USER'S MANUAL

MAKAN

NIVIUK

CONTENTS

> ***GIVE IMPORTANCE TO THE SMALL DETAILS TO MAKE BIG THINGS HAPPEN***

WELCOME

We welcome you to our team and thank you for the trust you have placed in our MAKAN harness.

We would like to share with you the excitement and passion that went into the process of creating this harness. The MAKAN has been designed to offer excellent maneuverability and to complement different learning and progression stages in your paragliding journey.

THIS IS THE MANUAL AND WE RECOMMEND YOU READ IT CAREFULLY BEFORE USING THE HARNESS.

THE NIVIUK TEAM

NIVIUK GLIDERS & AIR GAMES SL
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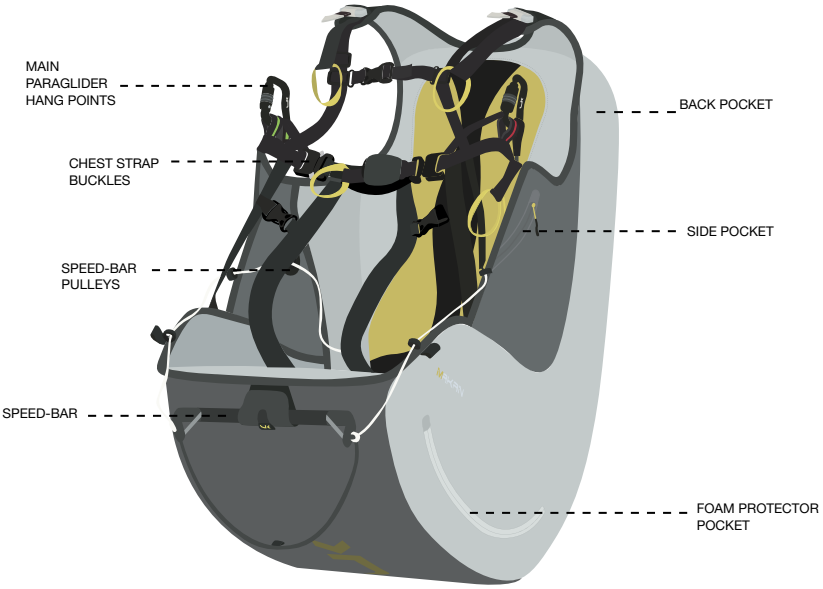
GET READY TO TAKE OFF

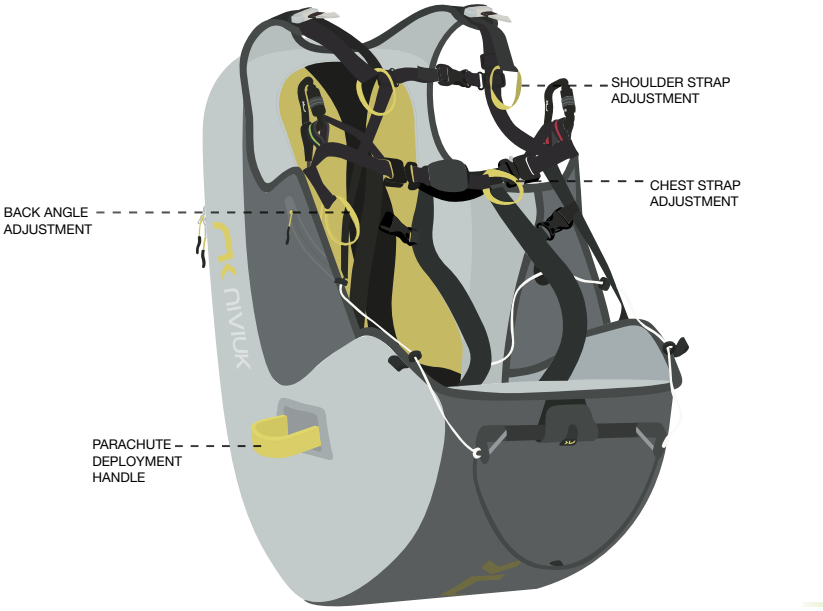
This manual provides you with the necessary information on the main characteristics of your new harness. However, it should be noted that it does not serve to instruct you to be able to fly this type of harness. Flying instruction can only be provided by flying schools recognised by the free flying federation of your country.
You can get more information from our website at niviuk.com

We would like to remind you of the importance of carefully reading the contents of this manual for your new MAKAN harness.
Severe injury can occur as a result of misuse of this equipment.

