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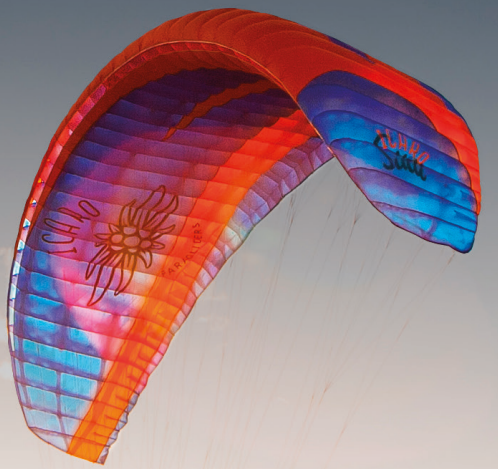

ICARO

PARAGLIDERS

Sitta

MANUAL

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VERSION 1.0/2015 ©

Verification of Checks and repairs

SITTA Serial number: …… First check by ICARO / date: ……	…… Name/ Stamp

Check (C) Repair (R)	Which repair/ Check? Check valid until?	Performed by/ date

Measured porosity data	Measured data of the lines	Estimated condition optical: technical:

Check (C) Repair (R)	Which repair/ Check? Check valid until?	Performed by/ date

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Congratulations on buying your

SITTA

and welcome to the family of ICARO - pilots!

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

In accordance with standard EN 926-2:2013, Paragliding equipment – Paragliders – Part 2: "Requirements and test methods for classifying flight safety characteristics" size 20 and 22 are pattern tested in D[1], size 18 is only load tested.

According this standard **SITTA** is characterized as a

"paraglider with very demanding flying characteristics and potentially very violent reactions to turbulence and pilot errors. There is a minimum scope for pilot errors. The glider is performed for expert pilots.

The return to normal flight requires precise input of the pilot. The glider is for pilots who have a lot of practice in discharging abnormal flight conditions and flying in turbulent conditions, who are very active flying and accept the significant experiences and possible implications of flying such a glider".

The flight maneuvers during the certification process should not be overrated. Certification results provide only little information when you flying in thermic active and turbulent air because the glider classifications serve to inform solely with regard to the performance of a paraglider during extreme flight manoeuvers in stable air conditions.

The small size of the **SITTA** and thereby the high wing loading make certain demands for the pilot. The glider is very predictable in its reactions but sometimes it requires fast and sensitive brake inputs. The wing loading has a certain influence on the pilot's requirements: If you fly the wing with less wing load it will be less demanding than if you fly it on top of the weight range. Therefore the pilot should already have certain "reflexes" from flying other wings.

The **SITTA** is not a glider for aerobatics because there are different materials and characteristics to an aerobatic- glider. The glider is made of very light materials (upper sail skytex 32 and skytex 27 for the lower sail). Therefore we recommend no winching operations. B-stall and spiral dive should only be flown when it is required. Frequent usage may occur in equipment damage.

It is strictly prohibited to fly the SITTA

- ***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, soft-shackles, risers or harness***

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[1] **Standard:** EN 926-1:2006, 926-2:2014; LTF/NfL II 91/09 und NfL II 2-60-14
Used harness: In accordance with EN 1651:1999 and EN 12491:2001

- ***in the rain, in snow, in the clouds, fog and in turbulent weather conditions,***
- ***with motor drive, tandem- flying and in aerobatics.***

The glider may be only used for those purposes described in this manual.

Our products are made with great care and state of the art. Each paraglider before it is delivered to the dealer or flight school is checked by ICARO paragliders but 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 information in this manual is written in ***fat cursive writing***.

Any important changes to this manual will be published in our homepage (www.icaro-paragliders.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, soft-shackles and risers) is dangerous and reactions of the glider are not predictable. Your glider will lose its pattern test result and guarantee.

The manufacturer or distributor assumes no responsibility for accidents occurring while using it.

Every pilot must ensure that the paraglider is properly checked at regular intervals.

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!

