



PARAGLIDER

Version: 1.0
Date: 14.11.2012

ESCAPE
Manual (EN)



INFORMATION

Swing Flugsportgeräte GmbH reserves the right to alter or add to the contents of this Manual at any time. You should therefore regularly visit our website :

www.swing.de

where you will find additional information relating to your rescue chute and any changes to the Manual. There is further information about the Swing website in the section "Swing on the World Wide Web".

The date and version number of this Manual are given on the front page.

Express written consent from Swing Flugsportgeräte GmbH is required for any duplication of this Manual, in whole or in part (with the exception of short quotations in specialist articles), and in any form or by any means, whether it be electronic or mechanical.

The fact that this Manual has been made available does not confer any claim to the product descriptions, common or trade names or other intellectual property.

Dear SWING customer,

Thank you very much for deciding to purchase a new Swing reserve.

You have chosen a sophisticated product. We place great importance on using materials of the highest quality.

Although we hope that you never need to use the reserve chute, we ask that you familiarise yourself with how it works and the intervals at which it must be serviced and repacked. The reserve system will only fulfil its purpose if it is properly maintained and if you are able to operate it properly!

You will be impressed by the rapid deployment times, high level of pendular stability and the astonishingly low sink rate of the "*ESCAPE*" family of reserve systems.

Consistent development work and the innovative combination of the materials used have resulted in a product which satisfies our demanding requirements and those of pilots too, and which sets standards for others to follow.

If you have any questions which are not answered in this manual, please do not hesitate to contact your Swing dealer or Swing directly: Tel: +49 81 41 32 77 888 or info@swing.de

from

the *SWING* Team



Read this Manual before installing your rescue chute!



DANGER

This reserve system must not be used for skydiving!

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01 Introduction

Manual

SWING requires you to familiarise yourself with your new rescue chute by reading this Manual before first installation into your harness.

This will allow you to install and maintain your new rescue chute.

Information in this Manual on design of the rescue chute, technical data and illustrations are subject to change. We reserve the right to make changes without prior notification.

Special text giving safety information is identified in this Manual in accordance with the ANSI Z535.6 standard.

The Manual complies with the airworthiness requirements in LTF NFL II 91/09 and forms part of the certification.

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Special text



DANGER

Sections of text headed “Danger” indicate a situation where there is **imminent danger**, which in all probability **will lead to death or serious injury**, if the instructions given are not followed.



WARNING

Sections of text headed “Warning” indicate a potentially dangerous situation, which **may lead to death or serious injury**, if the instructions are not followed.



CAUTION

Sections of text headed “Caution” indicate a potentially dangerous situation, which may lead to **minor or slight injury**, if the instructions are not followed.



PLEASE NOTE

Sections of text headed “Please note” indicate possible **damage to property**, which may occur if the instructions are not followed.



TIP

Sections of text headed “Tip” give advice or tips which will make it easier to use your paraglider.

Series of instructions

In this Manual, instructions which must be followed in a certain order are numbered consecutively.

- < Where there is a series of pictures with step-by-step instructions, each step has the same number as the corresponding picture.
- d Letters are used where there is a series of pictures but the order is not relevant.

Lists of parts

- Numbers circled in red refer to various parts of the item pictured. A list of the numbers and the name of the part labelled follows the picture.

Bullet points

Bullet points are used in the Manual for lists.

Example:

- risers
- lines

Rescue chute Manual on the Internet

Additional information about your rescue chute and any updates to the Manual can be found on our website at www.swing.de.

This Manual was current at the time of going to print. This Manual can be downloaded from Swing's website prior to print.

Swing Flugsportgeräte and the environment

Protection of the environment, safety and quality are the three core values of Swing Flugsportgeräte GmbH and they have implications for everything we do. We also believe that our customers share our environmental awareness.

Respect for nature and the environment

You can easily play a part in protecting the environment by practising our sport in such a way that there is no damage to nature and the areas in which we fly. Keep to marked trails, take your rubbish away with you, refrain from making unnecessary noise and respect the sensitive biological equilibrium of nature. Consideration for nature is required even at the launch site!

