MANUAL DE USO

HOOK

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 HOOK was conceived to ensure that you enjoy all the pleasures of flying, the pleasure of piloting, the pleasure of gliding, the pleasure of aesthetics, the pleasure of discovering the safety aspects, which were not left aside during the creation process and most of all the pleasure of offering this paraglider to you. We have not only introduced new design methods but we have also used new production technologies. During the entire process of the development of this wing, the NIVIUK team, directed by Olivier Nef has achieved excellent behaviour and inflight characteristics. These qualities have been confirmed by the excellent results obtained during the homologation process. We are sure that you will enjoy flying this wing and that you will soon find out the meaning of our slogan: “Give importance to the small details that build up to big things” This is the user’s manual that we recommend you to read in detail. The NIVIUK Gliders Team.

USER'S MANUAL

NIVIUK Gliders HOOK

This manual offers all the necessary information that will familiarize you 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 HOOK glider.
Severe injuries to the pilot can be the consequence of the misuse of this equipment.

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ÍNDICE

1. CHARACTERISTICS

1.1 WHO IS IT DESIGNED FOR?

The main objectives of the HOOK are two-fold: to satisfy the pilot's demands during the progressing phase and to respond to the demands of the more versatile pilots.
Therefore, the wing has to accomplish two demands:
a.- Maximum safety in all possible flight configurations.
b.- Maximum piloting performance and comfort in flight.

1.2 HOMOLOGATION

In order to accomplish these objectives and to satisfy the first demand, the HOOK went through the strict homologation procedure. The DHV 1-2 certification level of the XS, S, M, and L sizes passed all the required tests with excellent results.
The HOOK passed the essential load test of 8g without any problems at all. This test was carried out in the Swiss Air-Turquoise laboratories.
Check the homologation results and figures on the last pages of this manual.

1.3 IN-FLIGHT BEHAVIOUR

In order to accomplish the second demand required by the HOOK, 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, manoeuvrable, safe and aesthetic, these are just some of the qualities of this wing.
The wing's behaviour on the ground is the first quality of its obedient temperament.
Its lightness, in weight as in command is so decisive that all actions that are taken during the flight result in total liberty.
This wing's performance will make quite clear that lightness and efficiency are complementary concepts. Even in the most turbulent conditions all instructions are diligently transmitted and the response given by the HOOK is the expected response. The pilot will discover the manoeuvrability of this wing in all the aspects of piloting, allowing the pilot to explore beyond his/her present knowledge without running the risk of an incorrect response of the HOOK.

The wing's safety is guaranteed by its excellent homologation certifications. It is worthwhile remembering that the best paraglider in the hands of a bad pilot does not guarantee a happy ending. The HOOK's passive safety measures should also be accompanied by the passive safety offered by the rest of the flying equipment: the harness, helmet, emergency parachute etc. The extraordinary behaviour of the HOOK and common-sense piloting will give you many hours of peaceful flying.

1.4 ASSEMBLY, MATERIALS

The HOOK does not only introduce new design methods but also new manufacture technologies. Not a single millimetre of error is possible in the manufacturing process from Olivier's computer to the cutting of the fabric. An automatic process controlled by a laser-cutting program cuts each of the sections that compose the different parts of the wing. This program not only cuts the pieces of fabric but it also paints the guideline marks that will aid the assembly; it also numbers the separate pieces of material. All this is carried out before human handling of the pieces begins. So we eliminate possible and understandable errors that may occur during this delicate procedure.
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 economize 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 then individually inflated for the last visual revision. 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 HOOK 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 HOOK from possible damage, during storage is also supplied. The glider strap allows you to fold the wing as small as possible. Furthermore you will find the accelerator bar that completes the acceleration gear of the wing, a small fabric repair kit made of auto-adhesive ripstop and a user's manual with the answers all our questions about our new HOOK.

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 to 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 HOOK. We recommend that an instructor or a retailer supervises 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, make sure there are no abnormalities. Check the maillons that attach the lines to the risers are properly closed. Identify and order the A, B, C, and D lines, the brake lines and the corresponding risers. Make sure that there are no ties or knots.

2.3 ASSEMBLY OF THE HARNESS

Correctly place the risers on the harness karabiners. The risers and lines should not have any twists and they should be in the right order. Check that the harness buckles are correctly locked.

