



*FOLDING INSTRUCTIONS AND MANUAL  
FOR  
EMERGENCY SYSTEM*

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## 01. GENERAL

We congratulate you on your purchase of the Aegis / Aegis Light rescue system. Extensive development work and numerous tests make the Aegis to a rescue system with maximum possible safety.

The Aegis rescue systems offer quick opening times, high pendulum stability and a low sink rates.

Even the best pilot can sometimes find himself in distress due violent atmospheric conditions, collisions etc. In such cases is a reliable rescue system with rapid opening indispensable.

Nevertheless, we wish you that you never have to use it.

We ask you to familiarize yourself with the operation, the necessary maintenance and packing intervals. The reserve system will only fulfill its purpose if it is properly maintained and if you are able to operate it properly.

**Warning ! It's not allowed to use this rescue systems for skydiving!**

## 02. PURPOSE

The emergency parachutes are manually-released parachutes for paraglider pilots in an emergency situation while flying.

Rescue systems Aegis 63 and Aegis Light 63 are intended for biplace paragliders.

## 03. NECESSARY DOCUMENTATION

- Owner's manual
- Repack and inspection log book (with recorded repack and inspections).

## 04. LIABILITY AND DISCLAIMERS

The rescue systems Aegis 33, Aegis 38, Aegis Light 30, Aegis Light 33, Aegis Light 38 and Aegis Light 63 are certified according to the LTF 91/09 (German type approval) and to the EN 12491 (European standard).

The manufacturer can not be made liable for any possible damages to persons or material damages, which may result from this rescue systems in any way.

## 05. OPERATING LIMITS

The rescue system must only be operated within the operating limits. This could be exceeded unless one or more of the following points:

- within the permissible weight range
- temperatures below  $-10^{\circ}\text{C}$  and over  $50^{\circ}\text{C}$
- wet rescue system, flight in rain, in clouds, in fog and / or in snowfall
- deployment by speeds higher than  $115\text{ km / h}$  ( $32\text{ m / s}$ ).
- unauthorized changes to the canopy, the suspension lines or risers
- free fall, rescue equipment must not be used as a jump parachutes

Interval for repacking: 12 month, then the rescue parachute has to be repacked and this repacking has to be recorded in the "Repack and inspection log book". Interval of inspection: 24 month, then a complete inspection of the rescue parachute is necessary. The inspection have to be recorded in the "Repack and inspection log book". Operational lifespan of parachute: 10 years. The lifespan can be extended for 2 more years if the rescue parachute is inspected yearly during this last two years.

So the total max. possible lifespan is 12 years.

## 06. METHOD OF USE

During an emergency situation while flying the pilot pulls at the release-handle with a firm tug. Thereby the outercontainer opens and the rescue parachute is released. After that the rescue system (which is still packed in it's inner container) have to be thrown with a dynamic move into the free air-space. That means the release handle have to be thrown away together with the rescue parachute!!!

The inner container, together with the integrated handle is designed in a way which releases the lines and canopy of the parachute not before the inner container is thrown away. This prevents an unintentional or too early opening of the parachute. This is minimizing the danger of tangling up with the paraglider, the pilot or the reason which maybe causal for the emergency case (e.g. collision with another paraglider).

Moreover the maximum speed of the inner container, which is necessary for a fast opening of the rescue canopy is reached not before the package is thrown away. In short words: The faster the rescue is thrown, the faster the stretching and opening of the parachute will be.

The powerful throw and the airstream elongates the lines and the canopy and the rescue canopy opens. After the rescue canopy is opened completely, you first have to check the altitude above ground. If you have still enough height you should try to make the paraglider unable to fly, to avoid an „V“ position of the paraglider and the rescue canopy.

If you do not have enough height anymore, just focus on the ground and prepare yourself for the landing-fall.

