DOBERMANN 3

USER MANUAL

230kg DGAC

DOBERMANN 3

READY TO RACE

COMPETITION PARAMOTOR

WELCOME

We wish to welcome you to our team and thank you for your confidence in our glider product line.

We would like you to share the enthusiasm with which we have created this paraglider and the importance and care with which we have developed the design and manufacture of this new model. All this, in order to be able to offer you the maximum pleasure in every flight under a Niviuk paraglider.

The DOBERMANN 3 is synonymous with pure fun. A dynamic and precisely turning wing, specially designed for slalom and freestyle competitions. Its wide speed range will make you stand out in competitions.

We are confident that you will enjoy flying this wing and will soon understand the meaning of our motto:

“The importance of small details”.

This is the user manual. We recommend you read it before your first flight with the wing.

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USER MANUAL

This manual provides you with the necessary information on the main characteristics of your new paraglider.

Whilst it provides information on the wing, it cannot be viewed as an instructional handbook and does not offer the training required to fly this type of paraglider.

Training can only be undertaken at a certified paragliding school and each country has its own system of licensing.

Only the aeronautical authorities of respective countries can determine pilot competence.

The information in this manual is provided in order to warn you against adverse flying situations and potential dangers.

Equally, we would like to remind you that it is important to carefully read all the contents of your new DOBERMANN 3 manual.

Misuse of this equipment could lead to severe injuries or death. The manufacturers and dealers cannot be held responsible for misuse of the paraglider. It is the responsibility of the pilot to ensure the equipment is used correctly.

SUMMARY

1. CHARACTERISTICS

1.1 WHO IS IT DESIGNED FOR?

The DOBERMANN 3 is targeted at experienced paramotor pilots with extensive flying experience and proven skills, who wish to have a very fast and accurate wing for slalom, classic or freestyle competitions or for recreational flights, who do not wish to sacrifice comfort and safety.

Paramotoring is a relatively new discipline and it is continuously evolving. To get the most out of the wing, it is essential that the motor set-up, propeller, harness and pilot experience are compatible.

Only the aeronautical authorities of respective countries can determine the pilot competence.

1.2 CERTIFICATION

The DOBERMANN 3 has been submitted for certification and complies with the requirements of EN 926-1 and the DGAC.

All tests were conducted by the Air Turquoise testing centre in Switzerland.

All sizes (14, 15, 17 and 19) have passed the load, shock and flight tests without any issues.

Shock test to 1.000 kg.

Load test to 8G 154 kg.

Load test (calculated by DGAC) to 5.25G; 234 kg.

Load test report EN 926-1:2015 & LTF NFL 91/09 chapter 3.

It has passed the Dirección General Aviación Civil (DGAC) certification as ULM class 1. It also has the manufacturer's certification.

Any modification of the paraglider invalidates the certification.

Note that each wing size can behave differently during the same manoeuvre depending on the all-up weight. Even within the same size, at maximum or minimum load, the behaviour and reactions of the wing may differ.

1.3 IN-FLIGHT BEHAVIOUR

Niviuk developed the DOBERMANN 3 by adopting very specific guidelines -the objective was to seek utmost performance: faster, steadier and better in turns. Better feel for the wing and easier piloting.

The glider profile was optimised to provide feedback in a very understandable and convenient way, helping the pilot concentrate on the feel of the wing and their technique.

In all aspects of flight, the profile is very solid, smooth in glide, during acceleration, deceleration, turns and counter-turns. When accelerating, the wing augments the engine power. Whether accelerating from fast to very fast, from acceleration to turn, turn to turn, turning to acceleration, the wing remains compact and stable. The high-speed tip improves the turn precision and is therefore less physically demanding and provides better feedback. Inflating the wing is much easier and gentler, without overshooting.

Please note!
For high-speed flying, it is very important to become familiar with the correct use of the main steering elements: the trimmers, speed-bar (DES system), high-speed tip steering and the main brakes. At high speeds the wing responds to any inputs immediately and if handled incorrectly, this can have grave consequences for the pilot.

We recommend paying particular attention and concentration when using these steering elements. See also the section on the Double Steering System.

1.4 TECHNOLOGIES, ASSEMBLY, MATERIALS

The DOBERMANN 3 benefits from all the construction and assembly techniques used in our factory. It has all the current technology and accessories available to improve pilot comfort whilst increasing safety and performance.

In the design of all Niviuk products the team aims to ensure development and continuous improvement. The technologies developed in recent years have allowed us to develop greater, better wings. It is in this context that we would like to introduce the technologies included in this new model:

RAM Air Intake - this system is characterised by the arrangement of the air inlets, to ensure optimal maintenance of internal pressure. Thanks to this design, we were able to reduce their size, while maintaining the same air flow at all angles to improve laminar flow. More consistency across the whole speed range and better performance without compromising on safety.

Titanium Technology (TNT) - A revolutionary technique using Nitinol, developed to build the internal structure of the glider, brings a more uniform profile, and hence reduces the overall wing weight to gain efficiency in flight. The Nitinol provides the highest level of protection against deformation, heat or breaks. Using this technological advance, the glider is able to maintain its original features for a longer period of time.

Structured Leading Edge (SLE) - The use of the SLE allows reinforcement of the leading edge, preventing any deformation in turbulence. The airflow is also vastly improved over the entire leading edge of the glider.

3D Pattern Cut Optimisation (3DP) – Cutting the fabric in a specific directional angle according to each panel's final location and positioning results in a crease-free surface with better fabric tension.

3D Leading Edge (3DL) – Adding an extra seam to the longitudinal axis of the glider helps building a cleaner profile with fewer creases and better load distribution.

Drag Reduction Structure (DRS) – the trailing edge has been reinforced with small ribs in order to distribute the pressure more evenly. This results in excellent manoeuvrability and greater control and precision.

Double Effect System (DES) – With the implementation of the DES, pilots can make the most out of the glider's ability to perform to its full potential using the speed bar. The DES keeps the trimmers in the default closed position (the slowest) and will open them when accelerating during the flight. When the speed-bar is released the DES brings the profile back to the neutral and default position.

Reflex System Profile (RSP) – Unlike conventional reflex designs, the highly efficient Reflex System Profile requires less engine power to achieve greater thrust, thus resulting in lower fuel consumption, more autonomy and higher overall motor efficiency. The RSP profile improves gliding, speed and safety.

Double Steering System (DSS) – For high-speed control, this is a simple and effective tool to allow the pilot to turn effortlessly and without touching the brake, thus avoiding deformations in the profile and, consequently, preventing a loss in performance and speed.

All these technologies combined, mean a great step forward in the construction of gliders and this improves comfort in flight.

For the construction of the DOBERMANN 3, the same criteria, quality controls and procedures are used as in the rest of our product range.

From Olivier Nef's computer to the finished cut piece of cloth, not even the slightest error is permitted. The cutting of each of the assembly elements that make up the glider is carried out one by one, through rigorous and extremely meticulous work. For the subsequent marking and numbering of each piece, the same meticulous system is used, thus avoiding possible errors in a very delicate process.

The assembly process is a puzzle and using this method makes it easier to organise, saves resources and provides excellent quality control. All Niviuk gliders undergo an extremely rigorous final check. For example, the canopy is cut and assembled through an automated process that follows a very strict order where there is no margin for error.

Finally, each wing is individually checked and inspected.

The DOBERMANN 3 features the same fabric which is used in the rest of our product range, guaranteeing lightness, strength and durability, without fading.

The lines are made from unsheathed Aramid.

