USER'S MANUAL
ARTIK 3

WELCOME

Performance and security

WELCOME

We wish to welcome you to our team and thank you for the confidence that you have placed in a NIVIUK Glider.
New terminology to describe the perfect combination of technology, performance, safety and pleasure in the EN C class has been introduced to the free flight thesaurus and that is ARTIK 3. Applying the Niviuk philosophy “give importance to small details” has ensured a wing with superior performance, a wing ahead of the rest the ARTIK 3 the EN C wing of the future.

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 ARTIK 3

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 ARTIK 3 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 ARTIK 3 has been designed for cross country pilots for pilots wanting to open the door to the world of cross country and for those pilots seeking to improve their performance in the Sport Class without compromising safety. The performance of the ARTIK 3 is far superior to that of the Artik 2. Its agility, its dynamism and its performance combined with excellent passive safety all result in an extraordinary feeling of harmonised flights.

1.2 CERTIFICATION

The ARTIK 3 has successfully achieved the European EN certification. All the commercially available sizes passed every required test with excellent results and the ARTIK 3 received the C certification for all the sizes.
The ARTIK 3 passed the essential load test of 8 g without experiencing any problems. This test was carried out in the Swiss Air-Turquoise laboratories in Switzerland.
Check the homologation results and figures on the last pages of this manual.

1.3 IN-FLIGHT BEHAVIOUR

With progressive, predictable and efficient handling the Artik 3 effectively reads the air mass, seeking out and coring thermals with efficiency and ease. The Artik 3 remains agile, light and predictable in all conditions of flight and behaves impeccably during turbulence. Its handling is more progressive and efficient than in the Artik 2.

1.4 ASSEMBLY, MATERIALS

The ARTIK 3 has all the technological innovations as used on other NIVIUK gliders. Furthermore attention to small details such as the use Harken pulleys and very small pulleys on the risers have been used to improve the comfort and efficiency of the speed system. No more tired and aching legs. The technology in the Artik 3 some of which is already used in other Niviuk gliders such as the STE, SLE and now the new 3 line profile dictates that special care should be taken to maintain the best possible condition of the glider. The use of the SLE (Structured Leading Edge) allows reinforcement of the leading edge preventing any deformation during turbulence. The airflow is also vastly improved over the entire front span of the glider.
The new generation profile has been conceived to efficiently distribute the total load across the three rows of lines. The chosen materials and line dimensions have minimum air resistance while respecting the security and maximum load efficiency.
(See http://niviuk.com/technology.asp?id=JNKPKPN4)
The STE (Structured Trailing Edge) has been adapted for the ARTIK 3, optimising the profile without any distortion, resulting in less resistance and improved performance. The STE allows a more fluid circulation of air over the wing surface maintaining a consistent airflow at the trailing edge and a cleaner airflow at high speeds. The pitch control is also notably improved.
(See http://niviuk.com/technology.asp?id=JNKPNQL0)
We use on the ARTIK 3 lines of great performance. The materials and fabrics used in the construction of the ARTK 3 have been carefully selected for their lightweight, UV standards and resilient properties when used during normal conditions.
The line plan on the ARTIK 3 has a total of 134 lines and of those only 26 are sheathed, the remaining 108 are unsheathed and therefore slightly more exposed to the normal rigours and wear of our sport. It is strongly recommended that all lines are thoroughly checked by the pilot prior to every flight and ultimately checked by a service centre or Niviuk dealer after every 100 hours of flight. We should not forget that we are using materials with great performance but that they need a rigorous check before every flight.
If the optional “racing line set” has been fit these checks are particularly important. 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 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 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 ARTIK 3 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 (195 litres), once appropriately packed. The rucksack is designed to make transport on foot as pleasant as possible. The internal bag, intended to protect the ARTIK 3 from possible damage, during storage is also supplied.
The compression strap allows you to keep the glider as good as possible in the rucksack. Furthermore you will find the accelerator bar that completes the acceleration gear of the wing, a small fabric repair kit made of autoadhesive ripstop and a user's manual with the answers all our questions about our new ARTIK 3.

