SWING

PARAGLIDER

Version: 1.1
Date: 25.07.2014

CONNECT REVERSE EVO

Instruction 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 Swing product 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.

Dear SWING customer,

Thank you for purchasing a SWING product.

Ongoing development work along with the innovative combination of the materials used have resulted in a product which meets our own high expectations and those of our customers and which sets standards in the industry.

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**

The
SWING Team

WARNING

Read this Manual before using your harness!

DANGER

This harness must not be used for sky-diving.

Contents

01 Introduction

Manual

You must read this Manual carefully before using the harness for the first time.

This will allow you to familiarise yourself with the adjustment options and the care and maintenance of your new paraglider harness.

Information in this Manual on design of the paraglider harness, 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.

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 harness.

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 this Manual for lists.

Example:

- risers
- lines

QR Codes

If this Manual refers to a website, a QR code is also given. The website will open if the code is scanned using a smartphone with the appropriate app.

Manual on the internet

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

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.

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

SWING 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 the sport of paragliding 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!

If you are a smoker, please do not leave cigarette butts behind.
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 our products must be disposed of properly. If you are not able to arrange appropriate disposal, Swing will be happy to recycle the product for you. Send the glider with a short note to this effect to the address given in the Appendix.

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 conditions for flying.

Please bear in mind that any aerial sport is potentially dangerous and that ultimately you are responsible for your own safety.

We therefore strongly encourage you to fly in a conservative manner. This applies both to the choice of conditions in which you fly and also to the safety margin which you allow when carrying out the various flying manoeuvres.

We recommend that you only fly using paragliding equipment, a harness and helmet which have been tested and certified.

In Germany, paragliders are subject to the guidelines for aerial 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 harnesses are not subject to certification by the by the LBA (German Federal Aviation Office).

The Connect Reverse Evo complies with the airworthiness requirements for hang gliders and paragliders at the time of delivery. The manufacturer cannot be held liable for any personal injury or material damage which arises in connection with this harness.

The Connect Reverse Evo leads the way in development standards for paraglider harnesses. It will remain airworthy for many years if you look after it properly.

This Manual must be passed on to any new owner of the harness. It forms part of the certification and belongs with the harness.

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 equipment which could possibly also affect other examples of the same model.

The notices contain instructions on how to inspect the equipment 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").

Safety notices are released by the certification agencies and are also published on the relevant websites. Services such as RSS are also available which allow internet users to follow various websites and any changes made to them without having to access them individually. This allows much more information to be followed than was previously the case. 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 connected with paragliding (refer to Appendix for addresses).

WARNING

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

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 this harness, or if any inspections are missed.

Pilots are responsible for their own safety and must ensure that the airworthiness of the equipment is checked prior to every flight. The pilot should launch only if the paragliding 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 valid licence 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.

Disclaimer and exclusion of liability

In terms of the warranty and guarantee conditions, the paraglider harness may not be used with certified paragliding equipment if any of the following situations exists:

- the inspection period has expired, or the inspection has been carried out by unauthorised agencies or people
- the pilot has insufficient experience or training
- repairs have been carried out by the pilot or unauthorised repairs have been carried out, or there have been repairs using parts which are not original parts
- the pilot has incorrect or inadequate equipment (paraglider, protection and helmet)

Operating limits

The harness may only be used within the operating limits. These have been exceeded if any of the following situations exists:

- it is used outside of the permissible weight range
- it is used when there is obvious damage to it
- it is used in rain or drizzle, in cloud, fog and/or snow
- the air temperature is below -10°C or above 50°C
- alterations have been made to the harness which are not approved
- the pilot uses the harness for a purpose which is not connected with paragliding. This harness is, e.g., not a parachute harness and not intended for use as such!

Purpose

The Connect Reverse Evo was developed as a lightweight convertible harness for everyday use, with the maximum level of comfort.

It must only be used as a paraglider harness.

Target group

The Connect Reverse Evo was developed as a lightweight comfortable harness for all-round use.

