



MANUAL

OXYGEN

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Manual

ICARO „**OXYGEN**“, LTF 1/ EN 926-2: A

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This manual was submitted to the German Hang gliding Association (DHV).

All technical data and instructions in this manual were drawn up with great care.

The company Fly & more Handels GmbH, ICARO Paragliders cannot be made responsible for any possible errors in this manual.

Any important changes to this manual will be published in „DHV INFO“, which is the official magazine of the DHV.

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

„Walk and Fly“ – the new trend. Therefore we made this paraglider for people who climbs up mountains and fly back to the starting point.

This paraglider was produced with great care so that you can enjoy many flights.

In order for you to feel comfortable with your paraglider right from the start, we recommend that you read this manual. Apart from flight information, this manual also contains important safety instructions. You must get to know your paraglider well.

This manual also contains important care and operating instructions which are vital for your safety and preservation of your paraglider.

Should you decide to sell this paraglider at a later date, please pass on this manual to the new owner.

IMPORTANT INSTRUCTIONS FOR USING AN ICARO PARAGLIDER

- THE USE OF THIS PARAGLIDER IS ENTIRELY AT YOUR OWN RISK. EVERY PILOT BEARS THE RESPONSIBILITY OF HIS/HER OWN SAFETY.
- EVERY PILOT MUST DO A THOROUGH PRE FLIGHT CHECK BEFORE EVERY FLIGHT AND MUST ENSURE THAT THE PARAGLIDER IS PROPERLY CHECKED AT REGULAR INTERVALS.
- THIS PARAGLIDER HAS BEEN CERTIFIED AND BUILT IN COMPLIANCE WITH DHV RULES AND REGULATIONS.
- DO NOT CHANGE THE CONFIGURATION OF YOUR GLIDER. IF YOU DO, YOU WILL LOSE YOUR DHV CERTIFICATION.
- EVERY PILOT IS RESPONSIBLE FOR THE SAFE OPERATING CONDITION OF HIS/HER PARAGLIDER!
- IT IS A PREREQUISITE THAT EACH PILOT IS IN POSSESSION OF A VALID PILOTS LICENCE.
- THE MANUFACTURER WILL NOT ACCEPT ANY CLAIMS!

IT IS STRICTLY PROHIBITED TO FLY THE *OXYGEN*

- WITH INSIGNIFICANT TRAINING AND EXPERIENCE OF THE PILOT
- OUTSIDE THE DHV SPECIFIED WEIGHT RANGE
- IN RAIN, SNOWFALL, CLOUDS OR FOG
- IN TURBULENT WEATHER CONDITIONS
- WITH ROLL ANGLES EXCEEDING 90°
- ACROBATICS ARE HIGHLY DANGEROUS AND THEREFORE NOT PERMITTED

I. Your **OXYGEN**

Characteristics of OXYGEN

The new trend “walk and fly” and innovation of the new glider-generation are collected in the **OXYGEN**. It was to create a glider for mountaineers that would be resistant in all conditions while still providing an agile and easy handling.

We designed it to meet the highest expectations of pilots who want a lightweight glider and experienced teachers who want an optimum for their pupil’s first steps without leaving the safety of the DHV1 class. Handling of the **OXYGEN** is direct, easy and well balanced.

The cleverly designed line gallery gives the **OXYGEN** a line layout, which ensures stability and excellent flight characteristics. The use of extensive internal v-ribs makes the canopy more stable, especially in turbulence, and maintains a cleaner, more tensioned, wing profile. This also causes the load to be distributed more uniformly throughout the glider, allowing for a reduced number of line attachment points. The canopy is only connected to lines at every second cell. Less lines lead to less drag and an increase in glide performance.

Brake lines are attached in such a way in order to combine good handling with minimum pressure on the brakes without tending towards negative spin. **OXYGEN** compensates any over reaction from the pilot.

Special risers, lines and canopy material have made it possible for us to reduce the weight to under 4 kg.

OXYGEN is suitable for training.

Warning: *ICARO Paragliders would like to point out that the life expectancy of the glider may be drastically reduced, due to the much thinner sail material and the mechanic strain it is exposed to.*

Technical Data

OXYGEN		S	M
Wing Area Flat	m ²	25,40	28,14
Wing Area Projected	m ²	21,46	23,77
Wing Span Flat	m	11,02	11,60
Wing Span Projected	m	9,31	9,80
Aspect Ratio	A/R	4.78	4.78
Aspect Ratio	A/R	4.04	4.04
Cells		38	38
Take Off Weight	kg	65-90	85-105
Risers		4+1	4+1
Weight	kg	3,9	4,2
Certification	LTF	1	1

Canopy

Dacron high quality Skyte 27 g NCV Porcher Marine is used for the **Oxygen** in different colours. Selected for its durability and resistance to UV-damage and it also reduces weight.