Smokers – please do not leave any cigarette butts, matches etc at flying sites.

Paragliding is, of course, an outdoor sport – protect and preserve our planet's resources.

Environmentally-friendly recycling

Swing gives consideration to the entire life cycle of its products, the final stage of which is recycling in an environmentally-friendly manner. The synthetic materials used in a rescue chute must be disposed of properly. If you are not able to arrange appropriate disposal, Swing will be happy to recycle the rescue chute for you. Send the rescue chute with a short note to this effect to the address given in the Appendix.

02 Safety



WARNING

The safety advice given below must be followed in all circumstances. Failure to do so renders invalid the certification and/or results in loss of insurance cover, and could lead to serious injuries or even death.

Safety advice

All forms of aerial sport involve certain risks. When compared with other types of aerial sport, paragliding has the lowest number of fatal accidents measured according to the number of licensed pilots.

However, few other sports demand such a high level of individual responsibility as paragliding. Prudence and risk-awareness are basic requirements for the safe practice of the sport, for the very reason that it is so easy to learn and practically anyone can do so. Carelessness and overestimating one's own abilities can quickly lead to critical situations. A reliable assessment of conditions for flying is particularly important. Paragliders are not designed to be flown in turbulent weather. Most serious paraglider accidents are caused by pilots misjudging the weather for flying.

Please be aware at all times that any air sport is potentially dangerous and that, at the end of the day, you are personally responsible for your own safety.

We therefore recommend in particular that you fly in a conservative manner. This applies both to the choice of conditions in which you fly and also to the safety reserve which you factor into your flying manoeuvres.

Do not under any circumstances use the paraglider as a parachute. Acrobatics are not permitted.

We recommend that you only fly with a glider and harness which have been tested and certified, and that you wear a suitable helmet.

In Germany, paragliders are subject to the guidelines for air sports equipment and must not under any circumstances be flown without a valid certification. Independent experimentation is strictly prohibited. This Manual does not replace the need to attend training at a paragliding school.

In Germany, paraglider reserve systems are not subject to the rating requirements of the German Civil Aviation Authority (*Luftfahrtbundesamt* - LBA).

The paraglider reserve systems in the ESCAPE series comply with the airworthiness requirements of the LTF. The manufacturer is not liable for any injuries or material damage caused in connection with this reserve system.

At the time of their dispatch, these reserve systems comply with the LTF certification regulations.

Your ESCAPE reserve leads the way in the development standard for reserve gliders. It will remain airworthy for many years if you look after it properly.

Reserve systems may only be packed by adequately qualified people.

The Manual must be passed on to any new owner if the rescue chute is sold. It is part of the certification and belongs with the rescue chute.

Observe the other specific safety advice in the various sections of this Manual.

Safety notices

Safety notices are issued when defects arise during use of a product which could possibly also affect other products of the same model.

The notices contain instructions on how to inspect the product concerned for possible faults and the steps required to rectify any faults.

Swing publishes on its website any technical safety notices and airworthiness instructions which are issued in respect of Swing products. We will also send you safety notices directly by email if you have registered your product (refer to "Product Registration" in the section "Swing on the World Wide Web").



WARNING

The product owner is responsible for carrying out the action required by the safety notice.

Safety notices are released by the certification agencies and are also published on the relevant websites. You should therefore visit the safety pages of the certification agencies on a regular basis and keep up-to-date with new safety notices which cover any products relating to paragliding (refer to Appendix for addresses).



Services such as RSS are also available which allow internet users to follow various websites and changes to them without having to access them individually. This allows much more information to be followed than was previously the case.

Disclaimer and exclusion of liability, Operating limits

Use of the product is at the pilot's own risk!

The manufacturer cannot be held liable for any personal injury or material damage which arises in connection with Swing products. The certification and warranty shall be rendered invalid if there are changes of any kind or incorrect repairs to the rescue chute, or if any inspections or packings are skipped.

