SWIFT 3

E-Swift 3: Assembly and Maintenance

Revision Record

Rev.	Date	Modified by	Description of Changes	Pages
1.0	1/4/2024	V. PIRET	1st issue	All
1.1	9/4/2024	V. PIRET	Add maintenance table + centering	
1.2	10/9/2024	V.PIRET	Battery installation	p.19

Contents

1 Introduction

The Swift 3 is designed to be both very light and strong. The wings are extremely robust in flight, and the aircraft is built for frequent assembly and disassembly. The main stresses the aircraft may encounter result from handling or improper storage. Therefore, it is essential to carefully follow the procedure described in the "**Assembly and Disassembly**" chapter to assemble and disassemble the Swift 3 without damaging it, especially the wing surfaces.

Transportation should be carried out using suitable equipment (**trailer** or **transport box**) that prevents mechanical stress on the wings, respects the wing twist, and limits temperature and humidity fluctuations.

Refer also to the "**Adjustments and Maintenance**" chapters. If repairs or spare parts are needed, consult your dealer and request the **parts catalog**.

This manual complements the "**E-Swift 3 Flight Manual**".

2 Storage and transport

2.1 Precautions

2.1.1 Wings

The wings must be stored in a dry place, away from sunlight and avoiding extreme temperatures.
If the wings have been wet, they should be dried immediately.
If the wings are not stored in the X-Country trailer or container, the supports must be wide and respect the twist of the wings.

During prolonged storage beyond a few hours (with the wings dismantled), the 2 flap return elastics should be released, even if the flap connecting rods are extended. This is to avoid unnecessary tension on the wing lower skin which could deform them in the long term. See the chapter on assembly.

2.1.2 Fuselage

The fuselage must be stored in a dry place, avoiding extreme temperatures and sudden temperature changes that can generate condensation.
Keep the tires sufficiently inflated to prevent them from deforming during storage.

2.1.3 Electric motorization

Refer to manufacturer's documentation.

https://www.geigerengineering.de/en/avionics/downloads

For reasons of weight and cooling, the electric motor and electronic controller are not enclosed in a sealed housing. They are therefore particularly sensitive to humidity and temperature variations that can cause condensation.

The electric motor is equipped with powerful and visible magnets that attract ferrous metals. Avoid the presence of metal shavings near the motor. If necessary, wrap the motor in a plastic bag.

2.1.4 Battery

The battery must be stored at a temperature between 10 and 25°C, otherwise its capacity and life will be reduced.

☝ Never store the battery fully charged, or completely discharged, this would reduce its life.

- Wintering

If the battery will remain unused for **more than 6 weeks**, it must be stored in a predefined charge state called hibernation; otherwise, its lifespan will be reduced.

To put a **discharged battery** into hibernation: proceed as for a normal recharge but press and **hold the push button for 7 seconds**. An audible signal indicates the start of the process. Throughout the cycle, which can last several days, the battery LED flashes very quickly in **Green**/**Red** (0.1 seconds). When the battery reaches the desired state, the BMS automatically shuts off.

To put a **charged battery** into hibernation: press and **hold the push button for 7 seconds** (without connecting the charger); an audible signal indicates the start of the process. Throughout the cycle, which can last up to 7 days, the battery LED flashes very quickly in **Green**/**Green** (0.1 seconds). When the battery reaches the desired state, the BMS automatically shuts off.

After 6 months, if the hibernation period needs to be extended, reconnect the charger and start a new "hibernation" cycle.

2.1.5 Propeller

To prevent propeller flapping during transport, it is recommended to remove it (just one pin!) and store it in the designated cover.

2.1.6 Parachute

Refer to manufacturer's documentation:

https://www.galaxysky.cz/manuals-s120-fr

The parachute must be kept dry and protected from sunlight, avoiding extreme temperatures. It must be returned periodically to the manufacturer for maintenance.

2.2 Trailer

Refer to trailer manual

Storing the Swift 3 in its trailer or transport box is ideal.
However, avoid extreme temperatures and sudden temperature variations which can generate condensation.

2.3 Transport box

Refer to transport box manual

The plastic transport box can transport the wing but not the cell. It supports the wings while respecting the twist and the supports are well distributed. The walls are relatively insulating and reflect a good part of the solar radiation, which protects the wings from UV and above all prevents a rise in temperature to which composite materials are sensitive. In addition, the wings are well mechanically protected from shocks and blows.

Warning: the XCountry container **is not waterproof**: if it has been wet by rain, the container and especially **the wing should be dried immediately**.

3 Assembly and disassembly

3.1 Assembly

3.1.1 General information

- Handling

It is essential to **avoid any localized pressure** on the skin of the wing (such as resting it on rocks). The wing is reinforced in areas where handling is necessary according to the procedures described below. **Always support the wing with hands flat** on the lowerskin, at the spar position (the spar is located at the thickest part of the profile) or at the wing tips. Avoid pinching the wing, as the upper surfaces are not reinforced.

- Lever arm

Be mindful of the **large lever arms** due to the wingspan:
Do not move the aircraft by pushing on only one winglet, as this generates significant torsional stress on the airframe.
When sliding the wing onto the spar, stay well-aligned to avoid putting stress on the sleeve.
Always support the wingtip until the wing is fully seated.

- Adding equipment

The Swift is sensitive to centering: avoid adding equipment that could alter the center of gravity, such as objects over ½ kg in the nose or tail section of the fairing.

Be careful not to disrupt airflow. For example, a camera trigger cable attached to the wing profile can dangerously affect wing behavior, on both upper and lower surfaces, and especially along the leading edge.

- Assistance

It is possible to assemble the aircraft solo, especially with the help of a few simple tools:

- A wheeled mechanism that can be temporarily installed at the wing tips to easily maneuver the wing on the ground and align it with the spar.
- A support placed under the fuselage or spar to hold the frame steady before attaching the first wing.

Having a second person is helpful, however, especially during the installation of the wings onto the spar.

3.1.2 Fuselage assembly

- Set up the fuselage on the assembly area and install the spar.

The spar is installed with its slanted faces facing forward to match the shape of the wing spar. Bolt heads should face the rear, and wing nuts should face forward. Hand-tighten the bolts, then install the safety rings.

- Stabilize the fuselage with a support or with the help of an assistant.