Line Material

To ensure durability, we use Liros Dynema and Edelrid Technora with HMA core (High Molecular Aramid) and a PE covering for the other lines. Depending on the line level, we use different line diameters.

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

OXYGEN has 4 fold risers with acceleration system, Big and Small Ears are made easier by the separation of the A-risers. Simple launch behaviour, B-Stall, steering with the D-risers and an optimal geometry for accelerated flight were important aspects in the development of these risers.

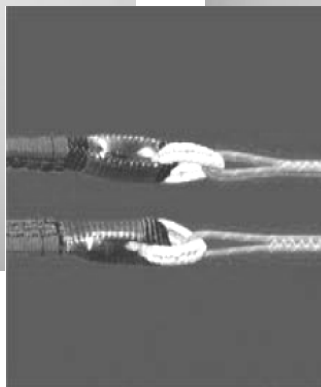
We use 10 mm Kevlar with PE covering for protection (Race-Risers) and Maillon Rapide oval, 3,5 cm optional softlinks.



Risers not accelerated



Risers accelerated



Softlinks

Acceleration system

When you use the accelerator, the D-risers remain unchanged the C-, B and A-level aero design related under the D-level at full acceleration.

This decreases the angle of attack of the whole glider and increases speed.

How to mount the acceleration system at the harness

Put the ropes which are attached at the foot bar through the rings at the front right and left of the harness from the outside and then through the eyelets on the side.

Afterwards put the ropes which are now running inside the harness through the pulley which can be found at the left and right of the sitting board.

The ropes which have been put through the eyelets and the pulley need to be bypassed on the outside along the harness bands and fastened with the brummel hook.

Adjust the length of the rope in this way that both legs are straightened completely when flying maximum speed (both pulley of the risers are laying on top of each other).

Attention: Please pay attention that the glider will not be pre-accelerated, while the accelerator is loosened, when the acceleration ropes are set too short.

At the start we advice to fix the accelerator with the Velcro which is attached at the front of the sitting board, in order to avoid tripping while pulling up the glider or when starting up.

Attention: The description refers to the rope characteristics of an ICARO harness. When using a different harness the application can be different.

If you have any problem or queries to the assembly please contact your flight school or get in touch with ICARO Paragliders directly.

Functionality

Before starting the brummel hook (foot accelerator-glider-riser) are stuck together.

When flying normal all risers have the same length. When using the accelerator system the risers A, B and C are shortened by a constructive exactly defined length and therefore the angle of attack of the canopy is smaller. The length of the D-riser however is not changed.

This causes a reduction of the angle of attack of the whole glider and results to an increase of speed.

Certification

Following our philosophy to only build gliders with the highest safety, we design our gliders to meet DHV strict and robust regulations.

OXYGEN DHV certification is valid using any harness which has been categorized by the DHV "GH". Harnesses with the category "GX" and other special single purpose harnesses are not recommended because of the cross-braced strapping which detracts from the ability to steer by weight shifting.

To find out which class of harness your harness belongs to, check the certification sticker or ask the manufacturer. A list of all harnesses certified by the DHV is available from the DHV.

II. FLIGHT TIPS

Pre Flight Check & Flight Preparation

It is important to perform a pre flight check before taking off. Please give the following points your special attention:

- Whilst unfolding your paraglider check the canopy and cell walls for damage. Always take into consideration that the paraglider may have become damaged during transportation.
- Check the lines for knots, twisting and damage. Also check the brake lines for knots and kinks. Check the main brake lines. They must be symmetric.

Warning: The correct length of the main brake line must not be altered.

- Check your harness and make sure that all connections to pilot are correctly closed. Check that all karabiners are closed and can not be opened accidentally in flight and that the risers are not twisted.
- Please ensure that you are wearing gear which offers optimal comfort and protection (helmet with chin protection, boots, gloves and an overall).

After that lay your glider in an arc form and observe the following points:

- When you pull on the A-risers, the lines in the middle of the wing should be under tension before the lines on the wing ends. This ensures an even easier start.
- Separate the line groups carefully and bring the risers in order.
- All lines must run freely from harness to canopy. It is equally important that the lines are unhindered and cannot get caught up during the launch. If the risers are not twisted, the brake lines run freely through the roll on the D-riser to the back of the canopy.
- It is also important that no line is under the canopy. A cravat during the launch can be extremely dangerous.

Launch

The most important thing during the take-off is, like at all other gliders too, not the force but the constancy of the pull.

Hold the A- risers but not the baby- risers (they are for small and big ears) and the handles of the brakes..Use progressive pressure on the A-risers and the energy of your own body weight until the wing is fully inflated overhead.