Pilots are responsible for their own safety and must ensure that the airworthiness of the Paragliding equipment is checked prior to every flight. The pilot should launch only if the paraglider equipment is airworthy. In addition, when flying outside of Germany, pilots must observe the relevant regulations in each country.

The Paragliding equipment may only be used if the pilot has a licence which is valid for the area or is flying under the supervision of an approved flying instructor. There is no liability on the part of third parties, in particular the manufacturer and the dealer.

In terms of the warranty and guarantee conditions, the Rescue chute may not be used / installed if any of the following situations exists:

- the inspection period has expired, or the inspection has been carried out by the pilot him/herself or by an unauthorised inspector
- the packing period has expired, or the Reserve system has been packed by inadequately qualified people
- the take-off weight is not within the permissible weight range
- the glider is flown in rain or drizzle, cloud, fog and / or snow
- the canopy is wet

- air temperature below -10°C or above 50 °C
- the pilot has insufficient experience or training
- the pilot has incorrect or inadequate equipment (glider, protection, helmet etc)
- there have been modifications to the canopy, lines or risers which have not been approved
- free fall, the reserve system must not be used for skydiving
- use at speed more than 32 m/s (115 km/h)

03 Use

Purpose

These reserve systems are manually deployed emergency parachutes for paraglider pilots who find themselves in an emergency situation during a flight. Any use other than this is not authorised.



DANGER

Reserve systems must not be used for sky-diving

Operating the reserve system

If there is an emergency situation, take hold of the deployment handle and pull it firmly. The reserve chute package is then thrown into the air with a sweeping movement. The chute is pulled out, unfolded and inflates.

We recommend that you frequently go over this procedure in your head, according to your own combination of harness and reserve chute, so that you are able to react quickly and confidently if you ever find yourself in an emergency situation. If you have the opportunity, we also recommend that you carry out a “dry run”. Paragliding schools and clubs often organise this as part of their programme. The more familiar you are with the procedure, the less stressful it will be if you ever really do get into difficulty while flying.

Documentation required

- Manual
- Packing records

04 Technical Description

Technical Data

<i>ESCAPE</i>	<i>M</i>	<i>L</i>	<i>XL</i>
Recommended load	70kg - 105kg	70kg - 110kg	80kg - 125kg
Weight with container	1.05kg	1.5 kg	1.7kg
Surface area	22m ²	30m ²	34m ²
Certificate Number	RG 053.2012	RG 054.2012	RG 055.2012
Maximum load LTF drop test positive	105kg	110kg	125kg
Maximum load EN drop test, fly test positive	-	110kg	125kg
Load / sinkrate	105kg approx. 6.4m/s	110 kg approx. 5.2m/s	125kg approx. 5.3m/s
	100kg approx. 6.2m/s	100 kg approx. 5.0m/s	100kg approx. 4.7m/s
	80kg approx. 5.5m/s	80kg approx. 4.4m/s	80kg approx. 4.2m/s
Central lines	1	1	1
Pilot chute	No	No	No

Construction of reserve

Canopy, suspension lines and bridles

The most important part of rescue chute is its canopy. The ESCAPE is designed as proportionally shaped canopy with central line and double air-filling to optimize the relation between the amount of used material and projected area. Single panels of the reserve chute are cut in order to achieve the same level of elasticity of the parts (components) which leads to better strength of the whole. The Escape M is constructed from 16 panels divided in to 36 pcs. Escape L is constructed from 20 panels divided in to 48 pcs and the Escape XL is constructed from 20 panels divided in to 68 pcs.

What is double air-filling or double cell construction and what is it used for?

Basically, it shortens the opening time of the rescue chute. During opening – inflating the canopy double air-filling shortens the time needed for inflating the rescue chute considerably. After full opening of the rescue chute, the filling openings stay close.

Material used for the rescue chute has great affect on opening and flying characteristics. The Escape is made from TechTex RT 2020 rescue Material.