The diameter is adjusted according to the working load, aiming for the best performance with the lowest possible parasitic drag.

The lines are semi-automatically cut to length and all the sewing is completed under the supervision of our specialists.

Every line is checked and measured once the final assembly is concluded. Each wing is then individually inflated for the last visual inspection.

Each glider is packed following specific maintenance instructions as recommended by the fabric manufacturer.

Niviuk gliders are made of premium materials. Information about the various materials used to manufacture the wing can be viewed on the final pages of this manual (see the technical specifications).

1.5 ELEMENTS, COMPONENTS

The DOBERMANN 3 is delivered with a series of accessories that are important in the use, transport and storage of the paraglider.

- An Inner bag to keep the glider protected during storage and transport.
- An adjustable compression strap, which allows the inner bag to be compressed for more compact packing.
- A repair kit with self-adhesive ripstop fabric and and replacement O-Rings.
- Riser bag.
- Racing handles.
- A Koli bag – this is not included in the scope of the delivery, but its purchase is recommended.

2. UNPACKING AND ASSEMBLY

2.1 CHOOSING THE RIGHT LOCATION

We recommend unpacking and assembling the wing on a training hill or a flat clear area without too much wind and free of obstacles. It will help you to carry out all the recommended steps required to check and inflate the DOBERMANN 3.

We recommend that a qualified instructor is present to supervise the entire procedure, as only they can resolve any doubts in a safe and professional way.

2.2 PROCEDURE

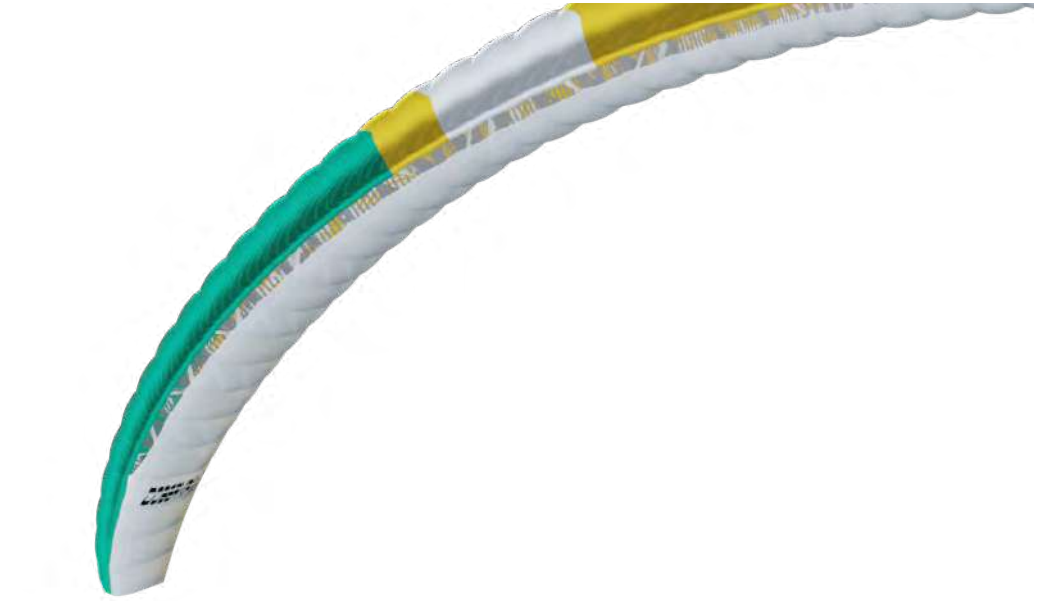
Take the paraglider out of the rucksack, open and unfold it on the ground with the lines positioned on the undersurface facing the sky. Lay out the wing in a crescent shape with the cells openings pointing into wind, as if you were to inflate it.

Check the condition of the fabric and the lines for defects. Pay attention to the maillons connecting the lines to the risers to make sure they are fully closed and tightened. Identify, and if necessary untangle, the A, B, C-lines, the brake lines and corresponding risers. Make sure that there are no knots.

2.3 CONNECTING THE MOTOR

Correctly connect the risers to the harness' carabiners. The risers and lines must not have any twists and must be in the right order. Check that the harness buckles are properly fastened and securely locked.

Check the paramotor manufacturer's specification on attachment points.



2.4 HARNESS TYPE

The DOBERMANN 3 can be flown with most harnesses on the market.

The distance/comfort bar will determine the distance between the carabiners. Incorrect chest strap adjustments can affect glider/harness behaviour and thus glider handling. Too wide a distance between the carabiners will provide greater feedback from the wing, but less glider stability. Too narrow a distance will not provide as much feedback, as well as increasing the risk of a riser twist during a collapse.

2.5 SPEED SYSTEM ASSEMBLY

The speed system of the DOBERMANN 3 works when you push with your feet on the speed-bar, which is NOT supplied with the equipment.

Most harnesses are equipped with a pre-installed speed system. Before first use, ensure that all the harness' pre-installed components, such as the pulleys, are installed correctly. After fitting, take into account that you will have to adjust the length of the speed-bar lines for your individual requirements. This will vary according to the length of each pilots' legs!

Please note!
Please ensure you carefully read the sections on trimmers and the Double Effect System (DES).

We recommend testing the speed system when hanging in a frame first - most schools have such equipment. If in doubt, seek advice from a qualified professional dealer or school.

2.6 INSPECTION AND WING INFLATION ON THE GROUND

After your gear has been thoroughly checked and the weather conditions deemed favourable for flying, inflate your DOBERMANN 3 as many times as necessary to familiarise yourself with its behaviour. The DOBERMANN 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 the correct pressure on the brake lines and the DOBERMANN 3 will sit over your head.

2.7 ADJUSTING THE BRAKES – DOUBLE STEERING SYSTEM (DSS)

The length of the main brake lines is adjusted at the factory. However, it can be changed to adapt to the pilot's own flying style. In any case, we recommend flying for a while using the default line length factory settings before making any adjustment. It will enable you to become more familiar with the DOBERMANN 3 and its unique flying characteristics. 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 re-tie the knot so that it is tight. Only qualified personnel should carry out this adjustment. You must ensure that the modification does not slow the glider down without pilot input. Both brake lines should be symmetrical and of the same length. We recommend using a clove hitch or bowline knot.

When changing the brake length, it is necessary to check that they do not engage when the speed-bar is used. When we accelerate, the glider rotates over the C riser and the trailing edge elevates. We must check that the brake is adjusted to take into consideration this extra distance during acceleration.

2.7.1 ADJUSTING THE BRAKE PULLEY

Because of the different harness heights that engine manufacturers use, the DOBERMANN 3 has the possibility of moving the brake pulleys, depending on the height of the harness or just for pilot convenience.

The pulley is fastened to the riser by means of an easily removable strap. The riser has 3 possible attachment points, which are distributed over a length of 15 cm, so that the pulley can be adjusted to the desired height.

Please note!
Only the main brake line should pass through the pulley – never the high-speed tip.

3. THE FIRST FLIGHT

3.1 CHOOSING THE RIGHT LOCATION

The first flights with the DOBERMANN 3 should be made in low wind speeds, on a training hill or obstacle free area. We recommend that a qualified instructor is present and supervising the entire procedure.

3.2 PREPARATION

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

3.3 FLIGHT PLAN

Planning a flight before taking off to avoid possible problems later is always a good idea.

3.4 PRE-FLIGHT CHECK

Once ready, but before taking off, conduct another equipment inspection. Conduct a thorough visual check of your gear with the wing fully open, the lines untangled and properly laid out on the ground to ensure that all is in working order. Be certain the weather conditions are suited for your flying skill level.