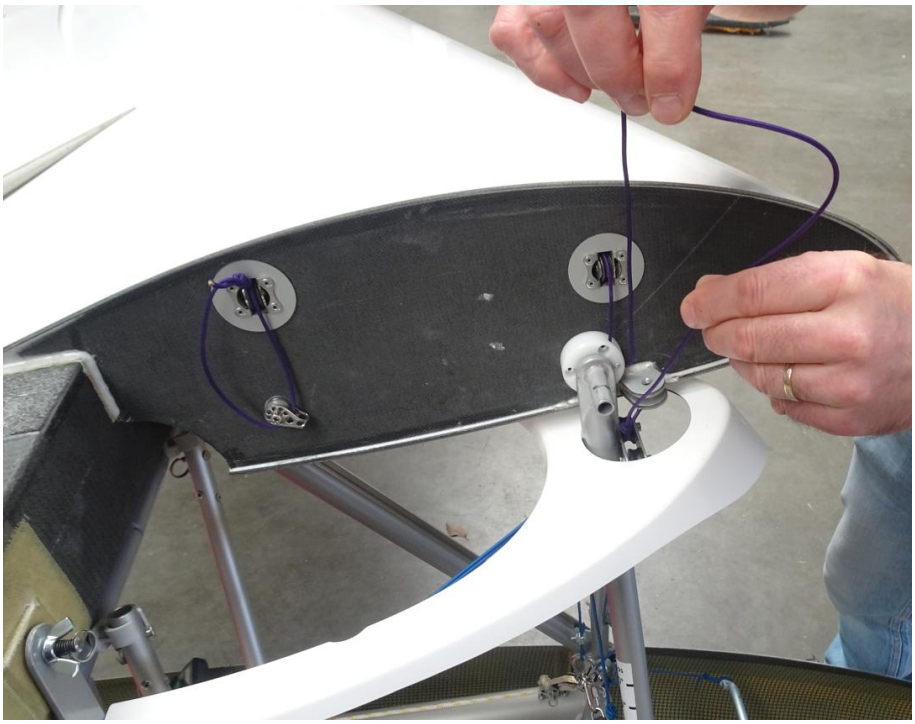
- Install the windshield retaining part.

3.1.3 Wings installation

- Install a first wing.

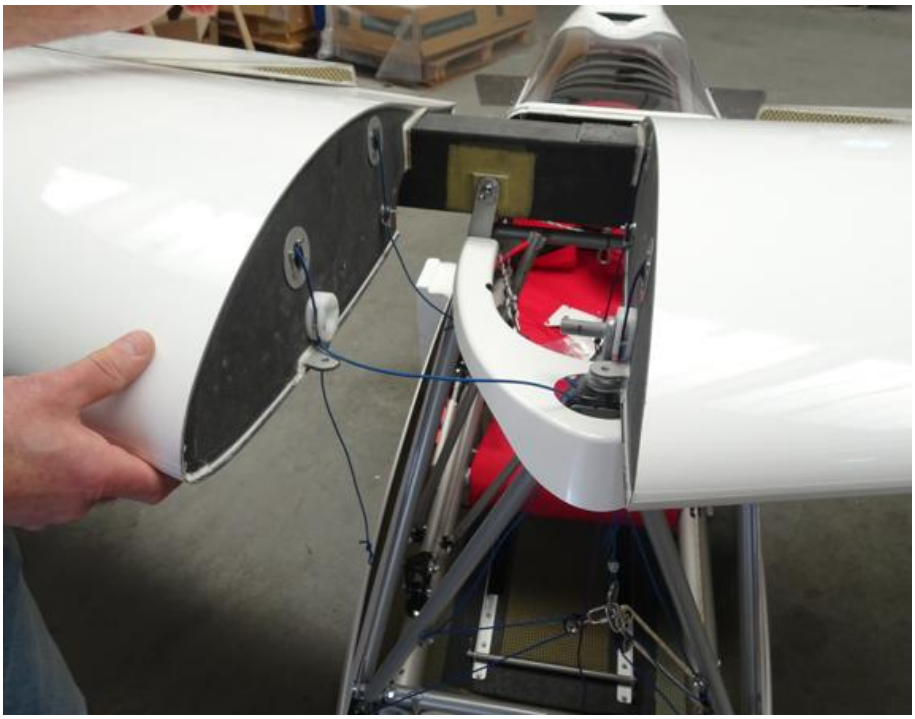
Slide the wing sleeve onto the spar. **Ensure the wing sleeve aligns without forcing** it by matching the wing's height, sweep, and angle of incidence.

As you approach the windshield support, pass the cables through and check that the elevon linkage is flush with the wing (otherwise, it may collide with the windshield support). Align the 'finger' of the triangular fuselage frame with the white plastic ring attached to the root rib and fully engage the wing. Guide the winglet control cable between the twin pulleys. At this stage, you may optionally connect the elevon linkage and the rudder line.



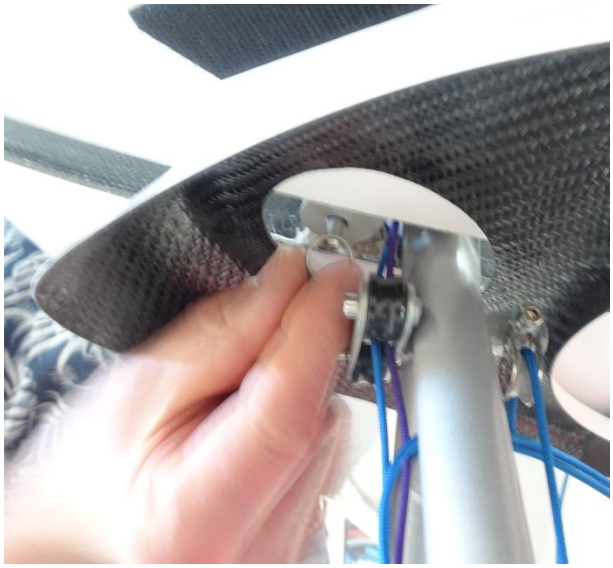
- Install the second wing

Proceed as for the first wing.

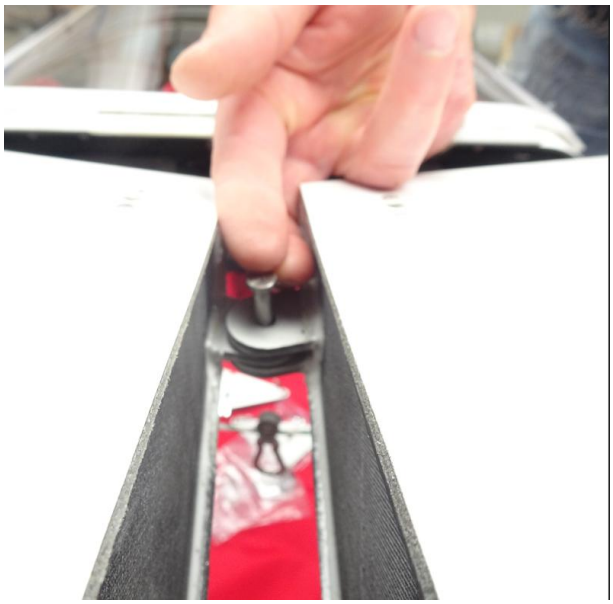


Place the pin securing the 2 wings at the front (the one with a stainless-steel strand making it easier to put in place), and **put the safety ring on immediately**.

