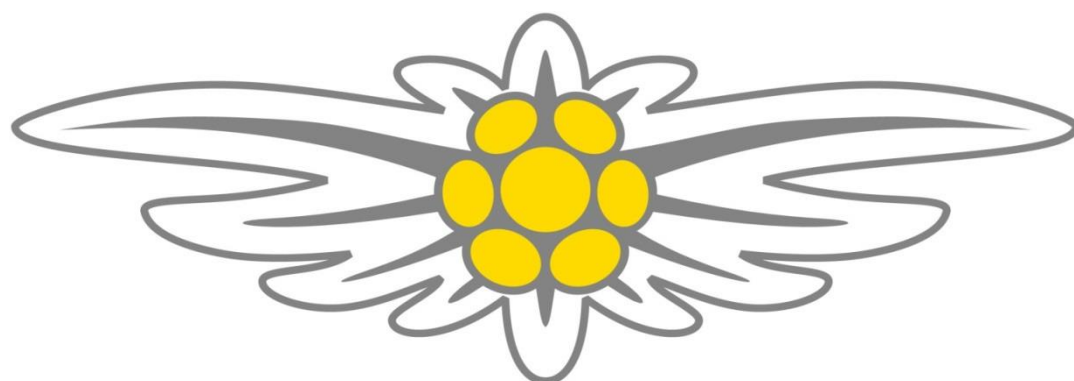


# NIKITA 4

## MANUAL

VERSION 2 / 2014©



ICARO  
PARAGLIDERS



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**Verification of Checks and repairs**

<p style="font-size: 24px; margin: 0;"><b>NIKITA 4</b></p> <p>Serial number: .....</p> <p>ICARO incoming test/ date: .....</p>	<p>.....</p> <p><b>Name/ Stamp</b></p>
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Check (C) Repair (R)	Which repair/ Check?	Performed by/ date
Measured porosity data	Measured data of the lines	Estimated condition optical: technical:

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Congratulations on buying your  
**NIKITA 4**  
and welcome to the family of ICARO - pilots!

**Before you get to know your glider please read the manual, there are any important items.**

- Your **NIKITA 4** is not pattern tested valid using any harness which has been categorized by “GH” and may be only used for those purposes described in this manual.
- ***It is strictly prohibited to use the NIKITA 4***
  - ***under the influence of drugs or alcohol,***
  - ***in insufficient experience or training of pilots,***
  - ***without guilty license,***
  - ***beyond the minimum and maximum recommended Take Off- Weight,***
  - ***with damaged glider, lines, risers or harness and***
  - ***in the rain, in snow, in the clouds and fog and in turbulent weather conditions.***
- Our products are made with great care and state of the art.
- Each glider before it is delivered to the dealer or flight school is checked by ICARO paragliders (incoming test). This date is entered in the identification plate and as well guarantee as the first 2-year-check period starts. The incoming test must also be documented in the manual. Test flights are made only on a random basis.
- On that score an approved ICARO dealer or teacher of the flight school must inflate a new ICARO paraglider in the wind or should carry out the first flight before the wing is handed over to you. This date is entered in the identification plate and as well guarantee as the first 2-year-check period starts. If this seal is missing, it must be assumed that this glider is not identical in construction with the model tested at the specification center.
- The use of this paraglider is entirely at your own risk. Every pilot bears the responsibility of his/her own safety.
- In order to get to know your glider, we recommend that you practice with your glider on the ground. Pulling up in flat gradients is great practice for fine tuning your launch techniques. Here you can get to learn the reactions of your glider without any stress and hectic. Ground practice pays off in the air.
- All technical data and instructions were drawn up with great care. ICARO paragliders cannot be made responsible for any possible errors in this manual.
- Important informations in this manual are written in ***fat cursive writing.***

- Any important changes to this manual will be published in our homepage ([www.icaro-paraqliders.de](http://www.icaro-paraqliders.de)).
- Should you decide to sell this glider at a later date, please pass on this manual to the new owner.
- Each alteration of the glider (lines, canopy, and risers) is dangerous reactions of the glider are not predictable. Your glider will lose its pattern test result and guarantee.
- You can only fly your glider with a valid flying license and in accordance with local rules and regulations.
- The manufacturer or distributor assumes no responsibility for accidents occurring while using it.
- Every pilot must ensure that the glider is properly checked at regular intervals.
- This paraglider is not covered by product liability insurance.
- Many countries have specific regulations or laws regarding paragliding activity. It's your responsibility to know and observe the regulations of the region where you fly.
- Paragliding especially Acro is an extremely demanding sport requiring the highest levels of attention, judgment, maturity, and self-discipline. Due to the inherent risks in flying this or any paraglider.
- No guarantee of any kind can be made against accidents, injury, equipment failure, and/or death. It is assumed that the pilot is in possession of the necessary qualifications and provisions of any relevant laws are observed.
- The use of this paraglider is entirely at your own risk. Every pilot bears the responsibility of his/her own safety. The manufacturer or distributor assumes no responsibility for accidents occurring while using it.
- Do not fly unless you are personally willing to assume all risks inherent in the sport of paragliding and all responsibility for any property damage, injury, or death, which may result from use of this paraglider.