It offers maximum comfort for seating and wearing and can be used both for hike & fly and for longer XC flights.

03 Harness features

Technical data

Use	Paraglider harness		
Certification	LTF, DHV GS-03-0389-13		
Maximum clip-in weight	120 kg		
Sizes	M	L	XL
Hang height [cm]	40	42	44
Distance between carabiners [cm] (min. – max.)	36-42	36-42	36-42
Seat (l x b) [cm]	41x36	43x38	45x40
Weight approx. [kg]	3.85	3.95	4.05
Protection	LTF-certified multi-chamber airbag		
Installation of reserve	Integrated container under the seat, side deployment handle		
Included in delivery	• Connect Reverse Evo harness • Deuter hip belt • Top lid pocket with extra large handle • Two aluminium carabiners • Deployment handle for reserve • Instruction Manual		
Optional accessories	• Deuter rain cover • Deuter transport cover • Extra side pockets from Deuter • Deuter Streamer hydration system (3 litre)		

Diagram

What does the Connect Reverse Evo look like?

Fig. 1: Diagram of the Connect Reverse Evo

Concept

The Connect Reverse Evo is one of the latest generation of paraglider harnesses. It is designed as a convertible harness/backpack and combines the usual high comfort level of Swing's Connect range of harnesses with outstanding carrying features as a backpack.

In designing the backpack, particular importance was placed on a high level of carrying comfort, optimal weight distribution and a high level of functionality. Various accessories allow the backpack to be customised according to the pilot's individual needs.

It sets standards through its use of a carrying system which has proved its reliability in alpine sports.

The harness design focused on ease of use, a high level of comfort and pilot safety.

The choice of materials reflects the overall concept of a top quality product with a high level of functionality, but which is lightweight. The harness uses mainly light yet robust ripstop fabrics.

The harness was designed for paratrekking, namely for pilots who wish to make long flights from isolated launch spots and who regard the trek to launch as part of the flight. A range of accessories is available which makes it ideally suited for trips lasting a few days.

Its high level of comfort also makes it suitable for any pilot who is looking for a top quality harness which is lightweight and compact.

Equipment

Safety

T-lock

The Connect Reverse Evo is fitted with a T-lock safety system to prevent the pilot from slipping out of the harness by inadvertently forgetting to do up the leg straps.

The buckle to do up the chest strap is attached to the leg strap so that, by doing up the chest strap, there is already some protection against falling out. This also makes it less likely to forget the leg straps.

Fig. 2: Chest strap with T-lock done up

Protector

With the Connect Reverse Evo, the optimum hang point and the particular design of the airbag ensure pilot safety right from the time you launch. The Connect Reverse Evo has a multi-chamber airbag protector. A titanium foam hybrid design pre-inflates the chamber under the seat from the time the harness is converted. The LTF protector test was carried out in this state without inflow. During flight, air enters the protector through the vent on the front of the airbag and continues to inflate the chambers. The back is inflated through eyelets between the main airbag and the rear pocket. There is full protection for the pilot's back and seat area shortly after launch.

TIP

The system becomes active even before launch by the use of special foam materials. However, as the airbag gets compressed in the backpack, we recommend using a control handle to assist airbag inflation. The airstream makes the airbag unfold completely and it then quickly attains its full protective effect.

Fig. 3: Pre-inflated airbag with air intake valve

Reserve container

The Connect Reverse Evo has a generously sized reserve container.

It offers a secure place for small reserves as well as enough space for large or steerable reserves.

The reserve container is a semi-tube container which, combined with the ideally located deployment handle, ensures safe deployment.

Comfort features

Carrying system

In backpack mode, the Connect Reverse Evo is fitted with a carrying system made by Deuter, the specialist in alpine backpacks. The Alpine Back System ensures the highest level of carrying comfort and ideal weight distribution.

The flexible Vari Flex hip belt is available as an option for the Alpine Back System, and is included in delivery with Connect Reverse Evo.