Pass the second winglet control cable between the twin pulleys.



While going around the wing, give a small push to the wing tip towards the rear, to tighten the 2 wings against each other and thus facilitate the installation of the rear axle securing the 2 wings.
Put the safety pin in immediately!



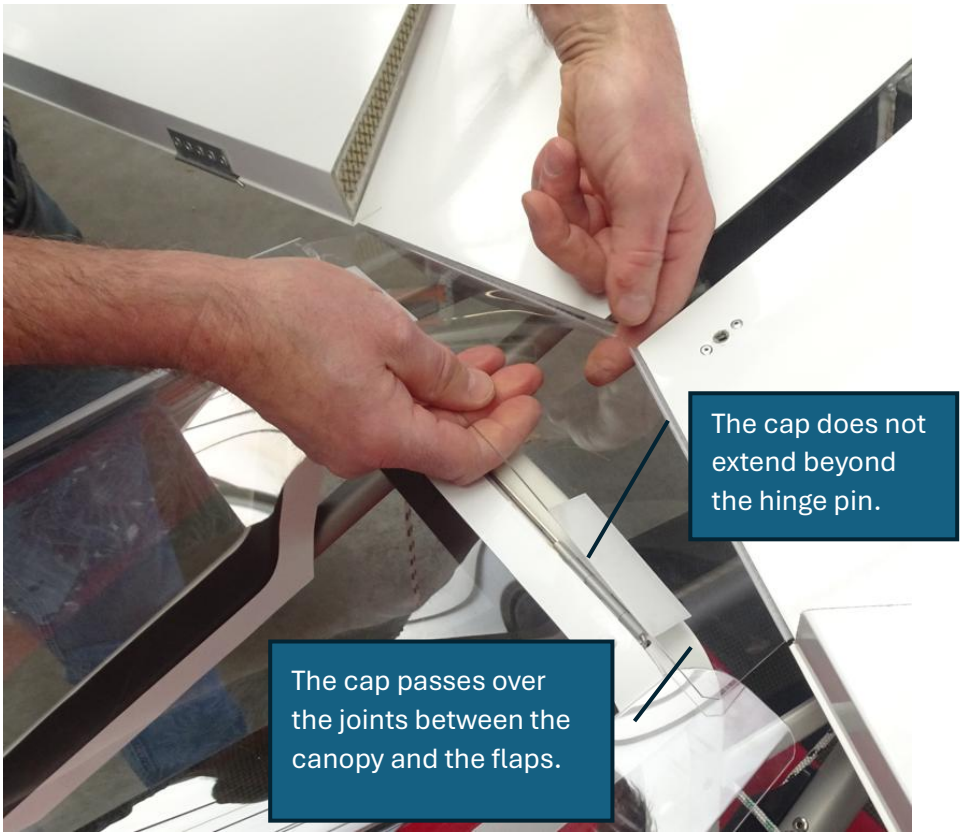
- Connect the control surfaces controls
  - Connect the winglet control cables**, checking that the cables are not crossed** (right wing on right rudder pedal)!

  - Connect the flap cables to the carabiner.

- Pull the elevon control rods out through the trailing edge of the wing, pivoting the bellcrank at the root if necessary, then connect the elevon rods between the stick assembly and the wings. A tool with a magnet is provided to facilitate this. Do not connect the elevons to their rods at this stage.

- Check that the various controls do not touch each other inside the cell.
- Connect the airbrake control cables by passing between the spar and the transverse tube.

- Install the junction cap between the wing and the canopy.



Make sure that the cap is centered on the junction of the wings, that it does not exceed the axis of the hinges (to allow the canopy to open) and passes above the joints between the canopy and the flaps.

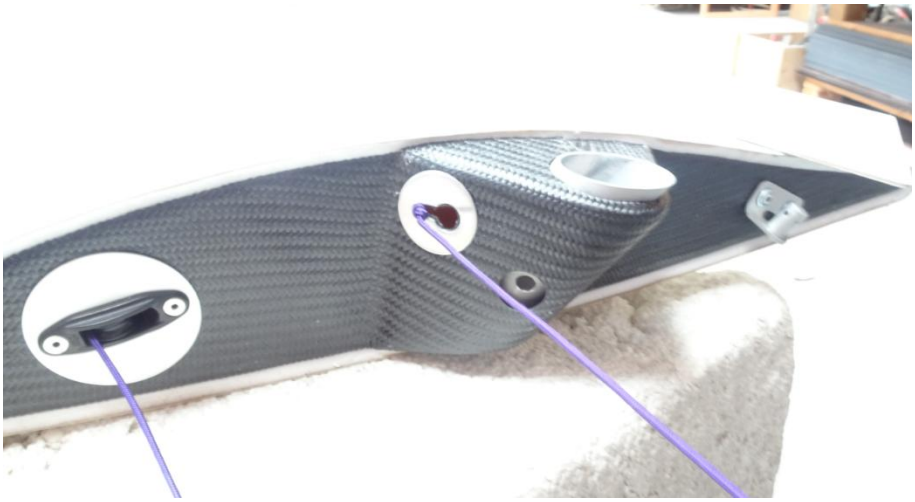
- Connect the connecting rods to elevons.

The elevons must be connected before installing the winglets.

Note: it is preferable to connect the flaps to their connecting rod at the end of assembly to facilitate access to the airframe.

- Take out the flap connecting rods and tighten the return elastic

The bungee is tensioned by a cable ending at the wingtip and locked by a knot. Excess cable can be retracted into the rib through the outlet hole.



- Install the winglets.

To transport the winglets in the transport box, or to take up less space during storage, the control surface can be folded up by removing the bellcrank and the return bungee.

The winglet should be reassembled before installation.

- Engage the bellcrank on its 2 pins and lock it with the latch
- Install the bungee, with the knot facing up.

Present the winglet on its support, press the ball in and slide the winglet on its supports until the ball locks. Install the beta pin on the rear bracket.

Pass the control cable through the eye strap, but do not connect it at this point.

Present the winglet fairing, pass the control cable through the opening and then put the fairing in position on its magnets. The fairing must be engaged in the outer hook.