**Environmental aspects:**

The materials of which a paraglider is made require a special waste disposal. So please send disused gliders back to us. We will care about a professional waste disposal without costing for you.

Please do our nature-near sport in a way which does not stress nature and environment!

Please do not walk beside the marked ways, do not leave your litter, do not make unnecessary loud noises and respect the sensitive balance in the mountains.

**Especially at the launch site consideration is needed!**

**Gliders and Harnesses**  
 those are used for training purposes,  
 aerobatic or other official  
 competitions,  
 are excluded from a guarantee.

### To get to know your **NIKITA 4**

Allowed for training		no				
Allowed for towing		yes				
Certified / allowed for flying with passengers		no				
Certified / allowed for flying with motor drive		no				
Certified / allowed for aerobatics		no / yes				
		<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>22</b>
Wing Area flat	m <sup>2</sup>	16,2	17,3	18,3	19,3	22,3
Wing Area projected	m <sup>2</sup>	13,7	14,6	15,5	16,3	18,8
Wing Span flat	m	9,6	9,9	10,2	10,5	11,3
Wing Span projected	m	8,1	8,4	8,6	8,9	9,5
Aspect Ratio		5,7	5,7	5,7	5,7	5,7
Aspect Ratio projected		4,8	4,8	4,8	4,8	4,8
Take Off Weight minimum	kg	50	65	70	80	90
Take Off Weight maximum	kg	70	85	100	110	125
Number of cells		57	57	57	57	57

### **Canopy**

**NIKITA 4** has different colors of the canvas NCV Porcher Marine 9017 E85A, E77A and D70 are being properly implemented. Various coatings provide for a reduction in air permeability, increase the UV-resistance and reduce the weight. The design and materials of the new **NIKITA 4** were adapted to the stress in Infinity Tumbling.

***The NIKITA 4 has no seal of quality, the cap was only undergoing a load test.***

## ***Lines***

The lines of **NIKITA 4** been dimensioned so that the maximum resistance is ensured at all dynamic maneuvers. All lines were hung and sewn with precision. The end control of all line lengths is documented for all paragliders produced by ICARO paragliders.

## ***Risers***

The risers of **NIKITA 4** been developed for the special needs of acro flying. On the risers there is an additional line lock and a small tool to schange the line locks on A and D level.

## **Flying with the NIKITA 4**

---

We recommend that all talented **NIKITA 4** acro pilots who have already gained enough experience in all extremely maneuvers with small screens.

Despite the great inherent stability of the **NIKITA 4** needed during the execution of maneuvers with delicate little hands.

Depending on the surface load maneuvers are falling out with different dynamics.

The loss of altitude while flying maneuvers varies with the surface load. The greater the surface area exposed, the more height loss, and violent reactions from collapses and application can be the result.

The line geometry has been changed so that the largest possible tension spread the risers to keep the Mc Twist and the Twist maneuvers similar risk as low as possible.

The **NIKITA 4** inspire of the high stability is not an acro glider for freestylers and acro-newbies it has been opened for professionals.

The weight given in the data sheet recommendations will help the pilot to find an optimal mix of dynamism and safety.

We recommend flying with an Acro harness. These seat belts are adapted to high loads during the flight. Also own Acro harness place for two second chances for double security.

Despite the small air intake openings, the glider starts very good.

The **NIKITA 4** s also suitable for wind drag.

The control paths are kept short so that all maneuvers, except for the Mc-Twist, can be flown without winded steering lines.

In **NIKITA 4** the stable point lies approximately on karabiner height. At full stall, for example, the hands should only be to slightly brought under the stall point. In the stable hands should never be entirely stretched. Despite the great inherent stability of the **NIKITA 4** requires a delicate hand. Covers and folds will be responded with intense shooting and fast turning away.

