



backup  **220**

MANUAL

English Rev. 1.1 Effective: March 2020

Please read this manual
before you use your BACKUP X220
rescue parachute.





LIGHT  LINE

 EASY-CONNECT

WE BUILT A BACKUP FOR TWO, SO YOU ARE TWICE THE SAFE.

Congratulations, you chose the newest cross canopy rescue BACKUP X220. We thank you for your trust in U-Turn and view it as confirmation to further pursue and develop our uncompromising quality demands. We wish you and your passengers many enjoyable flights and great moments in the air, without having to use your BACKUP.

Dialogue is important to us since we are always trying to optimise our products in the sense "from pilots - for pilots". Therefore we welcome active contributions in the form of suggestions and criticism. If you have any questions, we are happy to help anytime.

In order to guarantee the best service and dialogue please register your BACKUP X220 here:

www.u-turn.de/product-registration

▶ REGISTER NOW



This manual is an important part of the rescue system.

Please read it carefully, because there is an **OBLIGATION** to deal with the equipment and its special features before use. The manual is supposed to make the handling with the U-turn BACKUP X220 as easy and safe as possible.

CONTENTS

WELCOME TO THE WORLD OF U-TURN.	6
BACKUP X220 – Save your life	7
- Usage	8
- Pack and check guidelines	8
- Pack and check certificate	8
- Two-seated flying	8
EQUIPMENT DESCRIPTION	9
- Short description	9
OPERATION INSTRUCTION	10
- Pre-flight check	10
- Release, in case of emergency	10
- Opening	10
- Landing	11
- After the Landing	11
BUILD-IN OF THE BACKUP X220	12
- with original container	12
- into a harness with integrated rescue container	12
- into an external rescue container	12
EASY CONNECT SYSTEM	13
PACKING INSTRUCTION	14
- Packing requirements	14
- Laying out and untangling	14
- Laying of the width	17
- Bundling the lines	21
- Closing the container	22
- Compatibility verification	23
- Operation limits	23
- Closing words for the handling	24
- Environmental aspects	24

MAINTENANCE AND CARE	25
- Maintenance and care	25
- Storage	25
- Damage and repairs	25
- Disposal	25
ASSUMPTION OF RISK	26
- Safety Advice and Liability	26
- Liability claim and renouncement of exclusion	26
LEAFLET FOR INSPECTION AND REPAIRS	27
REPAIR & MAINTENANCE	27

THE EXITEMENT SHARES YOUR RIDE- WELCOME TO THE WORLD OF U-TURN.

FLYING IS A PRIVILEGE.

It creates moments of presence and of bliss. U-Turn is committed to the excitement of flying and is living this not just every day itself but also wants to make it accessible to as many people as possible. U-Turn develops innovative products for the sport of paragliding and is offering a full-service product range.

OUR STATEMENT “SAFE FUN” IS AN ACKNOWLEDGEMENT FOR SAFETY.

U-Turn is pursuing the absolute upper limit of passive safety, because the products should bring delight and joy. Part of that is also that the products support the pilot even when the conditions get more difficult. Because the fun factor considerably rises once the risk factor sinks. For us not only the doable counts, but the maximum of safety. Products with high technological aspirations, innovation and design with a quality, that shows durability over time.

U-TURN HAS A CLEAR GOAL “MAKE THE BEST, EVEN BETTER”

We are working tirelessly on improvements and progress and push ourselves to get better every day. To develop more ideas for more safety and constantly think things over and find intelligent solutions. Thereby we are proud of our work, appreciate uncompromising quality and love our sport. The products are produced with the utmost care, because they should generate long-ranging quality.

THE CENTER OF OUR ACTING IS THE INDIVIDUAL.

Acting responsibly towards our staff and nature is a given, just as it is to do so towards every single pilot. U-Turn is maintaining an authentic and transparent style. Slim structures enable dynamic operating.



Thank you for your confidence.
Have lots of great moments.
Fly safe & have fun

Werde Teil der U-Turn-Piloten-Community:



U-TURN PARAGLIDERS

BACKUP X220

Save your life

With the BACKUP X220, U-Turn also offers the innovative cross canopy concept for tandem use. The light double-seater reserve is built according to the latest development findings and delivers all the design advantages of the cross-cap rescue with the sensational weight of just 2.2 kg. The BACKUP X220 delivers impressive minimum values not only in terms of weight, but also at the decisive opening and sinking speeds. Extensive calculations of the canopy shape and air outlets result in an almost pendulum-free and leisurely sinking behavior.