Adjust the trailing edges of the fairing so that it presses lightly against the rudder and has a regular profile towards the elevon, then tighten the velcros.

Connect the rudder to the control cable using the quick link.

Check that the flap plays freely and that it does not rub on the fairing.

- Installation of tiplets (wingtip wheels).

Present the tiplet and secure it with its 3 screws.

- Installing the propeller

Do not forget the clevis pin and the safety ring.

3.1.4 Battery Installation

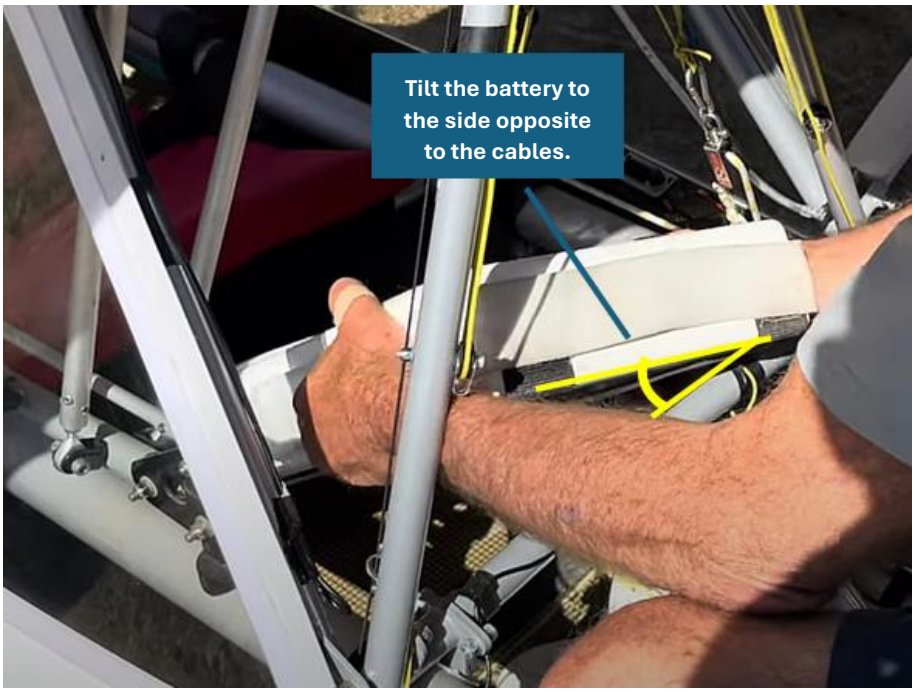
To install the battery, it is easier but not mandatory to unhook the hammock from its front tube.

The battery can be installed in 3 different positions, with the standard position being the most advanced.

The front attachment plate must be disassembled, and the rear attachment plate must be in place (the eye strap facing up).

Present the battery from the front, taking care not to notch the power cables, make sure that the cables pass through the opening provided in the mounting plate and install it fully on the rear mounting plate. The battery carrying straps must be free of the support.

Remark: To avoid damaging the power cables, it is advisable to tilt the battery on the corner opposite the cables so that they do not touch the floor before the battery is properly aligned.



Install the front mounting plate and engage the locking tube from one side to the other. Lock the tube with 2 beta pins.

Connect the battery cables (the red and black power cables and the network cable) ensuring that they are fully engaged and without mechanical tension.

3.1.5 Installing the Speed Sensor

A profiled tube is supplied with the Swift 3 to allow a speed sensor to be installed at an optimal reference position.

It is easier to mount the tube BEFORE the installation of the windows.

3.1.6 Installation of flight instruments

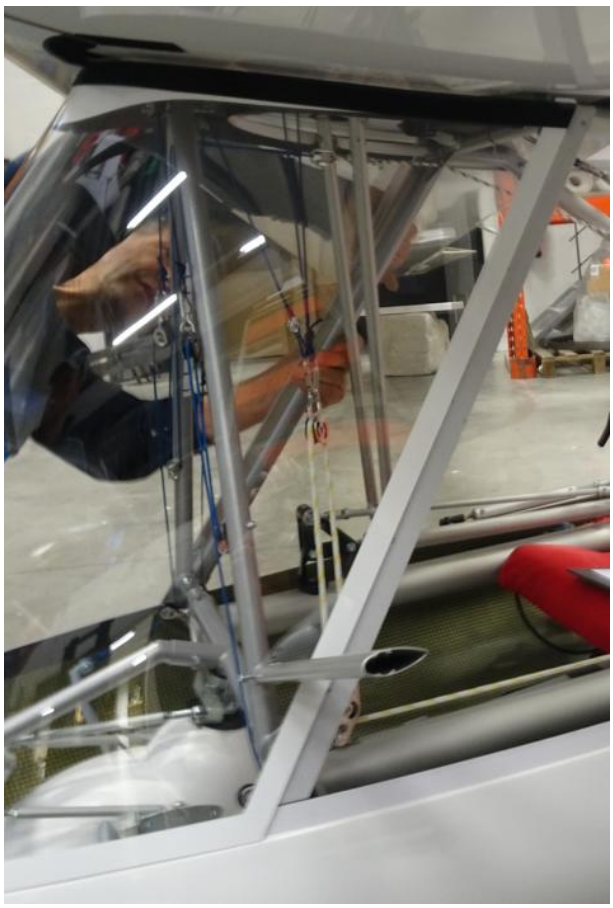
It is easier to install the flight instruments before the windows are installed!

3.1.7 Installing the windows

Start with the windshield. Align the windshield center mark with the fuselage parting line.

Press the top of the windshield onto the bracket by folding it toward the back of the fuselage.

Follow the line of the fuselage and then the alignment of the rivets of the frame.



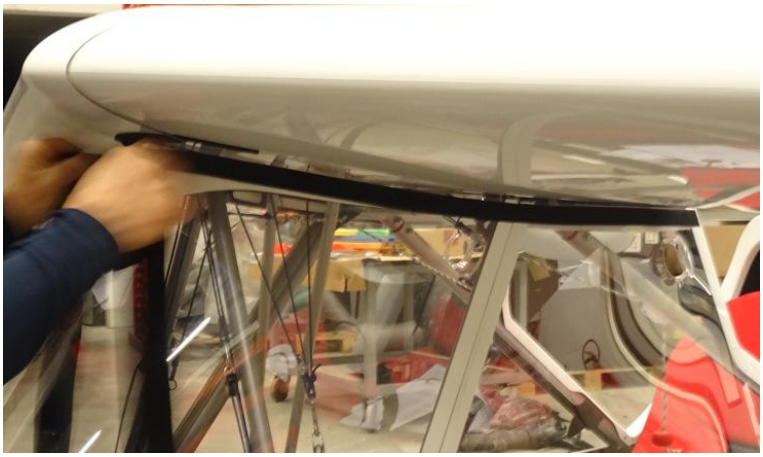
Then present a side window starting with the front tip.

