USER'S MANUAL
LINK

LINK

Relaxed powered flight

WELCOME

We wish to welcome you to our team and thank you for the confidence that you have placed in a NIVIUK Glider.

We would like to share with you the thrill and the passion which was involved in the creation of this glider.
The all new LINK from Niviuk is the pilot's first choice for powered flight. The ease of take off, the total control and the highest level of security together bring to the pilot a new level of relaxed powered flight. Experience the true essence of flight, understand the skies, explore the landscapes and reach new horizons. From your very first powered flight to onward progression the LINK will adapt with your experience.

We are sure that you will enjoy flying this wing and that you will soon discover the true meaning of our slogan:

"Give importance to the small details to make big things happen"

This is the user manual, which we recommend you take time to read in detail.

NIVIUK Gliders.

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USER'S MANUAL

NIVIUK Gliders LINK.

This manual contains all the necessary information required to familiarise yourself with the main characteristics of your new paraglider. Although this manual informs you about your glider, it does not offer the instruction requirements necessary for you to be able to pilot this type of wing. Flying instruction can only be taught at a paragliding school recognised by the Flying Federation of your country.

Nevertheless we remind you that it is important that you carefully read all the contents of the manual for your new LINK glider. Severe injuries to the pilot can be the consequence of the misuse of this equipment.

SUMMARY

1. CHARACTERISTICS

1.1 WHO IS IT DESIGNED FOR?

The LINK is a glider designed for all kind of powered flight and is designed for all kind of pilots.
For the student or established pilots the LINK is the PPG glider of choice for those who want to enjoy the relaxed powered flight with a safety and performance in mind.
Powered flight is a relatively new activity which continuously evolves. It's essential that to get the top performance of the wing the motor, propeller and harness are matched suitably.

1.2 CERTIFICATION

The LINK has successfully achieved the European EN certification in the B category.
These outstanding levels of certification confirm top safety, precise handling and ease of use.
On the essential load test as well on the in-flight behaviour test the results were extremely good.
Check the homologation results and figures on the last pages of this manual.

1.3 IN-FLIGHT BEHAVIOUR

The NIVIUK Team has carried out extensive and meticulous design work. As a consequence of several prototypes and many hours of test flights numerous adjustments were made. These prototypes were then tested in all types of flight conditions. This intense development work supported by the combined experience of the whole team has achieved a wing with unbeatable behaviour.
Light handling, precise response, manoeuvrability, safety and a high stability achieved thanks to the leading edge reinforcements, the SLE (Structured Leading Edge). These are some of the qualities of this wing which is perfectly adapted to the powered flight needs.
Its inflation behaviour is the first step to appreciate its obedient disposition. Its lightness of weight and controls determine all the actions during the flight with total freedom.

The addition of SLE technology with its light weight and structured cells ensures that every inflation and take off remains simple and uneventful. Thanks to the LINK's controlled and progressive inflation rate the pilot remains in complete control of the wing throughout all stages of take off. This allows extra time to position the wing in the perfect pre-launch position directly above the head.
The running phase is perhaps one of the most critical when taking off with a powered wing, so any technological assistance is an advantage to take off easily and safely. On takeoff in order to create sufficient lift traditional profiles demand high forward speed, in other words, a long and fast run. The new technological features on the LINK facilitate early lift and take-off therefore reducing the amount of time and physical effort required when running.

Once airborne, the LINK remains precise and balanced to every pilot input thanks to the addition of finely evolved SLE (Structured Leading Edge), the same innovative structure technology as used on our highly successful competition wings is now applied to this PPG glider for all the pilots to experience and enjoy.
It will very quickly become apparent to the pilot that the handling and manoeuvrability of the LINK remains light and efficient during all aspects of flight and even in the most adverse conditions every pilot input is met with an immediate and precise response.
At each release of the trimmers the wings profile changes and accelerates, penetrating without any problems. The brake is usable in all the trimmer positions, even accelerated.
The performance on this new wing is above the average on this kind of wings. The power required of the engine is on the low to medium range. Its consumption is much less than most wings due to the effectiveness of a glider perfectly designed to ensure the top stability

and performance in all aspects of flight.
The LINK has the same advantages when landing as it does on take-off. With a low speed approach, a short final glide and with the pilot always in total control the LINK can land in the smallest of areas with precision and ease.
It is worthwhile remembering that the best paraglider in the hands of a bad pilot does not guarantee a happy ending. The LINK's passive safety measures should also be accompanied by the passive safety offered by the rest of the flying equipment, the harness, helmet the emergency parachute etc. The extraordinary behaviour of the LINK and common-sense piloting will give you many hours of peaceful flying.

1.4 ASSEMBLY, MATERIALS

The LINK does not only introduce new design methods but also new manufacturing technologies. Not a single millimetre of error is possible in the manufacturing process from Olivier's computer to the cutting of the fabric. The cutting is done section by section in an extremely meticulous manner. The numbering and marking of the guideline marks is also done in the same meticulous way so avoiding errors in this critical process.

The lines are semi-automatically manufactured and all the sewing is finished under the supervision of our specialists. The jigsaw puzzle of the assembly process is made easier using this method. We economise on resources while making the quality control more efficient. All the different parts of the canopy are cut and assembled under the strict conditions induced by the automation of the whole process. All NIVIUK Gliders go through an extremely thorough and efficient final inspection. Every single line of each glider is measured individually once the final assembly has concluded.
Each wing is thoroughly inspected at the end of it assembly. Each glider is packaged following the maintenance and conservation instructions recommended for the advanced materials. NIVIUK Gliders are made of first class materials as demanded by the performance, durability, and homologation requirements of the present-day market.
Information about construction materials is given on the last pages of this manual.

1.5 ELEMENTS, COMPONENTS

The LINK is delivered to its owner together with a series of components that, although not fundamental do take an important part in the use, transport and storage of the paraglider.
The glider is delivered together with a rucksack large enough for all of the equipment to fit inside once appropriately packed. The rucksack is designed to make transport on foot as pleasant as possible. The internal bag intended to protect the LINK from possible damage during storage is also supplied. The glider strap allows the folded wing to be held in position. A small fabric repair kit made of auto-adhesive ripstop and an instruction booklet with all the basic information about your LINK. You will also find a USB pen drive.