Thanks to the use of state-of-the-art high-tech materials, the BACKUP X220 is a lightweight despite its uncompromisingly large surface area. This is decisive for the sink rate and the pendulum-free flight behaviour. Efficient air outlets - in conjunction with the pre-tensioning at the base edge using the Rapid Inflation System (RIS) - make up for the surface area in terms of filling behaviour and opening time. The rescuer concept was thus able to undercut the strict standards of the EN and LTF approval with a load of 10 kilos. The most modern production methods are also used in processing, in accordance with the highest safety standards. This is the result of many years of production know-how from traditional parachute production.

As another novelty the BACKUP X220 is equipped with the Easy Connect. That is an innovation by U-Turn that drastically simplifies the mounting of the reserve. Through an integrated soft-link the main bridle of the BACKUP RX can be connected with any junction neat and easy.

MAXIMAL BEST VALUES THROUGH MINIMAL FACTORS:

- ▶ **Minimal sinking rate** of 5,1 m/s with 10 kg additional load
- ▶ **Optimized opening time** through the Rapid Inflation System (RIS)
- ▶ **Very high swing resistance** through intelligent Quarter X Stabilization
- ▶ **Minimal weight** through resistant lightweight material
- ▶ **Simplified packing** through color coded packing loops and numbered widths for packing aid
- ▶ **Simplified mounting** through the Easy Connect system
- ▶ **Opening optimized air inlets**
- ▶ **Opening optimized four-leaf container** in signal color

The material-mixture is aimed at long-term durability. The used canopy material Paratex SX 20 is characterized through high resistance at low elongation features. An antistatic coating avoids the layers to stick together.

The BACKUP X220 is a versatile all-round reserve parachute that is aimed at a wide pilot profile. Inconspicuous through minimal pack volume and weight it provides reliability when it is required. Through the small pack size it is also the perfect choice for alpine pilots with convertible and lightweight harnesses.

The BACKUP X220 is EN and LTF certified. Backup your life!

X220	
Weight Eigengewicht	2,27 kg
Area Fläche	64,7 m ²
Maximum payload Maximale Anhängelast	220 kg
Minimum payload Minimale Anhängelast	130 kg
Container volume Container Volumen	8700 cm ³
Sinkrate at max. load Sinkrate bei max. Last	220kg = 5,3m ²
Panel Bahnen	28
System length Bauhöhe	7,10 m
Number of lines Anzahl der Leinen	28
Certification Zulassung	EN / LTF 222.2018

BACKUP

Usage

The BACKUP X220 is a manually released rescue parachute for paragliding pilots. According to EN 12491 rescue systems are not suitable for use at speeds exceeding 32 m/s or 115 km/h. The rescue system enables a safe landing in case of emergency. The BACKUP X220 opens reliably fast and sinks with low speed. The continued maintenance and packing according to the instructions provide a reliable usage in an emergency.



ATTENTION: This rescue system must not be used as flying parachute.

The paragliding rescue systems of the BACKUP series are in accordance with the EN/LTF airworthiness requirements. For possible personal or material damage in correlation with this rescue system, the manufacturer can not be made liable. This rescue system meets the requirements of certification at the time of delivery.

Pack and check guidelines

The BACKUP needs to be opened, aired out and newly packed every 12 months. The packing needs to be recorded in the service record of the rescue system. The periodic check-over of the rescue system needs to be executed every 24 months and recorded in the service record. The required packing interval can be shortened when under extreme environmental influences like moisture, sand, water, salt or other factors.

The check-over and packing may only be handled by the manufacturer or authorized competence centers.



ATTENTION: If check intervals are not maintained, the certification is no longer valid.