2.4 TYPE OF HARNESS

The HOOK has passed the DHV 1-2 certification using a GH type harness. This certification allows it to be flown with most of the harnesses on the market. We recommend that you adjust the distance of the chest strap according the homologation. This varies according to the size of the wing. 42 cm for size S, 44 cm for size M, 46 cm for size L.
Any change made to these specifications may affect the wing's performance and reactions. This would therefore effect the glider's configuration and would not conform to the homologation.

2.5 ASSEMBLY OF THE ACCELERATOR

The acceleration mechanism of the HOOK works when you push with your feet on the accelerator bar, this is supplied with the equipment. On delivery the accelerator bar has not yet been installed and it is recommended that it is fit by yourself before flight. Most harnesses are equipped with a pre-installed 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 pilot's 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 you have checked all the equipment and made sure that the wind conditions are favourable, inflate your HOOK as many times as necessary in order to become acquainted with the wing's behaviour. The HOOK 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 on them, just accompany the natural rising movement of the wing. Once the wing is overhead, simply apply correct pressure on the brake lines and the HOOK will sit over your head.

2.7 ADJUSTING THE BRAKES

The length of the main brake lines is adjusted at the factory to the length established during homologation. However, the length can be changed to adapt to the pilot's flying style. Nevertheless, we recommend that you fly for a while with these, set at the original length. This will allow you to become accustomed to the HOOK's
original flying behaviour. If you then decide to change the length of the brake lines, untie the knot, slide the line through the brake link to the desired length, and strongly re-tie the knot. Qualified personnel should carry out this adjustment. You must ensure that this adjustment does not slow down the glider without any pilot input. Both brake lines should be symmetrical and measure the same length. The most recommended knots are the clove hitch knot or bowline knot.

3. THE FIRST FLIGHT

3.1 CHOOSE THE RIGHT PLACE

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

3.2 PREPARATION

Repeat the procedures detailed in chapter 2 (UNPACKING AND ASSEMBLY) in order to prepare your equipment.

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

Once you are ready, but before you take-off, carry out another equipment inspection. Ensure correct installation of all equipment and that all lines are free of hindrances or knots. Check that the weather conditions are suited for your flying skills.

3.5 WING INFLATION, CONTROL, AND TAKE-OFF

Smoothly and progressively inflate the wing (chapter 2.6 INSPECTION AND WING INFLATION ON THE GROUND). The HOOK inflates easily and does not require excessive energy. It does not tend to over-take you, so the wing inflation phase is carried out without anguish. These take off characteristics provide a perfect control phase and enough time for the pilot to decide whether to accelerate and take off. Whenever the wind speed allows it, we recommend a reverse launch technique, this type of launch allows you to carry out a better visual check of the wing. The HOOK is especially easy to control in this position in strong winds. However, wind speeds up to 25 to 30 km/h are considered strong and extra consideration should be given to any thought of flight.
Preparation and positioning of the wing on the take off is especially important. Choose a location which is appropriate for the direction of the wind. Position the paraglider as if it were part of a large circle, taking into account the shape of the canopy in flight. All this will assist in a trouble free take-off.

3.6 LANDING

The HOOK lands excellently, it transforms the wing speed into lift on the pilot's demand, allowing an enormous margin of error. You will not have to wrap the brake lines around your hand to get greater braking efficiency.

4. IN FLIGHT

4.1 FLYING IN TURBULENCE

The HOOK complies with an excellent homologation to face this type of situation with the best safety guarantee. This wing is stable in all types of weather conditions.
It reacts admirably in passive flight, thus offering a high level of safety in turbulent conditions. Nonetheless, all paragliders always have to be piloted according to the prevailing weather conditions, the pilot is the ultimate safety factor.
We recommend that the pilot adopts a proactive attitude when flying, making the necessary fine adjustments to keep the wing in control. He/she should stop braking to allow it to fly at the required wing speed after a correction is made. Do not maintain any correction for longer than necessary (braked) this would cause the wing to enter into critical flying situation. Whenever necessary, control a situation, react to it and then re-establish the required speed.

4.2 POSSIBLE CONFIGURATIONS

We recommend that training to master these manoeuvres be carried out under the supervision of a competent school.

