

# **ALFAcross series manual**

**Version 1.2 from 02/2022**

**ALFAcross 80**

**ALFAcross 100**

**ALFAcross 115**

**ALFAcross 120**

**ALFAcross 140**

**ALFAcross 220**

Congratulations on your purchase of a FLUGGERÄTE GMBH product.

We remind you that all our products are the result of meticulous research in constant collaboration with pilots from all over the world.

That's why your opinion is so important. Your experience and collaboration help us constantly improve our products, to always get the best out of every Fluggeräte GmbH creation.

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**SAFETY NOTE**

By purchasing Fluggeräte GmbH equipment, you are responsible for being a certified paraglider pilot and you accept all risks inherent with paragliding activities including injury and death. Improper use or misuse of equipment greatly increases these risks. In no case shall Fluggeräte GmbH or Fluggeräte GmbH equipment resellers be held liable for personal or third party injuries or damages under any circumstances. If any aspect of the use of our equipment remains unclear, please contact your local reseller or Fluggeräte GmbH directly.

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## 1 - GENERAL INFORMATION

Congratulations on buying your ALFACROSS rescue system.

Before you get to know your system please read the manual which includes important information.

This manual gives you information on the entire specific and general characteristics of the rescue ALFACROSS series.

All technical data and instructions in this manual were drawn up with great care. Fluggeräte GmbH cannot be made responsible for any possible errors in this manual.

Should you decide to sell this rescue system at a later date, please pass on this manual to the new owner.

No guarantee of any kind can be made against accidents, injury, equipment failure, and/or death. It is assumed that the pilot is in possession of the necessary qualifications and provisions of any relevant laws are observed.

The use of this rescue system is entirely at your own risk.

Every pilot bears the responsibility of his/her own safety. The manufacturer or distributor assumes no responsibility for accidents occurring while using it.

It is strictly prohibited to use the ALFACROSS series:

- beyond the maximum recommended weight
- for skydiving
- with damaged canopy, lines, connection belt or seams or- without regular check (check interval).

### ATTENTION:

The rescue system is not suitable for speeds in excess of 32 m/s (115 km/h). Every pilot must ensure that the rescue system is properly checked at regular intervals.

## 2 - TECHNICAL DATA

	ALFAcross 80	ALFAcross 100	ALFAcross 115	ALFAcross 120	ALFAcross 140	ALFAcross 220
Certification	LTF / EN	LTF / EN	LTF / EN	LTF / EN	LTF / EN	LTF / EN
Working load	80 kg	100 kg	115 kg	120 kg	140 kg	220 kg
Number of certification	EP 323.2021	EP 218.2018	EP 220.2018	EP 321.2021	EP 242.2018	EP 263.2019
Area (m2)	23,02	25,92	33,50	35,50	40,16	62,96
Number of cells	20	20	20	24	24	28
Weight including container (kg)	0,913	0,987	1,322	1,313	1,506	2,428
Minimum Volume (cm3)	3600	4100	4260	5200	5600	9000
Maximum payload (kg)	80	100	115	120	140	220
Minimum payload (kg)	52	65	75	80	95	150
Middle line	1	1	1	1	1	1
Rate of descent max. payload	5,24 m/s	5,20 m/s	5,46 m/s	5,20 m/s	5,21 m/s	5,13 m/s
Opening time (s)	3,35	3,23		3,99	3,12	3,99

The ALFAcross is not steerable!

### 3 - TO GET TO KNOW YOUR ALFACROSS

The ALFACROSS series is a manually deployable rescue system it is for suitable paragliding pilots in an emergency situation and is made by high quality materials and has a quadratic canopy with one middle line which pull down apex.

Rescue systems from Fluggeräte GmbH are characterized by a high level of reliability and maximum material strength. Fastest inflation while maintaining moderate sink rates are features of these systems.