To get to know your **SITTA**

Allowed for training	no
Allowed /certified for aerobatics	no/ no
Allowed /certified for flying with passengers	no/ no
Allowed /certified for towing	no / no
Allowed /certified for flying with motor drive	no / no

Technical data		**18**	**20**	**22**
Certification LTF/ EN		-----	D	D
Number of cells		36	36	36
Number of risers		3+1	3+1	3+1
Weight of the glider	kg	3,3	3,5	3,7
Wing Area flat	m²	18	20,1	22
Wing Span flat	m	9,6	10,1	10,6
Aspect Ratio		5,1	5,1	5,1
Wing Area projected	m²	15,2	17,0	18,7
Wing Span projected	m	7,6	8,0	8,4
Aspect Ratio projected		3,8	3,8	3,8
Take Off Weight minimum	kg	65	75	80
Maximum symmetrical steering way by minimum take off weight	mm	> 450	> 500	> 550
Take Off Weight maximum	kg	90	95	105
Maximum symmetrical steering way by maximum take off weight	mm	> 450	> 500	> 550
Trimmer	mm	none	none	none
Maximum way of the accelerator	mm	80	80	80
Recommended storage temperature	Celsius	$+ 5^0$ to $+ 30^0$		
Recommended storage humidity	% rel. H.	55% to 75%		
Check interval	**24** months or **150** operating hours, depending on what occurs sooner.			

Canopy

The canopy is a light weight construction made of synthetic fabric with different strengths (skytex 32, 27) where a reinforced thread-net is woven in, which stops the fabric from further tearing and is increasing the firmness at the seams and has sticks for an optimized geometry of the canopy. The coating makes the fabric water-repellent, UV-stabile and air-impermeable. Between the single groups of main lines are taut ribbons sewn in, which are regulating the tension of the sail.

The vents on both sides (leech) of the glider makes it possible to clean it very easy. Open the vents during flight and turns, wingover, spiral dives clean the

inside of your glider. When it is clean you can close the vent and fix it with the Velcro.

Lines

Depending on the line level, we use different line diameters. The complete geometry of the lines is shown on the single line plan, which you find in the annex of the manual.

The end control of all line lengths is documented for all paragliders produced by ICARO paragliders. The complete geometry of the lines is shown on the single line plan, which you find in the annex of the manual.

The length of all lines, especially the break lines is set correctly at the factory and should not be changed. The improper adjustment of the steering lines can cause severe changes to in flight behavior. Each changing of the lines is dangerous, therefore forbidden and you loose the pattern test and guarantee.

Risers

The glider has 3 fold risers made of Dyneema with separated A-risers and an acceleration system. The risers are signified. The lines are fixed with loops.

The main break line comes through a return pulley; the handle of the main break line is mounted on the C- riser.

The acceleration system is mounted on the A- riser.

To fix it with the foot bar you must connect the brummel hooks of the foot bar with the brummel hook of the acceleration system.

A detailed description of the risers and canopy you can find in the annex.

CHANGING THE LINES IS ONLY ALLOWED IN ACCORDANCE WITH DESCRIPTION ON PAGE 16 OF THIS MANUAL.

WRONG CHANGING IS VERY DANGEROUS !!!!!

How to vary the trim of the glider

The glider has an acceleration system which will be activated with a foot bar. There are no other systems for accelerating or trimming the glider during flight.

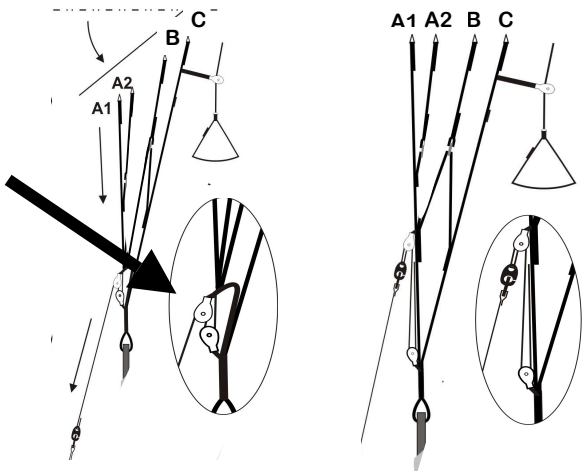
Acceleration system

When flying normal all risers have the same length. When using the accelerator system the risers are shortened by a constructive exactly defined length. Therefore the angle of attack of the canopy is smaller and speed increases.

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.

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

When it is too short with a lot of strain it is possible to accelerate your glider more than permitted (the rollers are superimposed).



THIS IS VERY DANGEROUS BECAUSE TE GLIDER COLLAPSES EXTREM!