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 NIVIUK ARTIK 3.
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 OF THE HARNES

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 HARNES

The ARTIK 3 has passed the EN C certification using an ABS type harness. This certification allows it to be flown with most of the harnesses on the market. We strongly recommend that you adjust the distance of the chest strap according the values used during certification. This varies according to the size of the chosen harness.

Sizes 23 and 25 = 42 cm
Sizes 27 and 29 = 46 cm

Any changes 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 certification.

2.5 ASSEMBLY OF THE ACCELERATOR

The acceleration mechanism of the ARTIK 3 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 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 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 ARTIK 3 as many times as necessary in order to become acquainted with the wing's behaviour.

The ARTIK 3 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 in the 12 o'clock position, simply apply correct pressure on the brake lines and the ARTIK 3 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 certification. 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 ARTIK 3 and it's unique 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 ARTIK 3 is made on a smooth slope (a school slope) or in your usual flying area.

3.2 PREPARATION

Repeat the procedures detailed in chapter 2 (UNPACKING AND ASEMBLY) in order to prepare your ARTIK 3.

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 ARTIK 3 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 ARTIK 3 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 ARTIK 3 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.

3.7 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.
When the correct technique is applied to the folding process it will ensure that the wing maintains its high performance, safety and durability.
The ARTIK 3 features both the SLE (Structured Leading Edge) and the STE (Structured Trailing Edge) and so to preserve the integrity of those structures a degree of care should be taken when folding.
Folding should be carried out cell to cell (accordion style) with the SLE ribs remaining parallel to the leading edge at all times. The same technique should then be applied to STE ribs on the trailing edge and when complete the cell structures along the entire chord of the wing should lay parallel and neatly alongside each other.
The wing should then be folded into three sections of equal width with each section stacked upon the other. In order to avoid placing undue stress on the internal structures when packed, it is important that each section is folded to the same length as the internal structure of the SLE. Several smaller folds should be avoided.
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 STE and SLE structures as described above.

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 we can find all the necessary information in order to anticipate how the ARTIK 3 will react to each of the 24 tested manoeuvres. 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.
We recommend that training to master these manoeuvres be carried out under the supervision of a competent school.

4.1 FLYING IN TURBULENCE

The ARTIK 3 has an excellent profile to withstand the very different aerological conditions so allowing the best possible piloting and stability. It reacts admirably in passive flight, thus offering a high level of safety in turbulent conditions. Nonetheless, the pilot always has to pilot according to the prevailing weather conditions, the pilot is the ultimate safety factor. We recommend active piloting, 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 maneuvers be carried out under the supervision of a competent school.

Asymmetric collapse
In spite of the great stability of the profile of the ARTIK 3, 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 ARTIK 3 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 overbrake 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 ARTIK 3 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 ARTIK 3. 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 ARTIK 3 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.

Wing tangle
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 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 incorrect actions of the pilot, which chained one after another creates abnormal flying configurations (a cascade of incidents). You must to remember that over handling the wing will lead to critical levels of functioning. The ARTIK 3 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 ARTIK 3 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.”

4.4 FLYING WITHOUT BRAKE LINES

If, for any reason at all, you cannot use the brake lines of your ARTIK 3 you will have to pilot the wing using the C-risers and your body weight to fly towards the nearest landing. The C-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 C-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 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 EARS

Big ears is 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. 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 lines 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. On the new generation paragliders the application of big ears can create a high degree of trailing turbulence which in turn creates a significant loss of airspeed. When big ears are applied to high aspect ratio wings the ears tend to "flap" which also adds to the amount of unwanted turbulence.

5.2 B3 TECHNIQUE

This new rapid descent technique was first discovered by our Niviuk team Pilots in 2009 while flying a competition prototype wing, which because of its line plan and high aspect ratio would not allow big ears to be applied. In fact big ears on wings with a profile of 3 lines can often prove difficult. For all these reasons, we advise the use of the new B3 line descent technique. This technique ensures a rapid descent is achieved whilst forward wing speed is maintained and so the risk of a deep stall is eliminated.