3.5 WING INFLATION, CONTROL AND TAKEOFF

Smoothly and progressively inflate the wing (see chapter 2.6 INSPECTION AND WING INFLATION ON THE GROUND). The DOBERMANN 3 comes up easily, without excessive energy and does not overfly the pilot. It is a straight forward exercise leaving enough time for the pilot to decide whether to run and take off or not.

Whenever the wind speed permits, we recommend using a reverse launch technique, as it is more conducive to carrying out a better visual check of the wing. The DOBERMANN 3 is especially easy to control during reverse inflations in windier conditions. However, wind speeds up to 25 to 30 km/h are considered strong and extra consideration should be given as whether or not to fly.

Setting up the wing on the ground before takeoff is especially important. Choose an appropriate location facing the wind. Position the paraglider in a crescent configuration to facilitate inflation. A clean wing layout will ensure a trouble free take-off.

3.6 LANDING

The DOBERMANN 3 lands excellently, it transforms the wing speed into lift at 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

The DOBERMANN 3 has a complex leading and trailing edge, manufactured using a variety of different materials. A correct folding method is very important to extend the useful life of your paraglider. It should be concertina-packed, with the leading edge reinforcements flat and the Nitinol flexible rods stacked one on top of the other. This method will keep the profile in its original shape and protect the integrity of the wing over time.

The wing should then be folded in three parts without excessive compression; the contrary could lead to material and/or the line damage.

The NKare bag is an easy to use folding bag designed to help with the packing process. It can also be used as a surface base to protect the glider against damage.

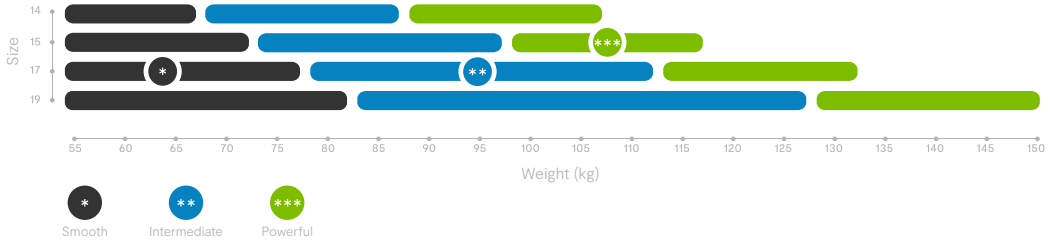
4. IN FLIGHT

We recommend that you pay close attention to the certification test report. In it you will find all the necessary information to know how our DOBERMANN 3 reacts to each of the tested manoeuvres.

It is important to note that depending on the size, the response to the manoeuvre may vary.Even within the same size, at maximum or minimum load the behaviour and reactions of the glider may be different.

Having the knowledge provided by the testing house about the flight tests is essential to know how to deal with these possible situations.

The performance and speed of the DOBERMANN 3 will depend directly on the engine power, the use of the Double Effect System (DES) and the wing loading.



Thanks to the RSP (Reflex System Profile) the engine does not need much power to achieve a greater thrust, resulting in less consumption, more autonomy, less need for power, durability, mechanical efficiency and increased performance.

However, in order to get the maximum power out of this wing, we will need an engine that is able to push a highly loaded wing. Without the correct wing loading and without the required power, the wing will not operate to its full potential.

Please remember! The DOBERMANN 3 is a competition wing with a DNA capable of great feats but it must be handled correctly or it may cause serious problems for the pilot.

We recommend that manoeuvres are learned under the supervision of a trained instructor.

4.1 DES (Double Effect System)

The DOBERMANN 3 was designed as a competition wing. All its elements have been designed for speed and to stay ahead in competitions. The wing can be used for recreational flights, but the pilot must be aware of

the potential of this wing and adjust their flying style accordingly. Because the wing can fly at great speeds, the pilot must make quick and assertive decisions.

The DOBERMANN 3 is delivered with the DES (Double Effect System) already installed. The system should only be used by very experienced pilots. Using this technology without sufficient skill and experience carries great risk to the pilot. Its use near terrain requires great skill and can leave the pilot with very little room for manoeuvre in the event of an incident.

In a slalom competition, the pilot needs to enter the circuit with maximum speed, then reduce speed quickly, while initiating the turn to round the pylon and set the course to the next turning point, accelerating again to full speed. All this in just a few seconds!
The pilot must also manipulate the throttle, trimmers, gas and control the rotation – this required a solution that would allow the pilot to act quickly and effectively. The DES was designed to fulfil this requirement.

The DES provides an alternative, allowing the pilot to accelerate to 100%, reduce speed and return to 100% in the shortest possible time, in a single movement. The DES interactively connects the speed-bar with the trimmer, allowing acceleration and the opening of the trimmers in one movement of one leg while the hands are free for the throttle and steering system (see 4.2 Double steering system).

With the DES, the pilot has available an accelerator which can unleash the full power of the wing, and they can utilise accurately and quickly the speed that is required at all times. The DES means the wing launches with the neutral (slowest) setting and as it accelerates, it releases the trimmers. At its peak, the pilot can use 100% speed-bar and 100% trimmers with the wing working with the reflex to 100%. When the speed-bar is released, the DES is responsible for returning the profile to neutral.

The pilot can adjust the amount of trimmer to be released, even during flight. It is not always necessary to accelerate to 100% and open the trimmers 100%. The pilot can choose the proportion of trimmer to use. Given that only when the speed-bar is at 100%, the trimmer will be opened to the maximum.

Please note!
With 100% speed-bar and 100% trimmers we recommend not using the brakes as this makes the wing more prone to collapses.

4.2 DOUBLE STEERING SYSTEM

In increase the turning efficiency, the DOBERMANN 3 is fitted with the Double Steering System (DSS).

The DOBERMANN 3 has two brake lines: the main brake and the high-speed tip. The high-speed tip gives the pilot the ability to turn without pulling the brakes, thus avoiding deforming the profile and therefore preventing a decrease in performance and speed.

The DOBERMANN 3's high-speed tip is a simple and effective tool. It is a single line from the riser to a critical point of the wingtip. This critical location ensures that, when using the high-speed tip, creases will not appear and the trailing edge or the reflex is not engaged, which might compromise the safety and performance of the wing.

The DOBERMANN 3 is delivered with the factory set brake and high-speed tip as standard. The pilot can adjust the brake travel as required.

Instructions for use: the main brake acts and handles like any brake. When the pilot decides to use the high-speed tip, they must move the main brake from the neutral position (without the brake pulled) and make a HORIZONTAL movement to the opposite direction of rotation. In this way the profile does not lose its effectiveness and the turn is more inclined.

Thanks to the Double Steering System a single command allows the pilot to expand the possibilities of turning without losing control over the brakes.

Brakes: vertical movements.
High-speed tip: horizontal movements, turns by the flick of your wrist.

The amplitude of these movements is at the discretion of the pilot. Depending on the requirements of the pilot, it is also possible to have a more precise adjustment of the length of the brake and high-speed tip.

The correct use of the high-speed tip in conjunction with the DES (turn and acceleration) must be practised by the pilot until they have fully mastered these controls. This experience is needed in many manoeuvres the pilot wants to perform but it requires a lot of practise and a good glider control skills.

Please note!
It is possible to use the high-speed tip during acceleration. We recommend NOT using the brakes during acceleration.

4.3 POSSIBLE CONFIGURATIONS

To become familiar with manoeuvres described below, we recommend practising within the environment of a competent training outfit.

