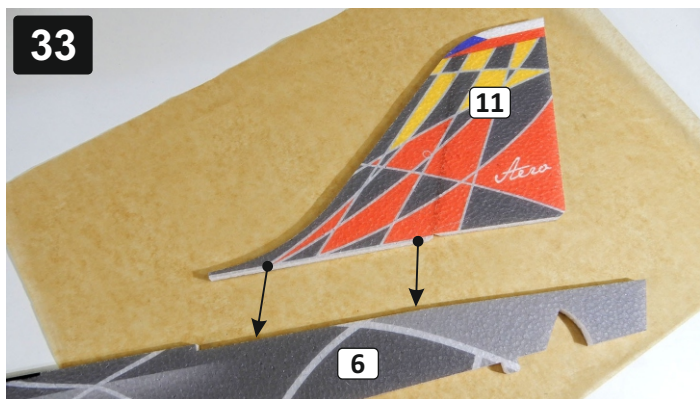
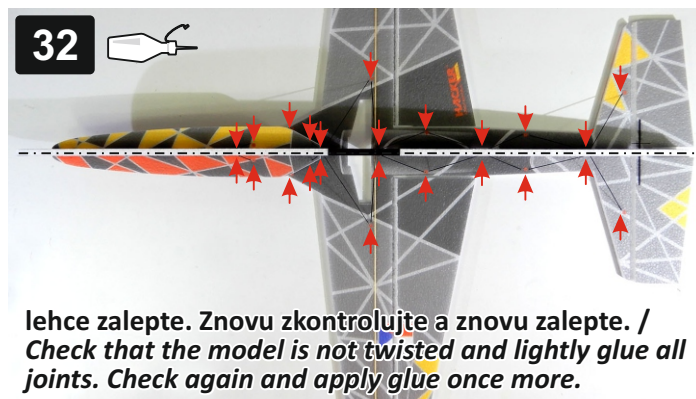
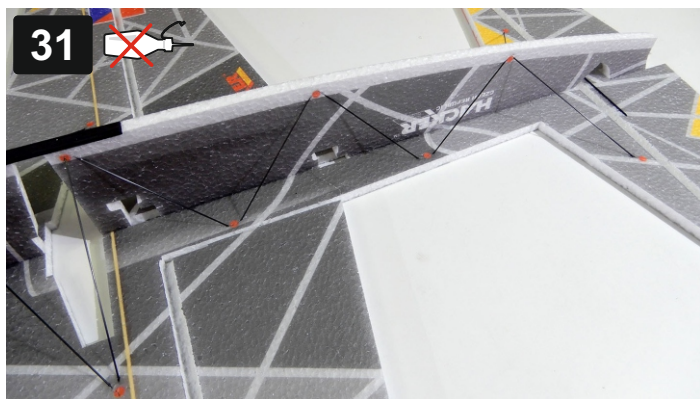


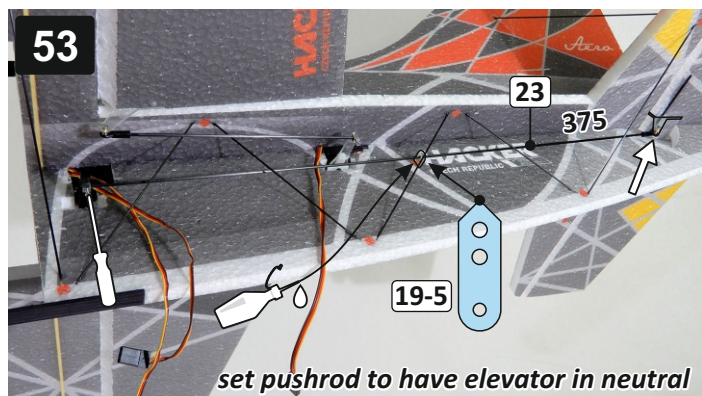
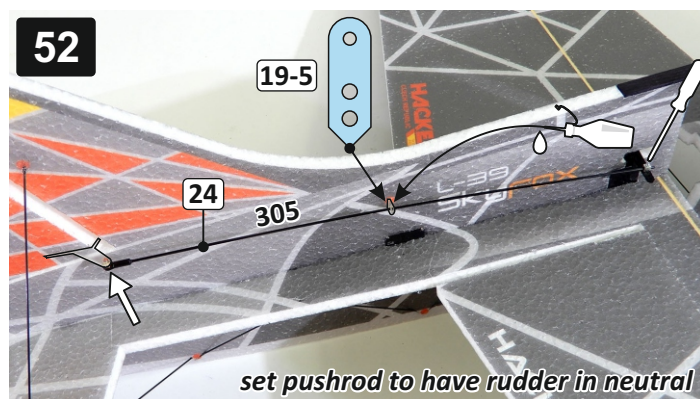
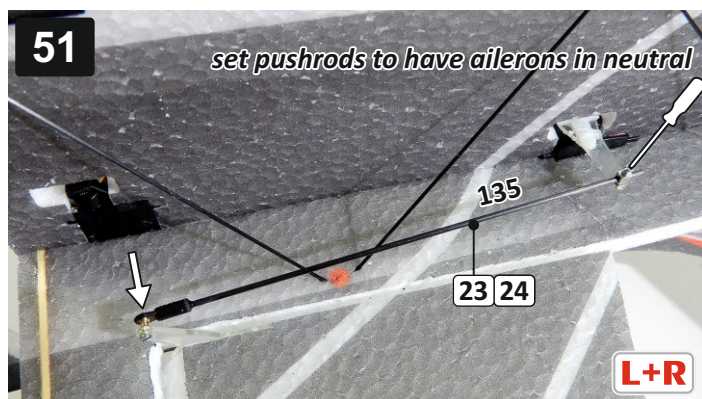