TIP

The Connect Reverse Evo product video shows how to attach the hip belt correctly (at 7:00 mins.):
http://bit.ly/VariFlex

Mesh back section

The back section uses mesh fabric to optimise seating comfort. This ensures optimum pressure distribution for your back and good air circulation.

Trekking pole attachment point

Fig. 4: Trekking poles in harness and in backpack mode

The attachment point for the trekking poles can be used in both modes. In harness mode, we recommend that you use a cover for the tips of the poles.

Velcro attachments on shoulder

There is Velcro on one shoulder to attach additional small instruments such as the acoustic Vario or SPOT.

There is an extra pocket on the right shoulder for a security/emergency card. The red rubber band can be used to secure a credit card format card.

Pockets

Rear compartment

The Connect Reverse Evo has a generously sized and aerodynamically shaped rear section. There is an attachment point for trekking poles next to the main compartment. The compression and tension straps in backpack mode can be used to attach heavy items in the storage compartment.

WARNING

You must ensure when loading the rear storage compartment that the air inlet openings on the surface are not covered up. If they are, then the back protector's protective action will not take effect.

Hydration system compartment

There is a compartment for a Streamer (hydration system bladder) between the back section and the pilot (Fig. 5). It is also ideal for storing spare clothes etc. The hydration system can remain in this compartment in both the harness and the backpack mode.

The compartment has a Velcro strap to attach the Streamer. The drinking tube is fed through a separate opening out of the compartment. It can be fed through special

openings on the shoulder straps in both harness and backpack mode.

Fig. 5: Streamer compartment with Velcro

PLEASE NOTE

Do not over-fill the Streamer because it will then press into the pilot's back during flight, affecting comfort and safety.

Lid pocket

The Connect Reverse Evo's lid pocket can be removed. It can be rolled up and attached using the buckles provided.

The lid pocket can remain in its position during flight.

Side pockets

The Connect Reverse Evo has two side pockets for any items which need to be within reach during flight. The shape of the pockets means that nothing will get lost even during launch. One side has an open net pocket and the other side has a zippered pocket. The pockets all have loops to attach safety lines.

Optional accessories

Side pockets

Side pockets made by Deuter can be used to expand the Connect Reverse Evo. These can also remain on the harness during flight. Make sure, however, that the side compression straps have been fully loosened off.

Streamer

The Connect Reverse Evo has a separate pocket for a Streamer (hydration system bladder). This is perfect for the Deuter hydration system.

Swing recommends that you use a Deuter Streamer with capacity of up to 3 litres.

Rain cover / Transport cover

Swing recommends using the Deuter transport cover to protect the harness from damage and moisture. This can be used both as a rain cover and also as a transport bag. The back pack's shoulder straps can still be used or can be stowed away if necessary, e.g. for plane trips.

We recommend the Deuter Rain Cover III if you need rain protection only. This is lighter and more compact than the transport cover.

Fitting the reserve system

Only an appropriately qualified person should fit the reserve.

The steps to be followed are given below.

PLEASE NOTE

We recommend the use of flat reserve containers to ensure the best weight distribution and use of the space in the backpack.

DANGER

If your harness should ever get wet (e.g. because of a landing in water) the reserve system must be dried out and repacked before your next flight.

Fitting the bridle

There are three ways in which the reserve chute can be connected with the harness.

Loops

In the first method, the harness's connecting bridle is put through the loop of the reserve's bridle. The reserve itself is passed through the large loop in the harness's bridle, and this connects the two. The connection loop must be pulled as tight as possible so as to avoid friction between the two bridles during the shock caused when the reserve opens. To ensure that the connection loop between the two remains tight, it is held in place using the Velcro strip on the bridle.

Screw-lock links

The two lines are inserted into the screw-lock links which are tightened by hand.

A neoprene sleeve is then placed over the connection to hold it in place. This prevents twisting and possible cross-loading.