Asymmetrical collapse

In spite of the DOBERMANN 3's profile stability, strong turbulent air may cause the wing to collapse asymmetrically if the pilot is unable to predict the glider's reactions in specific circumstances. When the wing is about to experience an asymmetric collapse, the brake lines will slacken and transmit a tension loss affecting the harness stability. To prevent the collapse from happening, pull the brake handle corresponding to the affected side of the wing. It will increase the incidence of the wing (angle of attack). If the collapse does happen, the DOBERMANN 3 will not react violently, the turning tendency is gradual and easily controlled. Weight-shift toward the flying and opposite side of the collapse to keep the wing flying straight while applying a light brake pressure to that side if necessary, to slow it down. The collapsed side of the wing should then recover and reopen by itself. If it does not, then pull the brake toggle on the collapsed side decisively and quickly all the way down before bringing it back up immediately. You may have to repeat this pumping action to provoke the re-opening of the deflated glider side. Do not over-brake or slow down the flying side of the wing (this causes the risk of a stall due having too high an angle of attack). Once the collapsed side is open, re-centre your body under the wing to regain the default flying speed.

Frontal collapse

In normal flying conditions and due to the DOBERMANN 3's design, frontal collapses are unlikely to take place. The wing's profile has great buffering abilities when dealing with extreme incidence changes. A frontal collapse may occur in strong turbulent conditions, entering or exiting powerful thermals or when lacking experience using the accelerator/ speed-bar with mistimed, inadequate input. Frontal collapses usually re-inflate without the glider turning, but a symmetrically applied quick braking action with a quick deep pump will accelerate the re-inflation if necessary. Release the brake lines immediately to return to default glider air speed.

Negative spin

A negative spin does not conform to the DOBERMANN 3's normal flight behaviour. Certain circumstances however, may provoke this configuration (such as trying to turn when flying at very low air speed whilst applying a lot of brake, and applying even more brake pressure on one side). It is not easy to give any specific recommendation about this situation other than quickly restoring the wing's default air speed and angle of attack by progressively reducing the tension on the brake lines. The normal wing reaction will be to have a lateral surge on the re-accelerated side with a rotation not greater than 360° before returning to default air speed and a straight flight path trajectory.

Parachutal stall

A parachutal stall takes place when the wing remains fully inflated but loses forward motion and then descends vertically at an accelerated rate. Instability and a lack of pressure on the brake lines sets in, although the canopy would appear to be correctly inflated. To regain normal air speed, release brake line tension symmetrically and push forward on the A-lines or weight-shift your body to any side WITHOUT PULLING ON THE BRAKE LINES.

Deep stall

The possibility of the DOBERMANN 3 falling into this configuration during normal flight is very unlikely. It could only happen if you are flying at a very low air speed, whilst over-steering or performing dangerous manoeuvres in turbulent air. To provoke a deep stall, the wing has to be slowed down to its minimum air speed by symmetrically pulling the brake lines all the way down until the stall point is reached and held there for a few seconds. The glider will first pitch rearward and then reposition itself overhead, rocking slightly, depending on how the manoeuvre was done. When entering a stall, remain clear-headed and ease off the brake lines until reaching the half-way point during the downward pulling motion. The wing will then surge violently forward and could reach a point below the horizontal line. It is most important to maintain brake pressure until the glider has returned to its default overhead flying position.

To resume normal flight conditions, progressively and symmetrically release the brake line tension to regain air speed. When the wing reaches the overhead position, the brakes must be fully released. The wing will then

surge forward to regain full air speed. Do not brake excessively as the wing needs to accelerate to pull away from the stall configuration. If you have to control a possible symmetrical front stall (frontal collapse), briefly pull both brake handles down to bring the wing back up and release them immediately while the glider is still in transition to reposition itself overhead.

Cravat

A cravat may happen after an asymmetrical collapse, when the end of the wing is trapped between the lines. Depending on the nature of the tangle, this situation could rapidly cause the wing to spin. The corrective manoeuvres to use are the same as those applied in case of an asymmetrical collapse: control the turn/spin by applying tension on the opposite brake and weight shift opposite to the turn. Then locate the stabilo line 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 taught, as it should help undo the cravat. If ineffective, fly down to the nearest possible landing spot, control the trajectory with both weight shift and the use of the brake opposite to the tangled side. Be cautious when attempting to undo a tangle while flying near terrain or other paragliders; it may not be possible to continue on the intended flight path and collision could happen as result.

Over-controlling

Most flying problems are caused by wrong pilot input, which then degenerates into a cascade of unwanted and unpredicted series of incidents. The DOBERMANN 3 was designed to recover by itself in most cases. Do no not try to over-correct it!

Generally speaking, the reactions of the wing, which follow too much input, are due to the length of time the pilot continues to over–control the wing. You have to allow the glider to re-establish normal flying speed after any type of incident.

4.4 USING THE SPEED-BAR

The DOBERMANN 3 profile was designed for stable flight throughout its entire speed range.

When accelerating the wing, the profile becomes more sensitive to turbulence and closer to a possible frontal collapse. If a loss in internal wing pressure is felt, tension on the speed-bar should be reduced to a minimum and a slight pull on the brake lines is recommended to increase the wing's incidence angle. Remember to re-establish the air speed after correcting the incidence.

It is NOT recommended to accelerate near obstacles or in very turbulent conditions. If necessary, constantly adjust the movements and pressure on the speed-bar whilst doing the same to the brake lines. This balance is considered to be 'active piloting'.

4.5 FLYING WITHOUT BRAKE LINES

If, for any reason at all, the DOBERMANN 3's brake lines become disabled in flight, piloting the wing with the C-risers and weight shifting will become necessary. The C-lines steer easily because they are not under much tension, however you will need to be careful and not handle them too heavily in case this causes a stall or negative spin. The wing must be flown at full speed during the landing approach, and the C-risers will have to be pulled symmetrically all the way down shortly before contact with the ground. This braking method is not as effective as using the brake lines, and hence the wing will land with a higher ground speed.

4.6 LINE KNOT(S) IN FLIGHT

The best way to avoid knots and tangles is to thoroughly inspect the lines as part of a systematic pre-flight check. If a knot is spotted during the running phase, immediately abort the launch sequence and stop.

If inadvertently taking off with a knotted line, the glider drift will need to be compensated by weight-shifting to the opposite side of the wing and applying a slight brake pull to that side. Gently pull the brake line to see if the knot can be undone or try to locate the problem line. Try pulling it to see if the knot can be undone. Beware of trying to clear a knotted line or untangle a line in flight. Do not pull too hard on the brake handles because there will be an increased risk of stalling the wing or entering a negative spin.

Before trying to remove a knot, make sure there are no pilots flying nearby.

5. LOSING ALTITUDE

Knowledge of different descent techniques could become vital in certain situations. The most suitable descent method will depend on the particular situation.
It is well advised to learn the particularities of these manoeuvres under the supervision of a knowledgeable, certified instructor.

5.1 BIG EARS

Big ears is a moderate descent technique, able to increase the sink rate to –3 or –4 m/s, and reduce the ground speed down to 3 to 5 km/h. Effective piloting then becomes limited. The angle of attack and load will also increase due to the smaller surface area of the wing. Pushing on the accelerator/speed-bar will partially restore the wing's horizontal speed and angle of attack.