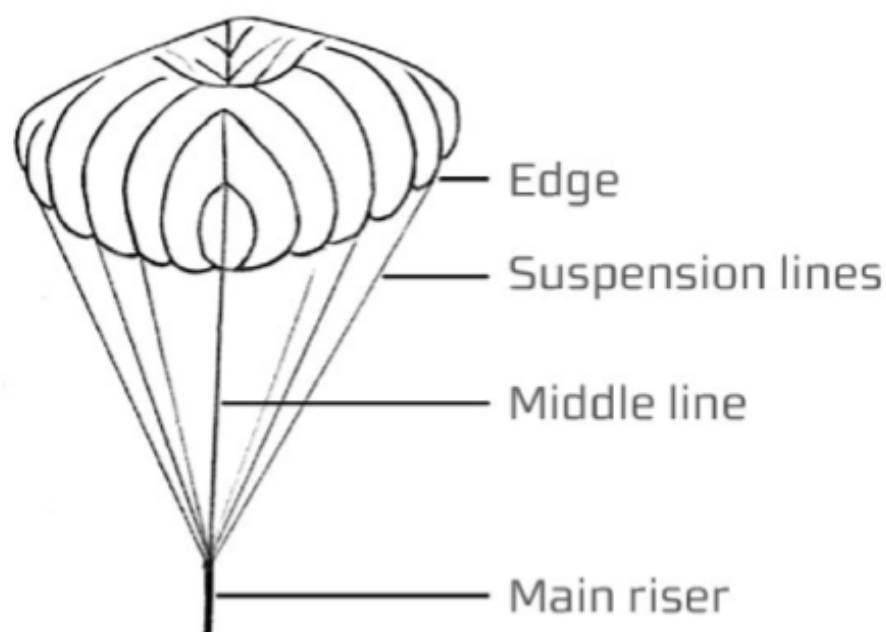
The material is air permeable, strong nylon. There are bands sewn into the main seams to strengthen the canopy. The base and side edges are reinforced with bands. The apex is pulled. The lines are grouped into a strap. This strap generates the connection between rescue system and harness.

The rescue system is sewn to NATO standards which means that all rescue systems are sewn by professionals and delivered only after inspection and approvals..

The specially designed inner container prevents the lines cannot get caught up in the cap and the opening speed is accelerated with this inner container.

#### ATTENTION:

When using a different inner container it is important to ensure that the rescue system can be thrown without problem. This parachute system has been tested and found compliant using the original manufacturer's inner container. The use of any other inner container may produce different results, including failures.



If you find yourself in an uncontrollable situation in the air, pull hard on the deployment handle. This will open the outer reserve container and release the reserve parachute. Then throw the reserve package forcefully away from you. As the suspension lines become tight, the container will fall away and the reserve will open.

In an emergency situation, the handle of the rescue system is given a sharp pull. If your glider is rotating it pays to throw the reserve against the rotation as this will speed up the inflating process. If you have had a collision and find yourself entangled with someone else's glider try to make sure you don't throw the reserve into the entanglement, as this will delay the opening.

When you fly, train to reach the rescue handle so you can act promptly in case of emergency!

If you have enough height, first try to resolve the problem and stabilize the glider as far as possible. If you have not enough height, do not wait to pull the rescue. Do not forget to release the rescue handle!

## 4 - PACKING INSTRUCTIONS

It is advisable that the reserve parachute be folded by qualified and experienced folders before installation in the harness. The effectiveness of your reserve parachute depends on correct folding.

If you wish to perform the folding process yourself, we recommend that you follow the instructions carefully and, in case of any doubt, contact qualified and experienced staff.

### 4.1 - Packing preparations

Before you pack the rescue system it is important that the canopy is spread out on the ground for about six hours.

If possible, it would be even better to air it one night long by hanging it up by the top lines. Before the rescue system gets packed, a release control must be carried out. The release force should be between 5 and 7 daN.

It is helpful to pack the rescue system with two people.

The rescue should be packed on a clean surface and helpful tools are packing weights, one line to fix the packing loops.



Mandatory tools are packing rubbers and the original container or the container belonging to the harness in which the ALFACROSS will be stored.

We suggest having two fixing points to tension the lines.

Upwards, used in the following text means toward the apex, downwards towards the riser. Left and right are meant while looking from the riser to the apex.