Follow the edge of the windshield on the pillar and fuselage line.

Do the same with the other window.

Once the windows are installed, press the velcro fasteners firmly to improve hanging.

Then install the elastic velcro forming the junction with the wing, starting with the root. Follow the velcro installed on the windows, **without stretching the elastic velcro**. Make sure to form a nice, even curve.



The velcro ends on the fixed frame of the canopy.

3.1.8 Flap connection

Set the flap control to approximately 0° and connect the flaps. Take care to pass the control surface under the joints between the canopy and the flaps.

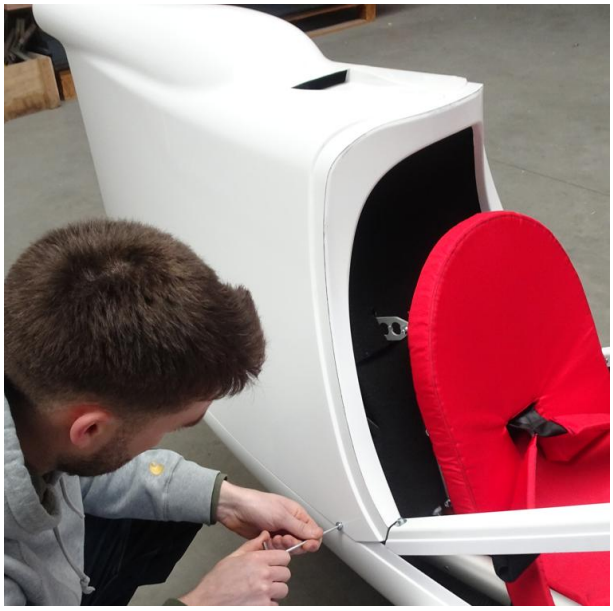
3.1.9 Installing the engine cover

The engine cover can be easily mounted and disassembled. It is held in place by 2 screws, a fixing pin at the rear and a guide piece centered on the propeller axis.

Present the engine cowl starting with the propeller shaft.

Pass the anti-noise felt in front of the parachute, tilt the hood and ensure that the rear attachment pin is engaged.

Install the 2 screws securing the cover.



Note: When disassembling the engine cover, do not unscrew the bolt on the back of the cover!

3.1.10 Installation of the canopy

The canopy can be easily dismantled and reassembled, by simply removing its hinge pin.

- To remove the canopy:

Unhook the stop cable inside the canopy frame.

Rotate and remove the hinge pin.

- Proceed in reverse order for reassembly.

The flaps must be set to the "+ 40°" position, i.e. turned all the way down to be able to maneuver the canopy.

3.1.11 Post-assembly inspection

Make a complete inspection of the assembly following the list in § *7.1 Inspection after each assembly*

3.2 Disassembly

In **general**, follow the reverse order of the assembly procedure.

Take special care of **windows** that scratch easily. They should be kept very clean, but only cleaned with a damp cloth – never dry.

Store the windows in their covers as soon as they are disassembled, taking care that there is no dust that gets into the covers.

Before disassembling the wings, check that **all controls are disconnected**.

Ensure:

Flap control rods are retracted into the wing and the return bungee relaxed if the wing is stored in a transport box. For transport by trailer, the connecting rod can possibly be left out.

That the control rods of the elevons are tucked into the wings. For transport by trailer, the connecting rod can possibly be left out.

That the root rods are tucked into the wings.

That the flap and winglet cables are tucked into the wings.

4 Settings

4.1 Pilot comfort

4.1.1 Hammock

The hammock is adjustable in length, and therefore in depth, by adjusting the buckles under the hammock.

- Make sure that the buckle straps are the same length (right and left)
- The central straps, with velcro, can be adjusted a little longer to give the hammock a curved shape.
- The hammock set too long is uncomfortable because the rider can touch the battery.
- The hammock set too short considerably increases the stress on the structure.
- It is possible to slide a cushion between the hammock canvas and the upper part to support the hollow of the back.

4.1.2 Headrest

The headrest is adjustable longitudinally and in tilt.

When adjusting, always check that the pilot is installed in a correct position by closing the canopy.

- Longitudinal adjustment:

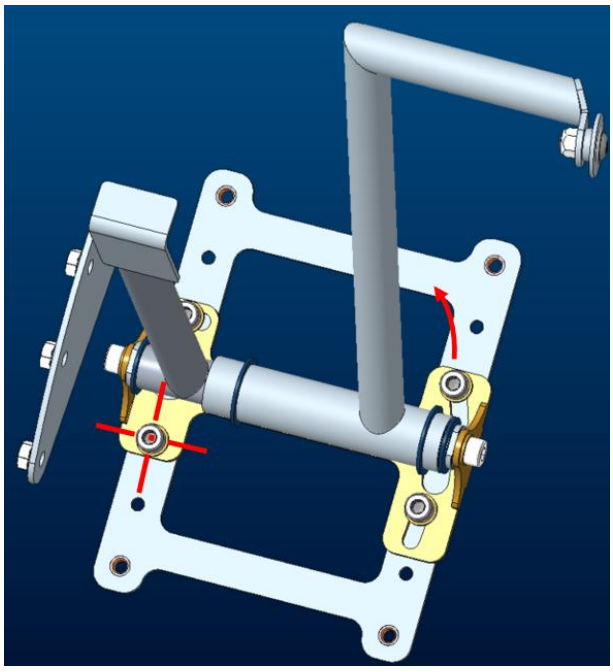
Unscrew the 2 x 2 bolts securing the lower mounting brackets of the headrest and reinstall the brackets in the desired position.