To activate the 'Big ears' manoeuvre, take the outer 3A3 line on each A-riser and simultaneously, smoothly pull them outward and downward. The wingtips will fold in. Let go of the risers to reinflate them automatically. If they do not re-inflate, gently pull on one of the brake lines and then on the opposite one. We recommend inflating the wing tips asymmetrically, without altering the angle of incidence, especially when flying near the ground or flying in turbulence.

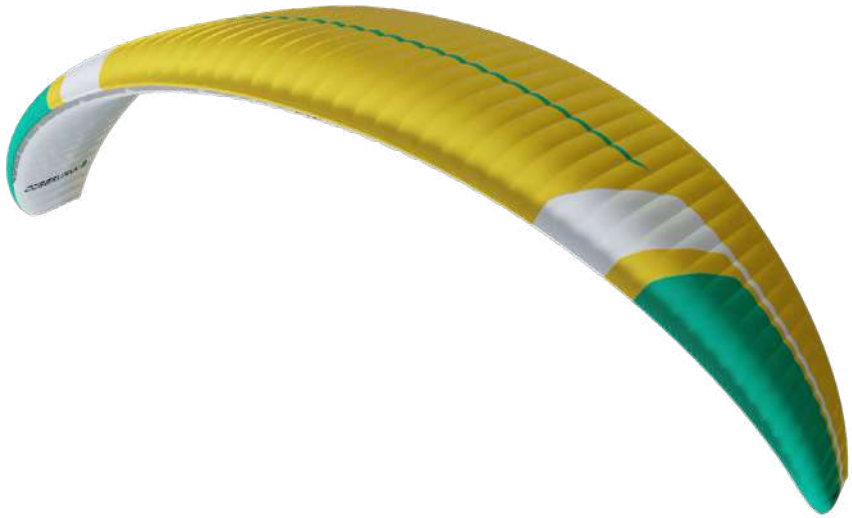
5.2 B-LINE STALL

When carrying out this manoeuvre, the wing stops flying, loses all horizontal speed and the pilot is no longer in control of the paraglider. The airflow over the profile is interrupted and the wing enters a situation similar to parachuting.
To enter this manoeuvre, the B-risers are gripped below the maillons and symmetrically pulled down together (approx. 20-30 cm) which means that you will have to pull strongly until the profile of the wing is deformed, when this happens the required force will be significantly reduced. To maintain this manoeuvre you must continue to hold the B-risers in the pulled down position. The wing will then deform, its horizontal speed will drop to 0 km/h; vertical descending speed increases to –6 to –8 m/s, depending on the weather conditions and how the manoeuvre is performed.

To exit the manoeuvre, simultaneously release both risers. The wing will then slightly surge forward and automatically return to normal flight. It is better to let go of the lines quickly rather than slowly. This is an easy descent technique to perform but remember that the wing will stop flying, will lose all forward horizontal speed, and its reactions will change markedly when compared to a normal flight configuration.

5.3 SPIRAL DIVE

This is a more effective way to rapidly lose altitude. Beware that the wing will experience and be subjected to a tremendous amount of descending and rotating speed (G-force), which can cause a loss of orientation and consciousness (blackout). This manoeuvre must therefore be done gradually to increase one's capacity to resist the G-force exerted on the body. With practise, a pilot will fully appreciate and understand it. Only practise this manoeuvre at high altitude and with enough ground clearance.



To start the manoeuvre, first weight shift and pull the brake handle located on the inner side of the turn. The intensity of the turn can be controlled by braking slightly using the outer brake handle. A paraglider flying at its maximum rotating speed can reach –20 m/s, or the equivalency of a 70 km/h vertical descent, and will stabilise in a spiral dive from 15 m/s onwards. Good enough reasons to familiarise yourself with the manoeuvre and understand how to exit it.

To exit this manoeuvre, the inner brake handle (down side of the turn) must progressively be relaxed while momentarily applying tension to the outer brake handle opposite to the turn. The pilot must also weight shift and lean towards the opposite side of the turn at the same time.

When exiting the spiral, the glider will briefly experience an asymmetrical acceleration and dive, depending on how the manoeuvre was carried out.

Practise these manoeuvres at sufficient altitude and with moderation.

5.4 SLOW DESCENT TECHNIQUE

This technique allows descent without straining the wing or taxing the pilot. Glide normally while searching for descending (katabatic) air and begin to turn as if climbing in a thermal. Beware of potentially dangerous areas and locate a suitable LZ (landing zone) while descending. Safety comes first!

6. SPECIAL METHODS

6.1 TOWING

The DOBERMANN 3 does not experience any problem whilst being towed. Only qualified winch personnel should handle the certified equipment to carry out this operation. The wing must be inflated similarly as during a normal mountain or ridge takeoff.

6.2 ACROBATIC FLIGHT

Although the DOBERMANN 3 has been tested by experienced aerobatic pilots in all kinds of extreme situations, it is NOT designed for aerobatic flying and we DO NOT recommend its use in acro flying.

We consider acrobatic flights to be any form of piloting different than standard soaring flights. Learning acrobatic manoeuvres should be conducted under the supervision of qualified instructors within a school environment and over water with all safety/rescue elements in place. Forces as high as 4 to 5 G can be exerted on a paragliding wings during extreme manoeuvres.

7. CARE AND MAINTENANCE

7.1 MAINTENANCE

Careful maintenance of your equipment will ensure continued top performance. Apart from the general checks, we recommend actively maintaining your equipment.

A pre-flight check is obligatory before each flight.

If there is any damage to the equipment or you suspect any areas of the wing are susceptible to wear, you should inspect these and act accordingly.

We are firmly committed to make technology accessible to all pilots. Therefore our wings are equipped with the latest technological advances gained from the experience of our R&D team. Thanks to these new technologies, paragliders are gaining more safety and performance, which requires greater care of the materials.

IMPORTANT: it is critical to avoid any kind of impact or dragging the leading edge on the ground. This part is reinforced with very durable and strong Nitinol rods that can be easily replaced. Dragging and/or hitting the leading edge can cause serious damage to the fabric, which is much more complicated and costly to repair.

The fabric and the lines do not need to be washed. If they become dirty, clean them with a soft damp cloth, using only water. Do not use detergents or other chemicals.

If your wing is wet from contact with water, place it in a dry area, air it and keep it away from direct sunlight.

Direct sunlight may damage the wing's materials and cause premature aging. After landing, do not leave the wing exposed to the sun. Pack it properly and stow it away in its backpack.

If you fly in sandy areas, avoid getting sand in the cells or down into the trailing edge. At the end of the flight, empty any sand that is in your wing. The openings at the end of the wingtips make this much easier.

If your wing is wet from contact with salt water, immerse it in fresh water and dry it away from direct sunlight.

7.2 STORAGE

It is important for the wing to be correctly folded when stored. Keep it in the in a cool, dry place away from solvents, fuels, oils.

Do not leave your gear inside a car boot, as cars left in the sun can become very hot. A rucksack can reach temperatures up to 60°C.

Weight should not be laid on top of the equipment.

It is very important to pack the wing correctly before storage.

In case of long-term storage it is advisable, if possible, that the wing is not compressed and it should be stored loosely without direct contact with the ground. Humidity and heating can have an adverse effect on the equipment.

7.3 REPAIRS

The DOBERMANN 3 must be periodically serviced. An inspection must be scheduled every 100 flying hours or every 24 months whichever comes first.

Any repair should be done in a specialist repair shop by qualified personnel. Niviuk can not be held responsible for any damage caused by incorrect repairs.

This is the only way to guarantee the correct functioning of your DOBERMANN 3 and to maintain its certification.

Always conduct a thorough pre-flight check before each takeoff.