### 4.2 - Check for the lines and fixing the packing loops

Layout the parachute on the ground and keep the parachute ruffled.



Secure the main belt on a fixed point to keep it stretched and under tension.



Check for the lines to run freely from the main riser loop connection to the canopy edge.

**ATTENTION:** There should not be any tangles or knots in the lines. All lines must have a straight course and may not have any twists.



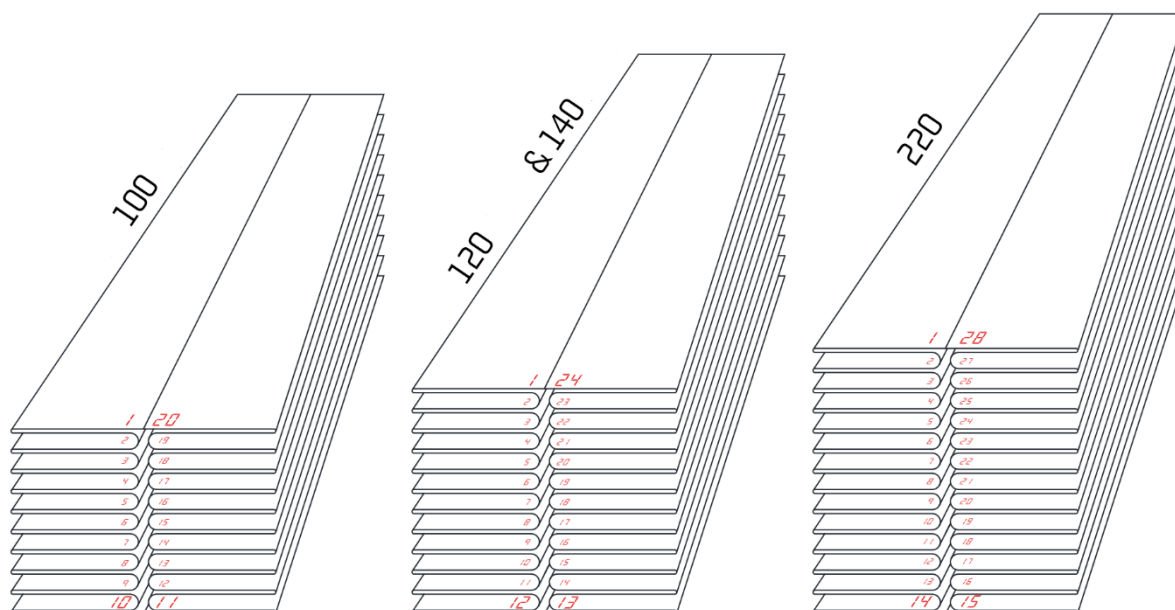
For easy control divide the lines in two sections with the same numbers of lines, the apex line must be placed in the middle.

Start sorting your emergency from the panel:

- number 10 for ALFAcross 80 and 100
- number 12 for ALFAcross 120 and ALFAcross 140
- number 14 for ALFAcross 220

Hold it to your left, as in the picture below. You do not need to be precise at this stage; the important thing is to have the same amount of "segments" on both the left and right side.

In this way, your emergency is already in order for the next steps.



To help you pack the rescue system, use a short piece of old paraglider line and thread it through all the apex fixing loops. The fixing loops are sewn on the canopy.

Depending on the model the ALFACross series have different numbers of packing loops attached to the canopy to enable an easy repack:

ALFACross 80 and 100 has 8 packing loops

ALFACross 120 has 10 packing loops

ALFACross 140 has 20 packing loops

ALFACross 220 has 20 packing loops



It is advisable to tension the emergency to facilitate folding.



#### 4.3 - Sorting the panels

Put all the panels to the right side and fold over each panel from the right side onto left side like turning the pages in a book and pull the top of the opening outward.

Start with panel 10 for ALFAcross 80 and 100, instead, respectively, with panel 12 for ALFAcross 120 or for ALFAcross 140 and panel 14 for ALFAcross 220.



The last one is panel 1, which should be the top panel on the left side. Panels with slots are laid out as cone.

Put a packing weight for fixation on the last panel and then all the panel from the right side can be shifted to the that side.