GENERAL CHARACTERISTICS

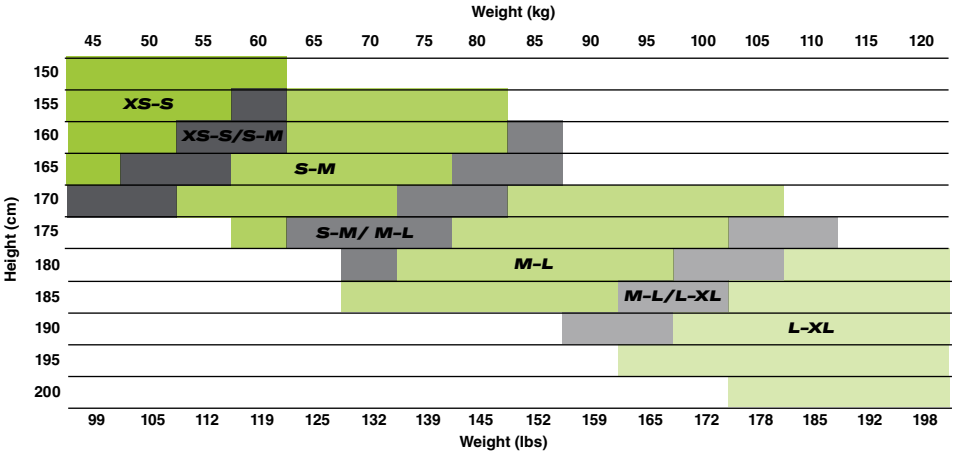
Overview of the harness





Technical data

		XSS	SM	ML	LXL
WEIGHT		3.5 kg	3.7 kg	4.3 kg	4.9 kg
PILOT HEIGHT		150 -165 cm	160 -175 cm	173-187 cm	182-200 cm
SEAT BOARD	*WIDTH*	33 cm	35 cm	37,5 cm	43 cm
	LENGHT	45,5 cm	47,5 cm	51 cm	54,5 cm
MAXIMUM LOAD		120 kg	120 kg	120 kg	120 kg
CERTIFICATION		EN/LTF	EN/LTF	EN/LTF	EN/LTF



Target group

The MAKAN is the harness designed by Niviuk for instruction. It is a harness ideal for beginning to fly.

It has been designed to offer a high degree of comfort and excellent maneuverability, as it adapts easily to the pilot's body during each flight.

MAXIMUM SAFETY IN YOUR FLYING:
A 16 cm/35 G foam protector with great impact protection combined with durable materials. It features a simple buckle system for easy fastening of the harness.

IDEAL FOR EXPLORING:
With its stable nature, it will allow you to discover the various aspects of free flight with total confidence. Learn and enjoy yourself with a harness which is both comfortable and maneuverable so the beginning of your flying career starts with the most pleasant experiences.

MADE TO YOUR MEASURE:
Its ergonomic design includes foam reinforcements in the seat and backrest to ensure maximum comfort in all flights. In addition, the adjustable straps allow the quick and easy adjustment of the harness to the pilot's body shape.

ONE OF THE LIGHTEST HARNESSES IN ITS CATEGORY:
The MAKAN brings a wide range of advantages while learning to fly as it is easy to transport - ideal for when the pilot has to move from one flight area to another or carry it back up the training hill. A lower weight also makes it easier to practise initial inflations and its reduced volume means that it is easier to compress, pack and store.

Design process

The NIVIUK team has done extensive and meticulous work. Numerous adjustments were made as a result of flight testing of the various prototypes. These were tested in all flight conditions. This intensive development of an innovative and modern harness has been made possible by the extensive experience of our team. All NIVIUK products undergo a thorough final inspection.

UNPACKING AND ASSEMBLY

Assembling the harness

We recommend that before your first flight the initial adjustment of the harness is made using a hang frame.
Position the harness and hang it from the carabiners. Sit in the harness and close it. Then adjust it to your personal preference using the adjustable straps.
To adjust the harness to your body shape, a number of easy-to-use adjustable straps have been incorporated into the MAKAN.

Connecting the harness to the wing

The MAKAN has two carabiners to connect the harness to the paraglider. The right carabiner is connected to the right riser of the wing. The left carabiner is therefore connected to the left riser.

Adjusting the harness

1 **PILOT POSITION**
The MAKAN can be adjusted to regulate the angle of the pilot. This angle can be varied by adjusting the appropriate straps.
The angle of the back and shoulder straps can also be adjusted.