Pack and check certificates

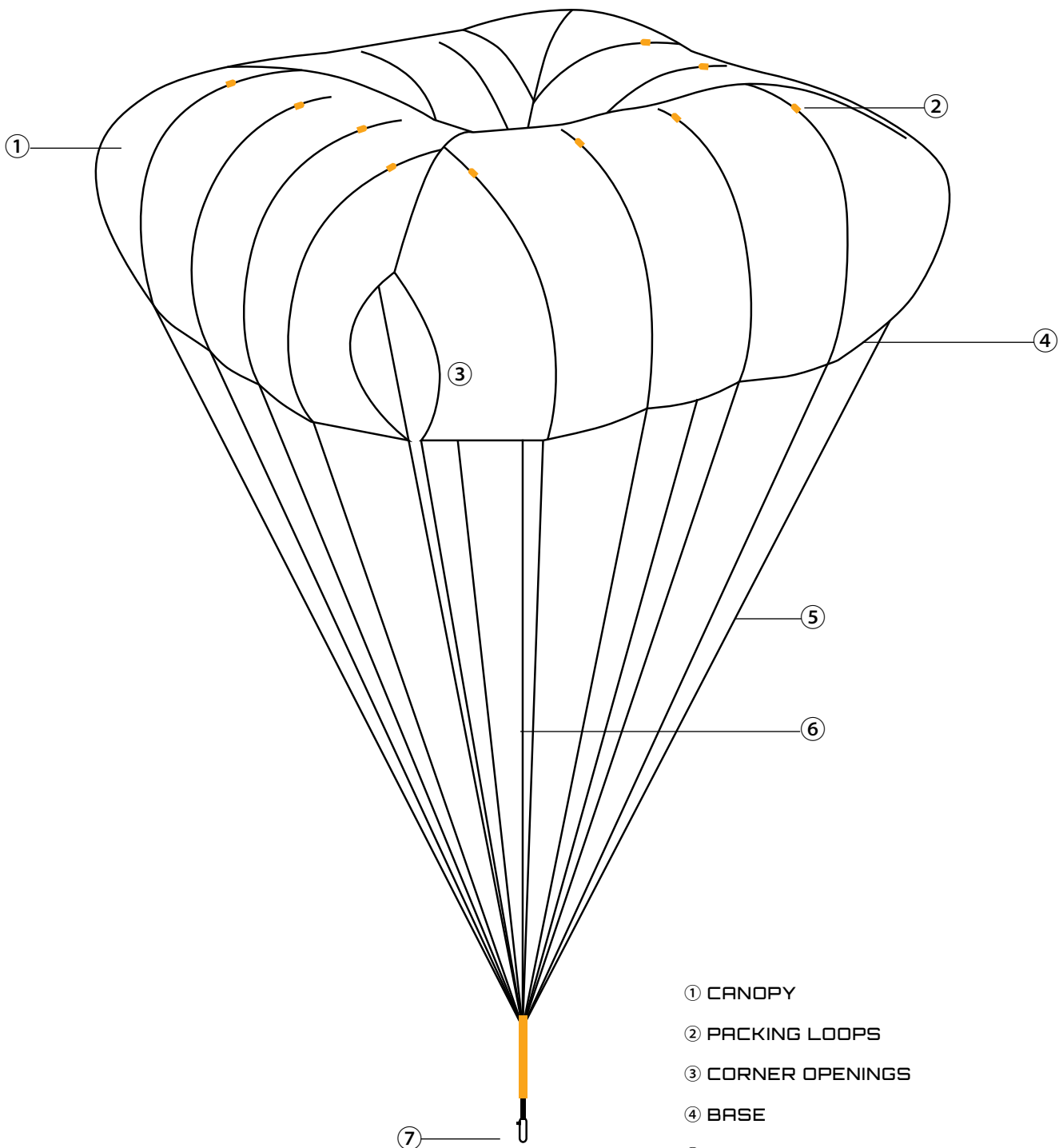
The documentation of the periodic check-over and a list of all packing is obligatory. Base for that is the in the service record included with the delivery. That needs to be with the rescue when it is sent to an authorised pack service.

Two-seated flying

The BACKUP X220 is suitable for recreational and professional tandem pilots. The optimised packing volume ensures compatibility with the harness types commonly available on the market, but a compatibility check is required after packing.

EQUIPMENT DESCRIPTION

Short description



- ① CANOPY
 - ② PACKING LOOPS
 - ③ CORNER OPENINGS
 - ④ BASE
 - ⑤ LINES
 - ⑥ MIDDLE LINE
 - ⑦ MAIN SUSPENSION
- WITH LINE PROTECTION
AND EASY CONNECT

OPERATION INSTRUCTION

Pre-flight check

Make sure to also check the following points before every start:

- is the rescue release handle mounted correctly on the harness.
- is the rescue container closed correctly and secured.