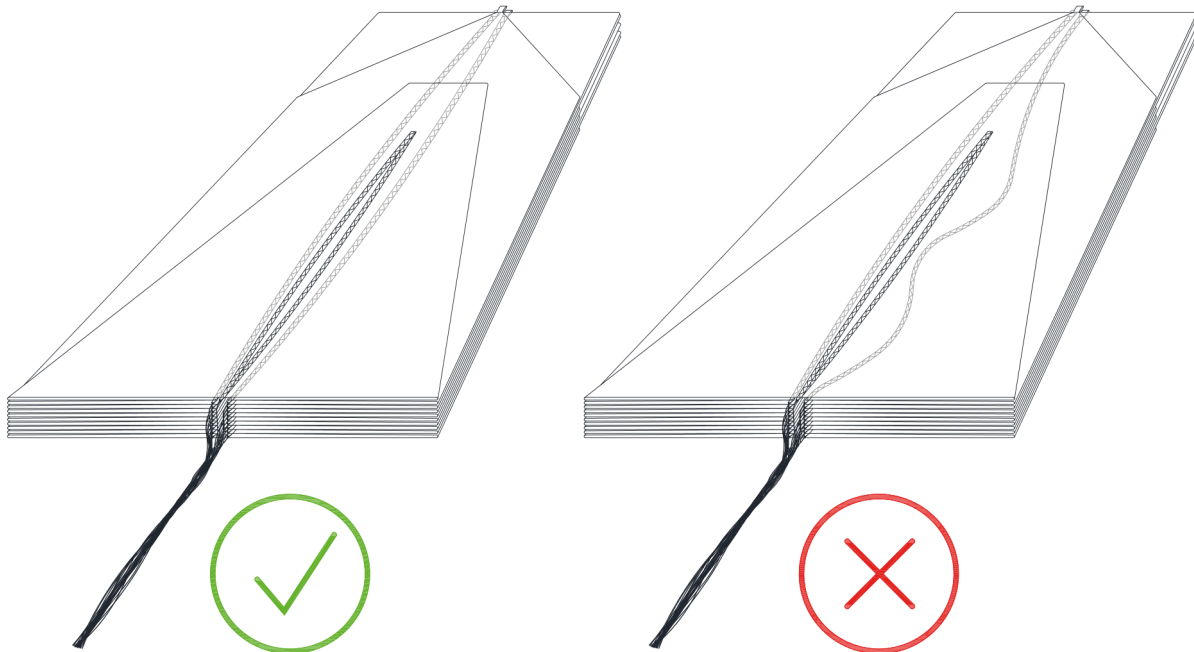
Now fold all panels stored above the packing weight to the right side. The panel on the bottom is panel 11 at ALFAcross 80 and 100, panel 13 at ALFAcross 120 and ALFAcross 140, panel 15 for ALFAcross 220.

Afterwards check both sides.

On each side there must be the same amount of panels.

Once more check the lines. You can divide the lines in to three parts: the left ones, the right ones and the middle line.

All lines must have a straight course and may not have any twists.



Take care that the internal edges between the panels are neat and properly tensioned.



#### 4.4 - Folding the canopy into thirds



The left third is folded into the middle and then the right third is folded under the middle. Do the same on top of the canopy. Pay attention to the size of the container!



**ATTENTION:** Remove the line from the fixing loops!



#### 4.5 - S-folding canopy to fit into inner container (standard version)

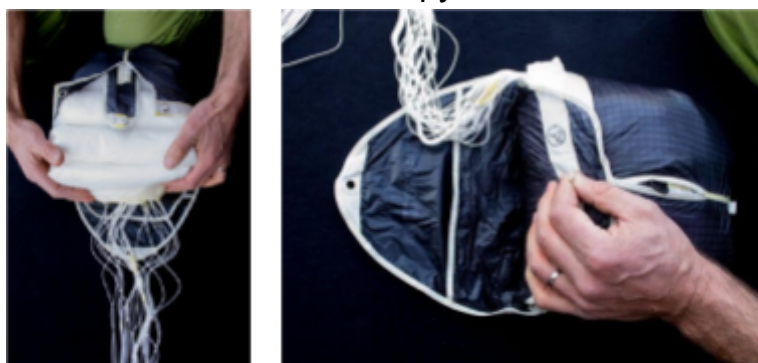
Release the riser from the fixing point and fold the canopy in “S” folds from the top right down to the base, so that it fits into the inner container. This is the last chance to check, that the line fixing the packing loops was removed.