BEFORE FLYING CHECK THE MAXIMUM LENGTH OF THE ACCELERATION SYSTEM!

The more turbulent the weather conditions and when near the ground, the less acceleration should be used.

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.

Assembling the accelerator is reliant upon the harness, e.g. numbers of return pulleys, rope guide … Look at the manual of the harness for mounting the acceleration system.

Flying with the **SITTA**

Harness

The **SITTA** is certified for use with harnesses GH type and light weight harnesses (Attention to a corresponding protection[1]).

Practically all modern harnesses are GH type harnesses. Older harnesses with fixed cross belts (GX type) are not certified and should not be used. ***ICARO does not recommend XC or competition harnesses for flying this glider model.***

The adjustment of the harness chest strap controls the distance between karabiners and affects the handling and stability of the glider.

Excessive tightening the chest strap increases stability but also the risk of twists following glider collapse, and it also increases the frequency of getting collapses due to poor feedback from the glider.

The risk of twisting is also strongly affected by the seating position of pilot.

[1] For example the reversible lightweight harness ICARO Apus (certified airbagprotector additionally 3cm foamed protector and LEXAN plate) ; Weight of the harness: 1,95 kg

Flying in a laid back (reclined) position makes it much more difficult to react in time to prevent riser twisting.

With the chest strap in a more closed position the glider also has more tendency to maintain a stable spiral, lengthening of the chest strap gives more feedback from the glider but decreases stability.

ICARO paragliders recommends following settings:

Take off weight	< 80kg	80 kg -100 kg	> 100kg
Horizontal distance of the main karabiners	38 cm – 42 cm	42 cm – 46 cm	46 cm – 50 cm

Flight preparation

- 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.
- Make sure that no sand, stones or snow get inside the canopy as the extra weight collected in the trailing edge may slow down or even stall the glider. Sharp edges damage the canopy.
- Check the lines for knots, twisting and damage, the brake lines for knots, kinks and their symmetric. Loose or incorrect brake knots can cause serious accidents through loss of the steering of the glider! The correct length of the main brake line must not be altered.
- 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.
- There should not be any lines underneath the canopy. If the lines wrap around the canopy, this can result in injury or death!
- 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 the risers are not twisted. Check canopy (all cells are open), wind direction and airspace.

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. 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.

Hold the inner A-risers and the handles of the brakes and use progressive pressure on the A-risers and the energy of your own body weight until the wing is fully inflated overhead. The canopy is inflated quickly.

When there is no pull from the lines use slight pressure on the brake. 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 rate.

When there is strong wind the reverse launch technique is recommended. Holding the brakes, turn around to face the wing passing one set of risers over your head

as you turn. We suggest building a "wall" by partially inflating your glider on the ground, thus sorting out the lines thoroughly.

Check the airspace is clear and gently pull the glider up with inner riser. When the glider is overhead, check it gently with the brakes, turn and launch. In stronger winds, be prepared to take a couple of steps towards the glider as it inflates and rises.

Active flying

Active flying in normal flight means that the wing is always kept at a safe angle of attack and, if at all possible, vertically above the pilot. The moving air affecting the wing often changes the angle of attack in an unwanted way.

When flying into an upwind the paraglider often bucks, the wing drops back, the angle of attack increases, getting closer to a stall. In upwind the canopy pitches forward, the angle of attack is reduced and there is the risk of a collapse. Both can occur symmetrically, on both sides or asymmetrically, on one side only.

It is impossible to control the angle of attack by looking to the canopy. Look in the direction you are flying, changes in the horizon inform the pilot about the canopy's movements.

Breaking is also an absolute must! If the canopy pitches forward, the angle of attack decreases. In the case of strong forward pitching there is a risk of the canopy collapsing due to its insufficient angle of attack.

The pilot must therefore prevent the canopy from pitching forward by pulling the controls down on both sides. Inversely, the angle of attack increases if the wing drops back behind the pilot, e.g. when entering into a thermal. The canopy is closer to stalling.

In these flight situations a significant breaking movement by the pilot can lead to a spin or a stall. When the wing drops back, the pilot therefore must not break and/or if the pilot is already holding the controls low, he must release them accordingly.

Any change in the angle of attack immediately transfers in to a change in the control pressure of the brakes. The control pressure presents the pilot with immediate information on the angle of attack and on what the canopy is doing or about to do.