Other part of the rescue chute are lines, there are 16 main line for M and 20 for L, XL and one central lines. Their main characteristics are strength, ability to stretch and absorb part of the opening shock. Breaking strength of lines is: main - 150 daN for M and 100 daN for L, XL , central - 450 daN, Bridle's breaking strength is < 1800 daN.

Inner container

Inner container is made of light but durable materials. There are two loops on it offering two different locations (points) where the handle can be fastened. While mounting the inner container you should always choose the handle loop on the inner container which is closer to the grip point of the rescue chute handle. For safety and functional reasons the loops for attaching the lines are on outside of the container, so the container stays at least 1.5m enclosed after toss. One reason to stay enclosed is to prevent immediate deliberate opening right after pulling out from outer container. Second reason - the rescue chute starts to open in safe distance from pilot's aerodynamic wake. (rescue chute's opening in a wake can cause delayed inflating or sticking of rescue chute to pilot's body.)



WARNING

Change of inner container must be consulted with manufacturer!

Outer container of ESCAPE

Outer container is designed for use with majority of modern harnesses. Reserve chute is attached to a chest strap through outer container's plastic buckle or Velcro straps and bridles are clipped into harness's main hanging points for glider.



DANGER

For correctly functioning reserve chute **BOTH bridles** have to be connected to harness's main hanging points.

Operating life of reserve

Permissible operating life of reserve:
10 years, subject to inspection every two years.

05 Looking after your reserve

Packing

The Rescue chute must be aired and repacked every 6 month by adequately qualified people.

Compatibility test



DANGER

If a previously packed reserve chute is repacked, it is important to ensure that it can still be deployed after installing it into the paraglider harness outer container (Compatibility Test). It must be verified that the necessary deployment force is between 6 and 10 kg.

Storage

The reserve must be stored in a dry place at room-temperature, and away from oil, grease, acids and paint.



PLEASE NOTE

SWING cannot be held liable for any damage due to wrong storage condition

Cleaning and drying

If the canopy or the container are dirty, they can be washed with clean tap water. Acid and mould or mildew can affect the strength of the reserve. If your reserve is affected in that way, it must be sent to the manufacturer or an approved service agent for inspection and any repairs necessary.

Inspection

General inspection

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

If the chute was opened for an emergency deployment or during safety training, then it must be inspected by the manufacturer or an approved service agent.



PLEASE NOTE

The owner is responsible for the airworthiness of the rescue chute. This includes complying with the inspection periods.

Periodical inspection

In addition to the general inspection, during the periodical inspection the following points have to be checked:

- Linelength (symmetry)
- Condition of elastic straps on inner container (elasticity, damages)
- Condition of eyelets on inner container (sharp edges, dirt, rust)

Inspection periods

The rescue chute has to be aired and repacked every 6 month.

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

If the rescue chute has become wet, it has to be inspected and repacked prior to next usage.

Repairs

The reserve system must be sent for repairs to the manufacturer or an approved service agent if any damage is discovered which affects its airworthiness. This is also the case if damage is suspected, but it is not possible to definitively determine the effect of the damage on the equipment's airworthiness.



PLEASE NOTE

Repairs should only be carried out by the manufacturer or an approved service agent.

Type designation

Swing Rescue chutes have an exact identification on Panel #1 and at the riser.

The information required is set out in the airworthiness requirements.

It is helpful to provide the type designation of the rescue chute if you are contacting your Swing dealer with any queries or ordering replacement parts or accessories, to ensure accurate identification.

06 Packing directions



PLEASE NOTE

Reserve systems may only be packed by adequately qualified people.

Make sure that you do not leave anything inside the rescue chute or the container that does not belong there.

Make a list of all Items you will use during packing and check it again after packing.

If you are using a packing line, it should be design in a way, that makes it impossible to forget inside the rescue chute (Fix a ball, brakehandle or something similar to one end)

The Panel number of the ESCAPE M is given in brackets.

Laying out and untangling the reserve chute

The reserve should ideally be packed on a special packing table. If none is available, a clean flat surface can be used.