Alternative way to refold:



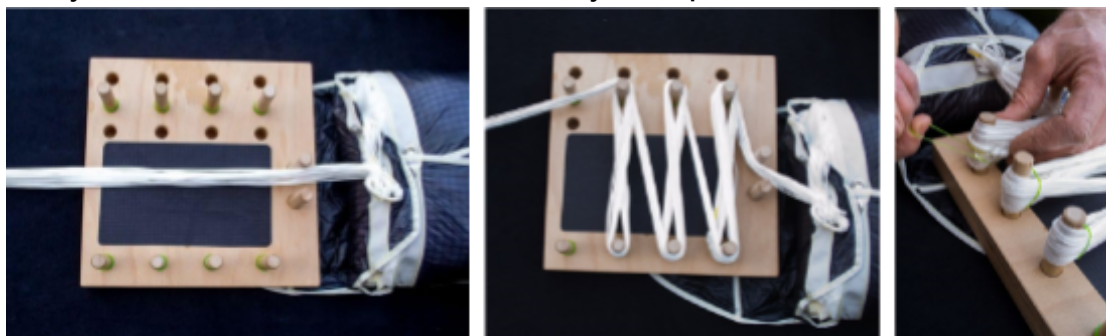
Fold the whole canopy into the container.



Close both sides of the inner container and the top pocket with the rubber, which you fix with one loop of all the suspension lines.

ATTENTION:

These are special rubber bands which you can buy from the manufacturer and you must renew them each time you repack.



The suspension lines are sorted in three bundles, which are fixed by rubbers. These bundles are stored in the pocket of the container.



Use the last 20 cm of the suspension lines for the final closing of the inner container with the black rubber.

With the rest of the suspension lines you finalize the closing of the inner container by pulling the suspension lines through the black rubber loop.

Don't make the closing loop too big.

Now the packing is finished. Control your packing tools on being complete.

Make a note of the date of packing in the pack control booklet.

## 5- INSTALLATION ON THE HARNESS

The ALFACROSS series rescue parachutes are compatible with all FLUGGERÄTE GMBH harnesses. They can also be used with most other manufacturers' harnesses, as long as you first make sure with your instructor/dealer everything works properly.

### 5.1 - Connecting the reserve parachute to the harness



Follow the instructions from your harness manual to place your rescue system inside the container.

#### 5.1.1 - Attachment of the connection bridle with the harness

For attaching the reserve parachute bridle to the harness bridle use a screw-lock karabiner with a breaking strength of at least 2,400 kg. The bridles should be held in position within the karabiner using elastic bands, to prevent the karabiner from rotating and taking the strain laterally instead of vertically. The karabiner's screw-lock should be tightly screwed shut to avoid any possibility of it opening accidentally.



There is also the possibility to loop the bridles into each other if at least one of them has a big enough loop to pass the rescue through.

#### 5.1.2 - Installing your rescue handle

Most harnesses have their rescue handle connected to their rescue inner container. The ALFACross inner container has three loops to which a handle can be attached: one in middle and two on the sides. Please read the instructions in the harness manual to know exactly which loop you must connect your rescue handle to.

#### ATTENTION:

Note the instructions for the rescue unit in the operating instructions of your harness. If there is no handle of the harness or it does not fit with your inner container, please ask the dealer of your harness or your paragliding school. The handle must be firmly connected to the loop on the inner container.

#### 5.1.3 - Installation of the rescue parachute in an external container

If your harness does not have a built-in container, you can still use the ALFACROSS series rescue parachutes using an external front container.