Asymmetric collapse

In spite of the great stability of the profile of the HOOK, 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 HOOK 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 HOOK 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. Symmetrical collapses usually re-inflate without the glider turning but 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 HOOK. 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

The possibility of this happening has been eliminated by the design of the HOOK and it is highly unlikely to happen on this paraglider. 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 HOOK 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 do not doubt an instant. 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.
To regain normal flight conditions, progressively and symmetrically release the brake lines, letting the speed be re-established. When the wing reaches the maximum advanced position ensure that the brakes are fully released. The wing will now surge forward, this is necessary so that air speed is completely restored over the wing. Do not over brake at this point because the wing needs to recover speed to quit the stall configuration. If you have to control a possible symmetrical front stall, briefly and symmetrically pull on the brake lines and let go even when the wing is still ahead of you.

Wing tangle

Of all the possible situations, which you may encounter while flying the HOOK, 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. 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 stabiliser that is trapped between the other lines.
This line has a different colour and belongs to the external lines of the B 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 wrong actions of the pilot, which chained one after another create abnormal flying configurations (a cascade of incidents). You must to remember that over handling the wing will lead to critical levels of functioning. The HOOK 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, that 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 HOOK has been designed to fly stable through its entire speed range, the DHV 1-2 certification confirms this. 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 stop pushing 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.”

4.4 FLYING WITHOUT BRAKE LINES

If, for any reason at all, you cannot use the brake lines of your HOOK 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 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 apply the brake line on that side too. You can gently pull on the brake line to see if the knot becomes unfastened or try to identify the line with the knot in it. The identified line can then be pulled 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 a greater 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 BIG EARS

Big ears are a moderate descent method, reaching –3 or –4 m/s, ground speed reduces slightly between 3 and 5 km/h and piloting becomes limited. The angle of incidence and the surface wing load also increases. Push on the accelerator to restore the wing's horizontal speed and the angle of incidence.
To pull big ears take the outermost A-lines of both stabilizers as high up as possible and pull on them outward and downward. The wingtips will fold in. Let go of the lines and the big ears will re-inflate automatically. If they do not re-inflate, gently pull on one of the brake lines and then on the opposite one.
We recommend that you re-inflate asymmetrically, not to alter the angle of incidence, more so if you are flying near the ground or flying in turbulence. The HOOK is fitted with big ear pulleys which makes both locating the right line and the manoeuvre easier. These big ear pulleys can be removed whenever the pilot wishes.

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-lines below the maillons and symmetrically pull both of them down (approx. 20-30cms) 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 carried out.
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 and know how to carry out the exit methods.
To exit this manoeuvre 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 manoeuvre has 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 HOOK does not experience any problem when 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 HOOK has been tested by expert acrobatic pilots in extreme situations, it HAS NOT been designed for acrobatic flight and we DO NOT recommend continued use in this type of flight. Acrobatic flight is the youngest discipline in free flight. 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 by a qualified instructor and over water.

Extreme manoeuvres take you and your wing to centrifugal forces that can reach 4 to 5g.

Materials will wear more quickly than in normal flight. If you do practice extreme manoeuvres we recommend that you submit your wing to a line revision once a year at least.

7. FOLDING INSTRUCTIONS

Use of a correct folding method is important for extending the useful life of your paraglider. It should be folded like an accordion, with the leading edge reinforcements flat. This method will keep the profile in good shape without altering its form or its performance. Be careful that the reinforcements are not bent or twisted. The wing does not have to be tightly folded, if you do so it may damage the material or the lines.

8. CARE AND MAINTENANCE

8.1 MAINTENANCE

I you take good care of your equipment it will performance will be maintained. The fabric and the lines do not need to be washed, if they become dirty, clean them with a soft damp cloth. If your wing gets 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 through 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 and in the sunlight temperatures can reach 60ÀC. Weight should not be laid on top of the equipment.

8.3 CHECKS AND CONTROLS

You should ensure your HOOK is periodically serviced and checked at your local repair shop every 100 hours of use or once a year (whichever happens first). This is the only way to guarantee that your HOOK 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 that you'll find 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 can 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 for any manufacture fault.
The guarantee does not cover