How?
Locate the B3 on your risers and as you would when applying big ears simply pull down firmly and smoothly until you see both wingtips drop

back slightly. The forward speed of the glider speed will then reduce slightly, quickly stabilize and then increase. You will then experience a fall rate of around 5-6 m/s. Controlled turning of the wing can easily be maintained by weight shifting the harness, exactly the same as you would with big ears. We recommend the application of the speed bar whilst using this technique. To exit the maneuver release the lines as you would with big ears, control the pitch and the wing will quickly adopt normal flight.This new technique allows a comfortable and controllable rapid descent without the risk of experiencing a “cravat” or “deep stall”. We advise you to first try this technique in smooth conditions with sufficient altitude above appropriate terrain.

5.3 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.

5.4 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 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 ARTIK 3 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 ARTIK 3 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.

7. CARE AND MAINTENANCE

7.1 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.
Competition lines, which were used in the past, were more vulnerable to premature wear and ageing but the new line materials used on the ARTIK 3 now ensure a much longer working life. However they still demand regular checks with careful attention to wear and tear. We advise a full inspection of the lines every 100 hours or every six months at a specialised paragliding repair centre. Rocks and hard ground are obviously far more abrasive than grassed areas, that's why we do not advise the ARTIK 3 for ground handling practice.

7.2 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 60ºC. Weight should not be laid on top of the equipment.

7.3 CHECKS AND CONTROLS

You should ensure that your ARTIK 3 is periodically serviced and checked at your local repair centre every 100 hours of use or every 12 months (whichever happens first). This will guarantee that your ARTIK 3 will continue to function properly and therefore continue fulfilling the homologation certificate results.
As previously mentioned, you should systematically check your lines visually before each take-off. We strongly advise a complete line check every 6 months.

7.4 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.

8. 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.

9. 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.

10. TECHNICAL DATA

10.1 TECHNICAL DATA

ARTIK 3			**21**	**23**	**25**	**27**	**29**
CELLS	NUMBER		62	62	62	62	62
	CLOSED		8	8	8	8	8
	BOX		21	21	21	21	21
FLAT	AREA	M2	21	23	24,5	26,5	29
	SPAN	M	11,13	11,65	12,02	12,5	13,08
	ASPECT RATIO		5,9	5,9	5,9	5,9	5,9
PROJECTED	AREA	M2	17,82	19,51	20,78	22,48	24,6
	SPAN		8,76	9,17	9,46	9,84	10,29
	ASPECT RATIO		4,3	4,3	4,3	4,3	4,3
FLATTENING		%	15	15	15	15	15
CORD	MAXIMUM		2,37	2,48	2,56	2,66	2,79
	MINIMUM		0,52	0,54	0,56	0,58	0,61
	AVERAGE		1,88	1,97	2,03	2,12	2,21
LINES	TOTAL METERS	M	243	254	263	274	287
	HEIGHT	M	6,68	6,99	7,21	7,5	7,85
	NUMBER		134	134	134	134	134
	MAIN		3/4/2	3/4/2	3/4/2	3/4/2	3/4/2
RISERS	NUMBER	3	A/B/C	A/B/C	A/B/C	A/B/C	A/B/C
	TRIMS	m/m	NO	NO	NO	NO	NO
	ACCELERATOR	m/m	130	130	160	160	160
TOTAL WEIGHT	MINIMUM	KG	59	60	75	90	105
IN FLIGHT	MAXIMUM	KG	70	80	95	110	130
GLIDER WEIGHT		KG	5,2	5,4	5,7	5,9	6,3
CERTIFICATION		EN	C	C	C	C	C