The canopy of the **OXYGEN** is inflated quickly. Hold you arms out and up as an extension of the A-lines. When there is no pull from the lines and the wing is overhead, use slight pressure on the brake. Look up and make sure that the

canopy is fully inflated. After a few accelerating steps and at the same time let go of the brakes gently, you will take off. Then use slight pressure again on the brakes to fly at a speed with minimal sink.

Turning

A combined steering technique (weight shift and pulling the brake line on the inside of the curve) is suitable for every situation. The **OXYGEN** is agile and reacts to steering impulses quickly and directly. Strong, one sided pulling of the brakes brings the **OXYGEN** into an obvious side angle and the glider flies fast steep curves until spiral dive begins.

Landing

The **OXYGEN** is very easy to land. Always stand up in the harness in the landing position very early in order to be able to react as fast as possible to sudden events. Give yourself plenty of options and a safe margin of error. Set up your final landing leg to face into the wind to minimize groundspeed.

Once below 25 m and on final landing approach, the glider should be allowed to fly at trim speed by going "hands up" with the brakes. This allows more energy to be converted into a full flare. Then, 2 m above the ground, both brakes are applied smoothly and forcefully to full arm extension, below the seat of the harness, resulting in a full flare and reduced speed on landing. In stronger winds, the flare can be reduced or eliminated to prevent being blown back when landing.

Warning: 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.

Acceleration (with speed system)

The length of the accelerator is adjusted to the left and right of the foot pedal so that when your leg is fully extended, then the acceleration is at maximum – both rollers are touching.

Before using an acceleration system you must ensure that it is attached properly and that the speed system and harness are adjusted to each other for best performance. For the majority of your flight you will not use the accelerator. For better penetration in headwinds you can fly faster by using the accelerator system. When you want to descend quickly and the ears have been folded in, push down on the foot accelerator.

The flight stability of the **OXYGEN** remains intact at increased speed because of the adapted geometry of the acceleration system.

Flying with an integrated acceleration system should be used in proper doses. The more turbulent the weather conditions and when near the ground, the less acceleration should be used. Using the accelerator decreases the angle of attack and can make the glider more prone to collapse.

Therefore excessive use of the accelerator near the ground should be avoided. The increase in speed using an acceleration system is considerable and should not be underestimated.

Warning: *Do not use the acceleration system and brakes at the same time! It is very dangerous to use both simultaneously as it can result in serious collapses.*

Towing

Generally the **Oxygen** is also allowed for towing but ICARO- Paragliders doesn't recommend it. The material for the canopy is a lightweight- material and therefore the carrying capacity is not the same like a canopy of a normal glider. It could be possible that it has a bad influence on aerodynamic effects.

Ground Training

In order to get to know your **OXYGEN**, we recommend that you practise with your glider on the ground. Pulling up in flat gradients is great practise for fine tuning your launch techniques. Here you can get to learn the reactions of your glider without any stress and hectic. Ground practise pays off in the air.

Thermals and flying in turbulences, "active flying"

We advise you to apply the brakes at all times whilst flying in turbulences. You hereby increase the opening angle and the wing is more stable. At the same time the pilot has a better feeling for the canopy via the brakes.

When the pressure on the brakes decreases, then pull down more on the brakes for a short moment to avoid a possible collapse. According to the strength and length of turbulences this can be more than 100% of the brake path for a short time. Under normal conditions, with 100% of the brake path is the point where deep stall begins.

When flying into strong thermals please pay attention that the canopy does not remain behind the pilot. This is avoided by releasing the brakes when entering an up-wind to increase speed. Vice versa the glider must be slowed down with the brakes if the canopy falls before the pilot when entering a down-wind or exiting a thermal. We recommend increasing speed when crossing a downwind or during headwind.

This type of flight technique is called "active flying". The pilot may roll his body with weight shift to move with the glider when the glider rolls to the right or left. These subtle adjustments keep the glider flying smoothly.

III. Descent Techniques

Warning: *Training of descent technics and simulation of flight incidents (SFI) should only take place at professional safety training seminars with professional trainer and only while flying over water.*

Use the manoeuvres Small/ Big ears with the acceleration system, B-line-stall and spiral dive as ways of descending.

Big & Small Ears

The aim of this manoeuvre is to descend in strong thermals.

Take the outer A-risers of the **OXYGEN** in your hand, without releasing the brakes and pull down leaving it run through your hands (use gloves!). Sink rate increases to 5m/ sec but not the forward speed. If you use the acceleration system then sink speeds of 5m/ sec can be achieved. Reopen the wing by pushing up with your hands and if necessary then pump the brakes with short symmetric movements. For directional control while using the big ears, you should use weight shift.

Before landing, release the pulled down A-risers to achieve normal sink speed for a gentle landing. Just like in the C-line-stall manoeuvre, keep the brakes in your hand. In this way, it is possible to fold in up to two thirds of the leading edge.