11.1 TECHNICAL DATA

	XS	S	M	L
NUMBER OF CELLS	47	47	47	47
FLAT AREA	23	25,87	27,7	30,5
PROJECTED AREA	19,99	22,45	24,02	26,4
FLAT SPAN	10,84	11,5	11,9	12,48
PROJECTED SPAN	8,78	9,29	9,6	10,06
FLAT ASPECT RATIO	5,11	5,11	5,11	5,11
PROJECTED ASPECT RATIO	3,85	3,85	3,85	3,85
MAXIMUM CORD	2,67	2,83	2,93	3,07
AVERAGE CORD	1,72	1,82	1,88	1,98
MINIMUM CORD	0,76	0,81	0,83	0,88
TOTAL MTS LINES M	316	337	347	365
LINE HEIGHT M	6,33	6,7	6,95	7,33
NUMBER OF LINES	194	194	194	194
MAIN LINES A/B/C/D	3/4/3/2	3/4/3/2	3/4/3/2	3/4/3/2
RISERS	A/B/C/D	A/B/C/D	A/B/C/D	A/B/C/D
TOTAL WEIGHT IN FLIGHT KG	60-80	75-95	90-110	100-130
GLIDER WEIGHT KG	5,2	5,5	5,8	6,1
HOMOLOGATION	DHV 1-2	DHV 1-2	DHV 1-2	DHV 1-2

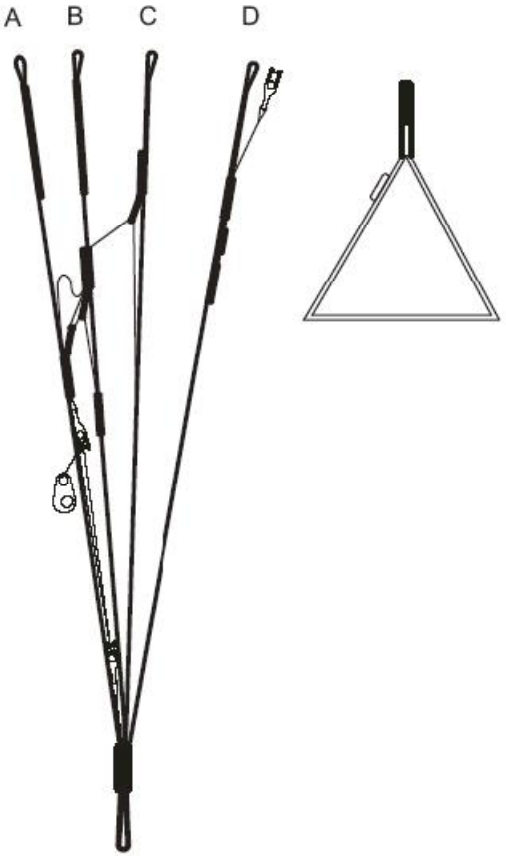
11.2 MATERIALS DESCRIPTION

CANOPY	FABRIC CODE	SUPPLIER
UPPER SURFACE	SKYTEX 40 9017 E77A	NCV (FRANCE)
BOTTOM SURFACE	SKYTEX 40 9017 E77A	NCV (FRANCE)
PROFILES AND DIAGONALS	SKYTEX 40 9017 E29A	NCV (FRANCE)
LOOPS	137 128	STUHA A.S. (CZECH)
LOOPS REINFORCEMENT	SR-170 6391 E45A	NCV (FRANCE)
TRAILING EDGE REINFORCEMENT	MYLAR 25 M/M	NCV (FRANCE)
RIBS REINFORCEMENTS	SR-SCRIM 2420 X15A	NCV (FRANCE)
THREAD	SYNTON 40	AMANN (CZECH)