1.6 PROFILE

The LINK project demanded a profile which would achieve PPG efficiency above traditional profiles taking powered flight forward and into the future. The new profile not only advances the understanding of aerodynamics and efficiency but also allows the reduction of surface area and the materials used:
• The SLE on the leading edge allows an easy inflation even in nil wind conditions.
• The LINK inflates easily and immediately ensuring only short low speed runs are necessary to take off.
• Once airborne the trim system allows easy and precise adjustment to achieve cruising speeds substantially higher than the average in the PPG category.
• The trim system has easy read metric markers to allow accurate and symmetrical adjustments.
• The new and efficient profile of the LINK enables the wing to glide

through the air mass with very little resistance.
• The SLE ensures a solid leading edge in all conditions and is highly resistant to deflations.
• A significant reduction in the total number of lines reduces parasite drag adding to the improvement of fuel consumption and optimising the thrust.
• During acceleration the LINK will remain on an equal axis experiencing minimum torsion influence from the rotational forces of the propeller.
• During all manoeuvres the handling and turning remain smooth, precise and dynamic yet completely predictable and balanced throughout.
• High stability throughout the wide speed range allowing confident slow low level flights to high altitude high speed cruising.

2. UNPACKING AND ASSEMBLY

2.1 CHOOSE THE RIGHT PLACE

We recommend that you unpack and assemble your wing on a schooling slope or a flat clear area without too much wind and free of obstacles. These conditions will allow you to carry out all the steps required for you to check and inflate the LINK.

We also recommend before flying the LINK to check the wing with the engine assembled, sit in the harness and check that the pilot reaches the breaks and the trimmers easily.
We recommend that an instructor or a retailer supervise the entire procedure as only they are competent to resolve any doubt in a safe and professional way.

2.2 PROCEDURE

Take the paraglider out of the rucksack, open it and spread it open with the lines on top of the underside, position the wing as if you were to inflate it.
Check the condition of the fabric and the lines, making sure there are no abnormalities. Check the maillons which attach the lines to the risers are properly closed. Identify and if necessary disentangle the lines from A, B, and C risers, the brake lines and the corresponding risers. Make sure that there are no ties or knots.

2.3 ASSEMBLY TO THE ENGINE

After carefully laying out the wing connect the risers to the harness/engine according to the paramotor manufacturer instructions

2.4 TYPE OF HARNESS

The LINK has been carefully and specifically designed for powered flight, however, it can also be used for free flight (without power). If the LINK is used for free flight it is important to use a harness which is suitable for that purpose and certified (see certification),
For powered flight the manufacturer and/or the supplier of the engine should have provided the correct type of karabiners.
Before any flight commences it is strongly recommended that the pilot checks the connection of the wing to the harness/engine and whilst seated in the harness checks the length of the brake lines, that they can easily reach the handles and also without obstruction easily reach and operate the trimmers on both sides.
The LINK is delivered with a double installation ready so the pilot can adequate hassle free the brake point at the best position. (see brakes 2.8).

2.5 ASSEMBLY OF THE ACCELERATOR

The acceleration mechanism of the LINK works when you push with your feet on the accelerator bar. Most harnesses designed for powered flight are equipped with a preinstalled acceleration system. When fitting any accelerator system ensure that all preinstalled items within the harness, such as roller pulleys are used correctly. After fitting, take into account that you will have to adjust the length of the accelerator lines for correct use. This will vary according to the length of the pilots' legs!

We recommend that you try the correct fitting of the acceleration system on equipment designed to do this, most paragliding schools have this sort of equipment.

2.6 INSPECTION AND WING INFLATION ON THE GROUND

Once all the equipment has been thoroughly checked and the wind conditions are favourable, inflate your LINK as many times as necessary in order to become acquainted with the wings behaviour. The LINK inflates easily and smoothly. An excess of energy is not necessary and the wing will inflate with minimum pressure on the harness when you move forward. This may be assisted by using the A lines. Do not pull; merely support them as they rise naturally with the movement of the wing. Once the wing is in the 12 o'clock position, simply apply correct pressure on the brake lines and the LINK will sit over your head.
We recommend placing the wing on the ground in a horseshoe shape which in most conditions will facilitate a smooth and easy inflation.

2.7 TRIMMERS

Take off

Thanks to the profile of the LINK, all aspects of take off can be controlled using the trimmers.
The SLE system pre-positions the open cells of the leading edge in the best possible way assuring a rapid formation the wing profile. This contribution is in itself already a huge advantage when attempting to take off in nil wind conditions but the correct use of the trimmers at this time with further enhance an easy take-off. In nil wind and without the application of trimmers the LINK inflates easily and effortlessly. However by adjusting the trimmers we can control both the inflation and the speed at which the wing rises. We should not confuse the speed of the inflation with the speed of the forward run required. It is important to remember that the minimum take-off speed is achieved with the trimmers closed and as the trimmers are opened more speed will be required.
Therefore every pilot should be aware of the trimmer settings and make any necessary adjustments appropriate to the conditions, the terrain and pilot ability.

In flight

The trimmers on the LINK are highly and precisely adjustable allowing the pilot to either increase speed by opening the trimmers or conversely decrease speed by closing them. Each trimmer is equipped with a scale clearly numbered so allowing the pilot to easily check and confirm the exact setting of each. Each trimmer may be set to compensate for the torque effect of the engine allowing fine tuning to ensure the wing remains in symmetrical flight. The pilot will very quickly become familiar with the scale and after just a few flights be able to optimise every flight by adjusting the trimmers to their most efficient setting.
With the trimmers closed and using just the full range of brake travel the LINK is a precise, light to handle and a fun machine to fly.