Flying with accelerator

When you use the accelerator, be careful. The accelerator should be employed, in order to compensate for high angles of attack and the associated potential risk of a stall.
Do not step too quickly because your glider will dive down from the strong change in angle of attack.

Put equal pressure on the speed bar with your feet until the pulley touches the A-riser and the glider will quickly gain speed and the sink speed remains very moderate from beginning up to full speed.

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.

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.

Turning

A combined steering technique is suitable for every situation.

The glider is very agile and reacts to steering impulses quickly and directly. Strong, one sided pulling of the brakes brings the glider into an obvious side angle and the glider flies fast steep curves until spiral dive begins.

If the brake lines are pulled too fast or too far the glider will be stalled!

A one-sided stall is signalized clearly by: The curves inner side of the wing is getting soft, and nearly stops. In this case you have to release the brake line!

Landing

The SITTA is faster than gliders with normal sizes but also 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. If you leave the inflated leading edge bang on the ground, this can cause the cell walls to burst!

Do not break it too much, to avoid a stall of the glider in this very low altitude! Do not reduce height by "pumping" with the brakes.

Descent Techniques

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

Before inducing any exercise control the airspace beneath.

During the exercises stay in contact with the canopy.

If the glider is out of control, use your reserve parachute.

Big Ears

Only take the outer line of the A-risers in your hand, without releasing the brakes and pull down leaving it run through your hands (use gloves!). Sink ride increases but not the forward speed. If you use the acceleration system then higher sink speeds 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. As the controls cannot be used to fly actively with big ears, the pitching movement has to be compensated for with the help of the accelerator.

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

B-Line-Stall

The glider is a very agile glider with high trim speed. Therefore spiral dive is the most effective method to reduce flight level. B-Line-Stall is not so effective, furthermore stresses the material of the glider and reduces operating life of the canopy. Therefore it is not recommended. If you want to fly a B- Line- stall nevertheless following remarks:

To enter and hold a B-line-stall requires considerable strength. It is very dangerous performing a B-line-stall incorrectly and following errors must be avoided:

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

Spiral Dive

Thin material will be stressed when you fly spiral dive very often. Therefore ICARO paragliders recommends flying spiral dive only when it is necessary or training.

In a controlled spiral dive, the pilot applies an active flying technique in the same way as when circling in thermals. The strong centrifugal forces in a spiral dive, however, change the control pressure. It increases by a multiple of the force. Even in moderate spirals, the pilot reaches double acceleration of gravity. Subsequently, the control pressure also doubles.

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 glider will start to turn, and then drop into a spiral.

In the spiral dive an uncontrolled acceleration of the canopy must be prevented. As the canopy always accelerates via the outside of the wing, the spiral speed is controlled via the outside brake by applying the active flying technique. If the speed increases in an unwanted manner, the pilot pulls the brakes further to slow down. If the wing becomes too slow, it can be speeded up by releasing the outside control.

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.

Spiral dive with the **SITTA** *must be finished actively!*

Bring 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.

Rate of descent could be very high also the dynamic and g- load. In reliance of your physical condition it is possible to have a blackout.

Wingover

The **SITTA** is a very agile glider, and it is quite easy to get to an excessively high angle of bank in just a few turns. Practice wingovers gently at first, as there is a chance of quite large collapses at high bank angles.

What happens when it happens?

Knots and tangles

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 take off, 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. If the knot is too tight and you cannot remove it, carefully and safely fly to the nearest landing place.

Be very careful when trying to remove a knot. When there are knots in the lines or when they are tangled, do not pull too hard on the brake lines, there is an increased risk of the wing to stalling or negative turn being initiated.

Deep / Parachute Stall

Your glider has been carefully designed to resist entering deep stall. 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. 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.

Never pull the brake-lines during a parachute stall, because the glider would go into a full stall immediately.

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.

Asymmetric Collapse

While flying in turbulent conditions it may occur that a portion of your glider deflates. 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.

If the canopy is in front of the pilot after an asymmetrical collapse, the pilot must immediately and decisively brake down the open side to prevent an uncontrolled rotation. The same rule applies here: If the wing is ahead, braking is a must. Sometimes, however, the angle of attack on the open, not-collapsed side is relatively high and the wing is behind the pilot. Then a significant control movement would definitely cause a stall and its potentially extreme reactions.