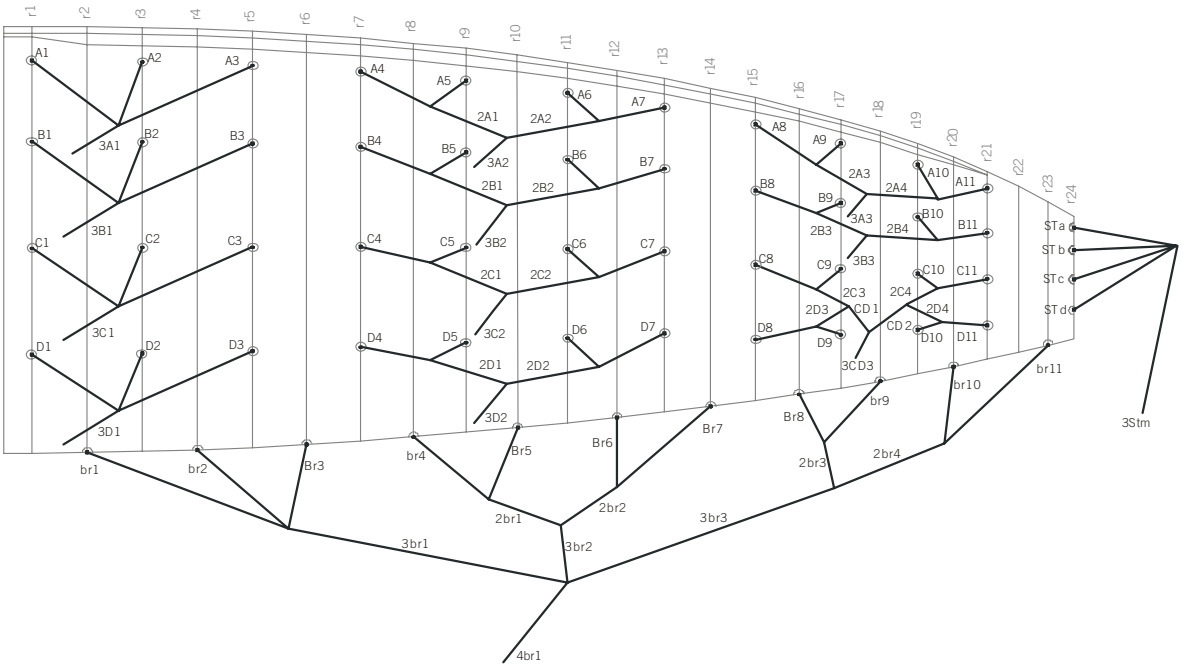
SUSPENSION LINES	FABRIC CODE	SUPPLIER
UPPER CASCADES	DYNEMA 1,0 7850-080	EDELRID (GERMANY)
MIDDLE CASCADES	DYNEMA 1,4 7850-130	EDELRID (GERMANY)
MAIN	DYNEMA 1,5 7850-160	EDELRID (GERMANY)
MAIN	DYNEMA 1,7 7850-200	EDELRID (GERMANY)
MAIN	DYNEMA 1,9 7850-240	EDELRID (GERMANY)
THREAD	SYNTON 60 AMANN (CZECH)	

RISERS	FABRIC CODE	SUPPLIER
MATERIAL	PES 366 028 020	MOUKA TIŠNOV (CZECH)
COLOR INDICATOR P	AD 317 003 070	MOUKA TIŠNOV (CZECH)
THREAD	BONDED NYLON	EURONITě(CZECH)
MAILLONS	MRDI03,5 150 / 750	PEGUET (FRANCE)
PULLEYS	PY-1204	HING HONG SOURCEC

11.3 RISER ARRANGEMENT



11.4 LINE PLAN



11.5 LENGTHS HOOK XS

NIVIUK HOOK XS

LINES HEIGHT CM.

	A	B	C	D	BR
1	633,5	625,5	628	639,5	704
2	625,5	617,5	620	631,5	685
3	625,5	618	620,5	631,5	672
4	625,5	618	621	631,5	659,5
5	615,5	608,5	611,5	621,5	646
6	611,5	606	609	618,5	643
7	615,5	611	613,5	622,5	648
8	609	605	606	614,5	646
9	601,5	598	600,5	608	644
10	596,5	594	596	601,5	640,5
11	592,5	590,5	589,5	594	632
12	563	560,5	561	564,5	

RISERS LENGTHS CM.

A	B	C	D	
50	50	50	50	STANDARD
37	39	45,5	50	ACCELERATED

11.6 LENGTHS HOOK S

NIVIUK HOOK S

LINES HEIGHT CM.

	A	B	C	D	BR
1	670 6	62	665	678	750
2	661,5	653,5	656,5	669,5	729,5
3	662	654	657	669,5	715,5
4	662	655	658	669,5	703,5
5	651,5	645	648	659	689
6	648	642,5	646	656	685,5
7	652	647,5	651	660	690
8	645	641,5	643	651	687,5
9	637,5	634,5	637,5	644,5	685,5
10	633	630	631,5	638	681,5
11	628,5	626	624,5	629,5	672
12	594	592,5	593,5	597	

RISERS LENGTHS CM.

A	B	C	D	
50	50	50	50	STANDARD
38	40	45,5	50	ACCELERATED

11.7 LENGTHS HOOK M

NIVIUK HOOK M

LINES HEIGHT CM.