10.2 MATERIALS DESCRIPTION

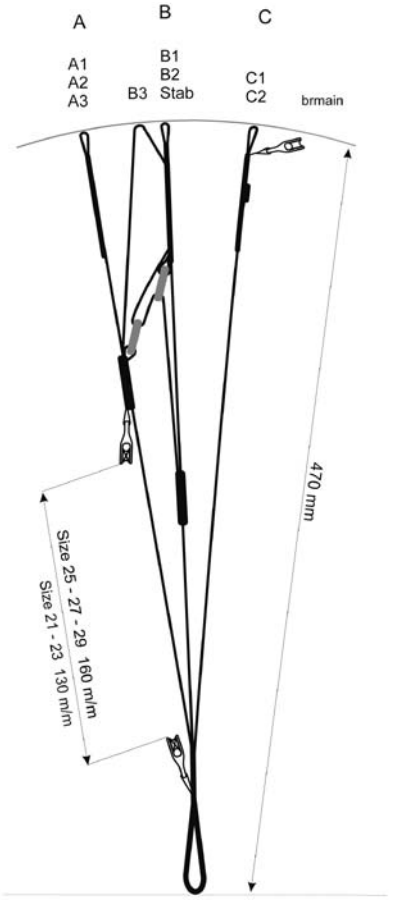
CANOPY	FABRIC CODE	SUPPLIER
UPPER SURFACE	SKYTEX 40 9017 E77	PORCHER IND (FRANCE)
BOTTOM SURFACE	N 20D MF	DOMINICO TEX CO (KOREA)
RIBS WITHOUT LINES	30D FM	DOMINICO TEX CO (KOREA)
RIBS WITH LINES	SKYTEX 40 9017 E29	PORCHER IND (FRANCE)
DIAGONALS	30D FM	DOMINICO TEX CO (KOREA)
LOOPS	LKI - 10	KOLON IND. (KOREA)
REIFORCEMENT LOOPS	W-420	D-P (GERMANY)
TRAILING EDGE REIFORCEMENT	MYLAR	D-P (GERMANY)
RIBS REIFORCEMENT	NYLON STICK	R.P.CHINA
THREAD	SERAFIL 60	AMAN (GERMANY)

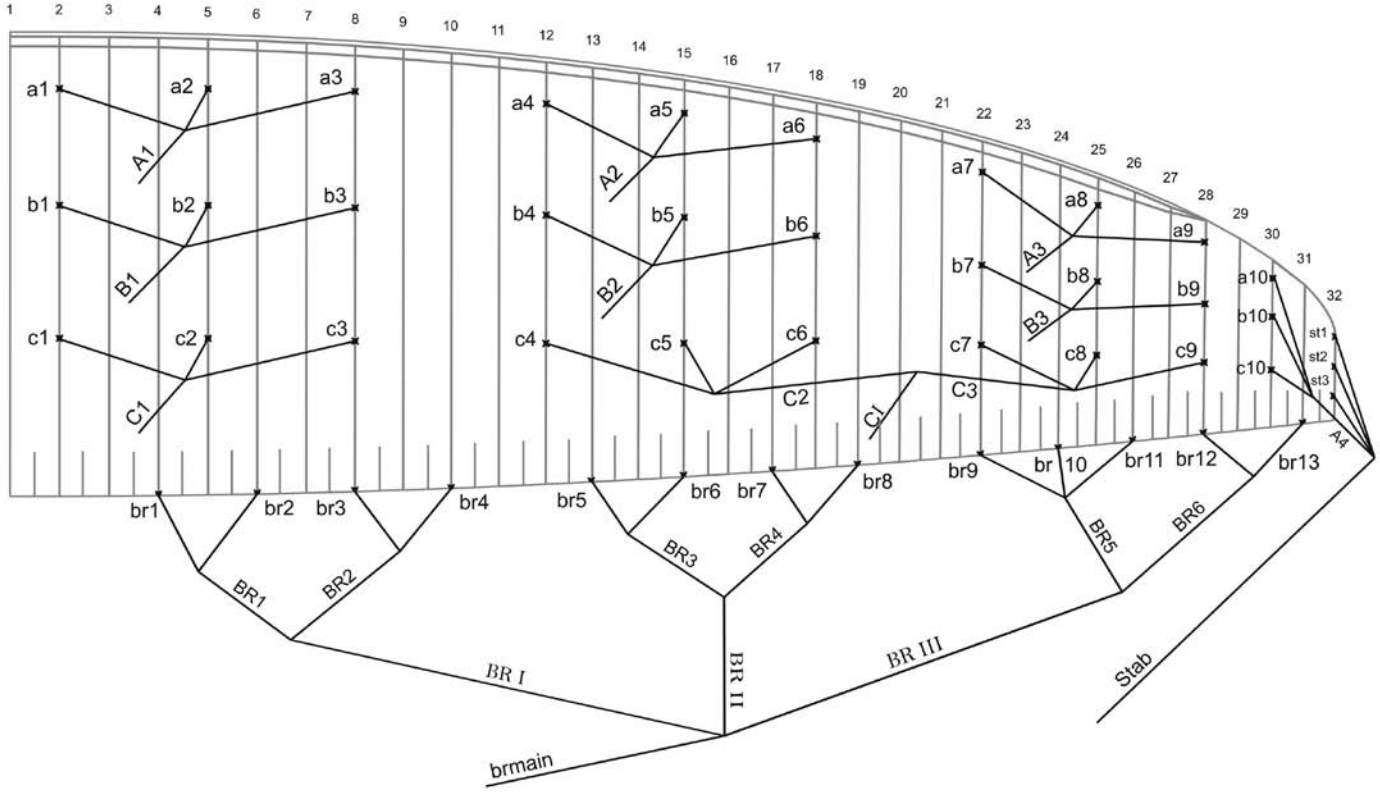
SUSPENSION LINES	FABRIC CODE	SUPPLIER
UPPER CASCADES	DC-040	LIROS GMHB (GERMANY)
UPPER CASCADES	A-8000-045	EDELRID (GERMANY)
UPPER CASCADES	A-8000-060	EDELRID (GERMANY)
UPPER CASCADES	A-8000-080	EDELRID (GERMANY)
MIDDLE CASCADES	DC-060	LIROS GMHB (GERMANY)
MIDDLE CASCADES	A-8000-060	EDELRID (GERMANY)
MIDDLE CASCADES	TNL - 140	TEIJIM LIMITED (JAPAN)
MAIN	TNL - 080	TEIJIM LIMITED (JAPAN)
MAIN	TNL - 140	TEIJIM LIMITED (JAPAN)
MAIN	TNL - 220	TEIJIM LIMITED (JAPAN)
MAIN	TNL - 280	TEIJIM LIMITED (JAPAN)
MAIN BREAK	TNL - 400	TEIJIM LIMITED (JAPAN)
THREAD	SERAFIL 60	AMAN (GERMANY)