In the case of asymmetrical collapses, the behavior of the canopy must always determine the pilot’s actions. Strong tendency to turn (wing in front) = decisive steering in the opposite direction. No or only slight tendency to turn (wing behind) = no or little steering in the opposite direction.

If the collapsed part of the canopy is very big, you have to break the open side very dosed (not too much!) to avoid a stall.

Symmetric Collapse

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

Emergency Steering

Should it not longer be possible to steer your glider, for example due to a broken line, the glider may be steered by gently pulling on either rear riser. We recommend for emergency control in the air to use the stable line. With a bit of weight shift and by pulling down the stabile line allows controlling your glider precisely and easily.

By steering this way airspeed is reduced hardly. Therefore, for landing you must change to the rear risers to control your glider. Handling will be more direct so being careful not to pull too hard.

Negative Spin

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 just do “hands up” to release the brakes and the glider will return to normal flight.

Front stall

After a front stall of the canopy, the wing moves backwards while the pilot with his higher mass moves further ahead. Wing behind, pilot ahead, significantly high angle of attack – there is only one thing to do:

Do not break or you run the risk of a dangerous stall.

The pilot must not pull the control lines before the canopy is at least above him again. If the canopy then shoots forward dynamically, it is absolutely vital to stop the motion in a consistent and decisive manner via the brakes.

Full Stall

Spin and full stall are both dangerous and somewhat unpredictable exercises. Do not stall or spin your paraglider on purpose.

To initiate a full stable stall, apply both brakes to maximum arm extension. The pilot will swing back under the canopy and finally the canopy will stabilize to a full stall. Once in a stable stall, the exercise 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 glider will return to normal flight.

It is imperative that the pilot fully completes this exercise 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.

Care instructions, repairs, inspection

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 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 of the cloth. The canopy will become porous and will loose 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.
- Also avoid dipping it in a swimming pool; the chlorine will damage the cloth.
- 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.
- 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.
- Attaching heavy adhesive logos made out of unsuited material to the wing may result in the revocation of the glider’s guarantee. Do not fold and store your glider prematurely if it not completely dry. The performance of a wet glider can change significantly.

Repairs

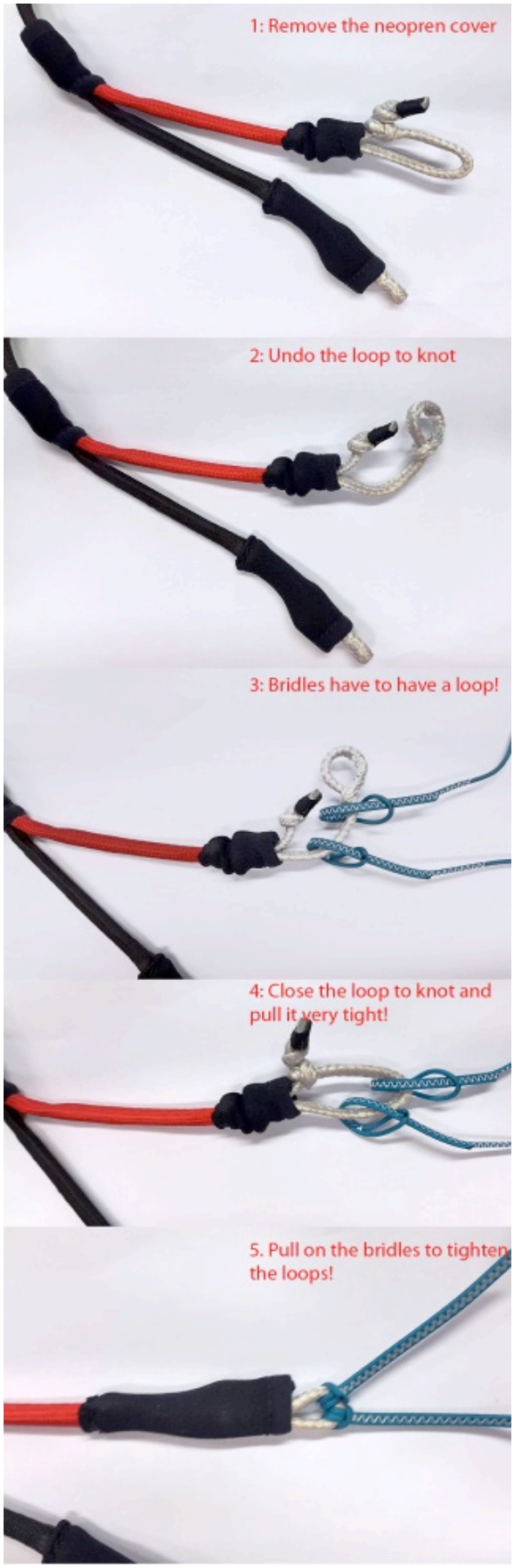
Only use original ICARO parts for repairing your glider. If you don't you lose the guarantees for your glider. Small holes in the canopy (max. 20x20 mm) can be repaired by the pilot by using self adhesive sailcloth on both sides of the perforation.