The reserve chute is stretched out to its full length on the packing table or other suitable surface.

A temporary line is then inserted through the packing loops and attached to the top end of the packing table. (Fig 1)

The bridle is attached to the other end of the packing table, and the chute is stretched tight. The reserve lines are checked to ensure that they are straight.

Pick up lines 1 and 20 (16) and check them along their length to the bridle.

Any tangles are removed.

Now panels 1-10 (16) are on the right-hand side and panels 11-20 (9-16) are on the left-hand side. (Fig. 2)



Fig. 1

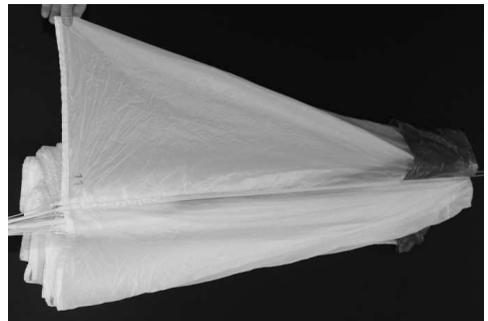


Fig. 2

Laying out the panels

Folding of the right side starts with panel #10 (8) - Fig 3.



Fig. 3

Beginning with panel 10 (8), now start to lay out the panels. To do this, take hold of panel 10 (8) and pull it towards you, and then put each panel, one by one, on top of each other, going from panel 10-1 (8-1).

The canopy is now arranged so that the panel with the stamp (panel 1) is on the top right (Fig. 4)

The apex, which is held with the packing loops, is then straightened.

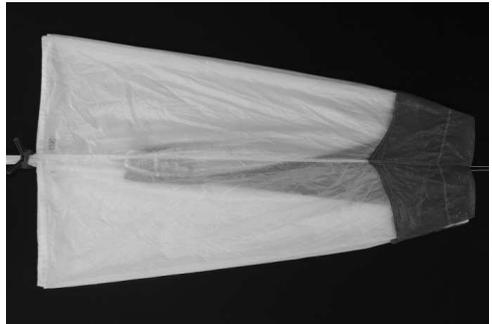


Fig. 4

Both halves fold longitudinally into thirds: make first 1/3 fold under Rescue chute (Fig.5a and b)...



Fig. 5a

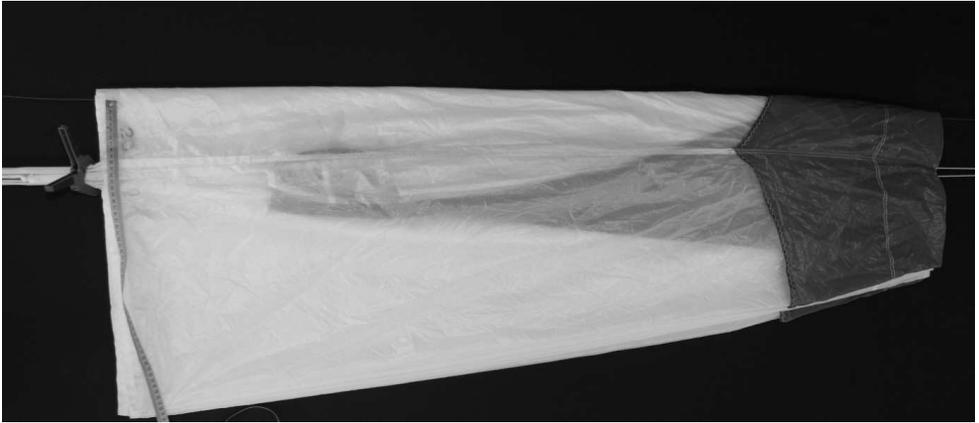


Fig. 5b

...and second one on the top of rescue chute - (Fig. 6a and b).

Folding the rescue chute into thirds to make Z shape - one third on top and other on bottom - improve speed and symmetry of opening.

When doing this, make sure that the folded width of the reserve is not wider than the inner container.



