

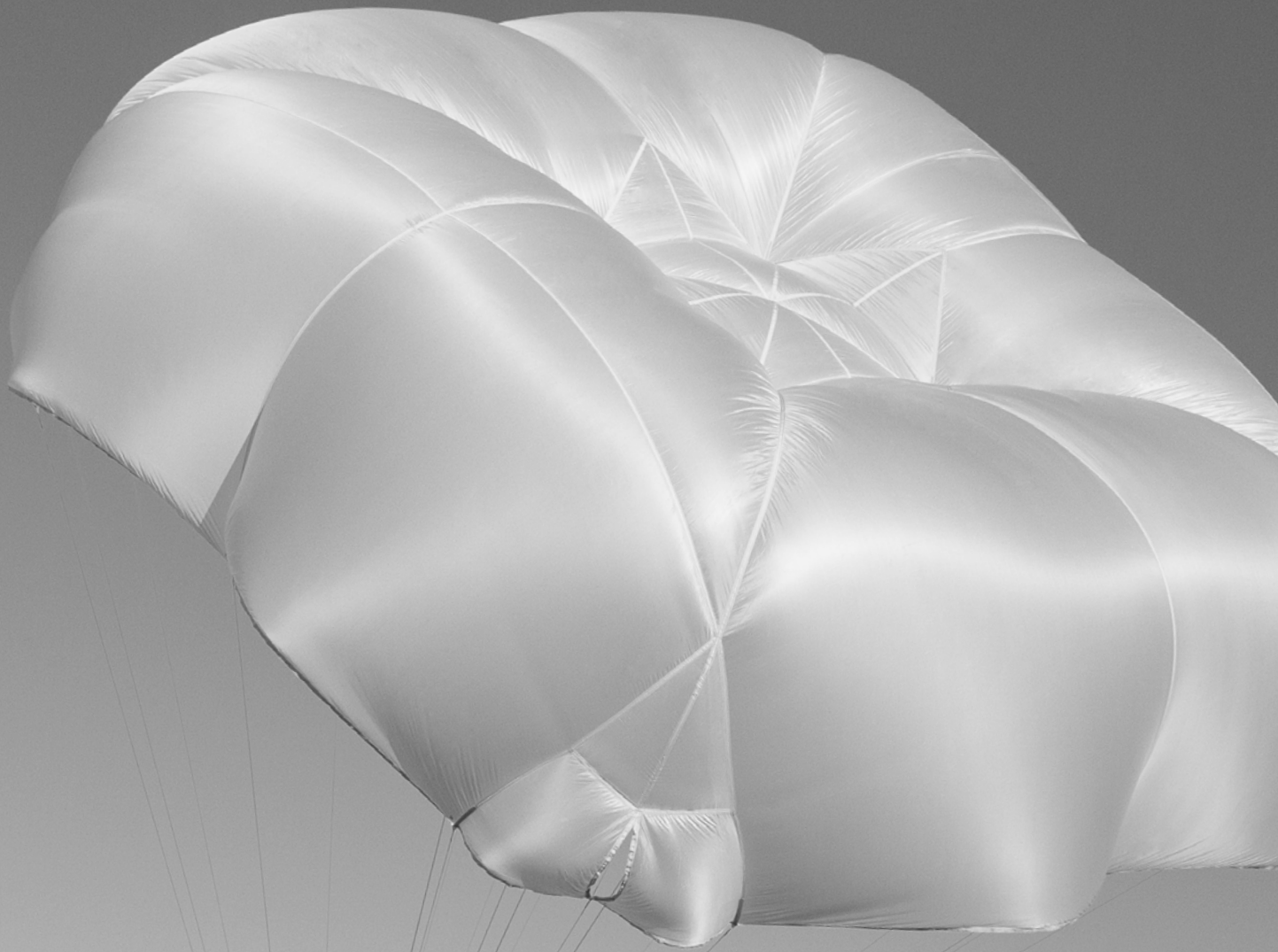
backup 

MANUAL

English Rev. 1.1 Effective: April 2019

Please read this manual carefully
before you use your Backup RS
reserve parachute.






LIGHT LINE

 EASY-CONNECT

WE MADE THE SQUARE ROUND, SO THE OSCILLATION HAS AN END.