***We recommend flying aerobatic only exert a sufficient amount. With a life vest, it is the surest way to make friends with the flight characteristics of NIKITA 4.***

***Check the glider for wear after each aerobatics. When you fold up the canopy (cell to cell) you also should visually inspect the loops and the stitching on the leading edge. The lines should be regularly checked when packing.***

Despite the high wing loading can thermal flying with **NIKITA 4** be fun. The art is to keep the wing flat as possible, but still fly very tight radii. Suffice it a slight weight shift to the inside of the curve.

Who is not pressed when turning the outer brake, will find themselves in a spiral dive. Only about the outer brake the wing is prevented from drilling in the deep. Who controls this technology can do in good conditions, long thermal flights.

### **Flying with weight shift and brake**

To fly in Acro a nice long program will require precisely control impulses. "Less is more" is the motto for a well-designed wing loading from 5.3 kilograms per square meter surface. Thus, the **NIKITA 4** reacts to every little impulse control. It is sufficient to exert gentle pressure to the thigh on the seat.

Also during the maneuvers should be a more "neutral" posture lead to the best of success. To initiate a dynamic satellite maneuvers meet short and harmonious control deflections.

### **Acro in thermals**

In moving air the behavior of the cap is unpredictable. Already the firing behavior of a full stall-Exit at the entrance of a thermal cannot be predicted. Depending on where the cap currently experiencing an updraft, a downdraft or wind shears, the start-up to be completely different.

If you at the end of a beard, you should be able to fly at least 15 seconds straight without being caught by the next turbulence. In this "quiet" air package you can already start with a maneuver.

***In general, you are discouraged from aerobatics in turbulent air.***

### **Acceleration**

At the maximum load reached in the fully accelerated **NIKITA 4** state more than 60 km / h. In turbulent conditions, the speed system should be used selectively and with feeling.

***It makes absolutely no sense - it is even dangerous - at the same time speed and braking. Due to a lower angle of attack in accelerated flight, the front part of the wing becomes more sensitive to turbulence. By simultaneously braking is now shifting the lift in the rear of the wing and the front part of the wing unnecessary burden.***

### **Landing**

The **NIKITA 4** flair can be wonderful. However, for a small Acro glider always pay attention to the higher trim speed. Due to the short way to control **NIKITA 4** can be brought very quickly into the stall. This is avoided through reason.

***If you leave the inflated leading edge bang on the ground, this can cause the cell walls to burst! Please always keep check on other pilots in the air so that you can avoid a collision.***



## Descent Techniques

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***Training of descent techniques, simulation of flight incidents (SFI) and aerobic training should only take place at professional training seminars with professional trainer and only while flying over water.***

### **Big & Small Ears**

The **NIKITA 4** has very stable wingtips. The ears open automatically after creation. ***The pitch angle of your paragliders is increased using small and big ears, the brake path is shortened and the risk of inducing a deep stall is high. Using acceleration system during this maneuver helps reduce these negative risks.***

***Never attempt tight turns or spirals with Big Ears, as the A-lines will be over stressed.***

### **B-Line-Stall**

It is common knowledge that to enter and hold a B-line-stall requires considerable strength. Entering a B-line-stall in strong upward air movements may not be possible for weaker pilots, even with gliders equipped with easy enter B-line-stall aids.

Entering a B-line-stall can also be damaging to the canopy material because of the strain on certain points of the material. This is mentioned in several other user manuals.

***It is very dangerous to exit a B-line-stall incorrectly and following errors must be avoided:***

- ***Exit is too slow***
- ***Releasing the B-line-stall aid without simultaneously pushing up with your hands***
- ***Using brakes during or directly after exiting***
- ***Pulling too far on the B-line-stall aid, so that the A-lines are pulled too***
- ***Brakes must not be shortened by twisting around your hand during the exercise.***

### **Spiral Dive**

The most effective way to reduce the amount is the spiral dive. It is enough to cap with a moderate shift on inside brake and easier to bring the spiral. Thereby the sink rates can be longer than 20 m/s. Disclaimer:

***The NIKITA 4 remains in the stable spiral position until the pilot active ends it with the outer brake.***

## What happens when it happens?

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***The cautious to new aerobatic maneuvers is dangerous. Such flights should only take place over water with life jackets and waiting lifeboat.***

### **Knots and cravats**

The best way to avoid knots and tangles is to inspect the lines before you inflate the wing for take-off. If you notice a knot before takeoff, immediately stop running and do not take-off. If you have taken-off with a knot you will have to correct the drift by leaning on the opposite side of the knot and gently apply the brake line on that side too. You can gently try to pull on the brake line to see if the knot becomes

unfastened or try to identify the line with the knot in it. Try to pull the identified line to see if the knot releases.