2 **CHEST STRAP**
The chest strap which controls the distance between the two carabiners can be adjusted from 36 - 45 cm (in sizes XS-S and S-M) and from 40 - 49 cm (in sizes M-L and L-XL). For the first flight with the MAKAN, we suggest that the strap is set to the middle position, and then gradually ensure that the option that best suits your needs is selected in flight. The optimum adjustment will depend on the type of wing you are flying with the MAKAN. When the chest strap is tighter, the wing feels more stable. However, over-tightening the strap may enhance the "twist" effect. A wide distance between carabiners increases the turning capacity.

3 **SHOULDER STRAPS**
The optimum adjustment of the shoulder straps depends on the height of the pilot. Sit up straight with chest strap and legs loops closed and adjust the shoulder straps symmetrically.

4 **SPEED-BAR**
The MAKAN comes fitted with a speed-bar. It is important to adjust the harness before adjusting the speed-bar, as the position of the speed-bar depends on the length of the legs.
Use a hang frame to adjust the speed-bar before your initial flight.
Sit the harness and adopt your flying position to adjust the cords symmetrically on both sides.
If the cords are set too short, they can cause constant tension on the speed system, which could be dangerous. Please remember that it is always preferable for the speed-bar to be set longer than shorter.

You will find a tutorial about the correct harness adjustment on our Youtube channel:
www.youtube.com/watch?v=ICWhXC0QyQ4

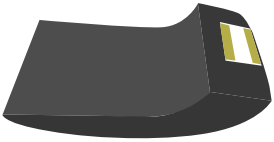
Installing the protectors and accessories

1

OPEN ZIP

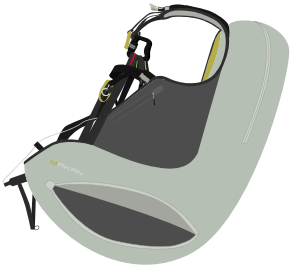
2

INSTALL FOAM PROTECTOR



3

CLOSE ZIP



Installing the parachute

You can find a tutorial on correctly installing parachutes in our harnesses on our Youtube channel: https://youtu.be/VNd7EIRVC3g

**Please note: the parachute must be fitted inside the container. In case the parachute is too small and to avoid movement, foam must be incorporated to solve this problem. If it fits too loosely in the inner container there is a possibility that it may twist or that the lines or webbing may not be positioned correctly, which may make it difficult or impossible to deploy the parachute.*

TAKE CARE: your safety depends on the correct installation of your emergency parachute. This process should be performed with utmost care. We recommend the parachute is installed by qualified professionals.

1

Ready the deployment bag and the parachute handle. Below you will see how to connect them.

2

To connect them, the loop at the end of the handle strap must be inserted through the attachment loop on the parachute container. Pass the parachute handle through the loop to form a lark's foot/clove hitch.

3

Tighten the knot by pulling firmly on the handle.

4

Check that the Y-bridle on the harness is free of twists and tangles.

5

Prepare the materials you will use to connect the parachute and the Y-bridle of the harness.
(1 x Rescue INOX 7MM).

6

Connect the parachute bridle to the Y-bridle using a 7 mm maillon.
Use rubber bands at each end of the maillion to avoid any slipping or movement.

7

Insert the parachute into the parachute container of the harness.

8

Pass the Nylon rod through the small hole and insert the parachute handle into its compartment. This will facilitate the installation and closing process of all the numbered flaps (detailed below).

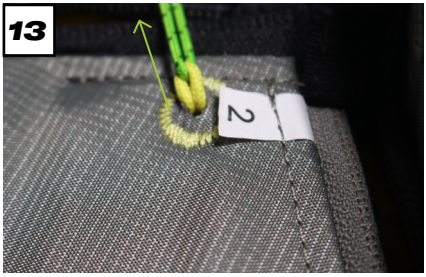
9

The bridle connecting the parachute to the handle must pass under the initial attachment point “1”. This pictures show the correct and the incorrect position of the bridle.

Identify the different numbers of the flaps to perform the correct closing sequence of the parachute compartment.

Use a thin piece of string or paraglider line to close the flaps. Pass the string/line through the yellow loop, leaving the same distance on both sides.

Insert the two ends of the string/line through the back of the hole labelled “2”.



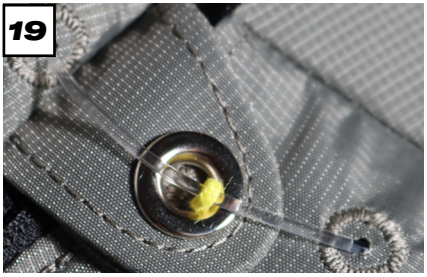
Pull the string/line until the yellow loop is completely through the hole.