Congratulations, you chose the newest round square canopy rescue BACKUP RS. 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 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 RS 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 RS as easy and safe as possible.

CONTENTS

WELCOME TO THE WORLD OF U-TURN.	6
BACKUP RS – The squaring of the circle	7
- Usage	8
- Pack and check guidelines	8
- Pack and check certificate	8
- Two-seated Flying	8
EQUIPMENT DESCRIPTION	9
- Short description	9
OPERATING 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 RS	12
- with original container	12
- into a harness with integrated reserve container	12
- into an external reserve container	12
EASY CONNECT SYSTEM	13
PACKING INSTRUCTION	14
- Packing requirements	14
- Laying out and untangling	14
- Laying of the width	17
- Packing into the container	21
- Bundling the lines	23
- Closing the container	24
MISCELLANEOUS	25
- Compatibility verification	25
- Operation limits	25
- Closing words for the handling	26
- Environmental aspects	26

MINTENANCE AND CARE	27
- Maintenance and care	27
- Storage	27
- Damage and repairs	27
- Disposal	27
ASSUMPTION OF RISK	28
- Safety advice and liability	28
- Liability Claim and renouncement of exclusion	28
LEAFLET FOR INSPECTION AND REPAIRS	29
REPAIR & MAINTENANCE	29

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

Become a part of the U-Turn Community on Facebook



U-TURN PARAGLIDERS

BACKUP RS

The squaring of the circle

The long controversy whether to use round or cross canopy reserves has an end. We are following the simple principle - the best of both. The BACKUP RS combines the aeronautical advantages of the cross canopy with the easy handling of the classic round canopy. In the area of parachutes the construction-mix has been established for a long time through the T-11. To the paragliding market the system was introduced by Companion. With the BACKUP RS U-Turn offers a light alternative based on the round-square construction principle.

Since the year one U-Turn examined the advantages of different reserve canopy shapes and continued that through countless development innovations. The new round-square construction was also put through several practical tests and revealed astonishing results in the test flights. That is how the positive features of both construction designs were enhanced. The advantage of the mix-design is a very stable sinking at a high swing resistance. Through the additional air outlets the air can escape in a controlled manner and simultaneously provide a fast opening of the rescue systems as well as stability. The opening time as well as the sinking rate was considerably reduced through elaborate calculations at the BACKUP RS series, thereby we also managed to undercut the existing EN and LFT standards. The consistent lengths of the lines drastically simplify the packing of the rescue and are easily sorted through color coding. Another innovation by U-Turn is the easy connect. Through an integrated soft-link the main bridle of the BACKUP RX can be connected with any junction neat and easy.

The overview of the advantages:

- ▶ **very high swing resistance** through the square surface area with flat upper side and optimized air outlets
- ▶ **low tendency to gather pace** through the round square design
- ▶ **optimized opening time** through the Rapid Inflation System (RIS) in combination with the air outlet valves
- ▶ **minimal sinking rate** of approx.. 5 m/s
- ▶ **minimal weight** through the resistant lightweight material Paratex SX20
- ▶ **maximal reliability**
- ▶ **simplified packing** through a packing procedure that is similar to the one of a round canopy
- ▶ **simplified mounting** through the Easy Connect System

Through the long standing know-how from the traditional parachute production, only state-of-the-art manufacturing procedures on highest safety standards are used during the manufacturing process of the BACKUP RS. 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 which additionally accelerates the opening.

The BACKUP RS is a reliable rescue system, built in accordance with the latest constructional findings. Minimal pack volume and weight make the BACKUP RS first choice for all pilots, who want to control their safety.