7.4 REPARACIONES

In the case of small tears, you can temporarily repair these by using the Ripstop tape included in the repair kit, as long as no stitching is required to mend the fabric.

Any other tears or repairs should be done in a specialist repair shop by qualified personnel.

Damaged lines must be repaired or exchanged immediately.
Please refer to the line plan at the end of this manual.

We recommend any inspection or repair is performed by a Niviuk professional in our official workshop:

niviuk.com/niviuk-service

Any modification of the glider made in an external workshop will invalidate the guarantee of the product. Niviuk cannot be held responsible for any issues or damage resulting from modifications or repairs carried out by unqualified professionals or who are not approved by the manufacturer.

8. SAFETY AND RESPONSIBILITY

It is well known that paragliding and/or paramotoring are considered a high-risk sports, where safety depends on the person who is practicing it.

Incorrect use of this equipment may cause severe injuries to the pilot, or even death. Manufacturers and dealers cannot be held responsible for your decisions, actions or accidents that may result from participating in this sport.

You must not use this equipment if you have not been properly trained to use it. Do not take advice or accept any informal training from anyone who is not properly qualified as a flight instructor.

9. WARRANTY

The equipment and components are covered by a 2-year warranty against any manufacturing defect.

The warranty does not cover misuse of the equipment.

Any modification to the paraglider or its components invalidates the guarantee and the certification.

If you notice a fault or defect on your paraglider, contact Niviuk immediately for a full inspection.

10. ANNEXES

10.1 TECHNICAL DATA

			14	15	17	19
Cells	Number		64	64	64	64
Aspect ratio	Flat		5,75	5,75	5,75	5,75
	Projected		4,47	4,47	4,47	4,47
Area	Flat	m2	14	15	17	19
	Projected	m2	12,11	12,97	14,7	16,4
Span	Flat	m	9	9,3	9,9	10,46
Chord	Max	m	1,92	1,99	2,12	2,24
Lines	Total	m	190	198	221	224
	Main		2+1/4/2+1	2+1/4/2+1	2+1/4/2+1	2+1/4/2+1
Risers	Number		A+A´/B/C+C´	A+A´/B/C+C´	A+A´/B/C+C´	A+A´/B/C+C´
	Speed-bar	mm	140	140	140	140
	Trimmers	mm	70	70	70	70
Glider weight		kg	3,85	4	4,3	4,6
Total weight in flight	Min-Max	kg	55-120	60-130	65-150	70-170
Speed range	Closed trim	km/h	42 (*7kg/m2)	42 (*7kg/m2)	42 (*7kg/m2)	42 (*7kg/m2)
	Open trim	km/h	54 (*7kg/m2)	54 (*7kg/m2)	54 (*7kg/m2)	54 (*7kg/m2)
	Top speed	km/h	80-85 (*7-8kg/m2)	80-85 (*7-8kg/m2)	80-85 (*7-8kg/m2)	80-85 (*7-8kg/m2)
Certification			230kg DGAC	230kg DGAC	230kg DGAC	230kg DGAC

COLORS

BOREAL

EARTH

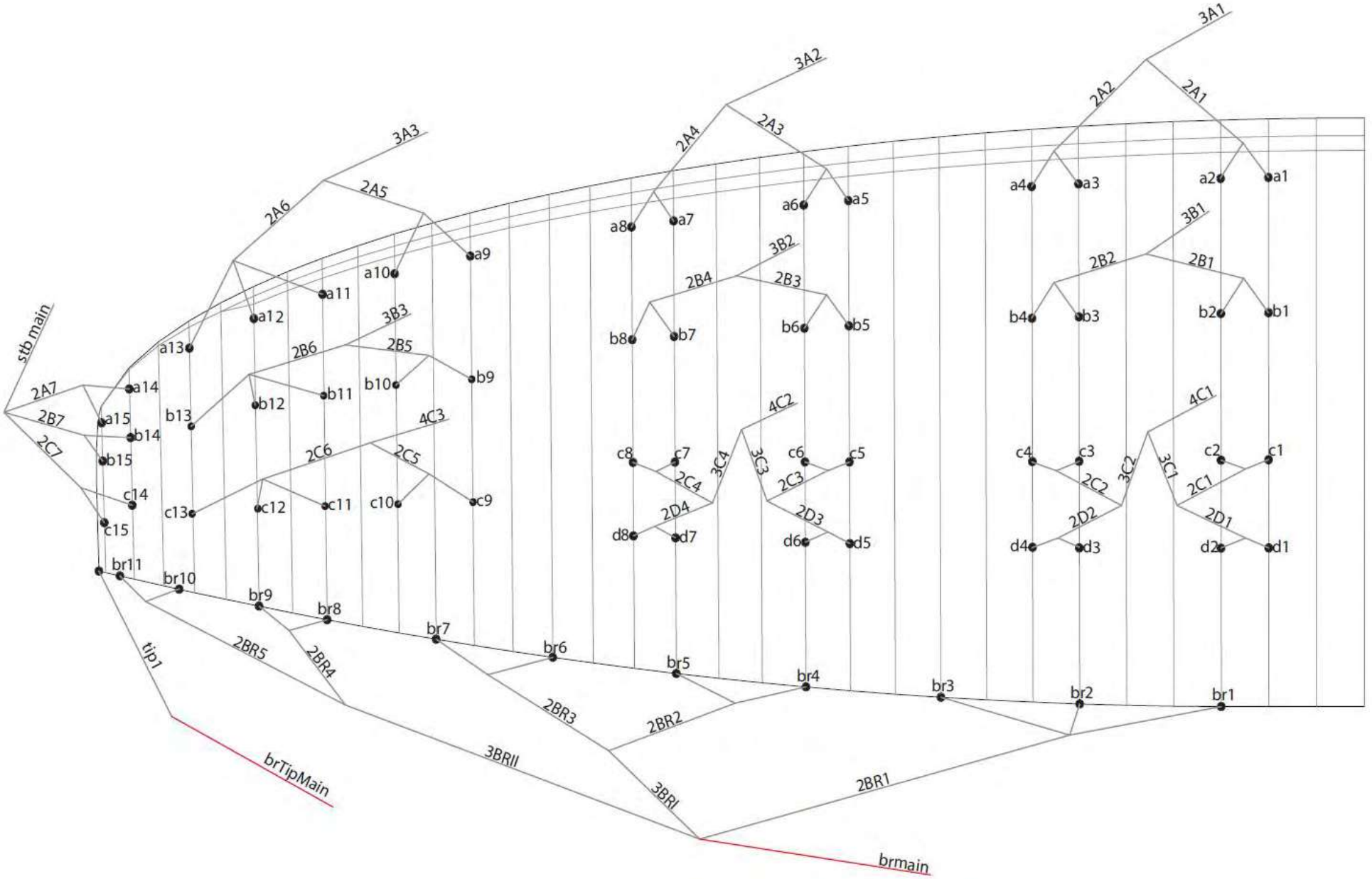
10.2 MATERIALS DESCRIPTION

CANOPY	FABRIC CODE	SUPPLIER
UPPER SURFACE	N30 DMF	DOMINICO TEX CO (KOREA)
BOTTOM SURFACE	N30 DMF	DOMINICO TEX CO (KOREA)
PROFILES	30DFM	DOMINICO TEX CO (KOREA)
DIAGONALS	30DFM	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 REIFORCEMNET	LTN-0.8 STICK	SPORTWARE CO.CHINA
THREAD	SERAFIL 60	AMAN (GERMANY)