Then pull the loop through the hole labelled “3”.

Close the zip as indicated in the image. Make sure that the zip is securely closed from the start of the zip all the way to the top of the harness.

Insert the two ends of the string/line through the back of the eyelet labelled “4” and pull until the loop passes completely through.

Pass the Nylon rod through the yellow loop to secure.



Insert the Nylon rod into the hole and carefully remove the string/line from the yellow loop.

Completely close the lower zip and make sure that no area is left open.

Here you can see the final result if the steps are followed correctly.

TIPS AND TRICKS:

Make sure that the bridle connecting the handle to the parachute is tightened securely. These images show the correct and incorrect installation.

The Makan harness is delivered with extra foam to adjust the volume of the container in case a small parachute is used. As far as possible, the parachute must always remain in a fixed position inside the container to avoid any displacement which could hinder its deployment.

IN FLIGHT

Pre-flight checks

For maximum safety, use a comprehensive and consistent system of pre-flight checks and repeat the same sequence before each flight.
Check the following:
There is no visible damage to the harness or carabiners that could affect the flight.
All buckles, straps and zips are connected/closed. The buckles should snap into place when you close them, and a gentle tug on them verifies this. Take extra care on sites with snow or sand.
The glider is correctly connected to the harness and both carabiners are secured with their locking mechanisms closed.
All pockets are properly closed and items hanging from the harness are secured/attached.
Check again that you have secured the chest strap and leg loops before launch.
The parachute container is properly closed and the pins are in the proper position.
The deployment handle is fully inserted into the pockets.

Launch

Make sure the weather conditions are suitable for your skill and experience level. If you make the decision to fly, put on the harness and make sure all buckles are closed correctly and your legs are through the leg loops. Your life depends on it.
Before you take off, ensure you have completed all daily and pre-flight checks.
CAUTION: stay away from mountain relief if you have to use your hands to get into the harness.
You should always have your hands on the brakes when near terrain.
If you need to use your hands to get into the harness, try adjusting the harness using a hang frame.

Landing

Before landing, slide your legs forward in the harness to assume a standing position. Never land whilst still in the seated position as this may cause a back injury. Standing up before landing is an active safety decision and is much more effective than relying on the passive system of the back protector. It is not necessary to adjust the harness before landing. Simply straighten your legs and get into a standing position and prepare to land.

Flying above water or landing in water

CAREFUL: flying above water during a cross-country flight or SIV course exposes the pilot to the risk of a water landing. This situation is very dangerous and flying with a life jacket is essential during an SIV course. We recommend avoiding this situation.
After a water landing, the foam back protector floats and there is a risk of the pilot being pushed underwater. To avoid this situation, the pilot must wear a life jacket and just before hitting the water it is recommended to undo the buckles (without compromising safety) to allow a rapid exit from the harness to avoid the risk of drowning. This way you will be able to reach the safety boat more easily.
In case of an immersion in water, the protector and the harness must be allowed to dry completely. The parachute also has to be removed and spread out to dry properly. Once dried, it must be folded, packed and installed correctly. See the section on “installing the parachute”.
Do not store your equipment if it is still wet or damp - wait for it to dry completely.

TYPES OF FLYING

Winch flying

The MAKAN is suitable for winch launching.
The winch release is attached by means of the main carabiners on the risers, where the wing is attached.

Tandem

The MAKAN is not recommended for tandem operation.

Other

The MAKAN is not designed or recommended for aerobatic or acro flying.

We consider aerobatic/acrobatic flights to be any form of piloting which varies from standard flights. Learning aerobatic/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.

CARE AND MAINTENANCE

Maintenance

The materials used in the MAKAN have been carefully selected to ensure maximum durability. We recommend checking the harness after every impact, bad launch or landing, and if it shows signs of damage or heavy wear.

We recommend the harness is fully inspected in an authorised workshop every two years and the carabiners are also changed every two years.

To prevent wear or damage to the harness, it is important to avoid dragging the harness on the ground, over stones or abrasive surfaces. Do not expose it unnecessarily to UV radiation (sun light). Whenever possible, protect the harness from moisture and heat.

Store all your paragliding equipment in a cool, dry place, and never store it when it is wet or damp.
Keep your harness as clean as possible by regularly wiping off dirt with a plastic brush and/or a damp cloth. If the harness is very dirty, clean it with water and mild soap. Allow it to dry naturally in a well-ventilated area without direct sun light.