- Tilt adjustment:

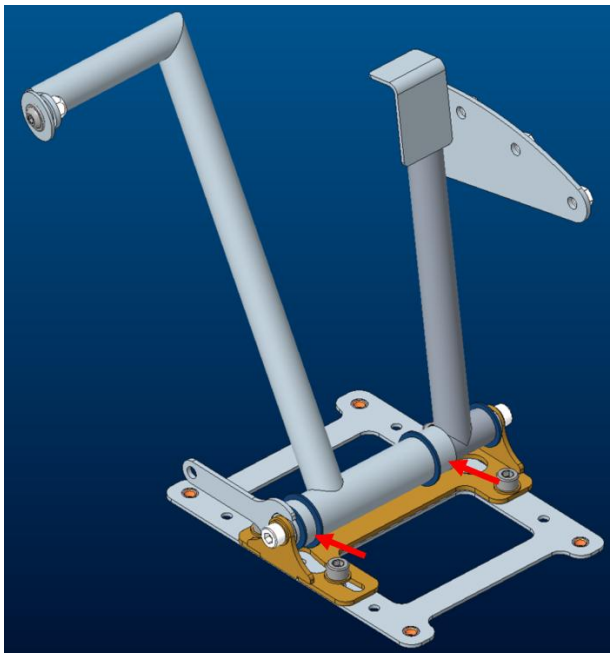
Loosen the screw on the head restraint side slightly and remove the screw on the opposite side, open the combs and reassemble them in the desired position.

4.2 Rudder pedals

The rudder pedal axis can be adjusted in 3 positions.
Unscrew the 4 fixing screws and move the rudder bar to the desired position. The nuts are pre-installed under the floor. With the rudder pedals in the most forward position, the pedal activating the winglet rudder can collide with the fuselage. It is possible to slightly tilt the rudder pedals axis to avoid collision.



The distance between the pedals can be adjusted by swapping the spacers.

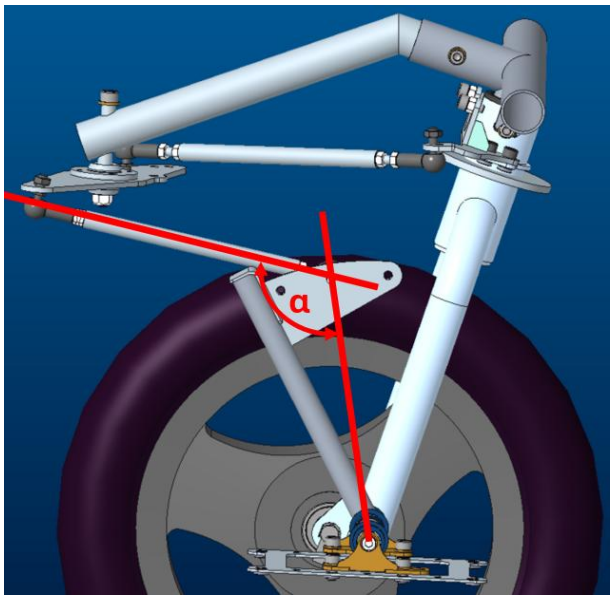


Remove the rudder pedal shaft using the flat wrench provided and change the position of the spacers indicated by the red arrows according to the desired setting.

The angle of the rudder pedals can be adjusted by adjusting the position of the ball joints and the length of the connecting rods. The pedals activating the winglet control surfaces are adjustable in flight by acting on the cord located at the top right of the cockpit.

The pedals acting on the front wheel are adjustable in 3 positions by screwing the ball joints of the connecting rods to the desired position. In addition, it is possible to modify the length of the connecting rods. Ensure that the threads are engaged for at least 5 turns.

Beware of extreme positions!



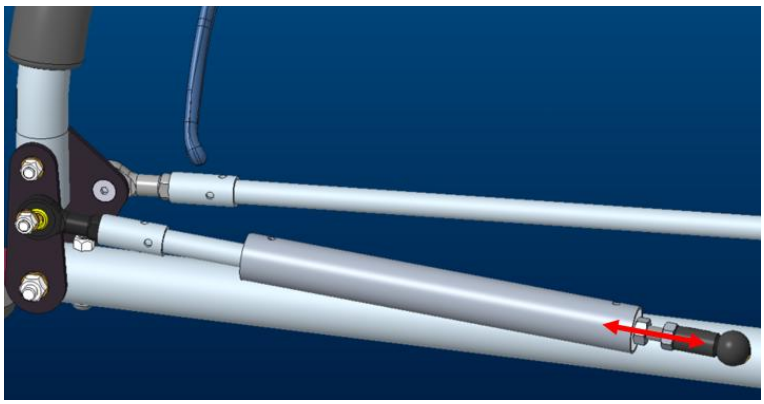
Avoid settings that give an angle that is too flat (= too close to 180°) between the rudder pedals and the corresponding connecting rods, because in this case a little strong pressure on the pedal generates significant forces in the kinematics that can deform the rudder crankbell and lead to the reversal of the kinematics.

This is the case if the connecting rods are too short and with the rudder pedal axis in the rearmost position.

4.3 Stick and elevons

The position of the elevons in relation to the stick can be adjusted by playing with the length of the connecting rods, screwing or unscrewing the ball joints on the stick and wing sides. However, make sure to keep at least 5 threads engaged. The handle can thus be adjusted a little more forward/backward or left/right. If the stock settings are changed, use Loctite 243 threadlocker or similar and tighten the lock nuts thoroughly.

The speed with the stick released for a given flap position can be adjusted by playing with the ball joint of the trim joint, by screwing or unscrewing this ball joint. The ball head can be released by unclipping the plastic head from the ball joint.



4.4 Flaps

The position of the flaps can be adjusted (to bring them to the same level on the left and right) by playing with the knots of the outgoing cables near the wing root. The adjustment is very sensitive!

Never adjust the position of the flaps by playing with the ball joints of the connecting rods controlling the flaps.

These ball joints are set from the factory to optimize the flap control kinematic, which is non-linear. The flaps are set to -8° when the kinematics are stopped, in order to obtain sufficient force to maintain them at this value despite the significant aerodynamic force that opposes them.

The flap angle indicator can be adjusted at the cable tie.
Align all the control surfaces with the wingtip fairings to have an indicative value of 0°.
Depending on the assembly of the fairings, the accuracy is +/- 1°.

4.5 Battery Position

The battery can be installed in 3 different positions. The standard setting is the most advanced position. By moving the battery back, the center of gravity will be moved back slightly. A more aft center of gravity will shift the speed range downwards, the stall speed will decrease slightly. The Swift 3 will be a little less stable and will go into a spin more easily.

5 Maintenance

The Swift 3 should be stored in a dry place, away from direct sunlight, avoiding extreme temperatures and especially sudden temperature variations that can generate condensation.

For the rest, the Swift 3 requires very little maintenance but rather a regular check of its good condition.

5.1 Wings

If the wings are not stored in the X-Country trailer or container, the supports must be wide and respect the wing twist.

When stored for more than a few days, the 2 flap return elastics should be released, even if the flap connecting rods are extended. This is to avoid unnecessary tension on the lower surfaces of the wings which could deform them in the long run (see § **Erreur ! Source du renvoi introuvable.** Mounting the wing).