Warning: The pitch angle of your paraglider 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 manoeuvre helps reduce these negative risks.

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.

Spiral Dive

This manoeuvre is only for experienced pilots. To initiate a spiral dive, look in the direction you want to go, roll your body weight in that direction and at the same time smoothly pull down on the inside brake.

The **OXYGEN** will start to turn, speed up and then drop into a spiral. To keep the wing under control you must pull and release the inside brake. Safe decent rates of 7-9 m/ sec are possible. Please ensure that you have enough distance to the ground to exit the spiral dive.

Please exit slowly. Bring your body weight back to a neutral position and as soon as the wing levels out, apply the brakes gently. This procedure should be done slowly and will take a couple of turns to complete.

The **OXYGEN** does not have a tendency for stable spiral dive. If under certain conditions, it should go into a stable spiral dive then actively exit the manoeuvre by bringing your weight into a neutral position, release the brakes of the inner curve side and brake gently on the outer curve side until you notice that the wing starts to level out. Then gently brake on the inside curve for several turns until normal flights returns.

Warning: *If you pull abruptly and too far on the brakes, the canopy may enter a negative spin. When entering a spiral dive keep the brake on the outer curve released.*

IV. Flight Incidents

Deep / Parachute Stall

Your **OXYGEN** has been carefully designed to resist entering deep stall. If you pull strongly on the rear risers the **OXYGEN** normally ends a deep stall independently when you release the rear risers. Before exiting a deep stall please ensure that the brakes are fully released. Actively exit the deep stall by reaching up and push forward with both palms on both A-risers or pull on the risers.

Asymmetric Collapse

While flying in turbulent conditions it may occur that a portion of your glider deflates. This is normally not a critical situation and re-inflation occurs quickly without any input from the pilot. However, just like in flying in turbulences, please pull gently on both brakes. Re-inflation is speeded up by counteracting the turning movement of the canopy until normal forward flight return. Then pump the brake line on the collapsed side.

Symmetric Collapse

A glider may collapse symmetrically when flying through sudden down draughts in a front stall or by pulling strongly on the A-risers. The leading edge collapses abruptly along the whole wing span. The pendulum movement is eased by applying the brakes and speeds up re-inflation.

Your **OXYGEN** normally re-inflates promptly in a symmetric collapse without pilot input. Applying the brakes symmetrically will speed things up.

Cravat

This never occurred during any of our test flights. However, it could happen in rare circumstances that a part of the glider, particularly a wing tip, gets caught in its own lines (e.g. in extreme turbulences or an error in the visual line check of the canopy before take-off. Large cravats result mainly in uncontrollable spiral dives. 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.

Warning: *Freeing a cravat may be complicated, even for an experienced pilot. 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.*

Emergency Steering

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

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

Negative Spin

A negative spin should not happen in normal flight. However, spins are often performed in SFI training to experience the gliders limits and so that pilots have a better understanding of the safe range of brake use.

If the pilot abruptly applies full brake to one side of the glider while the other side is at zero brake, the faster side may fly around the braked and stalled side resulting in a spin. Alternatively, if flying very slowly with almost full brakes on both sides, if one hand releases one brake suddenly, while the other continues with full brake, the glider may enter a negative spin.

To exit a spin with your **OXYGEN** just do “hands up” to release the brakes and the glider will return to normal flight.

Warning: *If you do not have control over your glider and you are running out of altitude, immediately deploy your reserve parachute.*

Full Stall

To initiate a full stable stall, apply both brakes to maximum arm extension. If possible grasp the seat of your harness to assist keeping your arms locked.

Do not –under any circumstances- release at this point. The glider will slow down and stall, falling quickly behind the pilot. Avoid the urge to release. The pilot will swing back under the canopy and finally the canopy will stabilize to a full stall.

Once in a stable stall, the manoeuvre can be completed. Release the brakes just a little and let the glider fill until it regains shape. Then release the brakes fully and your **OXYGEN** will return to normal flight.

Warning: *It is imperative that the pilot fully completes this manoeuvre and holds on, as a premature release while the glider is still falling back may cause the glider to rapidly dive ahead past the pilot. There is a possibility of the pilot landing in or entangling in the glider.*

V. Service, Repairs and Maintenance

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 behaviour and safety. We recommend a regular safety inspection of the canopy and all lines.

- If you wish to 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. 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.
- If the glider has become wet, lay it out so that air can get to all areas of the fabric.