Release, in case of emergency

Grasp the rescue release handle with one hand. Pull the release handle and let the BACKUP fall into the free space diagonally behind you through a sideways movement. Mind that you need to let go of the handle! Only then the rescue system will open!

A regularly packed rescue parachute will open immediately after the lines are stretched. Badly maintained rescue systems can open with delay or not at all. If this happens strong and sudden pulls on the connection line to the rescue system is necessary to try and reach an opening.

Opening

After opening the BACKUP the paraglider will become unable to fly, through which the previously occurred rotations are stopped. Mind that the lines can stretch uninfluenced from the paraglider where possible. After that the BACKUP will open without delay and rise above the pilot, while the paraglider dives down forward or sideward. Immediately you should try to deform the paraglider or even pull it in, so it won't rise over the pilot again and dangerously influences the rescue system. The best way to succeed is with B-stall or pulling down and winding of one riser. The outstanding features of the very high swing resistance of the BACKUP are active only when in full load.



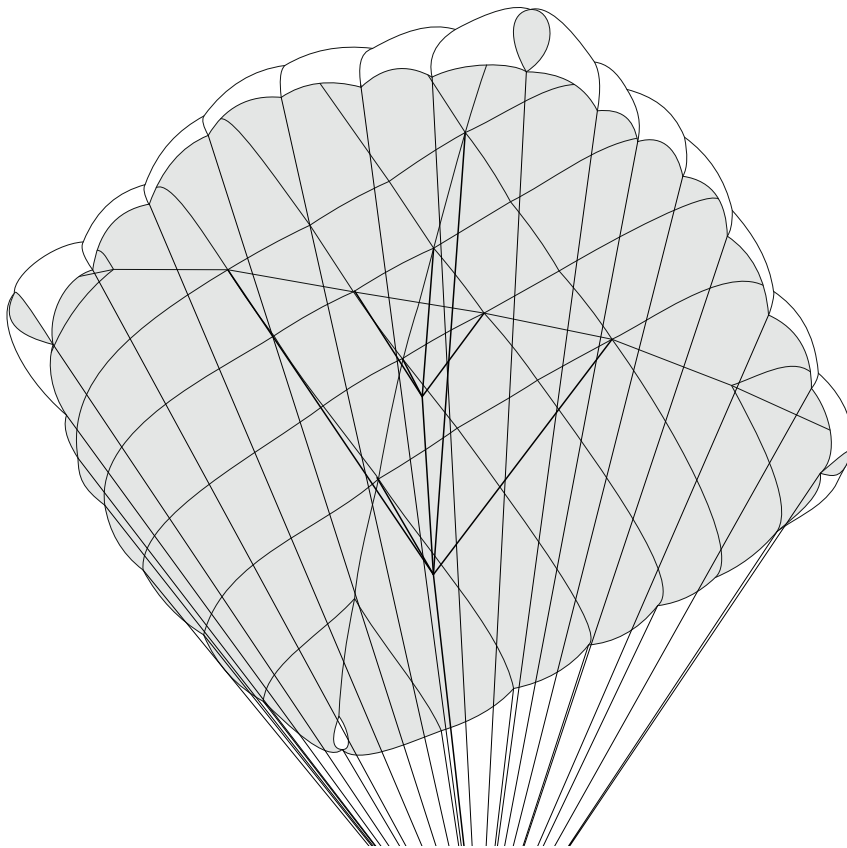
ATTENTION: If the paraglider is not deformed by the pilot, the dangerous scissors position can occur. Thereby the glider and rescue system have a 45° angle towards one another, whereas the rescue parachute only carries part of the load. That increases the sink rate and creates a tilted position for the pilot which leads to a high injury risk.

Landing

Before the landing the pilot should stand up in the harness and take a ready position. This is easier when the harness has a shoulder suspension. Shortly before landing the knees should be bent lightly and the legs should be about the width of the hip apart. After making ground contact the pilot should roll himself to soften the landing. It is to be minded that the paraglider stays deformed until the landing so you won't get pulled into one direction during the landing.