Landing

The LINK offers the comfort of ending the flight with the perfect landing; large areas and long runs are no longer required.
It must be remember that in wind nil conditions the forward ground speed encountered may be significantly higher and during landing that speed must be decreased as safely as possible. This can be achieved by fully closing the trimmers and proportionately applying the brakes. If necessary as the pilot reaches the ground a longer run off should also be carried out.
When landing in moderate wind conditions, the ground speed is reduced so a simple and progressive application of the brakes will be enough for a perfect landing.
Landing with open or half open trimmers is possible, but it will be necessary to balance the application of the brakes to the position of the trimmers and the forward ground speed being experienced. Of course open trimmers and an increase in forward ground speed when landing may require a larger landing area as opposed to when the trimmers are closed. The LINK very efficiently transforms forward speed into lift and inherently allows a wide margin for error either with or without wind.

2.8 ADJUSTING THE BRAKES

The length of the main brake lines is adjusted at the factory to the length established during certification. The LINK has two attachment points for the brakes, an upper and a lower and by default the brakes are installed on the upper of the two. The measurements for each point can be found on the technical details page. Due to possible differences in the specification of the different types of paramotors these can be adjusted to meet the pilots' needs. If at any point you wish to change the length of the brake lines, simply untie the knot, slide the line through the brake link to the desired length, and strongly re-tie the knot. The brake line must pass through at least one of the pulleys. Recommended knots are the clove hitch knot or bowline knot. Both brake lines should be symmetrical in length taking in consideration the length when using the trimmers. It is then vital that the adjustments are checked to ensure that they do not slow down the glider without any pilot input. However it is recommended that only qualified personnel should carry out this adjustment.

3. THE FIRST FLIGHT

3.1 CHOOSE THE RIGHT PLACE

We recommend that the first flight with your LINK is made on a smooth slope or in your usual flying area accompanied by a qualified instructor.

3.2 PREPARATION

For the preparation of the wing, please repeat the method shown on the chapter 2, Unpacking and Assembly.

Check the condition of the fabric and the lines, making sure there are no abnormalities. Check the maillons, which attach the lines to the risers are fully closed. Identify and if necessary disentangle the lines from A, B, and C risers, the brake lines and the corresponding risers. Check for no ties or knots.
The correct placement of the wing on the ground prior takeoff is very important. Select an area free from debris or obstruction and suitable for the direction of the wind. We recommend placing the wing on the ground in a semi-circular or shoe horse shape.

3.3 FLIGHT PLAN

Draw out a flight plan before take-off in order to avoid possible flight errors.

3.4 PRE-FLIGHT CHECK LIST

Again we remind you that this manual offers all the necessary information that will familiarise you with the main characteristics of your new paraglider. Any information, detail or specification relating to the power source itself must be obtained from the manufacturer of the paramotor.

Check that the current and advanced meteorological conditions of the day are within the parameters of your own flying experience and ability. Secure your helmet and individually check each of the maillons ensuring they are all properly and securely closed. Ensure the engine can easily achieve full thrust, the level of fuel is appropriate for your flight and the rescue system is secure and unhindered.
Once ready and immediately prior to takeoff a final visual check of the equipment and all attachments must be carried out. Checking the lines unwanted knots and that the trimmers are at the correct setting for takeoff.

3.5 WING INFLATION, CONTROL, AND TAKE-OFF

Taking off on Foot or using a Trike the LINK does not require a different technique for each. The control of the LINK is intuitive and the wing inflates easily and progressively in a controlled manner. Any unwanted

oscillation or required course correction can easily be controlled with gentle pilot input
When the decision has been made to takeoff only a short run is required and the LINK will quickly transform the forward speed and thrust of the engine into lift. Even with the Trike only a very short rolling distance is required to achieve the desired forward lift speed of 25 km/h and take off. The LINK has been designed to easily and efficiently inflate whilst providing exceptional directional stability without pitching or hanging back behind the pilot.
Excessive amounts of energy are not required when taking off with the LINK, simply set the trimmers to the correct positions (see 2.7) and gently lift the risers whilst gaining forward momentum. Taking off in nil wind conditions is not a problem for the LINK.

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4. IN FLIGHT

We recommend that you read very carefully the certification test results published by the Certification Test Laboratory (see Niviuk.com download section)
In the Certification report all the necessary information in order to anticipate how the LINK will react to each of the 24 tested manoeuvres can be found. It is important to stress that the reaction to the manoeuvres is different in each wing size, and even the reactions and solutions to each manoeuvre are different on the same size wing when the overall loading (i.e. Pilot/harness Weight) differs. It is essential to know the results of the Certification report in order to know how to deal possible situations appropriately.
The LINK has been certified EN-B. We recommend that training to master these manoeuvres be carried out under the supervision of a competent school.

4.1 FLYING IN TURBULENCE

The high level of passive security in flight offered by the LINK is reflected by the excellent results achieved during the certification tests. The LINK profile maintains a high internal pressure and solidity at high speeds not yet seen in a wing of this category.
It comfortably absorbs moderate turbulence in either normal or accelerated flight, minimising any bouncing effect. The glider is stable in all flyable conditions.
The most important safety and security feature of every glider is the pilot. Active piloting is recommended with the pilot constantly assessing and making the necessary fine adjustments to maintain ultimate control the wing. After a correction has been made the pilot should release the brakes to allow the wing to regain normal airspeed and normal flight. Do not maintain corrections (braking) for longer than necessary, this may cause the wing to enter into a critical flying situation.
When necessary, react to and control a situation and then re-establish normal flight.

4.2 POSSIBLE CONFIGURATIONS

Asymmetric collapse

In spite of the great stability of the profile of the LINK, heavy turbulent conditions may cause part of the wing to collapse asymmetrically. This usually happens when the pilot has not foreseen this possible reaction of the wing. When the wing is about to experience an asymmetric collapse the brake lines and the harness will transmit a loss of pressure to the pilot. To prevent the collapse from happening, pull the brake line corresponding to the compromised side of the wing, this will increase the angle of incidence. If the collapse does happen the LINK will not react violently, the turn tendency is very gradual and it is easily controlled. Lean your body towards the side that is still flying in order to counteract the turn and to maintain a straight course, if necessary slightly slow down the same side. The collapse will normally open by itself but if that does not happen, pull completely on the brake line on the side, which has collapsed (100%). Do this with a firm movement. You may have to repeat this operation to provoke the re-opening. Take care not to over brake on the side that is still flying (turn control) and when the collapse has been solved; remember to let the wing recover its flying speed.