SUSPENSION LINES	FABRIC CODE	SUPPLIER
UPPER CASCADES	A-8001/U 50	EDELRID (GERMANY)
UPPER CASCADES	A-8001/U 70	EDELRID (GERMANY)
UPPER CASCADES	A-8001/U 90	EDELRID (GERMANY)
UPPER CASCADES	A-8001/U 130	EDELRID (GERMANY)
MIDDLE CASCADES	A-8001/U 50	EDELRID (GERMANY)
MIDDLE CASCADES	A-8001/U 70	EDELRID (GERMANY)
MIDDLE CASCADES	A-8001/U 90	EDELRID (GERMANY)
MIDDLE CASCADES	A-8001/U 130	EDELRID (GERMANY)
MIDDLE CASCADES	A-8001/U 190	EDELRID (GERMANY)
MAIN	A-8001/U 90	EDELRID (GERMANY)
MAIN	A-8001/U 130	EDELRID (GERMANY)
MAIN	A-8001/U 190	EDELRID (GERMANY)
MAIN	A-8001/U 230	EDELRID (GERMANY)
MAIN	A-8001/U 340	EDELRID (GERMANY)
MAIN BREAK	TARAX - 240	EDELRID (GERMANY)
MAIN TIP	PPSL - 120	LIROS GMHB (GERMANY)
THREAD	SERAFIL 60	AMAN (GERMANY)

RISERS	FABRIC CODE	SUPPLIER
MATERIAL	G-R 19	TECNI SANGLES (FRANCE)
COLOR INDICATOR	210D	TECNI SANGLES (FRANCE)
THREAD	V138	COATS (ENGLAND)
MAILLONS	MRI4	ANSUNG PRECISION (KOREA)
PULLEYS	RF25109	RONSTAN (AUSTRALIA)

10.3 LINE PLAN



10.4 RISER ARRANGEMENT

A	A'	B	C'	C
3A1	3A3	3B1	4C3	4C1
3A2		3B2		4C2
		3B3		
		stbmain		

10.5 LINE DIMENSIONS

DOBERMANN 3 - 14

LINES HEIGHT m/m

	A	B	C	D	BR
1	4808	4736	4772	4864	5649
2	4776	4705	4734	4833	5364
3	4737	4670	4703	4797	5238
4	4748	4681	4723	4812	5135
5	4685	4625	4667	4748	5014
6	4658	4601	4636	4720	4953
7	4618	4572	4609	4689	4977
8	4628	4583	4627	4701	4899
9	4537	4503	4549		4869
10	4480	4451	4487		4875
11	4446	4424	4463		4945
12	4413	4399	4449		4204
13	4437	4429	4506		
14	4280	4262	4304		
15	4254	4253	4308		

RISERS LENGHT mm

A	B	C	
500	500	500	STANDARD
500	535	570	TRIM OPENED
360	465	570	ACCELERATED

10.6 LINE DIMENSIONS

DOBERMANN 3 - 15

LINES HEIGHT m/m

	A	B	C	D	BR
1	4993	4919	4957	5053	5965
2	4961	4887	4918	5021	5671
3	4924	4853	4887	4984	5542
4	4935	4865	4907	5000	5437
5	4870	4809	4852	4936	5312
6	4843	4784	4820	4907	5251
7	4802	4755	4793	4876	5277
8	4814	4767	4812	4888	5195
9	4721	4684	4731		5164
10	4662	4631	4667		5169
11	4627	4603	4643		5242
12	4593	4577	4628		4376
13	4618	4608	4687		
14	4455	4436	4479		
15	4428	4426	4483		

RISERS LENGHT mm

A	B	C	
500	500	500	STANDARD
500	535	570	TRIM OPENED
360	465	570	ACCELERATED

10.7 LINE DIMENSIONS

DOBERMANN 3 - 17

LINES HEIGHT m/m

	A	B	C	D	BR
1	5347	5268	5310	5412	6270
2	5314	5235	5270	5379	5959
3	5276	5202	5239	5342	5825
4	5289	5216	5261	5359	5715
5	5224	5160	5204	5294	5583
6	5196	5134	5171	5264	5520
7	5155	5104	5145	5232	5548
8	5167	5117	5165	5246	5461
9	5070	5031	5080		5428
10	5007	4974	5012		5434
11	4971	4944	4986		5512
12	4935	4917	4970		4692
13	4961	4950	5034		
14	4788	4767	4812		
15	4759	4756	4816		

RISERS LENGHT mm

A	B	C	
500	500	500	STANDARD
500	535	570	TRIM OPENED
360	465	570	ACCELERATED

10.8 LINE DIMENSIONS

DOBERMANN 3 - 19

LINES HEIGHT m/m

	A	B	C	D	BR
1	5682	5598	5640	5748	6701
2	5647	5564	5598	5714	6374
3	5610	5531	5570	5678	6234
4	5624	5547	5594	5697	6121
5	5560	5489	5536	5631	5984
6	5531	5462	5501	5599	5919
7	5487	5433	5475	5567	5951
8	5501	5447	5497	5582	5858
9	5398	5357	5410		5823
10	5332	5297	5339		5829
11	5293	5266	5311		5911
12	5256	5238	5295		4983
13	5284	5273	5361		
14	5102	5079	5126		
15	5070	5068	5130		

RISERS LENGHT mm

A	B	C	
500	500	500	STANDARD
500	535	570	TRIM OPENED
360	465	570	ACCELERATED

10.9 CERTIFICATION

MINISTÈRE CHARGÉ DES TRANSPORTS
Liberté Égalité Fraternité

dgac direction générale de l'Aviation civile DSAC

FICHE D'IDENTIFICATION ULM DE CLASSE 1

(à joindre à la carte d'identification)

a	b	c		d		e					f	Rév n°
B	1	0	1	S	F	0	3	9	6	3	E	-

a) Construction en série : B - autres cas : A
b) Monoplace : 1 - Biplace : 2
c) Paramoteur : 01 - Pendulaire : 02 - Multiaxe : 03 - Autogire : 04 - Aérostat : 05 - ULM à motorisation auxiliaire : 1A - 2A - 3A - Hélicoptère : 06
d) Code de l'autorité aéronautique
e) Numéro d'ordre
f) Utilisation : Loisir : L - Activité particulière : T - Loisir et activité particulière : E

Appellation ou type d'ULM	DOBERMANN 3 - 14
Constructeur	NIVIUK GLIDERS / AIR GAMES S.L.
Adresse	Carrer del Ter, 6 nave D 17165 LA CELLERA DE TER - GIRONA - ESPAGNE

DESCRIPTION DE L'ULM

Activités particulières prévues	n/a		
Options prévues	n/a		
Masse minimale	Masse maximale	Voilure – Fabricant	Voilure – Modèle/Référence
55 kg	105 kg	NIVIUK GLIDERS	DOBERMANN 3 - 14

Référence manuel d'utilisation	Référence manuel d'entretien	Surface à plat	Résistance minimale d'encrage
MANUEL DOBERMANN 3	MANUEL DOBERMANN 3	14 m²	1000 daN

Limitations du constructeur de la voile vis-à-vis des GMP	Puissance maximum : 36 CV

Pour le Ministre chargé de l'Aviation Civile
Document établi le 2 Mars 2022
Visa de l'autorité
Signature numérique de Benoit PINON benoit.pinon.dgac Date : 2022.03.02 11:17:40 +01'00'