IF THE GLIDER NEEDS TO BE REPAIRED AND YOU ARE NOT SURE HOW TO PERFORM WE COMMEND CONTACT YOUR LOCAL ICARO PARAGLIDERS DEALER.

CHANGING THE LINES IS ALLOWED ONLY IN ACCORDANCE WITH DESCRIPTION (PICTURES).

WRONG CHANGING IS VERY DANGEROUS!!

BEFORE YOU PULL THE NEOPREN BACK OVER THE LOOP CHECK AGAIN THE LOOP IS CLOSED CORRECTLY.



PLEASE PAY ATTENTION:

SHOULD THE LOOP BE FIXATED WRONG, SAFETY IS DEEPLY ENDANGERED!

Inspection

It is important to have your **SITTA** inspected by a trained ICARO technician but it is also allowed to check your glider for yourself.

In the annex you find the regulations for checks of certified gliders and items in order to perform a paraglider inspection you need.

Inspection interval

24 months or **150** operating hours**,** depending on what occurs sooner.

Without regular certified inspections, your glider will loose its pattern test result and guarantee.

ICARO recommends having wings that are often used for training of descent exercises, acrobatics or flying in salty ore sandy conditions subjected to checkups all 100 operating hours or 12 month.

It is also important, that ground handling also will be considered. All gliders, especially gliders manufactured with light and thin material are mechanically more stressed than other gliders.

Therefore ICARO recommends multiplying ground handling time with factor 1, 5.

Not only gliders have a recurrent inspection interval.

Airworthiness of harnesses, snap hooks and rescue systems must also be verified. Generally it is recommended to change aluminum snap hooks after 24 months or 150erating hours.

***All inspections and repairs must be documented** (manual page 2).*

Terms of the guarantee

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 ICARO paragliders.

Paragliders: **24** month or **150** operating hours**,** depending on what is first

Harnesses: **24** month

Rescue systems: **24** month

Guarantee is only guilty for ICARO products with LTF/ EN certification [1].

What is covered by the guarantee?

Provided that ICARO paragliders accept the fault the guarantee contains all necessary spare parts related to the replacement or repair of defective parts and working time.

ICARO paragliders accept no freight costs (outbound and return transportation).

[1] - EN 926-1 und EN 926-2 for gliders, EN 1651 for rescue systems , EN 12491 for harnesses,
- LTF/ NfL II 91/09 und NfL 2-60-14 all at the time guilty version

What are the conditions of the guarantee?

Provided that ICARO paragliders accept the fault the guarantee contains all necessary spare parts related to the replacement or repair of defective parts and working time.

- ICARO paragliders 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 were 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/ company / person or by ICARO paragliders and properly documented.
- The online form on www.icaro-paragliders.com must be sent at least 6 weeks after buying to ICARO paragliders.

What is excluded from 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 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.
- Damage caused by the Para motor (Oil, fuel, damage in cause of the prop)

In case of a concluded claim the period of guarantee carries on. The period of guarantee and the connected claim are not prolongated and are only valid until the original date of expiry.The freight costs (transport to and from) are not paid by ICARO paragliders.

Annex

Guarantee Card

Please fill in the guarantee card which you find on our homepage www.icaro-paragliders,com and send it to us.

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). Pleas 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). The results are recorded in the inspection protocol and are to be evaluated according to the internal guidelines of the workshop.

All information about the lines (single length, total length, mechanical strength) please call ICARO paragliders, office@icaro-paragliders.com

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.