A cravat matters on a flight failure during a maneuver or after a botched D-bag activation. The **NIKITA 4** turns off very quickly, and can be stabilized with the outer brake only with much feeling.

There are a few ways to try to rectify this situation:

- Try pumping on the side of the cravat
- Pull the stabilo line (the outermost B-line)
- Actively collapse the cravat side and release
- If all else fails, attempt a full stall – only if sufficient altitude remains.

***If you have exhausted all these options, you are uncertain how to proceed and you do not have control over your glider and you are running out of altitude, immediately deploy your reserve parachute.***

### **Deep/Parachute Stall**

Avoid flying in very humid air or in rain. A wet canopy may have very unpredictable flying characteristics, one of which is a radically increased risk of deep stall!

The brake line travel becomes very short and even small input may suddenly induce an airflow separation; in some cases even a gust or a sudden thermal may change the angle of incidence enough to cause the deep stall.

***If you find yourself flying in unavoidable rain we strongly recommend that you avoid any sudden movements or radical brake line input, that you do not pull Big Ears or B-Line-Stall, and that you steer clear of turbulence and avoid a deep flare on landing.***

### **Emergency Steering**

Should it no longer be possible to steer your **NIKITA 4**, for example due to a broken line, the glider may be steered by gently pulling on either back riser.

***Handling will be more direct so being careful not to pull too hard. A good way to get practice is during ground handling.***

## **Care instructions, repairs, inspection**

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### **Care Instructions**

- Even with good care and maintenance, just like any item exposed to the elements, your glider can wear out after a certain amount of use. This can change flight behavior and safety. We recommend a regular safety inspection of the canopy and all lines.
- If you clean your glider it is best to use warm water and a soft sponge.
- Store your glider in a dry and dark place, ideally between 5° and 30° Celsius and a humidity between 55 and 65%. Do not store it near chemicals or petrol.
- If you will not fly for longer period, store the glider releasing all compression straps and take it out of its backpack so that the fabric is not compressed, creased or stretched.
- Avoid storing your glider for days at a time in a hot car.
- Unpack your paraglider shortly before launch and pack away immediately after landing to avoid any unnecessary UV exposure.

- When unfolding the paraglider insure that neither the canopy nor the lines become too dirty. Dirt particles can damage the material and lines.
- Never use chemical cleaning agents, brushes or hard sponges on the material, as these destroy the coating and affect the strength. Also avoid dipping it in a swimming pool; the chlorine will damage the cloth.. The canopy will become porous and will lose structural strength.
- Never attempt to clean your paraglider in a washing machine. Even without using detergents the simple mechanical abrasion will quickly finish the canopy and render it useless.
- If you are flying near the sea most the wing may age faster because the air is humid and salty. In this case we suggest you have it checked more often than prescribed in this manual.
- If you must rinse or clean your glider do so with fresh water. Frequent cleaning will accelerate the ageing process.
- If the glider has become wet, lay it out so that air can get to all areas of the fabric.
- After landings in trees or on water you should check the length of the lines.
- Always make sure that your intended logo will not in any way influence the glider behavior. If in doubt we suggest avoiding the attachment of advertising logos on the wing. ICARO paragliders cannot be held responsible for any mishaps caused by intentional after sales changes done to the wing.
- The **NIKITA 4** is a very strong paraglider. Flying all the descent exercise will not normally pose a structural problem but aerobatic training does accelerate the ageing process dramatically.
- There is no special method packing your glider. ICARO paragliders commends the "Cell to Cell-method bag because the reinforcements of the leading edge stay flex-free on top of each other and do not fold.

***When you did not fly for a longer period ICARO commends to check the glider (e.g. mildew stains, splice of the lines, corrosion of the shackles and carbines).***

***If you are not convinced of the gliders airworthiness please send your glider to an authorized ICARO dealer to check your glider. The same is commended for harnesses.***

## **Repairs**

***Only use original ICARO parts for repairing your glider. If you don't you lose the guarantees for your glider.***

Small holes in the canopy (max. 20x20 mm) can be repaired by the pilot by using self-adhesive sailcloth on both sides of the perforation.

Damage to the lines or any other repairs should only be carried out at an authorized ICARO center. If the glider needs to be repaired, please contact your local ICARO paragliders dealer.