Symmetric collapse

In normal flying conditions the design of the LINK ensures that a symmetric collapse is quite improbable.

The profile of the wing has been designed to widely tolerate extreme changes in the angle of incidence. A symmetric collapse may occur in heavy turbulent conditions, on entry or exit of strong thermals or lack of adapting the use of the accelerator to the prevailing air conditions. If a symmetrical collapses occurs you can symmetrically apply the brake lines with a quick deep pump to quicken the re-inflation. Release the brake lines immediately to recover optimum flight speed.

Negative spin

This configuration is out of the normal flight behaviour of the LINK. Certain circumstances however, may provoke this configuration such as trying to turn when the wing is flying at very low speed (while heavily braking). It is not easy to give any recommendations about this situation since it varies depending on the circumstances. Remember that you should restore the relative air speed over the wing. To achieve this, progressively reduce the pressure on the brake lines and let the wing gain speed. The normal reaction would be a lateral surge with a turn tendency no greater than 360º before restoring to normal flight conditions.

Parachutal stall

If it does happen, the feeling would be that the wing would not be advancing; you would feel a kind of instability and a lack of pressure on the brake lines, although the canopy would appear to be correctly inflated. The correct reaction would be to release the pressure on the brake lines and push the A lines forward or rather lean your body to any side WITHOUT PULLING ON THE BRAKE LINES.

Deep stall

The possibility of the LINK falling into this configuration during normal flight is very unlikely. This could happen if you are flying at a very low speed, whilst over steering in a number of manoeuvres and in turbulent conditions. To provoke a deep stall you have to take the wing to minimum flight speed by symmetrically pulling the brake lines, when you reach this point, continue pulling until you reach 100% and then hold. The glider will first fall behind you and then situate itself above you, rocking slightly, depending on how the manoeuvre was carried out. When you start to provoke a stall, be positive and commit with your brakes.
Do not release the brake lines when half way through the manoeuvre. This would cause the glider to surge violently forward with great energy and may result in the wing below the pilot. It is very important that the pressure on the brake lines is maintained until the wing is well established vertical above.

Wing tangle
Of all the possible situations, which you may encounter while flying the LINK, this is the least probable one of all. The well-proportioned ratio and well calculated positioning of the line cascades ratify this fact.

A wing tangle may happen after an asymmetric collapse, the end of the wing is trapped between the lines (Cravat). This situation could rapidly cause the wing to turn, although it depends on the nature of the tangle. The correction manoeuvres are the same as those applied in the case of an asymmetrical collapse, control the turn tendency by applying the opposite brake and lean your body against the turn. Then locate the line that reaches the stabilizer that is trapped between the other lines. This line has a different colour and belongs to the external lines of the C riser. Pull on this line until it is tense, this should help to undo the wing tangle. If you cannot undo the tangle, fly to the nearest possible landing spot, control the flying course with your body movements and a little pressure on the opposite brake. Be careful when attempting to undo a tangle if you are flying near a mountainside or near to other paragliders you may lose control of the flying course and a collision may occur.

Over handling
Most flying incidents are caused by incorrect actions of the pilot, which in turn creates abnormal flying configurations, usually a cascade of incidents. You must to remember that over handling the wing will lead to critical levels of functioning. The LINK is designed always to try to recover normal flight by itself, do not try to over handle it.
Generally speaking the reactions of the wing which follow over handling are neither due to the input made or the intensity but the length of time the pilot continues to over handle. You have to allow the profile to re-establish normal flight speed after any type of handling.

4.3 USING THE ACCELERATOR

The profile of the LINK has been designed to fly stable through its entire speed range. It is useful to accelerate when flying in strong winds or in extreme descending air. When you accelerate the wing, the profile becomes more sensitive to possible turbulence and closer to a possible frontal collapse. If you feel a pressure loss, you should release the pressure on the accelerator and pull slightly on the brake lines to increase the angle of incidence. Remember that you have to re-establish the flight speed after correcting the incidence.
It is NOT recommended to accelerate near to the mountainside or in very turbulent conditions. If necessary you will have to constantly adjust the movements and pressure on the accelerator whilst constantly adjusting the pressure applied to the brake lines. This balance is considered to be “active piloting.”
If we choose to fly with the trimmers opened while using the accelerator you must fly actively.

4.4 FLYING WITHOUT BRAKE LINES

If, for any reason at all, you cannot use the brake lines of your LINK you will have to pilot the wing using the D-risers and your body weight to fly towards the nearest landing. The D-lines steer easily because they are not under pressure; you have to be careful not to over handle them causing a stall or negative turn. To land you have to let the wing fly at full speed and before reaching the ground you will have to pull symmetrically on both the D-risers. This braking method is not as effective as using the brake lines so you will land at a higher speed.

4.5 KNOTS IN FLIGHT

The best way to avoid these 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 takeoff.
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 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 undoes. 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 because there is an increased risk of the wing to stalling or negative turn being initiated
Before trying to remove a knot, make sure there are no pilots flying nearby and never try these manoeuvres near the mountainside. If the knot is too tight and you cannot remove it carefully and safely fly to the nearest landing place.

5. LOSING HEIGHT

The knowledge of the different descent techniques is an important resource to use in certain situations. The most adequate descent method will depend on the particular situation.
We recommend that you learn to use these manoeuvres under the tuition of a competent school.

5.1 SPLIT A

Big ears are a moderate descent technique, achieving about –3 or –4 m/s and a reduction in ground speed of between 3 and 5 km/h. Effective piloting then becomes limited.
During Big Ears the angle of incidence and the wing loading increases, however application of the accelerator will restore the wing's horizontal speed and the angle of incidence.
The A riser of the LINK is divided, which let you easily find the suspension line to make the Split A.
To apply big ears select the outermost A-line from each stabilizer as high up as possible and pull them outward and downward in a smooth and symmetrical motion. The wingtips will then fold inwards.
Releasing the outer A riser will see the wingtips re-inflate automatically. If they do not re-inflate gently pull on one of the brake lines and then on the opposite side. We recommend that you re-inflate asymmetrically this will reduce the risk of altering the angle of incidence which should be avoided, more so if you are flying near the ground or flying in turbulence.