**Rescue systems:****Aegis 30 / Aegis 33 / Aegis 38 / Aegis 45 / Aegis 63****Aegis Light 30 / Aegis Light 33 / Aegis Light 38****Aegis Light 45 / Aegis Light 63****Manufacturer:**

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Type of rescue system	<b>Aegis 30</b>	<b>Aegis 33</b>	<b>Aegis 38</b>	<b>Aegis 45</b>	<b>Aegis 63</b>
Surface (m <sup>2</sup> ):	30	33	38	45	63
Number of lines / panels:	18	24	24	18	20
Weight (kg):	1,95	2,3	2,5	2,6	4,2
Pack volume (ccm)	6350	6800	8600	9000	9700
Max. load (kg)	95	105	125	155	220

Type of rescue system	<b>Aegis Light 30</b>	<b>Aegis Light 33</b>	<b>Aegis Light 38</b>	<b>Aegis Light 45</b>	<b>Aegis Light 63</b>
Surface (m <sup>2</sup> ):	30	33	38	45	63
Number of lines / panels:	18	24	24	18	20
Weight (kg):	1,5	1,7	1,9	2,1	3,1
Pack volume (ccm)	4300	4600	5800	6100	6500
Max. load (kg)	95	105	125	155	220

## 08. INSPECTION OF THE PARACHUTE

The owner is responsible for the airworthiness of the rescue chute. Regular repacking of your rescue system is crucial.

Inspection periods:

The rescue chute has to be aired and repacked every 6 month, max. 12 months.

Periodical inspection has to be carried out latest every 24 month.

The rescue system must be controlled by a registered packer before it is packed.

The general inspection includes a complete visual inspection of all components (tissue, stitching, lines, belts) for damage and wear. For an investigation appropriate aids (light table, packing tools) must be available.

The reserve packer carries out a visual inspection of the reserve system for damage and abrasion before it is packed. This inspection includes risers, lines, fabric, inner container incl. The carried work must be appropriately documented .

After being opened during SIV or an emergency rescue, the parachute must be inspected by the manufacturer or a workshop which is authorized by the manufacturer.

The release and operability of every new combination of the rescue system with an outer container (in harness) must be checked by a competent person and confirmed in packing confirmation book. A packed rescue system which is to be repacked, should undergo a release test. This establishes whether the power of the release is between 2 kp and 7 kp.

## 09. BEHAVIOUR IF DAMAGES ARE NOTICED

If you notice any damage at the rescue system, which may affect the airworthiness of the rescue system, you have to send the rescue parachute for inspection or repair to the manufacturer. Also, if you are not sure about the airworthy condition in any way, you have to send the parachute to the manufacturer.

**Attention:** Chemicals, detergents, insects, mould stains or the like can have the same negative effects to the strength of the parts as mechanical influences.

## 10. STORAGE

Oil, grease, acid and paint should not be stored near the parachute. The storage space should be dry. Parachutes which have not been used for a long period of time should be opened and the canopy loosely rolled and stored in a bag.

Avoid unnecessary high temperature (e.g in a parking car)!

## 11. MAINTENANCE

The lifetime and condition of airworthiness depends largely upon how carefully you handle and maintain your rescue system. Out of this reason we recommend to controll the rescue system regularly, at the latest if it is repacked, if there are any wears or damages.

During normal use you have to take care of the following points:

If the rescue parachute got wet, you have to open it and dry it at a well ventilated place as soon as possible (but avoid direct sunlight!) The fast drying is important to avoid mould stains. After the parachute is complete dry it can be repacked.

If the rescue system is strained more than normal (for example: a car drove over the harness in which the parachute is placed, or it maybe is damaged by a sharp object, or any other possible damage), you have to send the parachute to the manufacturer to check it.

Avoid contact with salt water, acids or other aggressive substances!

Also avoid unnecessary exposure to sunlight, cause the UV rays may damage the molecular structure of the lines and the canopy material.

## 12. CLEANING

A dirty canopy and container can be carefully cleaned with clear water and a soft sponge.

Attention: Never use detergents, chemicals, brushes or hard sponges to clean the parachute! Also a cleaning in the washing maschine is not allowed.

If the rescue system gets in contact with salt water, you have to wash it with fresh water. A too often cleaning accelerates the ageing of the system.



## 13. REPAIRS

Repair jobs have to be done only by the manufacturer or a workshop which is certified by the manufacturer.

## 14. NATURE- AND ENVIRONMENT-FRIENDLY BEHAVIOUR

Finally the call to practise our sport with respect for nature and wildlife!

Don't walk outside marked routes, don't leave any waste, don't make needless noise and respect the sensitive biological balance in the mountain eco system: especially in the take off area!

## 15. ENVIRONMENTALLY COMPATIBLE WASTE DISPOSAL

The materials of which a rescue parachute is made require a special waste disposal. So please send disused parachutes back to us. We will care about an professional waste disposal.