Fig. 6a

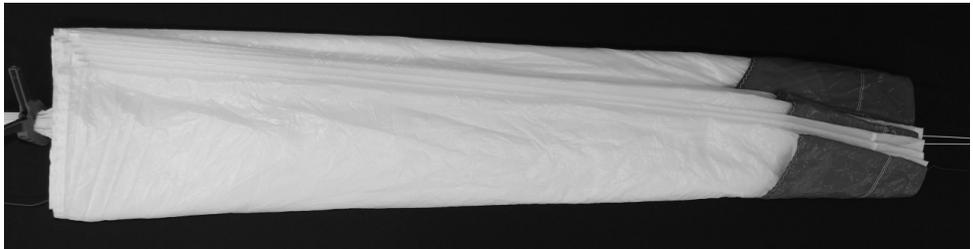


Fig. 6b



DANGER

The temporary packing line which was inserted through the packing loops must now be removed.

Failing to do so will mean that the chute cannot be deployed.

If a special 'packing line' is being used, this is now the time to put it out. (Fig 7 and 8)

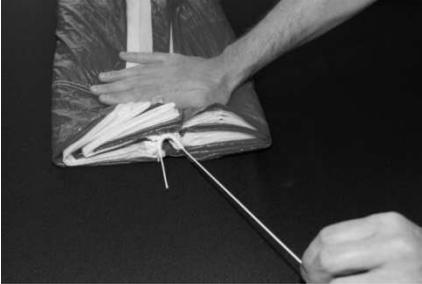


Fig. 7



Fig. 8

Folding the panels

Straighten out all wrinkles on rescue chute (which is folded into thirds), press out air and start folding -as shown on picture 9 to 12.



Fig. 9



Fig. 10



Fig. 11

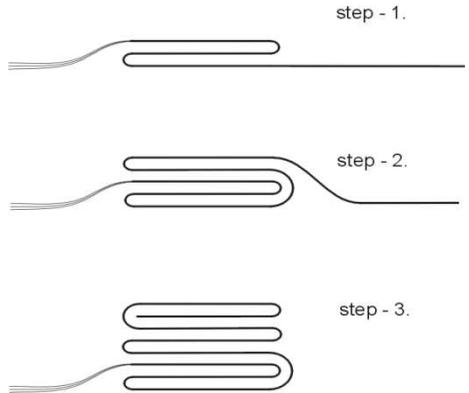


Fig. 12

Bundling the lines

The lines are put into figure 8's bundles, and secured. The length of each bundle should be nearly the same as the width of inner container. The first two or three bundles with suitable rubber bands, the next three with the rubber band fixed at the inner container.

Finish up the packing by two or three bundles fixed again with rubber band, so that there are approximately 75 cm of free lines left at the end. Fig. 13.

Replace all rubber bands each time you pack the rescue chute.