5.2 B-LINE STALL

When you carry out this manoeuvre, the wing stops flying, it loses all horizontal speed and you are not in control of the paraglider. The air circulation over the profile is interrupted and the wing enters into a situation similar to parachuting.
To carry out this manoeuvre you have to take the B-risers below the maillons and symmetrically pull both of them down (approx. 20-30 cms) and then hold this position. The initial phase is quite physical (hard resistance) which means that you will have to pull strongly until the profile of the wing is deformed, when this happens the required force will then significantly reduce. To maintain this manoeuvre you must continue to hold the B Lines in the pulled down position. The wing will then become deformed, horizontal speed drops to 0 km/h and vertical speed increases to –6 to –8 m/s depending on the conditions and how the manoeuvre has been performed.
To exit the manoeuvre, simultaneously release both risers, the wing will then slightly surge forward and then automatically return to normal flight. It is better to let go of the lines quickly rather than slowly. This is an easy manoeuvre but you must remember that the wing stops flying, it loses all horizontal movement and its reactions are very different compared to normal flight.

5.3 SPIRAL DIVE

This is a more effective way for rapidly losing height. You have to know that, the wing can gain a lot of speed and the increase in G's will be substantial.
This can cause a loss of orientation and consciousness (blackouts). These are the reasons why it is best to carry out this manoeuvre gradually so your capacity to resist the G forces increases and you will learn to fully appreciate and understand the manoeuvre. Always practice this manoeuvre when flying at high altitude.

To start the manoeuvre, first lean your bodyweight and pull the brake line to the side to which you are leaning. You can regulate the intensity of the turn by applying a little outside brake.
A paraglider flying at its maximum turn speed can reach –20 m/s, equivalent 70 km/h vertical speed and stabilize in a spiral dive from 15 m/s onwards. These are the reasons why you should be familiar with the manoeuvre and know how to carry out the exit methods.
To exit this manoeuvres you must progressively release the inside brake and also momentarily apply outside brake. Whilst doing this you must also lean your bodyweight towards the outside. This exit manoeuvres have to be carried out gradually and with smooth movements so you can feel the pressure and speed changes at the same time.
The after effect of the exit manoeuvre is that the glider will rock briefly with lateral surge, depending on how the manoeuvre has been carried out.
Practice these movements at sufficient altitude and with moderation.

6. SPECIAL METHODS

6.1 TOWING

The LINK does not experience any problem whilst being towed. Only qualified personnel should handle the qualified equipment to carry out this operation. The wing has to be inflated in the same way as in normal flight.

6.2 ACROBATIC FLIGHT

Although the LINK has been tested by expert acrobatic pilots in extreme situations, it HAS NOT been designed for acrobatic flight and we DO NOT RECOMMEND THE USE OF THIS GLIDER for that use. We consider acrobatic flight to be any form of piloting that is different to normal flight.
To learn safely how to master acrobatic manoeuvres you should attend lessons, which are carried out and supervised by a qualified instructor over water.
Extreme manoeuvres take you and your wing to centrifugal forces that can reach 4 to 5 g. Materials will wear more quickly than in normal flight. If you practice extreme manoeuvres we recommend sending the wing for a full inspection of the lines and the wing every six months.

7. FOLDING INSTRUCTIONS

Historically packing a paraglider used to be a case of simply folding the wing in the easiest and most convenient way possible and then placing it into the backpack. However modern design and the introduction of technically advanced materials dictate that the folding of wings now requires more care and attention.

The LINK features the SLE (Structured Leading Edge) and to preserve the integrity of this structure a degree of care should be taken when folding. When the correct technique is applied to the folding process it will ensure that the wing maintains its high performance, safety and durability.
Folding should be carried out cell to cell (accordion style) with the SLE ribs remaining parallel to the leading edge at all times.
The wing does not have to be tightly folded, if you do so it may damage the material and or the lines.

To assist in this folding process Niviuk has designed the NKare folding bag (supplied as an option). The NKare Bag will help to ensure the correct folding process is carried out maintaining the profile and integrity of the internal SLE structure as described above.

8. CARE AND MAINTENANCE

8.1 MAINTENANCE

Careful maintenance of your equipment will ensure continued performance.

The fabric and the lines do not need to be washed, if they become dirty, clean them gently with a soft damp cloth.
If your wing becomes wet with salty water, immerse it in fresh water and dry it away from direct sunlight.
The sunlight may damage the materials of your wing and cause premature aging. Once you have landed do not leave the wing in the sun, store it properly.
If you use your wing in a sandy area try to avoid the sand from entering the cell openings of the leading edge. If sand is inside the wing remove it before folding.

8.2 STORAGE

It is important that the wing is correctly folded when stored. Store your flying equipment in a cool, dry place away from solvents, fuels or oils. It is not advisable to store your flying equipment in the trunk of your car. Temperatures inside a car parked in the sunlight, can be very high. Inside a rucksack in the sunlight temperatures can reach 60ºC. Weight should not be laid on top of the equipment.

8.3 CHECKS AND CONTROLS

You should ensure that your LINK is periodically serviced and checked at your local repair centre every 100 hours of use or every 2 years (whichever happens first). This will guarantee that your LINK will continue to function properly and therefore continue fulfilling the homologation certificate results.

8.4 REPAIRS

If the wing is damaged, you can temporarily repair it by using the rip stop found in the repair kit, so long as no stitches are involved in the tear. Any other type of tear must be repaired in a specialized repair shop or by qualified personnel. Do not accept a home repair.

9. SAFETY AND RESPONSIBILITY

It is well known that paragliding is considered a high-risk sport, where safety depends on the person who is practising it.
Wrong use of this equipment may cause severe injuries to the pilot, even death. Manufacturers and dealers are not responsible for any act or accident that may be the result of practicing this sport.
You must not use this equipment if you are not trained. Do not take advice or accept any informal training from anyone who is not properly qualified as a flight instructor.

10. GUARANTEE

The entire equipment and components are covered by a 2-year guarantee against any manufacture fault.