FLUGGERÄTE GMBH can provide an optional front rescue container with rescue handle in different versions. We recommend that you carefully follow the instructions in the manual and connect the bridle on both main carabiners. The possible use of other manufacturer's front container depends



on its size and therefore you must make sure it is not too small. If in doubt, look for professional advice.

#### 5.1.4 - Connection of the tandem reserve parachute

The tandem emergency connection need the exclusive addition of the V line for TANDEM. Then connect the V line with the main or exclusive rescue attachment point to the top of each spreader bar (at the main loop). If your V line have auxiliary suspender it must be connected to risers B and C of the glider after passing through the main carabiners. The tandem emergency will make the B-C- stall in case of opening of the emergency parachute. Follow carefully the instructions from your tandem harness manual.

#### 5.1.5 - Specifics for paraglider winch launch

For winch towing please pay attention to the harness, paraglider and winch manufacturers' instructions. If you use a front container, you must be ensured that rescue system deployment is possible at any situation.

#### 5.1.6 - Important points

Additionally, the following points must be strictly adhered to:

- Only use the original release handle that is delivered with the harness. Other release handles must not be used as they do not guarantee faultless operation.
- The container must have a suitable volume.
- When using an inner container with asymmetric attachment loop, it must be placed inside the harness container in such a way that the attachment loop remains as close as possible to the release handle and that the rescue system does not get twisted during deployment.
- When placing the rescue system inside the harness container, it is absolutely necessary to make sure the connection between release handle and safety pin is shorter than the connection between release handle and inner container.
- Install the release handle at the intended position in such a way that the connecting line is not under tension and the safety pin is not pulled out of the closing loop.
- After each packing, a test deployment must be carried out to ensure the proper operation of the rescue system! Deployment from the flying position must be possible without any difficulty and according to the specifications of the manufacturer.
- Insert your rescue parachute into your harness only after its back protection has been installed.

#### 5.1.7 - Compatibility- check

A control of every new combination of rescue system and harness/outer container has to be carried out by either the producer of the harness or the rescue system or an authorized person (dealer or flight instructor). The activation of the rescue system in flight position has to be correct and in conformity to the construction guidelines.

The check has to be recorded in the documentation of the rescue system. The throwing movement should be practiced every time the rescue system is repacked.

Check (regularly):

- connection of the rescue system to your harness
- connection of the harness and deployment handle
- Check compatibility of rescue system and harness

In addition to a normal preflight check (see manual of the glider/harness or maybe towing device), you have to check before every take off that the rescue container is closed correctly and the release handle is placed correctly. If the rescue parachute connection V line is removed after every flight (for example: when you use a frontcontainer) you also have to check the correct attachment of the bridle.

## 6 - CARE, MAINTENANCE AND REPAIR

### 6.1 - Care Instructions

- Please do not store your rescue system in the vicinity of acids, grease, oils or paint. To ensure safe operation, the system needs proper maintenance and care.
  - Do not store your rescue system in extreme temperatures or humidity (more than 30 C or 55-65% humidity).
- A humid or wet canopy needs repacking.
- Exposure to UV-rays causes deterioration of the fabric.
- Please only use clean and fresh water to clean your rescue system or container.
- Wet cloth stored in warm conditions will begin to mould and significantly lose structural strength. Rescue systems in this condition must be brought to the manufacturer to be checked.

#### ATTENTION:

A wet rescue system may take several days to dry thoroughly, and its lines may take even longer.

Do not fold or store your rescue system unless it is completely dry.

### 6.2 - Repairs

The seal of approval can only be preserved if original parts are used. If you discover any damaged parts to the rescue system which might impede deployment, please send it back to the manufacturer to get repaired. Repairs can only be carried out by the manufacturer or from the manufacturer authorized persons.

### 6.3 - Use limitations, packing- and check intervals

In the ALFACROSS series rescue parachutes, there is nothing that can or should be adjusted.

#### 6.3.1 - Packing interval

6 to 12 month: the rescue system also must be aired recurrent.

#### 6.3.2 - Check interval

2 years: if the rescue system was opened after a flight accident, the rescue system must be checked.

#### ATTENTION:

Without regular certified inspections, your rescue will lose its pattern test result and guarantee.