SUSPENSION LINES RACE	FABRIC CODE	SUPPLIER
UPPER CASCADES	DC-040	LIROS GMHB (GERMANY)
UPPER CASCADES	A-8000-045	EDELRID (GERMANY)
UPPER CASCADES	A-8000-060	EDELRID (GERMANY)
UPPER CASCADES	A-8000-080	EDELRID (GERMANY)
MIDDLE CASCADES	DC-060	LIROS GMHB (GERMANY)
MIDDLE CASCADES	A-8000-060	EDELRID (GERMANY)
MIDDLE CASCADES	A-8000-135	EDELRID (GERMANY)
MAIN	A-8000-060	EDELRID (GERMANY)
MAIN	A-8000-135	EDELRID (GERMANY)
MAIN	A-8000-200	EDELRID (GERMANY)
MAIN	A-8000-240	EDELRID (GERMANY)
MAIN BREAK	TNL - 400	TEIJIM LIMITED (JAPAN)

RISERS	FABRIC CODE	SUPPLIER
MATERIAL	3455	COUSIN (FRANCE)
COLOR INDICATOR	PAD	TECNI SANGLES (FRANCE)
THREAD	V138	COATS (ENGLAND)
MAILLONS	MRDI03.5 S12	PEGUET (FRANCE)
PULLEYS	224	HARKEN (USA)

10.3 RISER ARRANGEMENT ARTIK 3




1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
a1 a2 a3 A1
b1 b2 b3 B1
c1 c2 c3 C1
a4 a5 a6 A2
b4 b5 b6 B2
c4 c5 c6 C2
a7 a8 a9 A3
b7 b8 b9 B3
c7 c8 c9 C3
a10 b10 c10
st1 st2 st3 A4
C1
br1 br2 br3 br4 br5 br6 br7 br8 br9 br 10 br11 br12 br13
BR1 BR2 BR3 BR4 BR5 BR6
BR I BR II BR III Stab
brmain