The guarantee does not cover misuse or abnormal use of the materials.

11. TECHNICAL DATA

11.1 TECHNICAL DATA

LINK			**23**	**25**	**27**	**29**
CELLS	NUMBER		50	50	50	50
	CLOSED		6	6	6	6
	BOX		27	27	27	27
FLAT	AREA	M2	23	25	27	29,5
	SPAM	M	11,04	11,51	11,96	12,5
	ASPECT RATIO		5,3	5,3	5,3	5,3
PROJECTED	AREA	M2	19,55	21,23	22,9	24,99
	SPAM		8,65	9,29	9,32	9,76
	ASPECT RATIO		3,82	3,82	3,82	3,82
FLATTENING		%	15	15	15	15
CORD	MAXIMUM		2,56	2,67	2,77	2,9
	MINIMUM		0,6	0,62	0,65	0,69
	AVERAGE		2,08	2,17	2,25	2,34
LINES	TOTAL METERS	M	276	294	306	317
	HEIGHT	M	6,87	7,11	7,41	7,72
	NUMBER		218	218	218	218
	MAIN		3/3/4/2	3/3/4/2	3/3/4/2	3/3/4/2
RISERS	NUMBER	4	A/B/C/D	A/B/C/D	A/B/C/D	A/B/C/D
	TRIMS	m/m	90	90	90	90
	ACCELERATOR	m/m	100	100	100	100
TOTAL WEIGHT	MINIMUM	KG	65	80	95	110
IN FLIGHT	MAXIMUM	KG	120	140	160	180
GLIDER WEIGHT		KG	5,2	5,5	5,8	6,1
CERTIFICATION		EN/LTF	B	B	B	B

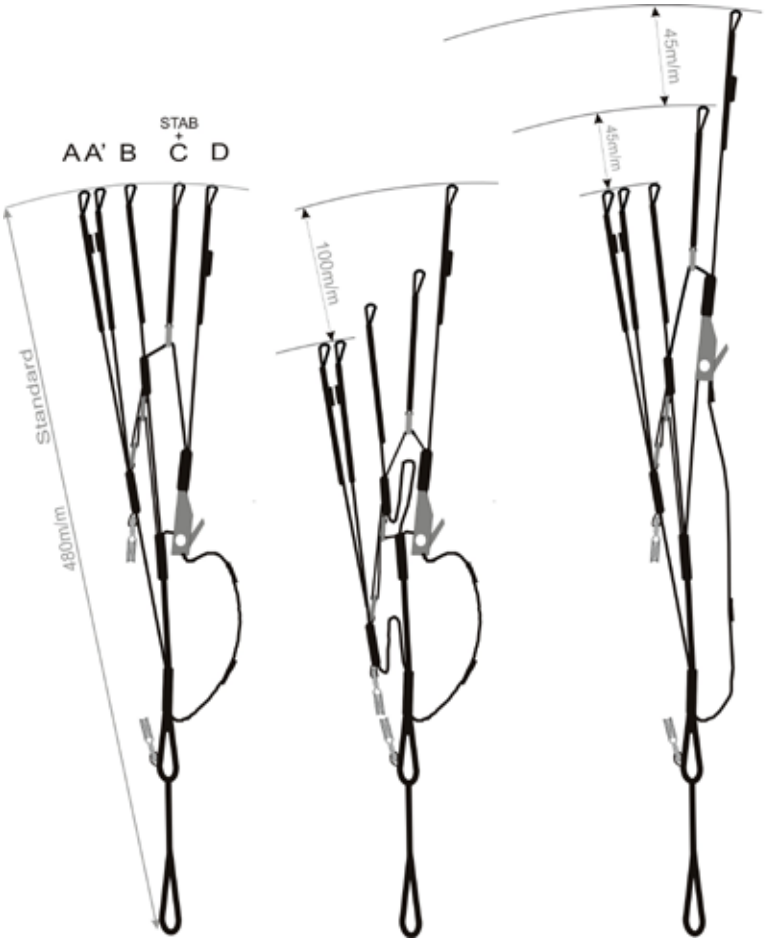
11.2 MATERIALS DESCRIPTION

CANOPY	FABRIC CODE	SUPPLIER
UPPER SURFACE	SKYTEX 40 9017 E77	PORCHER IND (FRANCE)
BOTTOM SURFACE	N 20 MF	DOMINICO TEX CO
PROFILES	30D FM	DOMINICO TEX CO
DIAGONALS	30D FM	DOMINICO TEX CO
LOOPS	LKI - 10	KOLON IND. (KOREA)
REIFORCEMENT LOOPS	W-420	D-P (GERMANY)
TRAILING EDGE REIFORCEMENT	MYLAR	D-P (GERMANY)
RIBS REIFORCEMNET	W-420	D-P (GERMANY)
THREAD	SERAFIL 60	AMAN (GERMANY)