After the landing

After the landing you should deform the rescue parachute in a controlled fashion, by pulling the middle of the canopy inside at the middle line. Strong wind can otherwise blow up the rescue parachute after the landing and pull you into one direction. Don't forget to look for your container after the landing. After every landing check-over and re-packing are mandatory! In case a possible damage to the rescue system cannot be excluded - a complete check-over is necessary before re-packing.



BUILD-IN OF THE BACKUP X220

We recommend, to have your rescue system built into your harness from authorized packers only. To ensure the rescue parachute has been installed correctly a **compatibility verification** is mandatory! Also it needs to be recorded in the service record.

Build-in of the BACKUP X220 with original container

The BACKUP X220 is delivered with its own customized container, with which the tests were also carried out. If the rescue compartment of your harness does not have an integrated container,

it should be used the original.

There are two different mounting loops to fix the release handle to the inner container. Please follow the manual of your harness for the build-in of the rescue parachute. The connection between release handle and inside container must never be under tension after built in, otherwise there's the risk that the opening of the rescue pocked is impaired or even inhibited. If an alternative container is used, it must be packed according to the manufacturer's instructions. If the original container is not used, the opening hours may change.

Build-in of the BACKUP X220 into a harness with integrated rescue container

In case your harness has an integrated container, that should be used. The packed rescue parachute is taken out of the original container and built into the integrated container of the harness. Please follow the manual of your harness on that.

Build-in of the BACKUP X220 into an external rescue container

In case your harness does-not have an integrated rescue pocked, external front-container are used. These need to be certified and compatible with the rescue parachute. Please follow the manual of the container for that.



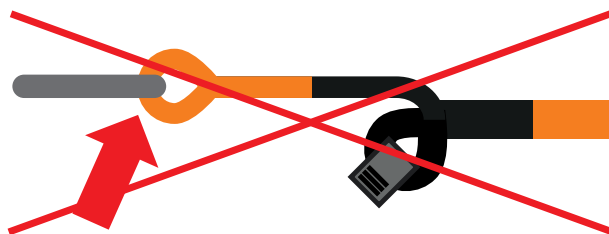
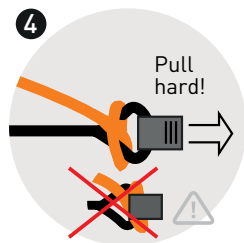
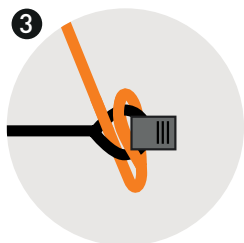
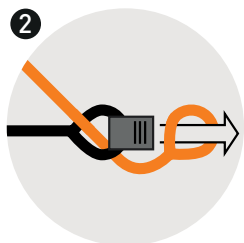
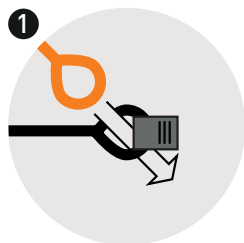
As another novelty the BACKUP X220 is equipped with the Easy Connect. That is an innovation by U-Turn that drastically simplifies the mounting of the reserve. Through an integrated soft-link the main bridle can be connected with any junction neat and easy.



HOOK THE V-LINES THROUGH THE EASY CONNECT AND FIX THEM INTO PLACE



CLOSE THE EASY CONNECT



ATTENTION:

The fastening loops are only to be used for closing the soft-link. The rescue parachute must not be mounted to it directly, but is to be hooked into the closed soft-link.

PACKING INSTRUCTION

Packing requirements

Before the re-pack of the rescue, it is to be checked by the packer. If the parachute has been opened for a rescue, a complete check-over is to be made. Before re-packing the BACKUP X220 should be aired out 2-3 days.

Always use suitable new silicone packing rubbers when repacking BACKUP.

Replacement inner containers and packing rubbers can be purchased from U-Turn.

The packer needs to have finished at least one packing course for cross canopy rescue systems. But we strongly recommend, to let the rescue parachute be packed in an authorized company.



ATTENTION: The mounting of the rescue is to be made exclusively by an authorized U-Turn distribution partner. schließlich von einem autorisiertem U-Turn Vertriebspartner durchgeführt werden.

Laying out and untangling

The packing should be made on a packing table if possible, but the minimum requirement is a clean, anti-static surface. The parachute has to be stretched to its overall length.