## 16. SPARE PARTS / CHANGEABLE PARTS

Beside the rubber-bands the Aegis and Aegis Light series do not need any other spare parts. Only certified rubber rings with the sizes 30x3x1 are allowed! You can get this special rubber rings from MAC PARA well priced.

The inner container is part of the rescue system. It's not allowed to use an other rescue-parachute-inner container model of other manufacturers. A change to an other inner container will cancel the operating license of the rescue-system!

If you loose the inner container, due the emergency case or you have used your parachute while doing a SIV course, you have to replace it with a new original inner container.



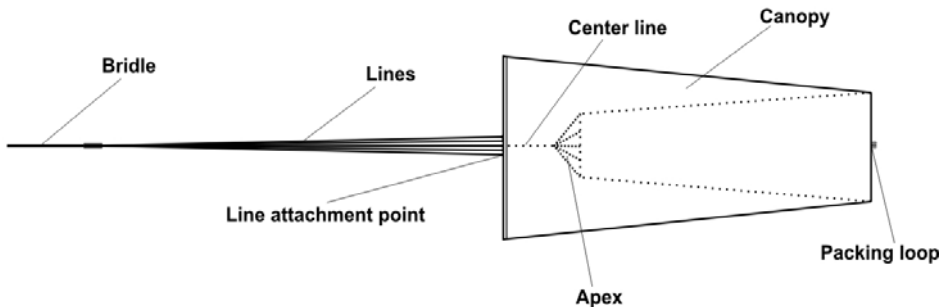
### Canopy

Depending on the model the Aegis canopy has 18, 20 or 24 segments (see technical data).

The canopy is made of tear resistant, high strength nylon fabric. The seams at the canopy are flat fell seams. The base and the apex are reinforced with a band.

The lines are sewn to the canopy, and are reinforced with V tapes at the edge of the canopy. The apex is pulled in by the center line. The center line and all other lines are connected to the bridle.

The bridle has a strength of more than 2400 kp. Biplane rescue systems bridles differ from solo models by a different shape of the bridle. The model Aegis 63 and Aegis Light 63 has a special „Y“ shaped bridle, which is suitable for biplane flying.



### Inner container

The inner container is made of nylon fabric and gets closed at 4 points. On the outer side of the inner container are two loops. At one of these loops the release handle of the outercontainer or release handle of the harness is attached.

For safety and functional reasons, is about 1 m of the parachute lines located outside of the inner container and fixed with two rubber bands. Thereby, the inner container remains closed by triggering and opens about 1.5 meters from the pilot. Only then the suspension lines are drawn from the closing loop of the inner container and this can open. This distance ensures that the canopy of the parachute opens only at a safe distance from the pilot.

### Front container

The outer front container is made of robust, water repellent Nylon fabric. It consists of 2 lateral flaps, the upper and lower flap, the release handle with 2 pins, which close the container.



1. Slide on the packing-loops on a line (packing-cord), and hook it in.



2. Segment 9 (Aegis 30), Segment 12 (Aegis 33 and Aegis 38), Segment 10 (Aegis 63) have to be put on the right side



3. Lay all segments until segment 1 (stamped segment) is on the top, then put a weight (sand bag) on it.



4. Fold the left side onto the right side.



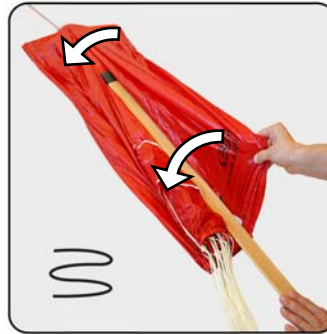
5. Now lay all segments of the left side.



6. Check that all lines and the center line are not crossed and running free.



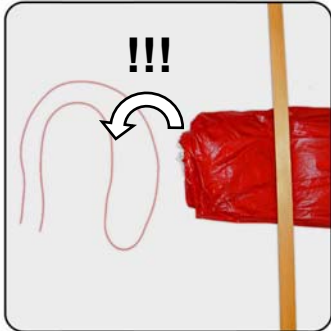
7. Fold the canopy like a "S".