Keep the wings clean and wash them from time to time
- To avoid chemical attacks by dirt
- To facilitate visual inspection of the wing skins.

For washing: use water with soap – no solvents except isopropyl alcohol in solution in 50% water.

Inspect the condition of the wing skins and control surfaces frequently, especially the Kevlar lines of the flap and winglet controls. Kevlar lines should be replaced from time to time when visible wear and tear occurs.

Check the condition and tightness of the ball joints and flaps.

Vinyl finishing tapes should be replaced from time to time.

5.2 Fuselage

Keep the fuselage clean to prevent corrosion and facilitate inspection.
Clean the windows with a damp cloth, never dry!
Frequently inspect the condition of the steel structure, mainly the welds, check that cracks or deformations have not appeared, especially after a hard landing.

Check that the stick mechanism is working and that there is no play between moving parts.

Check the status and operation of the steering controls.
Check the condition of the front and rear axles and the possible appearance of play.
Replace worn ropes.
Check the clam cleats for wear and replace if necessary.
Check the tires for wear, if the tires are not deformed, and maintain the pressure (2.8 Bars/40 PSI at the front and 3 Bars/45 PSI at the rear).
Check the condition of the windows and especially the velcro: replace them if necessary.

5.3 Electric drive

Refer to the manufacturer's documentation:
https://www.geigerengineering.de/en/avionics/downloads

Check the condition of the electric motor and its fasteners, as well as the propeller shaft.
Turning the motor by hand, check that the propeller shaft and engine rotor are running smoothly.
Check the condition of the controller, clean it if necessary. Check the electrical wiring (friction wear?) and the condition of the connectors.

5.4 Battery

Refer to the manufacturer's documentation:
https://www.geigerengineering.de/en/avionics/downloads

Check the status of the battery attachment system.

Check the condition of the battery connectors. Worn or damaged connectors could create hot spots and prevent the motor from working properly.

Put the battery in winterization if necessary – see details in § 2.1.4.

5.5 Propeller

Refer to the manufacturer's documentation:

https://www.geigerengineering.de/en/avionics/downloads

Check the condition of the propeller and the folding mechanism.

5.6 Parachute

Refer to the manufacturer's documentation:

https://www.galaxysky.cz/manuals-s120-fr

Check the condition of the parachute control line (wear, curvature) between the handle and the rocket.

Check the condition of the line connecting the parachute to the airframe – no trace of wear due to friction.

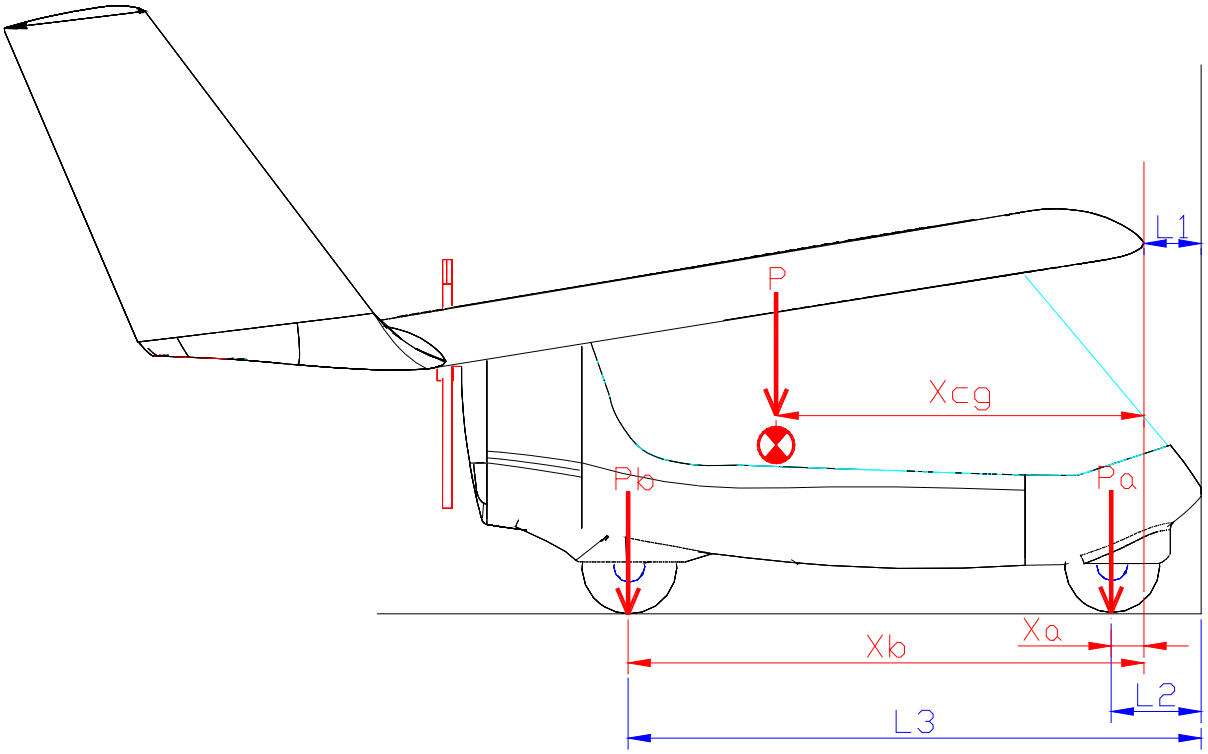
Check the condition of the parachute casing (frictional wear).

Check the condition of the parachute attachments and the direction in which the rocket and parachute are pointing in relation to the intended opening in the fuselage.

A mandatory inspection date is written on the parachute: at the end of the term, return the parachute to the manufacturer in accordance with the precautions for sending the rocket.

See here for details: https://www.galaxysky.cz/manuals-s120-fr

6 Center of gravity Measurement



Xcg Horizontal distance of the center of gravity from the nose of the wing
Pa Weight measured on the scale a
Pb Weight measured on the scale b
P = Pa + Pb = Total weight
Xa Horizontal distance between the nose of the wing and the a point
Xb Horizontal distance between the nose of the wing and the b point

Xcg = (Pa . Xa + Pb . Xb)/P

With
Xa = L2 – L1
Xb = L3 – L1

For the Swift 3:
L1 = 412 mm
L2 = 478 mm
L3 = 2095 mm

=> **Xa** = 478 mm - 412 mm = **66 mm**
Xb = 2095 mm – 412 mm = **1683 mm**

Procedure:

Install 2 scales of identical thickness under the wheels

The center of gravity must be measured with the pilot installed in the aircraft, in the flight position.