Afterwards a line is pulled through the color coded packing loops and mounted at the top of the packing table. It is important to take care that no loops are forgotten. At the bottom end of the table the main suspension is fixed and the parachute is tightened. The lines will be checked on straight and parallel course. Therefore the lines are checked from the base to the main suspension e.g. #1 and #20 are run through the fingers. Any tangles are removed.

The canopy has four corners, when packing the first of them needs to face downwards, one left, one right and the last is lying on top.

LAYING OUT AND UNTANGLING



▶ Thread and fix the packing loops one by one

▶ Stretch the parachute to its overall length



◀ Fix the bridle and tighten



▶ Check the lines for straight and parallel course



PACKING INSTRUCTION



▲ Sort canopy and if need be fix the lines with packing cord
Lay panel 1 to the right
Bahn 1 auf die rechte Seite legen



▲ Bottom layer - corner cut-out place in the middle so the first panel lays conical on the right



▲ Smooth down layers and edges

◀ Pay attention to diagonal course of the inner fabric folding

LAYING OF THE PANELS



◀ Now put panel after panel to the right preferably without wrinkles. After four panels follows the next corner panel.



◀ Pull out the corner panel or rather the corner according to the picture

Repeat as above with the next 4 panels

PACKING INSTRUCTION



◀ ▲ Lay the last corner panel in the middle, weigh down the right side



◀ Place left side on the right, then place panel on panel like the right side



▲ Center needs to be spared

◀ Check the panels, there need to be the same amount left and right (10)
Now the packing cord is removed from the pacing loops. If the packing loops were kept together, the rescue would not be able to open!

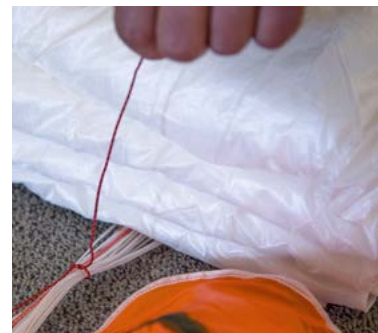
LAYING OF THE PANELS



▲ After the s-flap the protruding corners are folded forward and backward



▲ The canopy is now adjusted to width of the container with the s-flap.



▲ In case a packing cord is used it needs to be strictly removed now

◀ Depiction s-flap

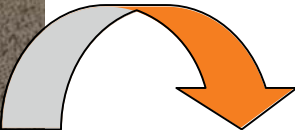
PACKING INSTRUCTION



◀ The folded rescue is now brought to the size of the container using small s-flaps.



◀ Completed packing of the canopy



▶ Is now put into the container upside down, the base edge needs to be on top!

BUNDLING OF THE LINES



◀ Lines are now placed in 3-4 bundles with the width of the container and fixed with packing rubber bands. The line loops behind the rubber bands should be as small as possible.



▶ Place the line bundles on the canopy



PACKING INSTRUCTION CLOSING THE CONTAINER



▲ Close the leaves according to the numeration



▲ The container is closed by pulling the line loop through the elastic band.



◀ Check the opening through self weight and remove packing cord. The BACKUP X220 is now ready to be built into the harness or the external container.

NOW THE PACKING IS RECORDED IN THE SERVICE RECORD OF THE RESCUE PARACHUTE

Compatibility verification

After the packing the combination harness/rescue should be tested under close to real circumstances. Therefore the harness is fixed at the main suspension and the pilot takes his usual flying position. That is the only way to check if the rescue system can be used without complications in case of emergency in his flying position.

Especially the length of the arm is significant to release the rescue parachute without problems in case of emergency. Please also follow the instructions of the harness manufacturer.

Additionally the connection line, between rescue release handle and rescue container is not adjusted too long and not too short. The rescue release handle should be able to be released without major resistance and needs to be tested through the compatibility verification.



ATTENTION: The trial release needs to be performed after every re-packing. The opening force has to be between 4 and 8 daN.

The volume of the packed rescue parachute depends on the quality of the packing and the possible compression by the harness.

Operation limits

The BACKUP is not designed as a flying parachute, the maximum permitted speed at which it may be released is 115 km/h - 32m/s. The BACKUP X220 has a operation time limit of 10 years. Requirement for that is the compliance with the check-over intervals and recorded packing. It is recommended to replace the rescue system after this period of time, even if it hasn't been activated.