#### 6.3.3 - Use limitation

15 years: Our rescue system ALFACROSS has a life span of 15 Years by observance of the regulations for packing and checking. Certification is no longer valid thereafter.

The certified life span can be extended by a further three years, if the rescue system is checked by the manufacturer.

#### ATTENTION:

Packing and checks of the rescue system must be documented otherwise guarantee is cancelled.

### 6.4 - Spare parts

The spare parts are the rubber bands and the deployment bag, that can be bought from your local dealer or Fluggeräte GmbH.

### 6.5 - Responsible disposal

The materials of which a rescue parachute is made requires a special waste disposal, please ensure the right treatment at the end of the operating period or send it to FLUGGERÄTE GMBH where we'll take care of its disposal.

### 6.6 - Regulations for behaviour in natural environments

Please always respect the environment when practising our sport: do not litter, do not leave marked trails and do not make loud noises.

## 7 - TERMS OF THE GUARANTEE

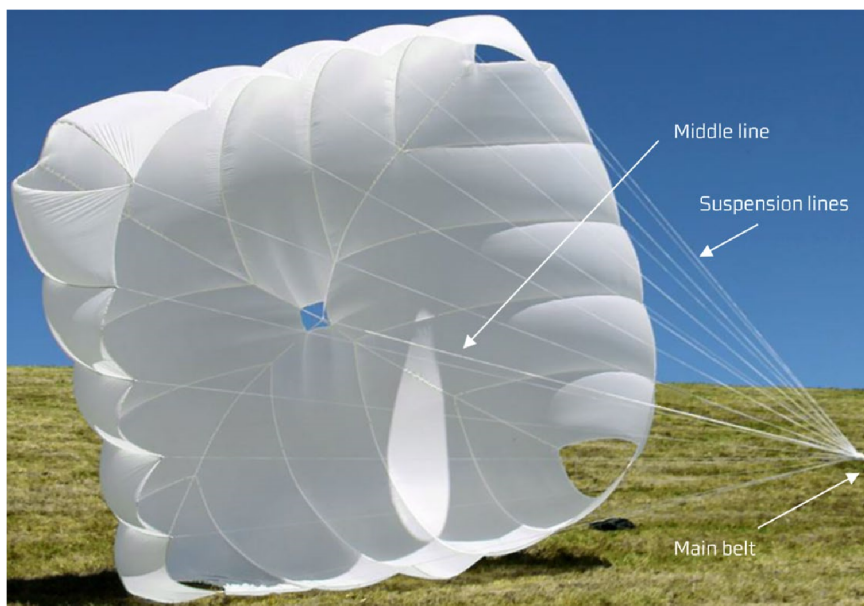
Fluggeräte GmbH guarantees the proper processing, an operation within the allowable limits of proper operation and the fulfilment of the eligibility criteria of rescue.

### 7.1 - What is not covered by the rescue guarantee?

- which have been changed by yourself,
- that were not purchased from an authorized dealer / flight school, • where the required inspection intervals were not met and the verification of the rescue system was not conducted by a Fluggeräte GmbH authorized operation / person
- Damage
- which has occurred due to improper treatment (i.e. storage in humidity, heat or direct sunlight)
- caused by solvents, salt water, insects, sun, sand or humidity
- caused by force majeure.

In case of a concluded claim the period of guarantee carries on. The period of guarantee and the connected claim are not prolonged and are only valid until the original date of expiry.

## 8 - DESCRIPTION OF THE RESCUE SYSTEM





## 9 - MAINTAINCE AND PACK-INTERVAL OVERVIEW

DATE	WORK	USED OPEN	RESULT S	SIGNATION BY

It is compelling advised to check and repack the rescue ALFACROSS every 12 months. In the case of ignoring this, there might be problem with opening time of the rescue.

Every effort has been made to ensure that the information contained in this manual is correct, but please remember that it has been produced for guidance only.

This owner's manual is subject to change without prior notice. Please check at [www.gleitschirm-retter.at](http://www.gleitschirm-retter.at) for the latest information regarding the ALFACROSS rescue.

Latest update: November 2021