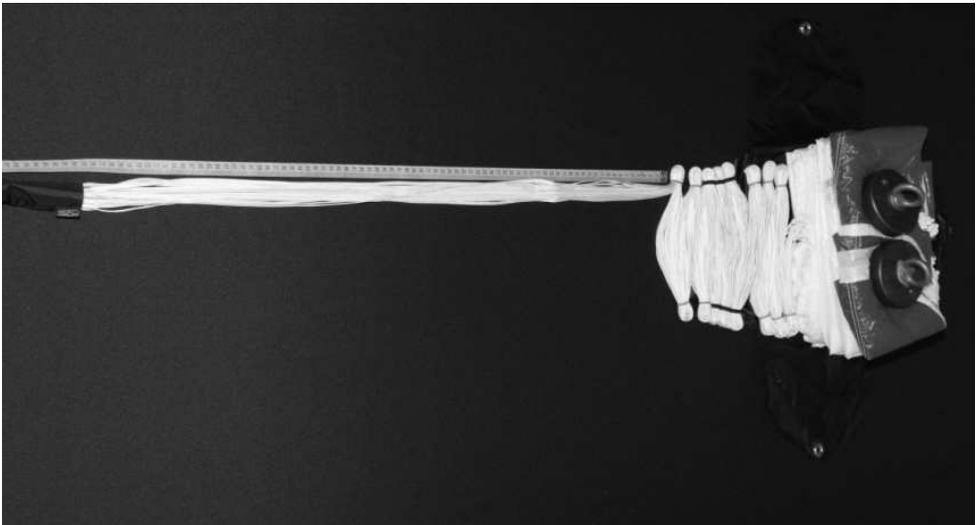


Fig. 13

Closing the inner container

Close the container with rubber loops and secure them with approx. 3-4 cm loops made from lines.

Force needed to open container (slip the loops of lines out of rubber loops) should be in range of 300-900 g.

The rest of lines, approx. 55 cm, fold up into 'figure8' loops and secure them with rubber bands on outside of the container. (Fig.14)



Fig. 14

Entry in the reserve logbook

An entry must now be made in the reserve logbook (*Pack- und Prüfnachweis*), giving the date, name and signature of the packer, and the type of work carried out.

07 Swing on the World Wide Web

Swing website

Swing has a comprehensive website, which provides additional information and many other issues related to paragliding. Swing's website is the first port of call for Swing's worldwide following:

www.swing.de

On Swing's website, you will find an extensive range of accessories for your paraglider, as well as useful products for pilots.

You will also find links there to other services and websites:

- Product registration
- Swing's Online Shop
- Facebook, Twitter & youtube

These websites and their content are provided for your use. The content of Swing's websites has been made available for your use on an "as is" and "as available" basis. Swing reserves the right to alter the websites at any time or to block access to them.

Swing-Online Shop



At Swing's Online Shop you are able to obtain directly from Swing the

full range of paraglider accessories, clothing and accessories and reserves. It is easy to place an online order and payment is made by credit card or Paypal.

Facebook, Twitter & youtube



Swing is very active with the new media of Facebook, Twitter and

youtube and has various websites which are

updated daily on various topics related to aviation and Swing products.

Paragliding

www.facebook.com/pages/Swing.Paragliders

<http://twitter.com/swingparaglider>

Speedgliding

www.facebook.com/SwingSpeedflyingTeam

<http://twitter.com/SSTSpitfire>

Swing TV



On Swing TV, Swing puts official video footage and footage by pilots, under these categories:

- Paragliding
- Speedflying
- Accessories
- Video footage by pilots

www.youtube.com/user/SwingParagliders#p/a/u/0/1_T7QrzaEtU

Appendix

Addresses

Swing Flugsportgeräte GmbH

An der Leiten 4
 82290 Landsberied
 Germany
 Tel.: +49 (0) 8141 3277 - 888
 Fax: +49 (0) 8141 3277 - 870
 Email: info@swing.de
 www.swing.de

Paraglider recycling

Swing Flugsportgeräte GmbH
 - Recycling Service -
 An der Leiten 4
 82290 Landsberied
 Germany

DHV

Miesbacher Str. 2
 Postfach 88
 83701 Gmund am Tegernsee
 Germany
 Tel.: +49 (0) 8022 9675 - 0
 Fax: +49 (0) 8022 9675 - 99
 Email: dhv@dhv.de
 www.dhv.de

EAPR

European Academy of Parachute Rigging
 Marktstr. 11
 87730 Bad Grönenbach
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 Fax: +49 (0) 8334 - 534469
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 www.para-academy.eu

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 e-mail: info@para-test.com
 www.para-test.com

Versions

Version 1.0

Date: 14.11.2012
 First version of the Instruction Manual

Rescue chute details

Model:	Size:	Manufacturing Date:	Serial number:
Escape		__/__/201__	Es __/__/ - __/__/ - __/__/

Proof of ownership

1. Owner:	
Name:	
Address:	
Telephone:	
Email:	
2. Owner:	
Name:	
Address:	
Telephone:	
Email:	
3. Owner:	
Name:	
Address:	
Telephone:	
Email:	