Closing words for the handling

The BACKUP X220 is based on the newest development know-how and therefore stands for the maximum of safety standard of rescue systems.

Nevertheless we would like to ask you to always perform aviation with the required caution and respect. That also includes the flight preparation and analysis of the meteorological circumstances and correct assessment of the weather situation. Operate defensively, because the fun factor rises considerably, once the risk factor sinks.

But also the regular inspection of your flight equipment is part of serious flight preparation. To have the BACKUP ready in case of emergency, we want to encourage you to check and re-pack your BACKUP X220 within the recommended intervals.

The durability and operation safety of the equipment depends to a high degree from the caution of the pilot, treat and maintain your BACKUP always carefully. We recommend to check your rescue parachute regularly for damages and signs of wear and tear.

TIP: A quick grasp to the rescue release-handle at every flight automatizes the movement and position for a case of emergency. If possible we also recommend dry-throwing training to train the release under stress-free circumstances.

Environmental aspects

To behave responsibly towards fellows and nature is a given, just as it is towards every single pilot. Therefore we would like to ask you to perform our sport with respect towards your environment. The sensitive biological balance in the mountains demands caution, that includes not leaving waste and use existing paths for approaching the take-off sites. Especially at take-off areas unnecessary noise is to be avoided.

MAINTENANCE AND CARE

Maintenance and care

Soiled canopies and containers can be cleaned carefully with clear tap water and a soft sponge or cloth. Caution: Never use chemicals, brushes, hard sponges or similar for cleaning! Hard mechanical rubbing is to be avoided, also cleaning it in the washer is not proper. Frequently washing / cleaning your BACKUP accelerates the aging process.

If the rescue system gets moist or wet, it needs to be opened and aerated as soon as possible in a well ventilated space - without direct sunlight - to avoid mould stains or formation. After it is dry it needs to be re-packed.

Try to avoid contact with water as much as possible and also don't cause structural strain on the canopy for example by dragging it through water. In case the parachute got in contact with salt water, it needs to be rinsed with clear water a couple of times and be dried afterwards. Dried up salt crystals lead to damages on cloth and lines which leads to the expiration of the airworthiness.

Storage

The rescue system should be stored at a dry and cool place. Oils, paints, solvent, acid and other harmful substances should not be stored in close distance of the rescue system

In case you do not use the Backup for a longer period of time it is recommended to unpack it and store it loosely rolled up in an air-permable bag. Before re-packing it should be aerated again.

Damages and repairs

In case you or your packer notices damages during the check which impair the airworthiness of the rescue system it should be sent to the manufacturer or an authorized competence center and be repaired. Even smaller damages, which could eventually influence the airworthiness of the system, should be sent in for checking.



ATTENTION: Repairs only occur at the manufacturer or at an authorized U-Turn competence center.

Disposal

After expiration of the designated life of the rescue system an environmentally appropriate disposal is to be secured. The synthetic materials that are used in a rescue system demand appropriate disposal. Please return worn-out equipment to U-Turn GmbH - there they will be disassembled and disposed of appropriately. Even if the rescue system was never activated, we recommend to replace it after ten years of purchase date.

ASSUMPTION OF RISK

Safety advice and liability

The BACKUP X220 complies with certification norms according to EN / LTA at the time of delivery. Any unauthorized alteration is followed by the expiration of the operating licence! The operation is at your own risk and the pilot needs to make sure that the aircraft is checked for its airworthiness before every flight. Safety warnings at the U-Turn website are to be considered. We also take it as a given that the pilot is in possession of the required certificate of qualification and that the given legal requirements are met. Use of the equipment is at your own risk! The manufacturer and the dealer does not take any liability for accidents and possible consequential damages. Please consider all safety notes, cautions and warnings for safe flying.

Liability claim and renouncement of exclusion

With the completion of the purchase of a U-Turn BACKUP X220 you express your in consent with the following points of legal specifications:

THE RENOUNCEMENT EXCLUSION OF ALL LIABILITY CLAIMS, deriving from the use of the U-Turn BACKUP X220 and or either components thereof, now or in the future, against the U-Turn GmbH and all other contracting parties.