The battery, propeller, and windows must be installed.
When weighing, keep the Swift 3 balanced by supporting one of the winglets, then release the device and take the measurement as long as the balance is maintained.

Final formula:

(In case the above dimensions are checked)

Xcg = (Pa . 66 + Pb . 1683) / (Pa+Pb)

The value must be between 1,130 mm and 1,160 mm
Ideal value around 1,150 mm, or a little less if you prefer flying at higher speeds (competition).

The **center of gravity** range is quite narrow and must be respected. The performance and behavior of flying wings are very sensitive to centering.
- Too much aft center of gravity makes the aircraft dangerous, stalls are more difficult to catch and above all the wing can spin much more easily.

- Too far center of gravity significantly reduces performance: the minimum speed increases, the glide ratio decreases, the engine off sink rate deteriorates.

Therefore, avoid modifying the aircraft. Do not carry heavy loads, and do not place loads far from the center of gravity.

7 Checks

7.1 Check after each assembly

This check must also be carried out after destocking

- Go around the right wing starting with the nose
  - ❑ Spar screws: Butterfly nuts and safety rings
  - ❑ Inter-wing connection: 2 clevis pins + safety rings
  - ❑ Condition of the right leading edge
  - ❑ Tiplet attachment (wingtip wheel)
  - ❑ Winglet fairing attachment
  - ❑ Winglet flap control – no interaction with the fairing – condition of the control cable – attachment of the horn (lever).
  - ❑ Wingtip play[1]
  - ❑ Condition of the right elevon – elevon/wing connection joint
  - ❑ Elevon control – safety pin – free movements – positive control of the control linkage [2]

[1] Pressing one wingtip on the ground while lifting the other – a play of several cm is normal – you must monitor its evolution.
[2] Consists of alternately raising and lowering the elevon and checking that the handle moves simultaneously.

- ❑ Status of the right flap
- ❑ Flap control: connection with connecting rod

- Continue along the left wing
  - ❑ Fairing inter-wing – 1/4 turn screw
  - ❑ Left Flap condition – same level as the right Flap
  - ❑ Flap control: connection with connecting rod
  - ❑ Elevon control – safety pin – positive control of the control linkage
  - ❑ Condition of the right elevon – elevon/wing connection sticker
  - ❑ Winglet flap control – no interaction with the fairing – condition of the control cable – attachment of the horn (lever).
  - ❑ Winglet fairing attachment
  - ❑ Tiplet attachment
  - ❑ Condition of the right leading edge

- Electric motor and battery
  - ❑ Propeller play – blade opening/closing.
  - ❑ Motor and propeller shaft attachment
  - ❑ Battery Mounting and Electrical Connections

- Fuselage:
  - ❑ Assembly of the fairing and windows
  - ❑ Stick and connections to the wing – free movement of the stick in all directions – no interaction between the wings and connecting rods.

The handle pulled back raises the 2 elevons – the stick tilted to the left raises the left elevon and lowers the right elevon.

- ❑ Connection of the flaps cables
- ❑ Rudder lines – **check that the right foot operates the right winglet flap!**
- ❑ Tires inflated?
- ❑ Instrumentation – no interaction with the controls – speed sensor.
- ❑ **Parachute handle safety pin.**
- ❑ Brake

7.2 After the first 10 hours of flight

- Flaps and control
  - ❑ Travel
  - ❑ The 2 components are at the same level
  - ❑ Indicator at 0° when flaps are aligned with wingtip karmans
  - ❑ Possible friction of the cables – no premature wear of the cable sheath
- Elevons and controls
  - ❑ Travel
  - ❑ Linkage movement
  - ❑ Stick movement
- Rudder and controls
  - ❑ Travel
  - ❑ No interference with winglet fairings
  - ❑ Possible friction of the cables – no premature wear of the cable sheath
  - ❑ Movement of the rudder pedals
- Airbrakes and controls

    - ❑ Travel
    - ❑ The 2 airbrake flaps are at the same level
    - ❑ Possible friction of the cables – no premature wear of the cable sheath
- Front wheel and controls
    - ❑ Front wheel travel – no tire friction on the body at the 2 stops.
    - ❑ Movement of the rudder pedals
    - ❑ Rim condition, tire and inflation pressure
- Rear wheel and brake
    - ○ État de la jante, du pneu et pression de gonflage
    - ○ Fixation des jambes de train arrière
- Fixation du moteur et de l'arbre d'hélice
    - ❑ Run the motor by hand and check that the rotor and propeller shaft are running smoothly.
    - ❑ Check the spring pins securing the propeller shaft
    - ❑ Check the bolts
- Dust the controller and check its fasteners
- Battery mounts condition
- Tightening of all visible bolts
- Electrical Cables
    - ❑ Check that the cables do not wear out by friction on other parts.
    - ❑ Check each electrical connection
- Foldable Propeller
    - ❑ Check the propeller attachment to the motor shaft
    - ❑ Check the correct opening/closing of the blades
    - ❑ Check the blades play, which should be low and equal for the 2 blades.
- Parachute
    - ❑ Parachute attachment – orientation of the parachute and rocket in relation to the ejection hatch
    - ❑ Parachute control line status: no wear, no too tight radius
    - ❑ Parachute mainline attachment: no rubbing wear
- Hammock condition
    - ❑ No wear on the main straps.
- Condition of window velcro – gluing, hooking
- Condition of Vinyl Finishing Self-Adhesive Tapes

7.3 25-hour checks

This check must be carried out every 25 hours or every 3 months (the first deadline reached).

Same as the control after 10 hours.

7.4 Annual checks

- All the points of the 25-hour control
- Check the metal frames that make up the fuselage structure:
    - ○ Possible deformations
    - ○ Weld conditions
- Check the condition of the wings, winglets, control surfaces:
    - ○ No damage, knocks, deformations, cracks
- Check the condition of the wing connecting spar

  - No damage, knocks, deformations, cracks
  - Condition and absence of play in the sleeves of the spar attachment bolts.
- Check the tension of the flap return elastics: the tension at the wing tip must be between 6 and 8 kg (use a spring balance).
- Check the parachute check deadline

7.5 Checks before each flight

- Tires inflated
- Battery – Charge Level – Temperature
- Instruments – Altimeter Tuned
- Elevation/flap/rudder travel
- Steering wheel movement
- Windows velcros
- Clevis pins and their rings on flaps and elevation control surfaces
- Canopy closed
- Parachute release pin removed.

7.6 Table of Periodic Inspections

Table of periodic inspections					
10 hours	**25 hours**	**Yearly**	**Inspector**	**Date**	**Signature**