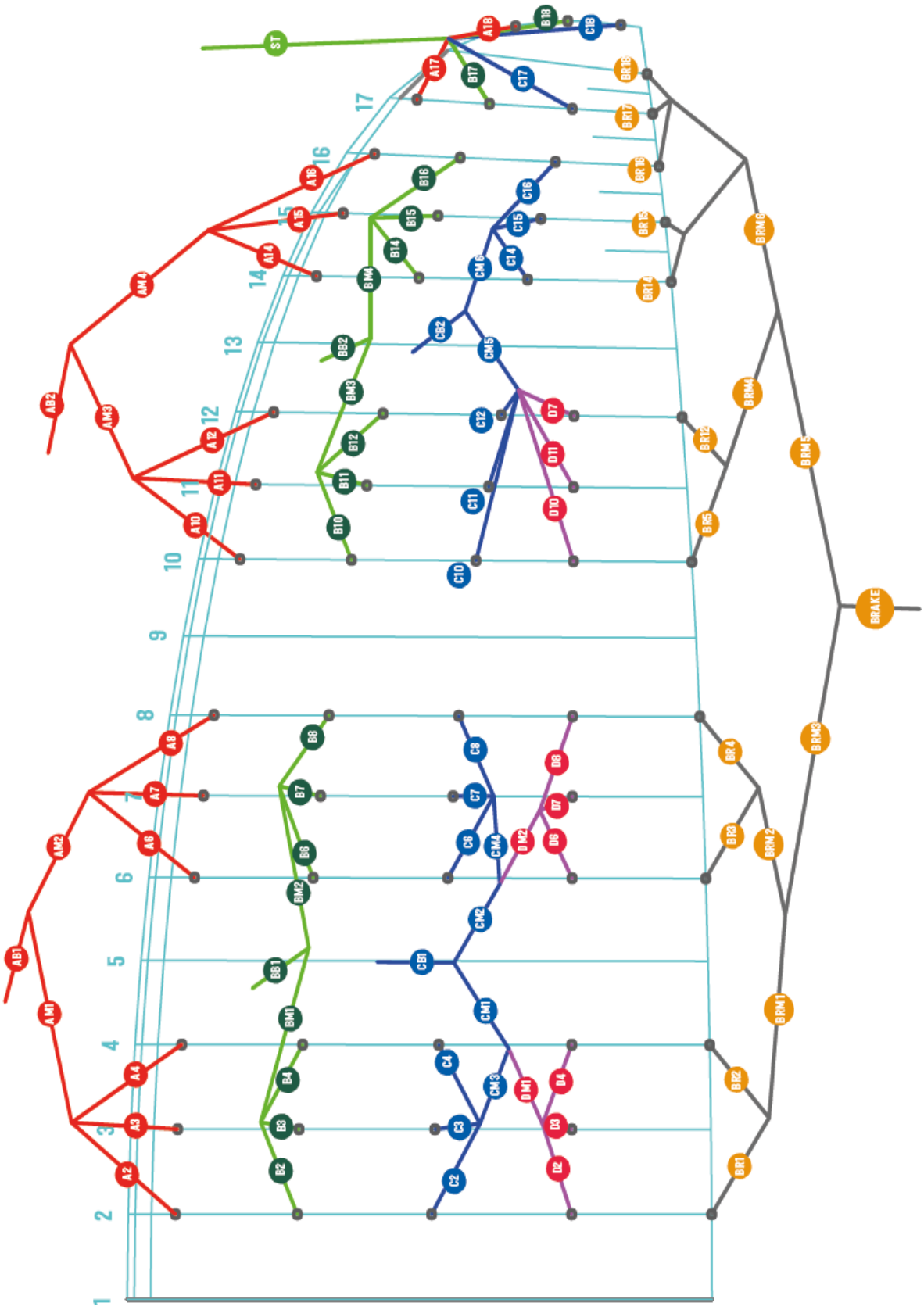
Inspection Reference

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.