	RS 100	RS 100 ULTIMATE	RS 120	RS 120 ULTIMATE
Weight (without Container) Eigengewicht (ohne Container)	1,2 kg	1,1 Kg	1,5 kg	1,2 Kg
Area Fläche	25,5 m ²	25,5 m ²	32,5 m ²	32,5 m ²
Volumen Volume	3,3 l	3,0 l	4,1 l	3,3 l
Maximal charge EN rate of descent at 5.4 m/s Maximal Zuladung EN Sinkfahrt bei 5,4 m/s:	100 daN	100 daN	120 daN	120 daN

BACKUP

Usage

The BACKUP RS is a manually released rescue parachute for paragliding pilots. The rescue system enables a safe landing in case of emergency. The BACKUP RS 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 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

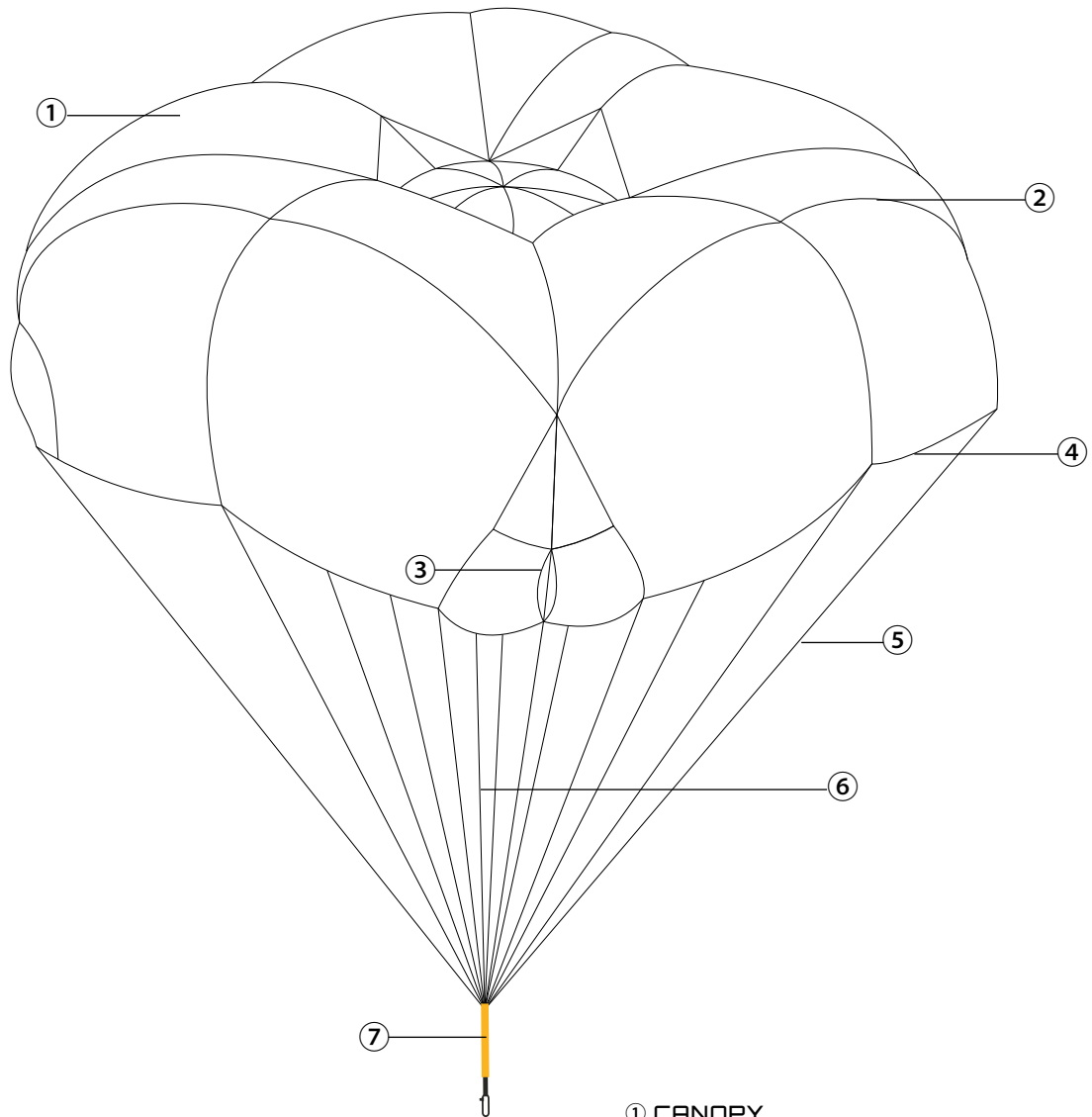
The documentation of the periodic check-over and a list of all packing is obligatory. Base for that is the in the service record included with the delivery. That needs to be with the rescue when it is sent to an authorised pack service.