Warning: *It may take several days for your glider to dry out completely especially the lines, which take longer than the fabric. Do not fold and store your glider prematurely if it not completely dry. The performance of a wet glider can change significantly.*

How to pack your glider

- The glider should be laid out neatly, the lines sorted, the risers stowed away either at the trailing edge or at the leading edge. The pilot stands at the leading edge by the outspread glider and a helper at the trailing edge.
- Both start on the inner side and putting one lane onto the next pulling the end of the glider more and more to the middle. Like this the reinforcements can be put on top of each other without being flexed.
- The same is done on the opposite side. Like this only two lane wide packages are left.
- These are being folded on top of each other and beginning at the trailing edge during simultaneous pressing to get rid of any air. The first fold over of the package should be between 30cm and 50cm. This way the material of the lower- and upper sail will not be stressed at the same area.

ICARO Paragliders recommend not rolling in the glider material since different strains apply to the material. Through folding this can be avoided.

- The last fold is carried out at the side of the leading edge. This is wrapped in direction of the trailing edge and packed between the part which has been folded before. Please pay attention that the reinforcements aren't flexed.
- The compression band is being attached to the glider package crossways to the folding direction and fastened only to hold the glider gently.
- Afterwards put the package into the glider bag....ready!

In order to pack your glider in the same way as above without a helper there are two possibilities:

1. Lay out your glider neatly, sort your lines and stow away your risers either at the trailing edge or at the leading edge. You begin at the trailing edge and fold these together. Like this the glider lays fan-shaped in front of you. Now you put the leading edge on top without flexing it and carry on folding the glider, as described above.

2. You use an ICARO fast packing bag (available online in our shop).

The fast packing bag has many advantages – not only folding your glider without any help.

- Even at strong winds the glider can easily be handled since the canopy does not need to be spread out for folding.
- The glider is lying during the procedure on the material of the packing bag therefore it is shielded from stones, plants and humidity of the ground.
- Through the fixation in the front part of the packing bag the reinforcements of the leading edge stay flex-free on top of each other.

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 centre. If your **OXYGEN** needs to be repaired, please contact your local ICARO Paragliders dealer.

Inspection, Prerequisites and Personal qualification

After 200 flight hours or 24 months, it is important to have your **OXYGEN** inspected by a trained ICARO technician. Without regular certified inspections, your glider will lose its certification and guarantee.

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 Fly & more Handels GmbH ICARO Paragliders for information.

A three week course at Fly & More GmbH, specified to a glider type together with a legal flight license are the necessary prerequisites for permission to inspect ICARO Paragliders. For questions about the costs and times of paragliding inspection courses please contact Fly & more Handels GmbH 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. Compare with the line plan. The results are recorded in the inspection protocol and are to be evaluated according to the internal guidelines of the workshop.

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 Fly & more Handels GmbH ICARO Paragliders.

If the glider is not in great condition, the technician can decide to shorten the inspection interval time from 24 to 12 months. The technician must report any unusual faults to Fly & more Handels GmbH ICARO Paragliders within 3 days.

Inspection Reference

Only an authorised technician who has been trained by Fly & more Handels GmbH ICARO Paragliders is authorised to sign and date the glider certification label and sign the manual.

VI. Terms of the guarantee

The Fly & more Handels GmbH ICARO Paragliders guarantees the proper processing, an operation within the allowable limits of proper operation and the fulfillment of the eligibility criteria of glider / harness / rescue equipment at the time of first delivery by the Fly & more Handels GmbH ICARO Paragliders.

What is covered by the guarantee?

Provided that Fly & more GmbH accept the fault the guarantee contains all necessary spare parts related to the replacement or repair of defective parts and working time.

How long is the guarantee?

Paragliders: Fly & more Handels GmbH ICARO Paragliders warrants a guarantee about

- 150 flight hours, maximum for a period of two years for the Lightweight paraglider **OXYGEN**, the **GTO** and the **NIKITA** and
- 300 flight hours on all other licensed paragliders, maximum for a period of three years
calculated from the date of delivery by Fly & more Handels GmbH.

Harnesses: 3 years calculated from the day when the harness was delivered through Fly & more Handels GmbH.

Rescue system: 3 years calculated from the day when the rescue system was delivered through Fly & more Handels GmbH.

What are the conditions of the guarantee?

- Fly & Handels GmbH needs to be informed immediately after the discovery of a defect and the defective product must be sent to us for testing.
- The glider / the harness was used in normal circumstances and maintained according to the instructions. This includes in particular the careful drying, cleaning and storage.
- The glider / the harness was used only within the applicable guidelines and all rules have been complied with all times.
- All flights must be accounted for within the flight book.
- There were only original spare parts used and checks, exchange and / or repairs were conducted by an authorized dealer or by Fly & more Handels GmbH ICARO Paragliders company / person and properly documented.
- A fully and correctly completed guarantee card must be sent at least 6 weeks after buying the glider to Fly & more GmbH commercial. Alternatively can this be sent via the appropriate online form on www.icaro-wings.de.
- Fly & more Handels GmbH ICARO Paragliders does not accept any responsibility or replacement of the above obligation. However, there is the possibility that there will be a sign of goodwill.