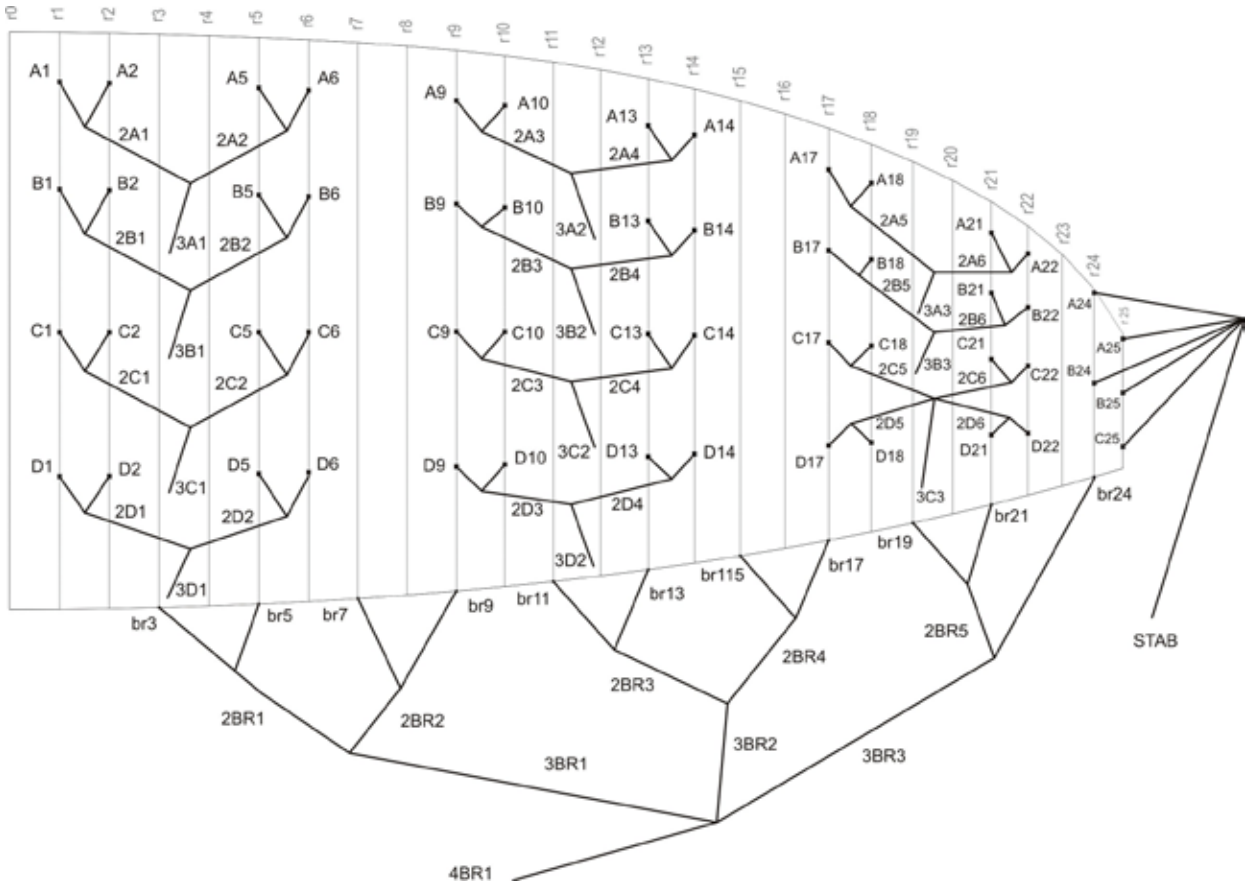
SUSPENSION LINES	FABRIC CODE	SUPPLIER
UPPER CASCADES	TNL - 080	EDELRID (GERMANY)
MIDDLE CASCADES	TNL - 080	TEIJIM LIMITED (JAPAN)
MIDDLE CASCADES	TNL - 140	TEIJIM LIMITED (JAPAN)
MAIN	TNL - 280	TEIJIM LIMITED (JAPAN)
MAIN	TNL - 220	TEIJIM LIMITED (JAPAN)
MAIN	TNL - 140	TEIJIM LIMITED (JAPAN)
MAIN BREAK	TNL - 400	TEIJIM LIMITED (JAPAN)
THREAD	SERAFIL 60	AMAN (GERMANY)

RISERS	FABRIC CODE	SUPPLIER
MATERIAL	G-R 22	TECNI SANGLES (FRANCE)
COLOR INDICATOR	PAD	TECNI SANGLES (FRANCE)
THREAD	V138	COATS (ENGLAND)
MAILLONS	MRI4	ANSUNG PRECISION (KOREA)
PULLEYS	224	HARKEN (USA)

11.3 RISER ARRANGEMENT



11.4 LINE PLAN



11.5 LENGTHS LINK 23

NIVIUK LINK 23

	LINES HEIGHT m/m				
	A	B	C	D	br
1	6380	6300	6320	6430	7000
2	6340	6265	6275	6380	6805
3	6305	6230	6245	6350	6660
4	6325	6250	6270	6385	6620
5	6275	6210	6220	6325	6505
6	6240	6175	6180	6280	6425
7	6215	6155	6165	6250	6420
8	6230	6180	6190	6280	6475
9	6080	6045	6070	6135	6340
10	6030	5995	6020	6085	6270
11	5865	5845	5860	5910	6105
12	5840	5825	5830	5875	
13	5595	5565			
14	5480	5485	5520		
15					

	RISERS LENGHT m/m				
	A	B	C	D	
	480	480	480	480	STANDARD
	480	480	525	570	TRIMMER OPENED
	380	410	440	480	ACCELERATED

11.6 LENGTHS LINK 25

NIVIUK LINK 25

	LINES HEIGHT m/m				
	A	B	C	D	br
1	6655	6570	6590	6710	7270
2	6610	6530	6545	6655	7070
3	6575	6495	6515	6625	6915
4	6595	6520	6540	6655	6875
5	6545	6470	6495	6595	6750
6	6510	6435	6455	6545	6670
7	6475	6415	6430	6515	6660
8	6495	6435	6455	6550	6720
9	6332	6295	6325	6390	6575
10	6277	6250	6275	6340	6505
11	6102	6090	6100	6150	6335
12	6077	6065	6070	6115	
13	5800	5770			
14	5680	5690	5725		
15					

	RISERS LENGHT m/m				
	A	B	C	D	
	480	480	480	480	STANDARD
	480	480	525	570	TRIMMER OPENED
	380	410	440	480	ACCELERATED

11.7 LENGTHS LINK 27

NIVIUK LINK 27

	LINES HEIGHT m/m				
	A	B	C	D	br
1	6915	6830	6850	6975	7535
2	6875	6790	6805	6920	7325
3	6830	6755	6770	6885	7165
4	6855	6775	6800	6920	7120
5	6805	6730	6750	6855	6995
6	6765	6695	6705	6800	6910
7	6730	6670	6685	6770	6905
8	6755	6695	6715	6805	6965
9	6580	6545	6570	6645	6825
10	6525	6495	6520	6590	6750
11	6345	6330	6345	6400	6575
12	6320	6305	6310	6360	
13	6030	6010			
14	5920	5930	5970		
15					