10.5 LENGTHS ARTIK 3 21

NIVIUK ARTIK 3 21				
	LINES HEIGHT m/m			
	A	B	C	br
1	6191	6114	6231	6844
2	6089	6013	6080	6686
3	6081	6007	6106	6556
4	6009	5940	6083	6568
5	5916	5855	5920	6340
6	5913	5860	5921	6224
7	5776	5740	5828	6191
8	5650	5631	5784	6251
9	5584	5575	5840	6147
10	5419	5388	5418	6035
11	5286	5295	5321	6036
12				5988
13				5967

	RISERS LENGTHS m/m			
	A	B	C	
	470	470	470	STANDARD
	340	380	470	ACCELERATED

10.6 LENGTHS ARTIK 3 23

NIVIUK ARTIK 3 23				
	LINES HEIGHT m/m			
	A	B	C	br
1	6506	6416	6543	7170
2	6402	6311	6386	7005
3	6395	6307	6416	6870
4	6315	6244	6393	6883
5	6219	6156	6224	6646
6	6217	6162	6226	6525
7	6074	6036	6129	6491
8	5942	5922	6083	6554
9	5873	5864	6141	6446
10	5701	5669	5700	6329
11	5562	5571	5598	6331
12				6281
13				6260

	RISERS LENGTHS m/m			
	A	B	C	
	470	470	470	STANDARD
	340	380	470	ACCELERATED

10.7 LENGTHS ARTIK 3 25

NIVIUK ARTIK 3 25

LINES HEIGHT m/m				
	A	B	C	br
1	6725	6632	6768	7369
2	6618	6525	6608	7198
3	6612	6522	6639	7060
4	6537	6463	6627	7073
5	6438	6373	6453	6829
6	6437	6380	6457	6705
7	6289	6250	6356	6670
8	6153	6133	6309	6736
9	6082	6072	6368	6625
10	5920	5887	5920	6505
11	5760	5770	5798	6507
12				6456
13				6435

RISERS LENGTHS m/m				
	A	B	C	
	470	470	470	STANDARD
	310	377	470	ACCELERATED

10.8 LENGTHS ARTIK 3 27

NIVIUK ARTIK 3 27

LINES HEIGHT m/m				
	A	B	C	br
1	7018	6920	7058	7708
2	6908	6810	6892	7532
3	6904	6808	6926	7388
4	6822	6745	6916	7402
5	6720	6652	6736	7150
6	6719	6660	6740	7021
7	6566	6525	6636	6985
8	6425	6403	6586	7055
9	6350	6340	6648	6940
10	6182	6148	6181	6816
11	6016	6027	6062	6819
12				6765
13				6744

RISERS LENGTHS m/m				
	A	B	C	
	470	470	470	STANDARD
	310	377	470	ACCELERATED

10.9 LENGTHS ARTIK 3 29

NIVIUK ARTIK 3 29				
	LINES HEIGHT m/m			
	A	B	C	br
1	7364	7261	7410	8088
2	7251	7148	7238	7904
3	7247	7147	7276	7754
4	7163	7083	7251	7770
5	7057	6986	7064	7507
6	7057	6995	7069	7373
7	6898	6855	6961	7336
8	6750	6728	6909	7409
9	6672	6662	6973	7290
10	6482	6446	6480	7160
11	6323	6334	6364	7164
12				7109
13				7087

	RISERS LENGTHS m/m			
	A	B	C	
	470	470	470	STANDARD
	310	377	470	ACCELERATED

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NIVIUK

Class: **C**

In accordance with EN standards 926-2:2005 & 926-1:2006: **PG_0614.2012**

Date of issue (DMY): **20. 07. 2012**

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

Model: **Artik 3 21**

Serial number:

Configuration during flight tests

Paraglider		**Accessories**	
Maximum weight in flight (kg)	**90**	Range of speed system (cm)	**16**
Minimum weight in flight (kg)	**59**	Speed range using brakes (km/h)	**14**
Glider's weight (kg)	**5.3**	Range of trimmers (cm)	**0**
Number of risers	**3**	Total speed range with accessories (km/h)	**30**
Projected area (m2)	**17.82**		