8. Fold the canopy like a "S".



9. Pull out the Ram-Air- Pockets a little bit to the side.



10. Remove the packing cord!



11. Fold the rest of the canopy in small „S“ shapes.



12. Fold the rest of the canopy in small „S“ shapes.





13. Bundle the lines on rubber rings inside of the inner container. Do not bundle the last 130 cm of the lines.



14. Lay the canopy central on the bundled lines.



15. Close the inner container with the lines on rubber loop.



16. Closed inner container. Note! You need about 100 cm free lines from the rubber loop.



17. Bundle the 100 cm of the lines to the „8“ shapes.

### Attention !

You have to use new rubber rings for the inner container and for the line bundles everytime the rescue system is repacked!



1. Place the rescue system bridle at the desired side where this is connected to the harness.



2. Connect release handle by a loop on the central connection loop of the inner container.



3. Using two packing cords close all flaps and secure the packing loops using the split pins of the deployment handle.



4. Remove packing cords from both loops.



5. Secure the release handle by velcro on the upper flap.



6. Finally register your packing in the log book.



To avoid an unintentional opening, the European standard and the German type approval (LTF) prescribe a minimum release force of 20 N.

If the system does not have this minimum release force, it is necessary to build in a predetermined breaking point (special thread). This have to define a minimum release force of 20 N.

The special thread which is used as predetermined breaking point must be put through the hole of the pin and around the loop.

Both ends of this special thread are fixed with a knot and an additional seal.

To secure the pin it is only allowed to use certified material because if the strength of this material is too high the save operation of the rescue system is not guaranteed.

This thread is supplied by MAC PARA TECHNOLOGY!

**Attention! Do not use other threads which may look the same!**

### For harnesses without integrated rescue-container:

If the harness does not have an integrated rescue container you can use the outer frontal container which is shown at point 19. This outer frontal container shown at point 19 has got 4 loops on it's back side for the attachment on the harness. The possibilities of the attachment to the harness depends on the harness. For a correct mounting you have to read the manual of the harness.

### Usage of a frontal-container / outercontainer of an other manufacturer:

The possible usage of a frontal container or of an outer container of an other manufacturer depends on the size and if the container is certified. If the container is too small or not certified the operating license of the rescue system expires. If it is a container of an other manufacturer you have to read the manual of the container. For attaching it to the harness you have to read the manual of the harness.

### For harnesses with integrated rescue-container:

Almost all modern harnesses have an intergrated rescue container in which a rescue system can be placed. For the correct mounting of the Aegis rescue system in such container you have to read the user manual of the harness.

#### **Attention!**

If a rescue chute is installed into a harness, it is important to ensure that it can still be deployed after installing. (Compatibility Test). It must be verified that the necessary deployment force is between 2 and 7 kg. This check is only allowed to be done by authorized persons. The compatibility check have to be noticed in the "repack and inspection log book".

Beside some other points you have to take care particularly that the connection length of the release handle to the inner container is minimized. Therefore are two loops at the inner container at which the release handle can be attached. You should always try to use the shortest possible connection to ensure that the rescue parachute can be thrown as good as possible.

But you also have to take care and check that the release out of the container does not hinder in any way. (take care that the release pin does not block!!!). It must release the pin first and then start to pull on inner container!

Read the manual of the harness in any way.



## 24. INSPECTIONS AND REPAIRS

<b>Date:</b>	<b>Repairs</b>	<b>Proof of installing into the harness or into the outer container.</b>	<b>Operated by (Name) :</b>	<b>Signature:</b>



## 25. EMERGENCY OPENING REPORT

Type of Parachute:.....

Glider used:.....

Damage to Parachute:.....

Damage to glider:.....

Date:..... Time:.....

Conditions:.....

.....

.....

.....

Site:.....

Pilot's qualifications and experience:.....

.....

Description of incident:

.....

.....

.....

.....

.....

.....

Name of the pilot:.....

Address:.....

.....

.....

.....

**TYPE OF RESCUE SYSTEM**

- AEGIS 30**
- AEGIS 33**
- AEGIS 38**
- AEGIS 45**
- AEGIS 63**

- AEGIS Light 30**
- AEGIS Light 33**
- AEGIS Light 38**
- AEGIS Light 45**
- AEGIS Light 63**

Serial number:

.....

Inspected on:

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**Inspected and folded by MAC PARA**  
(Max. Pack interval: 12 months)

Confirmation by dealer:

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