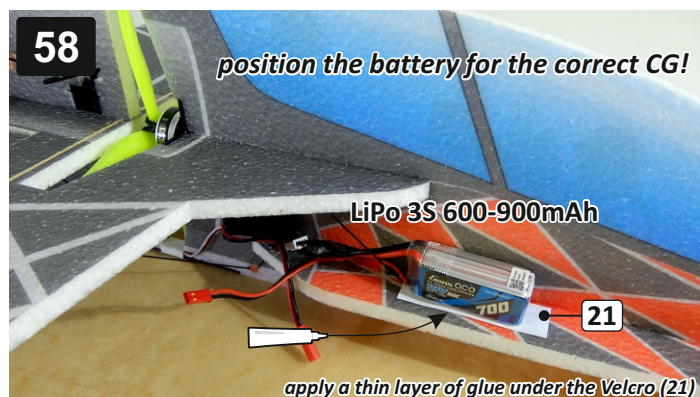
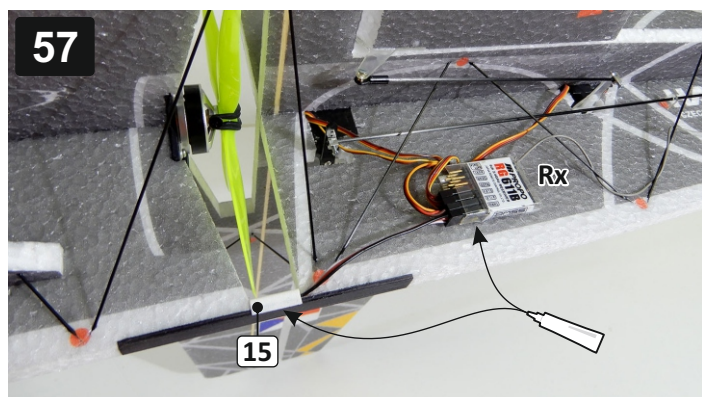
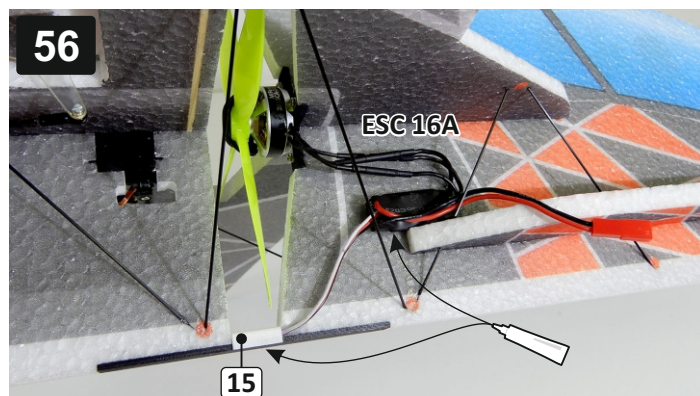
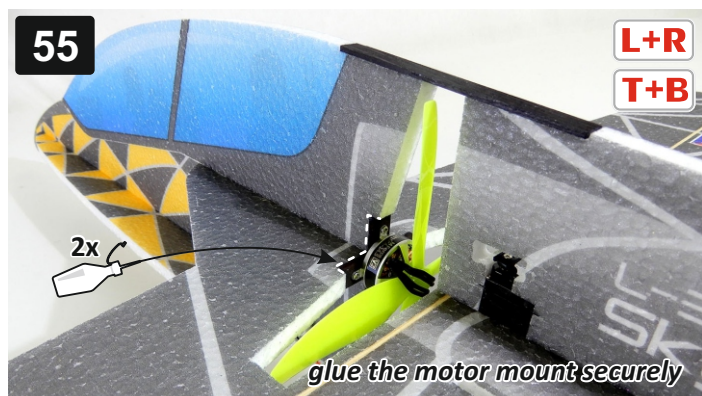
Insert the carbon rods into the slots from the nose, left and right alternately. Do not glue!







Use two bolts to attach the quad motor, as shown.
Enlarge the holes if needed, since bolt patterns vary between motors.
Secure the mount to the EPP frame with adhesive.
Install the propeller afterward.



The assembly of your ALBATROS L-39 SKYFOX model is now complete. Set the correct control throws and directions on your transmitter. Fine-tune the control throws during the maiden flight. Place battery and receiver according to the required centre of gravity. Secure the battery, for example, with velcro. The model is designed for indoor and outdoor flying. When flying outdoors, choose calm conditions or only a light breeze.

We wish you a lot of fun and many happy landings.
Your Hacker Model Production crew!