A remplir par le constructeur d'ULM en série ou par son représentant pour toute copie conforme remise à l'acheteur
Je soussigné Niviuk Gliders / Air Games SL certifie que l'ULM numéro de série XXXXXXXXXXXXXX est conforme au dossier technique ayant fait l'objet de la présente fiche d'identification.
à LA CELLERA DE TER, GIRONA le XX/XX/XXXX
signature et cachet de l'entreprise
AIR GAMES S.L. [illegible]

MINISTÈRE CHARGÉ DES TRANSPORTS
Liberté Égalité Fraternité

dgac direction générale de l'Aviation civile DSAC

FICHE D'IDENTIFICATION ULM DE CLASSE 1

(à joindre à la carte d'identification)

a	b	c		d		e					f	Rév n°
B	1	0	1	S	F	0	3	8	7	6	E	-

a) Construction en série : B - autres cas : A
b) Monoplace : 1 - Biplace : 2
c) Paramoteur : 01 - Pendulaire : 02 - Multiaxe : 03 - Autogire : 04 - Aérostat : 05 - ULM à motorisation auxiliaire : 1A - 2A - 3A - Hélicoptère : 06
d) Code de l'autorité aéronautique
e) Numéro d'ordre
f) Utilisation : Loisir : L - Activité particulière : T - Loisir et activité particulière : E

Appellation ou type d'ULM	DOBERMANN 3 - 15
Constructeur	NIVIUK GLIDERS / AIR GAMES S.L.
Adresse	Carrer del Ter, 6 nave D 17165 LA CELLERA DE TER - GIRONA - ESPAGNE

DESCRIPTION DE L'ULM

Activités particulières prévues	n/a		
Options prévues	n/a		
Masse minimale	Masse maximale	Voilure – Fabricant	Voilure – Modèle/Référence
60 kg	115 kg	NIVIUK	DOBERMANN 3 - 15

Référence manuel d'utilisation	Référence manuel d'entretien	Surface à plat	Résistance minimale d'encrage
DOBERMANN 3	DOBERMANN 3	15 m²	1000 daN

Limitations du constructeur de la voile vis-à-vis des GMP	Puissance maximum : 36 CV

Pour le Ministre chargé de l'Aviation Civile
Document établi le 15 Novembre 2021
Visa de l'autorité
Signature numérique de Benoit PINON benoit.pinon.dgac Date : 2021.11.15 14:57:30 +01'00'

A remplir par le constructeur d'ULM en série ou par son représentant pour toute copie conforme remise à l'acheteur
Je soussigné Niviuk Gliders / Air Games SL certifie que l'ULM numéro de série XXXXXXXXXXXXXX est conforme au dossier technique ayant fait l'objet de la présente fiche d'identification.
à LA CELLERA DE TER, GIRONA le XX/XX/XXXX
signature et cachet de l'entreprise
AIR GAMES S.L. [illegible]

10.9 CERTIFICATION

MINISTÈRE CHARGÉ DES TRANSPORTS

dgac direction générale de l'Aviation civile

DSAC

FICHE D'IDENTIFICATION ULM DE CLASSE 1

(à joindre à la carte d'identification)

a	b	c	d	e						f	Rév n°
B	1	0	1	S	F	0	3	8	7	7	E	-

a) Construction en série : B - autres cas : A
b) Monoplace : 1 - Biplace : 2
c) Paramoteur : 01 - Pendulaire : 02 - Multiaxe : 03 - Autogire : 04 - Aérostat : 05 - ULM à motorisation auxiliaire : 1A - 2A - 3A - Hélicoptère : 06
d) Code de l'autorité aéronautique
e) Numéro d'ordre
f) Utilisation : Loisir : L - Activité particulière : T - Loisir et activité particulière : E

Appellation ou type d'ULM	DOBERMANN 3 - 17
Constructeur	NIVIUK GLIDERS / AIR GAMES S.L.
Adresse	Carrer del Ter, 6 nave D 17165 LA CELLERA DE TER - GIRONA - ESPAGNE

DESCRIPTION DE L'ULM

Activités particulières prévues	n/a
Options prévues	n/a

Masse minimale	Masse maximale	Voiture	
		Fabricant	Modèle/Référence
65 kg	130 kg	NIVIUK	DOBERMANN 3 - 17

Référence manuel d'utilisation	Référence manuel d'entretien	Surface à plat	Résistance minimale d'ancrage
DOBERMANN 3	DOBERMANN 3	17 m²	1000 daN

Limitations du constructeur de la voile vis-à-vis des GMP	Puissance maximum : 36 CV

Pour le Ministre chargé de l'Aviation Civile
Document établi le : 15 novembre 2021
Signature numérique de Benoît PINON (benoit.pinon@dgac.fr) Date : 2021.11.15 14:58:01 +01'00'
Visa de l'autorité

A remplir par le constructeur d'ULM en série ou par son représentant pour toute copie conforme remise à l'acheteur

Je soussigné Niviuk Gliders / Air Games SL certifie que l'ULM, numéro de série ..... est conforme au dossier technique ayant fait l'objet de la présente fiche d'identification

à LA CELLERA DE TER, GIRONA le 00/00/0000
signature et cachet de l'entreprise

AIR GAMES S.L.

MINISTÈRE CHARGÉ DES TRANSPORTS

dgac direction générale de l'Aviation civile

DSAC

FICHE D'IDENTIFICATION ULM DE CLASSE 1

(à joindre à la carte d'identification)

a	b	c	d	e						f	Rév n°
B	1	0	1	S	F	0	3	8	7	8	E	-

a) Construction en série : B - autres cas : A
b) Monoplace : 1 - Biplace : 2
c) Paramoteur : 01 - Pendulaire : 02 - Multiaxe : 03 - Autogire : 04 - Aérostat : 05 - ULM à motorisation auxiliaire : 1A - 2A - 3A - Hélicoptère : 06
d) Code de l'autorité aéronautique
e) Numéro d'ordre
f) Utilisation : Loisir : L - Activité particulière : T - Loisir et activité particulière : E

Appellation ou type d'ULM	DOBERMANN 3 - 19
Constructeur	NIVIUK GLIDERS / AIR GAMES S.L.
Adresse	Carrer del Ter, 6 nave D 17165 LA CELLERA DE TER - GIRONA - ESPAGNE

DESCRIPTION DE L'ULM

Activités particulières prévues	n/a
Options prévues	n/a

Masse minimale	Masse maximale	Voiture	
		Fabricant	Modèle/Référence
70 kg	150 kg	NIVIUK	DOBERMANN 3 - 19

Référence manuel d'utilisation	Référence manuel d'entretien	Surface à plat	Résistance minimale d'ancrage
DOBERMANN 3	DOBERMANN 3	19 m²	1000 daN

Limitations du constructeur de la voile vis-à-vis des GMP	Puissance maximum : 36 CV

Pour le Ministre chargé de l'Aviation Civile
Document établi le : 15 novembre 2021
Signature numérique de Benoît PINON (benoit.pinon@dgac.fr) Date : 2021.11.15 14:58:01 +01'00'
Visa de l'autorité

A remplir par le constructeur d'ULM en série ou par son représentant pour toute copie conforme remise à l'acheteur

Je soussigné Niviuk Gliders / Air Games SL certifie que l'ULM, numéro de série ..... est conforme au dossier technique ayant fait l'objet de la présente fiche d'identification

à LA CELLERA DE TER, GIRONA le 00/00/0000
signature et cachet de l'entreprise

AIR GAMES S.L.

Niviuk Gliders & Air Games SL
C/ Del Ter 6 - nave D
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+34 972 422 878
info@niviuk.com
www.niviuk.com