## **Trimming**

After about 1000 flown Tumbling-overs are certain lines very slowly. This becomes noticeable when the train no longer in Tumble is the same as it was in the beginning. Another indication of a line extension is the tentative start in the helicopter.

To restore the normal flight characteristics again, lines have to be reduced.

### ***Nikita Tuning***

#### **Smoothy:**

The new **NIKITA 4** is delivered in the Smoothy trim. **The NIKITA 4** is equipped with a larger shackle on the A-level.

With this setting, **NIKITA 4** has a large stall window, which allows the pilot more time at Helicopter reconciliations. In general, the performance can be referred to as moderate.

#### **Competition:**

Theo de Blick und Xandi Meschuh fly **NIKITA 4** with Competition Trim.

Change the larger shackle on the A-level by the smaller which is attached to the risers too. Very fast Helicopter transitions are possible.

***„Competition“ Trim should only be used by professionals !***

#### **Shooting star:**

The **NIKITA 4** leaves free all their energy when the big shackle is mounted on the D level.

***This trim also should only be used by professionals!***

Only when **NIKITA 4** is extended on the A and B level by more than 1000 Infinities, the large shackle can be mounted on the D-level.

#### **Repairs**

Small holes in the canopy can be repaired by the pilot by using self-adhesive sailcloth on both sides of the perforation. Damage to the lines or any other repairs should only be carried out at an authorized ICARO center.

If your **NIKITA 4** needs to be repaired, please contact your local ICARO Paragliders dealer.

#### **Inspection**

Your **NIKITA 4** has no label, so they must also not require to inspection but it is very important to check the glider, too. Below you find the regulations for checks of certified gliders.

Team ICARO thank you for your trust in our products.

Should you have any questions, ideas or criticisms,  
please contact us.

This paraglider has been developed and produced by modern technology and will give you years of pleasurable and unforgettable flight experiences.



## **Annex**

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### **User´s needs for Inspections**

You will need the following items in order to perform a paraglider inspection:

- Standardized inspection report
- Porosity meter
- Spring scale
- Equipment for measuring line lengths
- Equipment for line strength testing
- Sewing machine
- Big, clean and bright room

Technical specifications about your glider (type, serial number, size and year of production). Please call ICARO paragliders for information.

A three week course at ICARO paragliders, specified to a glider type together with a legal flight license is the necessary prerequisites for permission to inspect ICARO paragliders.

### **Inspection Instructions**

#### **Record Information**

Spread out your paraglider in a big bright room and make a note of information such as model, type and serial number.

#### **Porosity Test**

Use your porosity meter to perform porosity checks at 4 different places of the canopy. The results are recorded in the inspection protocol and are to be evaluated according to the internal guidelines of the workshop.

#### **Visual Control of the Canopy**

Hang up the canopy so that you can do a visual check of your canopy. Check for perforations in the upper and lower sailcloth, damaged stitching between the cells, and damage to the leading/trailing edge reinforcements. Each cell must be checked.

#### **Visual Control of the Risers and Lines**

Check the risers, the trimmers, the stitching at each line loop, the brake lines, all seams and line contact points. Each line must be measured and inspected for kinks.

#### **Strength test of the lines**

One complete A-and B- line must be removed, measured and submitted to a strength test. The measured value of each individual line must be noted in the inspection protocol. The minimum of the lines strength are 125% of the normative guidelines.

#### **Measurement of the lines**

Measure every single line while stressing it with defined tractive force (5daN). Compare with the line plan. The lines must be measured between fixing point on the line lock and fixing point on the line loop.

### **Assessment**

The measurements of all procedures are noted in the inspection protocol. When all facts have been recorded, the technician must make a general assessment.

Check the backpack for damage to the zips, seams and straps and repair if necessary with a sewing machine.

### **General Remarks**

Any other repairs, corrections etc. to the general condition of the paraglider must be evaluated. A copy of the results of each inspection must be sent on to ICARO paragliders.

The technician must report any unusual faults to ICARO paragliders within 3 days.

### **Inspection Reference**

Only an authorized technician who has been trained by ICARO paragliders is authorized to sign and date the glider type label and sign the manual.

## Dispatch protocol/ Delivery content

Piece check complete	<input type="checkbox"/>
Inner bag	<input type="checkbox"/>
Compression band	<input type="checkbox"/>
Risers bag	<input type="checkbox"/>
Outer rucksack	<input type="checkbox"/>
Manual	<input type="checkbox"/>
Repair set	<input type="checkbox"/>
Gift	<input type="checkbox"/>
Sticker	<input type="checkbox"/>

.....

Date

.....

Signature