	A	B	C	D	BR
1	695	686	689,5	701,5	770,5
2	686	67,5	680,5	692,5	749,5
3	686	678	681	692,5	735
4	686	678	681	692,5	722,5
5	675	667,5	671	681,5	707,5
6	671,5	665	668	678	703,5
7	676	670	673	682	709
8	668	663	663,5	672,5	707
9	660	655,5	658	665,5	704,5
10	654,5	651,5	652,5	658	700,5
11	650	647,5	645	650	691
12	618,5	615	616	621,5	

RISERS LENGTHS CM.

A	B	C	D	
50	50	50	50	STANDARD
37	40 4	5,5	50	ACCELERATED

11.8 LENGTHS HOOK L

NIVIUK HOOK L

LINES HEIGHT CM.

	A	B	C	D	BR
1	733	724	727	741	811
2	724	715	718	731,5	788,5
3	724	715,5	718,5	731,5	774
4	723	715,5	718	731,5	759,5
5	711,5	705	707,5	720	744
6	708,5	701,5	705	716	740
7	713	707	710,5	720	745,5
8	704,5	700	700,5	710,5	744
9	696 6	92,5	694,5	703	741,5
10	690,5	687,5	688,5	695	737,5
11	686	683	680,5	686	727,5
12	652,5	649,5	650,5	656	

RISERS LENGTHS CM.

A	B	C	D	
50	50	50	50	STANDARD
37	39 4	5,5	50	ACCELERATED

11.9 CERTIFICATION SPECIMEN

Deutscher Hängegleiterverband e. V. im DAeC

DHV/OeAeC-Technikreferat

LBA-anerkannte Prüfstelle für Hängegleiter und Gleitsegel

Gütesiegel

D HV/OeAeC

MUSTERPRÜFBESCHEINIGUNG

Gleitsegel

Musterprüfnummer ***DHV GS-01-1438-05***

Bezeichnung des Gerätemusters

Niviuk Hook M

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

SKY PARAGLIDERS A.S., Kadlcakova 1466 / P.O. Box 61, 73911 Frydlant nad Ostravici, Tschechische Republik

Diese Musterprüfbescheinigung ist erteilt auf Grund der die Musterprüfung betreffenden Bestimmungen des Luftverkehrgesetzes, 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 26.10.2005.

Die Musterprüfung gilt gemäß zugehörigem Geräte-Kennblatt Nr.: *DHV GS-01-1438-05*

26.10.2005

Datum der Ausstellung

Deutscher Hängegleiterverband e.V.
Liesbacher Str. 2, 83703 Gmund

Unterschrift

SPECIMEN

AIR TURQUOISE

Class: **B**

NIVIUK
www.niviuk.com
info@niviuk.com

Accordance with **EN** standards **926-2:2005** & **926-1:1995**:

Date of issue (D.M.Y):

PG 040.2007
26.02.2007

MANUFACTURER: **NIVIUK GLIDERS**

MODEL: **HOOK L**

Configuration during flight tests

Paraglider

Maximum total weight in flight:	**130 kg**
Minimum total weight in flight:	**100 kg**
Weight of the paraglider:	**6.1 kg**
Number of risers:	**4**
Projected area:	**26.4 m²**

Harness used for flight tests (maxi weight)

Type:	**ABS**
Brand name:	**Sol Paragliders**
Model:	**Slider L**
Seat to lowest part of risers distance:	**49 cm**
Distance between top of connectors centerlines:	**46 cm**

For detailed information regarding harness settings used for flight tests, please refer to flight tests reports.

Accessories

Range of the speed system:	**13 cm**	Range of trimmers:	**No cm**
Speed range using brakes:	**14 km/h**	Total speed range with accessories:	**21 km/h**

Inspections (whichever happens earlier) :

12 months or 100 hours flying time

Warning ! before use refer to user 's manual.

Serial no: .....

Date of manufacturing: .....

Person or compagny having presented the glider for testing: **None**

Conformity tests according to EN 926-2:2005 & EN 926-1:1995 standards carried out by:

AIR TURQUOISE
Rue de la Poterlaz, 6
Case postale 10
1844 Villeneuve
Switzerland

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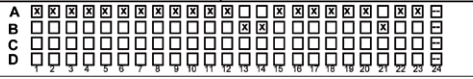

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The importance of small details

Bisgrafic