	RISERS LENGHT m/m				
	A	B	C	D	
	480	480	480	480	STANDARD
	480	480	525	570	TRIMMER OPENED
	380	410	440	480	ACCELERATED

11.8 LENGTHS LINK 29

NIVIUK LINK 29

	LINES HEIGHT m/m				
	A	B	C	D	br
1	7245	7151	7182	7309	7900
2	7199	7106	7132	7249	7680
3	7153	7077	7097	7213	7510
4	7180	7099	7130	7249	7465
5	7127	7047	7072	7179	7340
6	7087	7014	7027	7123	7250
7	7053	6989	7000	7092	7240
8	7077	7014	7029	7128	7305
9	6899	6858	6877	6951	7160
10	6840	6801	6826	6897	7080
11	6654	6639	6646	6701	6890
12	6627	6609	6609	6656	
13	6334	6297			
14	6204	6213	6259		
15					

	RISERS LENGHT m/m				
	A	B	C	D	
	480	480	480	480	STANDARD
	480	480	525	570	TRIMMER OPENED
	380	410	440	480	ACCELERATED

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paragliding by air turquoise

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AIR TURQUOISE SA certified by

ISO 9001 BUREAU VERITAS Certification

NIVIUK

Class: **B**

In accordance with EN standards 926-2:2005 & 926-1:2006: **PG_0489.2011**

Date of issue (DMY): **03. 01. 2012**

Manufacturer: **Niviuk Gliders / Air Games S.L.**

Model: **Link 23**

Serial number:

Configuration during flight tests

Paraglider		**Accessories**	
Maximum weight in flight (kg)	**85**	Range of speed system (cm)	**10**
Minimum weight in flight (kg)	**65**	Speed range using brakes (km/h)	**17**
Glider's weight (kg)	**5.2**	Range of trimmers (cm)	**0**
Number of risers	**4**	Total speed range with accessories (km/h)	**28**
Projected area (m2)	**19.55**		

Harness used for testing (max weight)		**Inspections** (whichever happens first)
Harness type	**ABS**	every 12 months or every 100 flying hours
Harness brand	**Sup'Air**	Warning! Before use refer to user's manual
Harness model	**Altiplume S**	Person or company having presented the glider for testing: **None**
Harness to risers distance (cm)	**49**	
Distance between risers (cm)	**42**	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
A	A	A	A	A	A	A	A	B	A	A	A	A	B	A	A	A	A	A	A	B	A	A	0

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paragliding by air turquoise

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AIR TURQUOISE SA certified by

ISO 9001 BUREAU VERITAS Certification

NIVIUK

Class: **B**

In accordance with EN standards 926-2:2005 & 926-1:2006: **PG_0451.2011**

Date of issue (DMY): **03. 01. 2012**

Manufacturer: **Niviuk Gliders / Air Games S.L.**

Model: **Link 25**

Serial number:

Configuration during flight tests

Paraglider		**Accessories**	
Maximum weight in flight (kg)	**100**	Range of speed system (cm)	**10**
Minimum weight in flight (kg)	**80**	Speed range using brakes (km/h)	**17**
Glider's weight (kg)	**5.5**	Range of trimmers (cm)	**0**
Number of risers	**4**	Total speed range with accessories (km/h)	**28**
Projected area (m2)	**21.23**		

Harness used for testing (max weight)		**Inspections** (whichever happens first)
Harness type	**ABS**	every 12 months or every 100 flying hours
Harness brand	**Sup'Air**	Warning! Before use refer to user's manual
Harness model	**Altiplume M**	Person or company having presented the glider for testing: **None**
Harness to risers distance (cm)	**49**	
Distance between risers (cm)	**46**	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
A	A	A	A	A	A	A	A	B	A	A	A	A	B	A	A	A	A	A	B	B	A	A	0

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NIVIUK

Class: **B**

In accordance with EN standards 926-2:2005 & 926-1:2006: **PG_0490.2011**

Date of issue (DMY): **03. 01. 2012**

Manufacturer: **Niviuk Gliders / Air Games S.L.**

Model: **Link 27**

Serial number:

Configuration during flight tests

Paraglider		**Accessories**	
Maximum weight in flight (kg)	**115**	Range of speed system (cm)	**10**
Minimum weight in flight (kg)	**95**	Speed range using brakes (km/h)	**17**
Glider's weight (kg)	**5.8**	Range of trimmers (cm)	**0**
Number of risers	**4**	Total speed range with accessories (km/h)	**28**
Projected area (m2)	**22.9**		

Harness used for testing (max weight)		**Inspections** (whichever happens first)
Harness type	**ABS**	every 12 months or every 100 flying hours
Harness brand	**Niviuk Gliders**	Warning! Before use refer to user's manual
Harness model	**Hamak L**	Person or company having presented the glider for testing: **None**
Harness to risers distance (cm)	**49**	
Distance between risers (cm)	**46**	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
A	A	A	A	A	A	A	A	B	A	A	A	A	B	A	A	A	A	A	B	B	A	A	0

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ISO 9001 BUREAU VERITAS Certification

NIVIUK

Class: **B**

In accordance with EN standards 926-2:2005 & 926-1:2006: **PG_0491.2011**

Date of issue (DMY): **03. 01. 2012**

Manufacturer: **Niviuk Gliders / Air Games S.L.**

Model: **Link 29**

Serial number:

Configuration during flight tests

Paraglider		**Accessories**	
Maximum weight in flight (kg)	**130**	Range of speed system (cm)	**10**
Minimum weight in flight (kg)	**110**	Speed range using brakes (km/h)	**17**
Glider's weight (kg)	**6.1**	Range of trimmers (cm)	**0**
Number of risers	**4**	Total speed range with accessories (km/h)	**28**
Projected area (m2)	**24.99**		

Harness used for testing (max weight)		**Inspections** (whichever happens first)
Harness type	**ABS**	every 12 months or every 100 flying hours
Harness brand	**Niviuk Gliders**	Warning! Before use refer to user's manual
Harness model	**Hamak L**	Person or company having presented the glider for testing: **None**
Harness to risers distance (cm)	**49**	
Distance between risers (cm)	**46**	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
A	A	A	A	A	A	A	A	B	A	A	A	A	B	A	A	A	A	A	A	A	A	A	0

The importance of small details
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