Two-seated flying

Basically the BACKUP RS is not suitable for two-seated flying.

EQUIPMENT DESCRIPTION

Short description



- ① CANOPY
- ② PACKING LOOPS
- ③ CORNER OPENINGS
- ④ BASE
- ⑤ CASCADE LINES
- ⑥ MIDDLE CASCADE LINES
- ⑦ MAIN SUSPENSION BELT
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 RS

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 RS with original container

The BACKUP RS is delivered with its own container. In case the rescue pocket of your harness does not come with its own container, the BACKUP RS container can be used.

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 pocket is impaired or even inhibited.

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

In case your harness does-not have an integrated rescue pocket, 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.



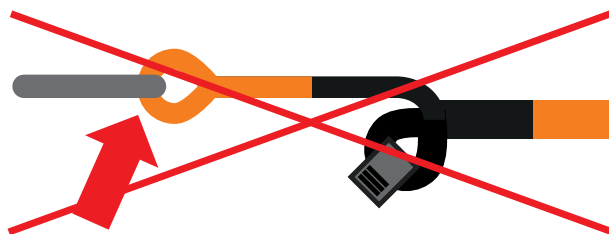
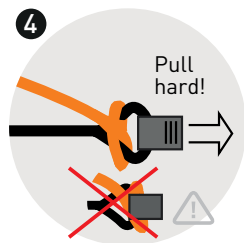
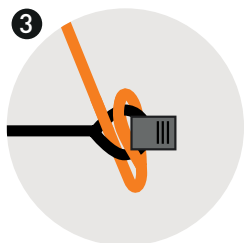
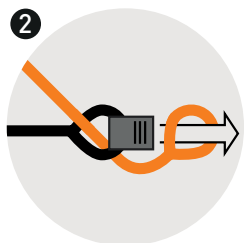
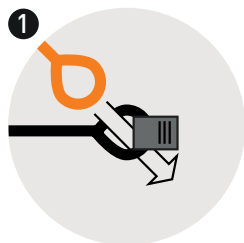
As another novelty the BACKUP RS is equipped with the Easy Connect. That is an innovation by U-Turn that drastically simplifies the mounting of the reserve. Through an integrated softlink the main bridle can be connected with any junction neat and easy.



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 softlink. 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 RS should be aired out 2-3 days.

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.

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.

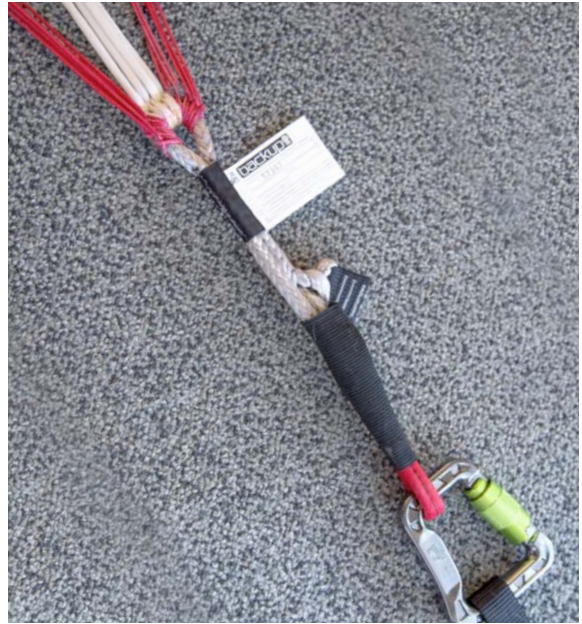
Afterwards a line is pulled through the color coded packing loops and mounted at the top of the packing table. It is important to take care that no loops are forgotten. At the bottom end of the table the main suspension is fixed and the parachute is tightened. The lines will be checked on straight and 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 > take care of the correct order (alternating colors)



▲ Fix and sort the bridle and lines (left / right / middle)



◀ Separate the line bundles (l / r / m) and check the run of the lines

▶ The white middle lines should be free in the middle, whilst positioning the coloured bundles left and right