Storage

Keep your equipment in the in a cool, dry place away from solvents, fuels or oils. Do not leave the gear inside a car boot, as cars left in the sun can become very hot. The inside of a rucksack can reach temperatures up to 60° C. Weight should not be laid on top of the equipment.
When storing the harness in a rucksack, care must be taken to avoid damaging the shape of the harness. Never store it when still damp. Never use detergents to clean it. Dry the harness in a well-ventilated area. If your parachute gets wet (e.g. if you fall into water) it must be removed from the harness, dried and repacked before being put back into the container.

Repairs and replacement of components may not be carried out by the pilot, but only by the manufacturer or in an authorised workshop.
The manufacturer and authorised workshop personnel may use materials and techniques that ensure optimum functionality in accordance with the product certification.

Checks and inspections

In addition to daily and pre-flight checks, the MAKAN must be thoroughly inspected at every parachute repack, which is normally once a year. Additional checks should be carried out after every incident, bad launch or landing, or in case of signs of damage or wear.
Every two years or 100 flying hours (whichever comes first), the harness must be inspected in an autorised workshop.

If in doubt, contact a professional. These are the required inspections:

Check webbing and buckles for damage, especially in areas that are not easily visible, such as the attachment points on the inside of the carabiner.

All seams must be intact and any anomalies must be repaired immediately to avoid aggravating the problem.

The main aluminium carabiners must be replaced every two years or 500 flying hours or if they have any signs of damage. Impacts can create undetectable damage that can result in structural failure under continuous loading.

Repairs

Any repairs involving critical parts of the harness must be carried out by the manufacturer or an authorised workshop. This ensures that the most appropriate materials and correct repair techniques are applied.

If you are not qualified to do so, do not attempt to repair the harness yourself.

Niviuk Service

We offer our pilots the best service for their flying equipment. This is why we have created the official Niviuk Service workshop, to guarantee the safety and durability of your new product. The extensive experience of our specialist staff makes our official workshop the best place to inspect and repair your equipment.
The harness must be inspected every two years. For more information, please consult the Niviuk Service section of our web site.

Product registration

For better tracking of your harness, you can register your product on the Niviuk website in the MyNiviuk section.

SAFETY AND RESPONSIBILITY

It is well known that free-flying with a paraglider is considered a high-risk sport, where safety depends on the person who is practicing it.
Incorrect use of this equipment may cause severe, life-changing 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.

GUARANTEE

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

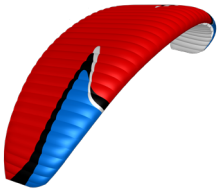
If you notice any defects in your harness, please contact Niviuk immediately for a more thorough inspection.

The warranty does not cover misuse of the equipment.

SPECIFICATIONS

Compatibility

RECOMMENDED



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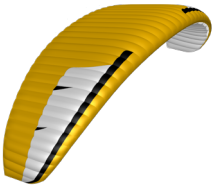
HOOK 5

COMPATIBLE



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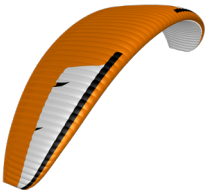
HOOK 5 P



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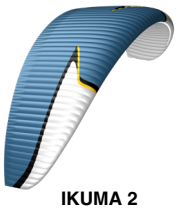

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Certification

You will find the certification certificates on the product page at niviuk.com.

AIR TURQUOISE SA | PARA-TEST.COM
Route du Pré-au-Comte 8 • CH-1844 Villeneuve • +41 (0)21 965 65 65
Test laboratory for paragliders, paraglider harnesses and paraglider reserve parachutes

paragliding by air turquoise

Paragliding Harness

Inspection number :	**PH_283.2019**
Manufacturer :	**Niviuk Gliders**
Model and size :	**Makan M**
Maximum pilot weight [kg] :	**120**
Integrated container for rescue system:	**Yes**
If Yes. Volume of the container [cm^3] :	**7489** min **11740** max
Serial number:	----------
Production date (year / month) :	----------

Harness protector (impact pad)

Impact pad type:	**Foam**
Impact pad integrated:	**Yes**
Impact pad number:	**PH_283.2019**
If not integrated : Manufacturer	Serial number: .....
Production date (year / month) :	----------

Warning : Read the operating manual before using this equipment!

A sample has been tested and certifies its conformity with the following standard: **EN1651:1999, EN12491:2015 and LTF NfL II 91/09 chapter 4 and 6**. This model corresponds with the tested sample and its airworthiness.

RE | rev 01 | 09.03.2018 | ISO 94.20

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