Harness used for testing (max weight)		**Inspections** (whichever happens first)
Harness type	**ABS**	every 24 months or every 100 flying hours
Harness brand	**Sup'Air**	Warning! Before use refer to user's manual
Harness model	**Access 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
C	A	A	A	A	A	A	A	B	B	A	A	A	C	A	A	A	A	A	A	B	A	A	0

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NIVIUK

Class: **C**

In accordance with EN standards 926-2:2005 & 926-1:2006: **PG_0508.2011**

Date of issue (DMY): **15. 02. 2012**

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

Model: **Artik 3 23**

Serial number:

Configuration during flight tests

Paraglider		**Accessories**	
Maximum weight in flight (kg)	**80**	Range of speed system (cm)	**13**
Minimum weight in flight (kg)	**60**	Speed range using brakes (km/h)	**17**
Glider's weight (kg)	**5.4**	Range of trimmers (cm)	**0**
Number of risers	**3**	Total speed range with accessories (km/h)	**32**
Projected area (m2)	**19.51**		

Harness used for testing (max weight)		**Inspections** (whichever happens first)
Harness type	**ABS Standard**	every 24 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)	**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	B	A	A	A	C	A	A	A	A	A	A	A	A	A	0

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Class: **C**

In accordance with EN standards 926-2:2005 & 926-1:2006: **PG_0463.2011**

Date of issue (DMY): **12. 10. 2011**

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

Model: **Artik 3 25**

Serial number:

Configuration during flight tests

Paraglider		**Accessories**	
Maximum weight in flight (kg)	**95**	Range of speed system (cm)	**16**
Minimum weight in flight (kg)	**75**	Speed range using brakes (km/h)	**14**
Glider's weight (kg)	**5.7**	Range of trimmers (cm)	**0**
Number of risers	**3**	Total speed range with accessories (km/h)	**30**
Projected area (m2)	**20.78**		

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 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	B	A	A	A	C	A	A	A	A	C	B	B	A	A	A

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NIVIUK

Class: **C**

In accordance with EN standards 926-2:2005 & 926-1:2006: **PG_0464.2011**

Date of issue (DMY): **12. 10. 2011**

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

Model: **Artik 3 27**

Serial number:

Configuration during flight tests

Paraglider		**Accessories**	
Maximum weight in flight (kg)	**110**	Range of speed system (cm)	**16**
Minimum weight in flight (kg)	**90**	Speed range using brakes (km/h)	**14**
Glider's weight (kg)	**5.9**	Range of trimmers (cm)	**0**
Number of risers	**3**	Total speed range with accessories (km/h)	**30**
Projected area (m2)	**22.48**		

Harness used for testing (max weight)		**Inspections** (whichever happens first)
Harness type	**ABS**	every 12 months or every 100 flying hours
Harness brand	**Niviuk**	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	B	A	A	B	C	A	A	A	A	C	A	A	A	A	A

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Class: **C**

In accordance with EN standards 926-2:2005 & 926-1:2006: **PG_0514.2011**

Date of issue (DMY): **15. 02. 2012**

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

Model: **Artik 3 29**

Serial number:

Configuration during flight tests

Paraglider		**Accessories**	
Maximum weight in flight (kg)	**130**	Range of speed system (cm)	**18**
Minimum weight in flight (kg)	**105**	Speed range using brakes (km/h)	**17**
Glider's weight (kg)	**6.3**	Range of trimmers (cm)	**0**
Number of risers	**3**	Total speed range with accessories (km/h)	**32**
Projected area (m2)	**24.6**		

Harness used for testing (max weight)		**Inspections** (whichever happens first)
Harness type	**ABS**	every 24 months or every 100 flying hours
Harness brand	**Gin Gliders**	Warning! Before use refer to user's manual
Harness model	**Gingo 2 L**	Person or company having presented the glider for testing: **Olivier Nef**
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	C	A	A	A	A	B	B	A	A	A	C	A	A	A	A	A	A	A	A	A	0

The importance of small details
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