PACKING INSTRUCTION



◀ The canopy is now arranged so that panel 1 is visible in the middle and panel 2 is left and right

Make sure that the number of panels (8) is the same on both sides left and right

Now the lines should be pulled - that simplifies the packing and laying of the panels and minimizes the risk of a line overthrowing



◀ The complete right side is now folded over the left so the neat laying out of the panels is simplified

Firstly the bottom corner (8) is being pulled out and laid out cleanly like in the picture



▶ Panel 7 is now also being laid out. The upper edge of the canopy should also be pulled out tightly thereby the inner folding of the fabric is taken into account and the same is done with panel 6

LAYING OF THE PANELS



◀ Pull out the smaller corner panel (5) and place it on the opening neatly



◀ Place the second corner panel (4) on top - take care that the lines stay centered



◀ Next up is panel (3) the base edge always needs to be pulled to the outside neatly

PACKING INSTRUCTION



▲ The last corner is being laid out and the 1 stays on the left side



▲ The finished right side is not being fixated with packing claps or weights



◀ Now the complete left side is being folded over to the right and folded back layer for layer like explained before



▶ After laying the left side, the last corner panel (1) should be laying in the middle

LAYING OF THE PANELS



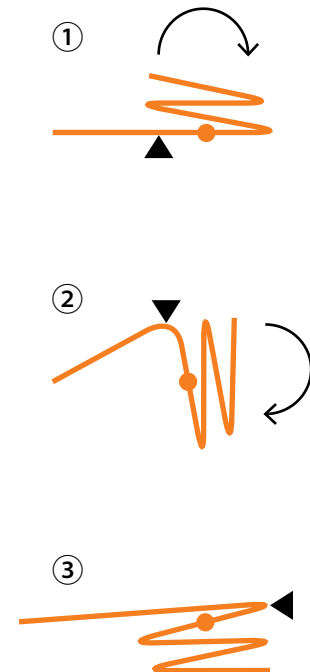
▲ Now start with the s-flap and place the right side onto the left, the point of the s-flap should be approx. half of the width of the container



▲ Now the folded side is being folded back to the right. For the folding width use the width of the container.



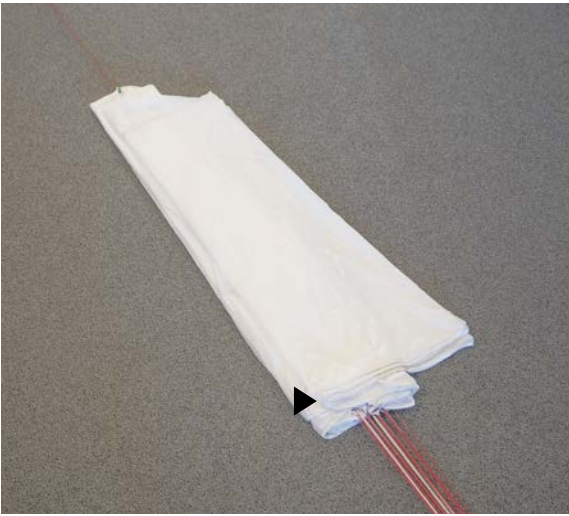
▲ To also use the s-flap on the left side, the finished triple s-flap is turned to the bottom - see charting 1-3 on the side. The help of a second person makes this part a lot easier because the reserve can be fixed at top and bottom through all of these steps.



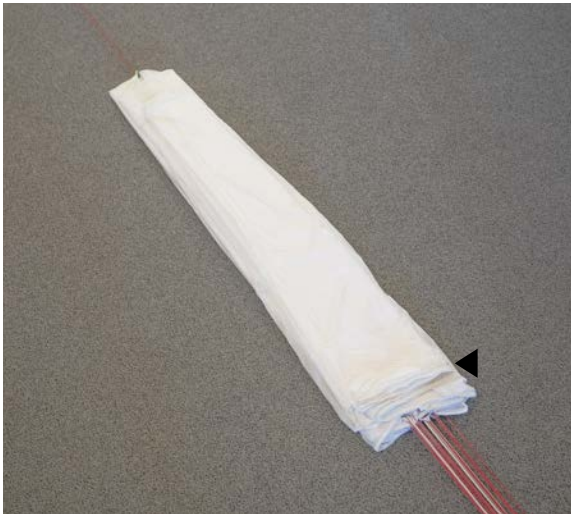
PACKING INSTRUCTION



◀ S-flap after successfully flipping over the reserve



▲ Now the s-flap is being continued



▲ Finished canopy in the s-flap



PACKING OF THE CONTAINER



- ◀ Now remove the packing thread from the packing loops.
Attention: If the thread were to be left in the reserve would not open!!