What is excluded from this guarantee?

- Gliders and Harnesses that are used for training purposes, Acro or other official competitions,
- Gliders / Harnesses who were involved in an accident,
- Rescue equipment, which has been thrown for a emergency,
- Gliders / harnesses and rescue equipment, which have been changed by yourself,
- Gliders / harnesses and rescue equipment that were not purchased from an authorized dealer / flight school,
- Gliders / harnesses and rescue equipment where the required inspection intervals were not met and the verification of the glider was not conducted by a Fly & more Handels GmbH ICARO Paragliders authorized operation / person
- Damage which has occurred due to improper treatment (i.e. storage in humidity, heat or direct sunlight)
- Parts that need to be replaced due to normal wear and tear,
- Discoloration of the cloth material used,
- Damage caused by solvents, salt water, insects, sun, sand, humidity or “debag-jumps”.
- Damage caused by force majeure.

How can I claim guarantee?

In order to claim a guarantee Fly & Handels GmbH ICARO Paragliders needs to be informed immediately after the discovery of a defect and the defective product returned for inspection.

Fly & more Handels GmbH ICARO Paragliders accept no freight costs (outbound and return transportation).

VII. Enviromental 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.

VIII. Attitude and behaviour towards nature

Actually it's self-evident, but nevertheless we would like to mention particularly:

- Please do our nature-near sport in a way which doesn't stress nature and environment!
- Please don't walk beside the marked ways, don't leave your litter, don't make unnecessary loud noises and respect the sensitive balance in the mountains.
- Especially at the take-off we have to take care for the nature!

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

IX. Last but not Least

Again, we would like to congratulate you on the purchase of your **OXYGEN!**

Team ICARO thank you for your trust in our brand and 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.

This paraglider will not protect you from the dangers of rash flight manoeuvres and weather changes.

Your ICARO-Team



Fly & more Handels GmbH ICARO Paragliders
Hochriesstraße 1,83126 Flintsbach, Germany
telephone: +49-(0) 8034-909 700 Fax: +49-(0) 8034-909 701
Email: office@fly-more.com Web: <http://www.icaro-wings.de>

Appendix: Guarantee card, Certification, Airborne Sports Equipment, Lineplan**GUARANTEE CARD**

Owner of glider/ harness/ rescue system

Name	
Adress	
Zip Code	City/ country
Phone / Fax / e- mail	
Common flying site	Flight experience

Main field of usage of the glider/ harness (please mark)			
Leisure	Competition	Training	Professional
Acro	Powered	commercially	

Datas above glider/ harness/ rescue system		
Type und size of glider/ harness/ rescue system	Purchasing date	Serial number

Dealer/Icaro agency: (Name and address or stamp)

Furthermore, I would like to inform Fly & more Handels GmbH ICARO Paragliders as follows:

Date

Signature

All personal data will be treated in strict confidence and not passed on to third parties without the consent

Deutscher Hängegleiterverband e. V. im DAeC
DHV-Technikreferat

LBA-anerkannte Prüfstelle für Hängegleiter und Gleitsegel



MUSTERPRÜFBESCHEINIGUNG

Gleitschirm

Musterprüfnummer **DHV GS-01-1863-09**

Bezeichnung des Gerätemusters

ICARO Oxygen S

Das nachstehend bezeichnete Luftsportgerät ist als Muster geprüft im Auftrag von:

Fly & more GmbH, ICARO, Hochriesstraße 1, 83126 Flintsbach, Deutschland

Diese Musterprüfbescheinigung ist erteilt auf Grund der die Musterprüfung betreffenden Bestimmungen des Luftverkehrsgesetzes, der Luftverkehrs-Zulassungs-Ordnung, der Verordnung zur Prüfung von Luftfahrtgerät und der Lufttüchtigkeitsforderungen in der heute geltenden Fassung sowie zu den Bedingungen der Vereinbarung über Musterprüfung und des Schreibens vom 23.09.2009.

Die Musterprüfung gilt gemäß zugehörigem Geräte-Kennblatt Nr.: *DHV GS-01-1863-09*

23.09.2009

Datum der Ausstellung

Unterschrift


Deutscher Hängegleiterverband e.V.
Miesbacher Straße 2, 83703 Gmund

GS Musterprüfung ICARO Oxygen S

<http://www.dhv.de/odb/report.php?&qj=25007kbgs&item=22710...>**LUFTSPORTGERÄTE-KENNBLETT GLEITSCHIRM**

Geräte-Kennblatt Nr.: DHV GS-01-1863-09

Ausgabe: 0

Datum: 23.09.2009

Musterprüfung:

Gerätemuster: ICARO Oxygen S

Hersteller: Fly & more GmbH, ICARO

Datum der Musterprüfbescheinigung: 23.09.2009

Merkmale und Betriebsgrenzen

Gerätegewicht (ohne Packsack kg): 3.9

Zulässiges Startgewicht (kg) min. / max.: 65 / 90

Anzahl der Sitze min. / max.: 1 / 1

Klasse: 1

Gurtzeugbeschränkung: GH

Fußbeschleuniger: Ja

Trimmer (von Hand zu bedienen): Nein

Projizierte Fläche (m²): 21.46

Windenschlepp: Ja

Tragegurtlängen (mm):

	A	A2	B	C	D
normal:	520	520	520	520	520
beschleunigt:	420	440	440	480	520

Leinenlängen (mm):

	A	B	C	D	E	BR
1	6900	6820	6875	6990	7090	7705
2	6845	6760	6815	6930	7020	7520
3	6880	6800	6855	6965	7055	7450
4	6885	6815	6855	6955	7045	7355
5	6815	6750	6795	6890	6975	7220
6	6815	6760	6805	6880	6950	7255
7	6725	6660	6690	6750		7205
8	6560	6495	6500	6550		6995
9	6470	6430	6460	6360		6840
10	6380	6345	6365			6770
11	6340	6295	6310			
12	6170	6145	6150			

Sonstige Besonderheiten:

Nachprüffristen: 24Mo / 200h

Schulungstauglichkeit: Für Schulung geeignet

Betriebsanweisungen

Betriebsanleitung in der genehmigten Fassung vom 22.09.2009

Deutscher Hängegleiterverband e. V. im DAeC

DHV-Technikreferat

LBA-anerkannte Prüfstelle für Hängegleiter und Gleitsegel



MUSTERPRÜFBESCHEINIGUNG

Gleitschirm

Musterprüfnummer **DHV GS-01-1864-09**

Bezeichnung des Gerätemusters

ICARO Oxygen M

Das nachstehend bezeichnete Luftsportgerät ist als Muster geprüft im Auftrag von:

Fly & more GmbH, ICARO, Hochriesstraße 1, 83126 Flintsbach, Deutschland

Diese Musterprüfbescheinigung ist erteilt auf Grund der die Musterprüfung betreffenden Bestimmungen des Luftverkehrsgesetzes, der Luftverkehrs-Zulassungs-Ordnung, der Verordnung zur Prüfung von Luftfahrtgerät und der Lufttüchtigkeitsforderungen in der heute geltenden Fassung sowie zu den Bedingungen der Vereinbarung über Musterprüfung und des Schreibens vom 23.09.2009.

Die Musterprüfung gilt gemäß zugehörigem Geräte-Kennblatt Nr.: **DHV GS-01-1864-09**

23.09.2009

Datum der Ausstellung

Unterschrift


Deutscher Hängegleiterverband e.V.
Miesbacher Straße 2, 83703 Grmund



Deutscher Hängegleiterverband e.V. im DAeC
DHV-Technikreferat
 LBA-anerkannte Prüfstelle für Hängegleiter und Gleitsegel

LUFTSPORTGERÄTE-KENNBLETT GLEITSCHIRM

Geräte-Kennblatt Nr.: DHV GS-01-1864-09

Ausgabe: 0

Datum: 23.09.2009

Musterprüfung:

Gerätemuster: ICARO Oxygen M

Hersteller: Fly & more GmbH, ICARO

Datum der Musterprüfbescheinigung: 23.09.2009

Merkmale und Betriebsgrenzen

Gerätegewicht (ohne Packsack kg): 4.2

Zulässiges Startgewicht (kg) min. / max.: 85 / 105

Anzahl der Sitze min. / max.: 1 / 1

Klasse: 1

Gurtzeugbeschränkung: GH

Fußbeschleuniger: Ja

Trimmer (von Hand zu bedienen): Nein

Projizierte Fläche (m²): 23.77

Windenschlepp: Ja

Tragegurtlängen (mm):

	A	A2	B	C	D
normal:	520	520	520	520	520
beschleunigt:	340	370	370	440	520

Leinenlängen (mm):

	A	B	C	D	E	BR
1	7255	7180	7225	7340	7445	7940
2	7195	7115	7160	7275	7370	7780
3	7235	7160	7205	7315	7410	7740
4	7240	7175	7205	7305	7400	7685
5	7165	7105	7140	7235	7320	7535
6	7165	7115	7150	7230	7300	7570
7	7070	7035	7060	7130		7520
8	6910	6860	6860	6900		7295
9	6830	6770	6775	6700		7140
10	6740	6675	6670			7060
11	6690	6620	6600			
12	6495	6470	6475			

Sonstige Besonderheiten:

Nachprüffristen: 24Mo / 200h

Schulungstauglichkeit: Für Schulung geeignet

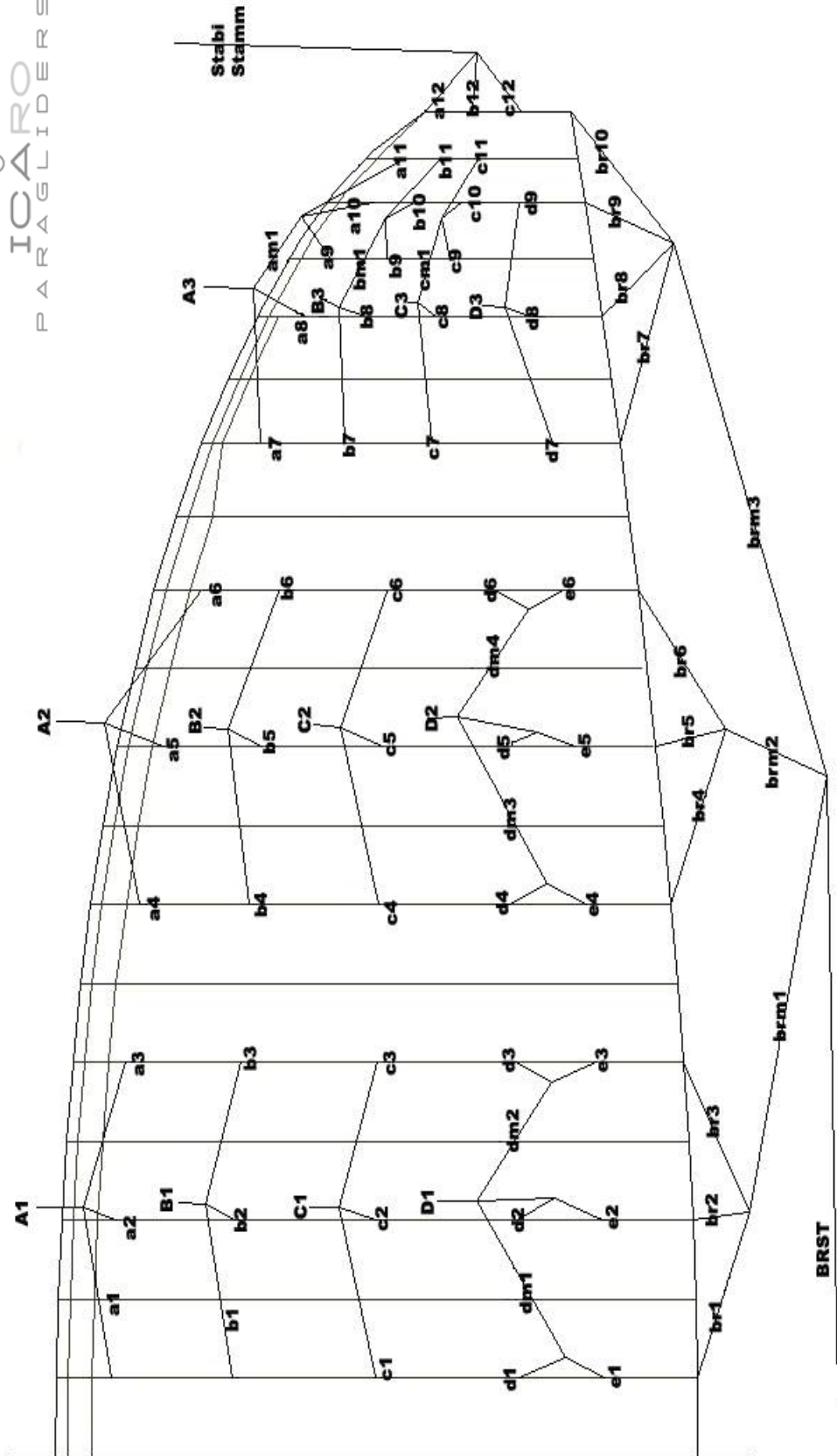
Betriebsanweisungen

Betriebsanleitung in der genehmigten Fassung vom 22.09.2009

OXYGEN LTF 1/ EN A



ICARO
PARAGLIDERS

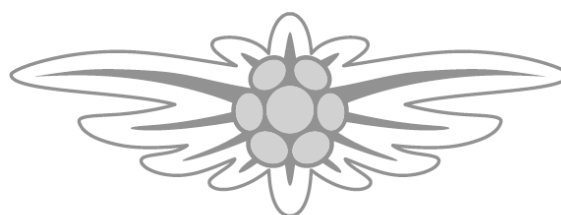


Dispatch protocol/ Delivery content

- Piece check complete
- Inner bag
- Compression band
- Speedsystem
- Outer rucksack
- Operating instructions
- Customer questionnaire
- Repair set
- T- Shirt
- Sticker

.....
Date

.....
Signature



ICARO
PARAGLIDERS