Releasing U-Turn GmbH and all other contracting parties of all liability claims concerning loss, damage, injury or expenses that you, your next of kin, relatives or any other user of the U-Turn BACKUP X220 could suffer as a result of the usage of the BACKUP X220. This includes but is not limited to lawful or contractual liability on behalf U-Turn GmbH and all other contracting parties as a result of the of production and processing the U-Turn BACKUP X220 and all its components. With the occurrence of death or disability, all directives stated here come into force and bind their beneficiaries, next of kin, trustees, legal successors and/or representatives. The U-Turn GmbH and all other contracting parties express no verbal or written representation and deny assertively that this was done with exception of what is specified here and in the manual of U-Turn BACKUP X220.

LEAFLET FOR REPAIRS AND MAINTENANCE



Last Name:

First Name:

Street:

ZIP code, City:

Country:

Phone:

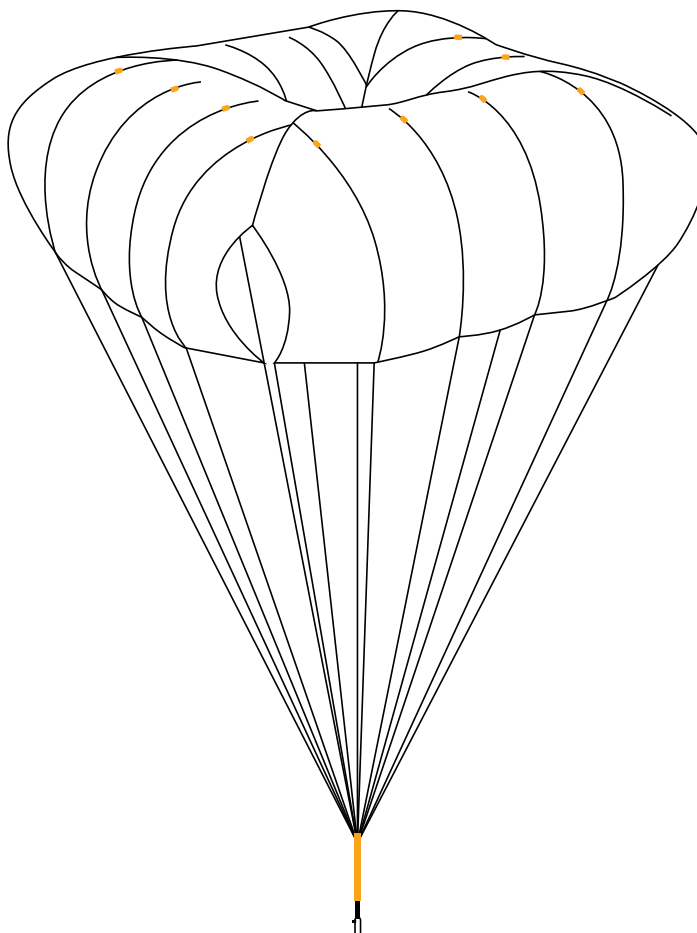
E-Mail:

Model / Size:

Serial number:

Comments/Remarks:

- Aeration and re-pack
- Repair
- Line check



U-TURN GmbH
Im Neuneck 1
D-78609 Tuningen



Fax: +49 (07464) 98912828
Tel. +49 (07464) 9891280



info@u-turn.de
www.u-turn.de

U-Turn GmbH

Im Neuneck 1

78609 Tuningen

Fon: +49 (0)7464 98 91 28-0

Fax: +49 (0)7464 98 91 28-28

info@u-turn.de

For further information visit: www.u-turn.de

Copyright ©

2016 by U-Turn GmbH, alle Rechte vorbehalten. Kein Teil dieser Publikation darf ohne schriftliche Genehmigung der U-Turn GmbH reproduziert oder in irgend einer Form weiter verarbeitet werden.

Alle technischen Angaben in diesem Handbuch wurden sorgfältig von U-Turn überprüft. Wir weisen jedoch darauf hin, dass für evtl. fehlerhaft angegebene technische Angaben keine Haftung übernommen wird. Dies gilt für die juristische Verantwortung sowie die Haftung für Folgen, die auf fehlerhaften Angaben beruhen. Laufende Änderungen zu diesem Handbuch, soweit sie dem technischen Fortschritt dienen, behalten wir uns vor.