- ◀ The laid out reserve is now being folded to the size of the container with small s-flaps.



PACKING INSTRUCTION



◀ Once the reserve is folded completely, lay it into the container and fix the leaves of the container temporarily with a pen



▲ 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. Do not use old or brittle rubber bands.



◀ Finished line bundles

▶ The line bundle are being placed on the canopy and the container is being closed according to the numbering by pulling the line loop through the elastic band



▲ Check the opening through self weight and remove packing cord.

PACKING INSTRUCTION CLOSING THE CONTAINER



▲ Close the protection flap and close the container by pulling the line loop through the rubber loops. The BACKUP RS is now ready for build-in into the harness or front-container.

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

GENERAL

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 100 km/h - 32m/s. The BACKUP RS has a operation time limit of 10 years, then up to 12 years with annual inspection by authorized company. 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 RS 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 RS 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 automates 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 RS complies with certification norms according to LTF 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 RS you express your consent with the following points of legal specifications:

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

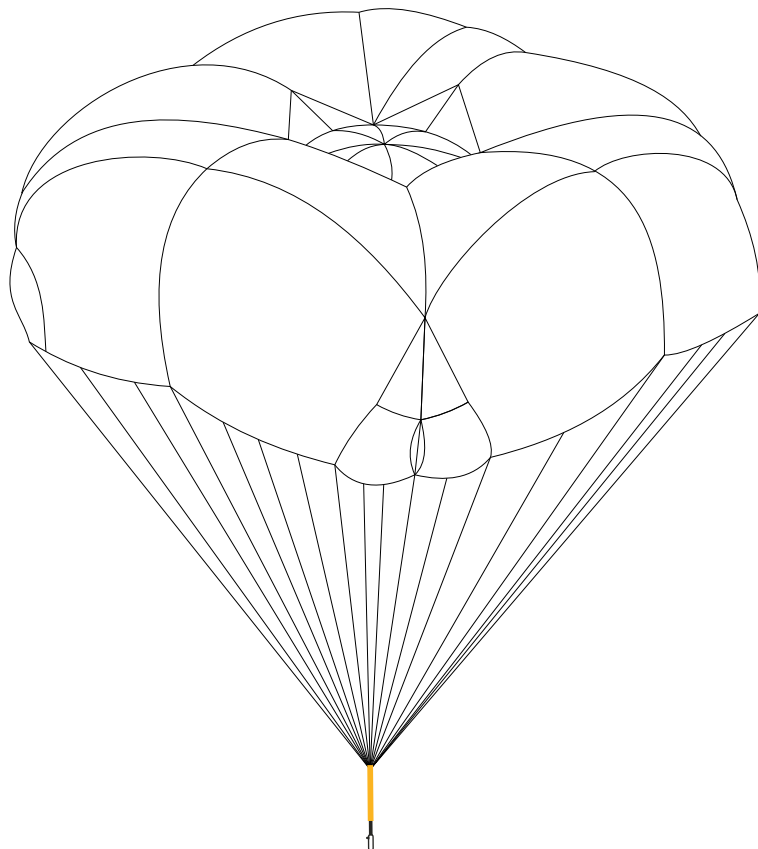
Releasing U-Turn GmbH and all other contracting parties of all liability claims concerning loss, damage, injury or expenses that you, your next of kin, relatives or any other user of the U-Turn BACKUP RS could suffer as a result of the usage of the BACKUP RS. This includes but is not limited to lawful 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 RS 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 RS.

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



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All technical details in this manual have been carefully checked by U-Turn. However we like to mention that we don't take any liability for possible mistakes, neither in legal responsibility, nor in liability cases that derive from mistakable details. We preserve the right to change this manual in any way to achieve technical improvements.