Part list 18, 20, 22

Name	Order number	material	surface	dimension	producer
risers	D-Pro	Dyneema	Dyneema	Ø 6 mm	Liros
Meanlines	TSL 380	Aramid	covered	Ø 2,2 mm	Liros
Lines (1. partition)	TSL 190	Aramid	covered	Ø 1,55 mm	Liros
Lines (2. partition)	DSL 70	Dynema	covered	Ø 0,95 mm	Liros
Mean brake line	DSL 350	Dyneema	covered	Ø 2,0 mm	Liros
Break line middle	TSL 140	Aramid	covered	Ø 1,3 mm	Liros
Break line gallery	DSL 70	Dynema	covered	Ø 0,95 mm	Liros
Upper sail	SKYTEX 32	Nylon	coated		Porcher Sport
Lower sail	SKYTEX 27	Nylon	coated		Porcher Sport
Profile	SKYTEX 32	Nylon	coated		Porcher Sport
Thread sail	TEX 45				A&E
Thread strap	TEX138				A&E
loops	Schiffchenware	Nylon		12,5 mm	Schmahl
Reinforcement profile	Nylon Webbing	Nylon		Ø 2.7 mm	
Edging band	NCV 20mm Mylar Tape	Mylar	90g	20 mm	Porcher Marine

ALL SIZES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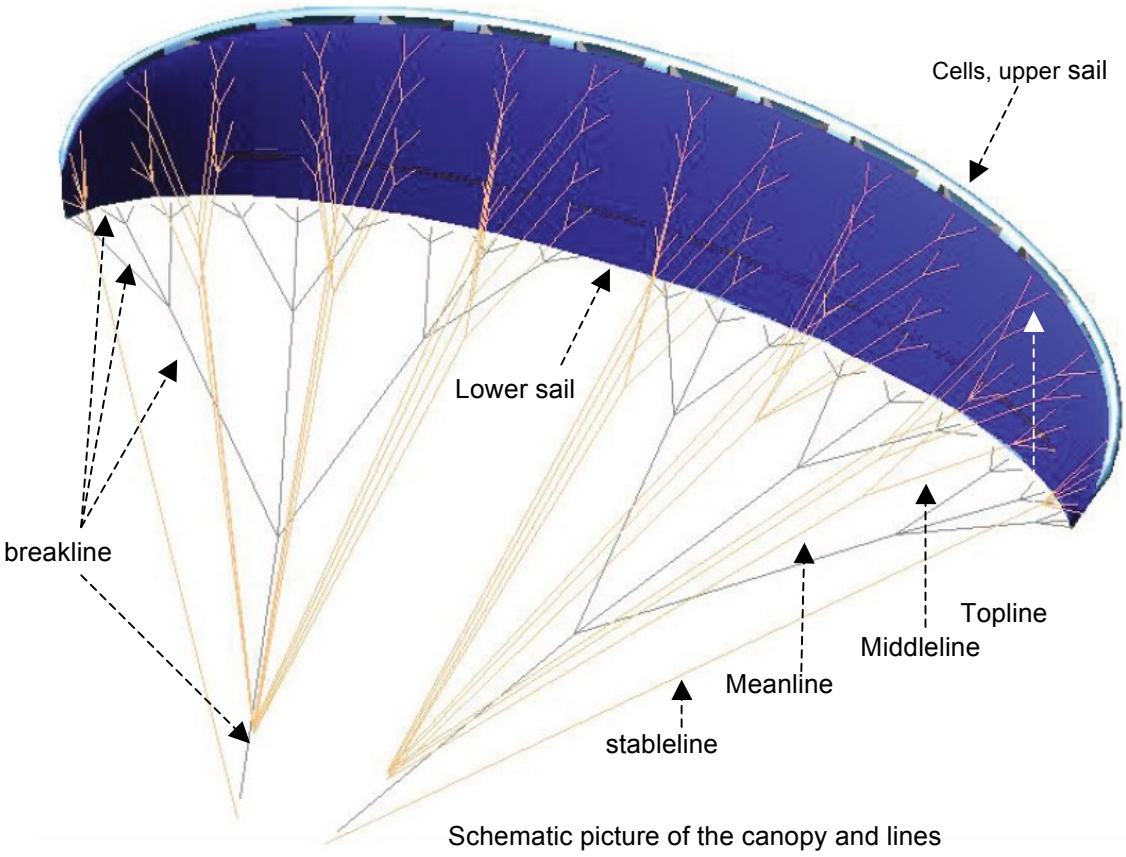
Description of the risers

Description of the canopy



Schematic picture of the canopy and lines

Dispatch protocol/ Delivery content

Inner bag	☐
Compression band	☐
Manual	☐
Outer rucksack	☐
Gift	☐
Sticker	☐

…… ……..

Date Signature