This method can absorb a higher shock load than the previous one and is therefore the method recommended by Swing. The screw-lock links and neoprene sleeve are available from Swing.

Reserve with dual bridle

If a steerable reserve chute with dual bridle or any other reserve with dual bridle is used, the reserve is connected using the loops of the harness bridle which are located near the padded shoulder straps. In this case, the harness bridle is not needed and should be folded up, fastened using two rubber bands and then stored away under the cover behind the pilot's neck.

For this attachment method, you need two screw carabiners with a breaking strength of at least 2400 daN. Make sure that the bridle is long enough for the reserve to be positioned in the harness's reserve container.

There must be enough line length to ensure that, on activating the reserve chute, the reserve stays in the reserve container until it is thrown.

Attaching the deployment handle

The Connect Reverse Evo is delivered with a deployment handle for the reserve system.

This is identified as No. 6. No other handle should be used.

WARNING

Use only the original deployment handle!

To fasten the black loop of the handle's bridle, pass it through the reserve container's loop.

Feed the loop of the handle through the loop of the container and then bring the handle back through its own loop.

To ensure safe deployment, the deployment handle must be attached in a loop on the front side of the reserve container.

The deployment handle must be fed through the correct loop in such a way that the connecting strap between the handle and the inner container is only put under tension after the locking pins of the deployment handle have been completely released by pulling.

DANGER

The deployment handle may be blocked and the reserve may be difficult to operate or may not deploy at all if the above instructions have not been followed.

Make sure that it has been attached correctly by carrying out a trial deployment.

Fig. 6: Fitting the deployment handle

Inserting the reserve

First, place the reserve next to the harness the way it will ultimately be put away, store the connection lines tidily in loops in the outer container and then slide the reserve itself into the container. If the inner container is equipped with a pilot chute, then it should be at the back, so that the air can stream into it better if there is an emergency deployment. Please be sure to follow the packing and fitting instructions for the reserve as well. The reserve is placed into the container in the harness with its handle visible from the outside and the loop of the handle's connection line at the top with the reserve container.

DANGER

It is essential to check that none of the lines are knotted or twisted up in the reserve.

The deployment handle must be fastened to the side of the container towards the opening, failing which deployment of the reserve could be impeded.

Fig. 7: Reserve in the reserve container, sequence for closure shown

Closing the container

Feed a flexible plastic tube (included with Swing reserves) or a thin cord (paraglider line) into each elastic loop, then feed them through the eyelets on the harness container, starting with the smallest, so as to pull them together. Follow the order given in Fig. 7.

Feed the pins into the elastic loops under the transparent cover. The cord or plastic tube must now be removed. Pull it out slowly so that the elastic loops are not damaged by excessive friction. Finally the handle will be inserted under the plastic cover.

Fig. 8: Elastic closures with pack cord/tube

Fig. 9: Lower flap closed

Fig. 10: Upper flap closed

Fig. 11: Front flap secured with pins, deployment handle stowed away

WARNING

The integrated container under the seat must be securely closed if it is not being used.

Do not use a deployment handle for this, to avoid any confusion.

Closing the V-line channel system

The Connect Reverse Evo has a Velcro-free V-line channel system. To close it, first undo the zip fully (before closing the container). The zip is located behind the shoulder strap on the side of the harness opposite the reserve handle (left side, in the right-handed version). Then pull it all the way down to the reserve container. When you are sure that the V-line is lying correctly in the channel, pull the zip in the opposite direction back to its original position.

The zip is now closed and the V-line channel's orange warning colour is no longer visible.

Fig. 12: The V-line channel is closed

Compatibility test

In Germany, it has been a requirement since 1 January 1998 that every new combination of reserve and harness/outer container must be inspected after the first packing to ensure that it operates safely. It must be possible for the pilot to deploy the reserve from the flying position without any problem and according to the guidelines in the manufacturer's instructions. The inspection must be recorded in the reserve's packing certificate (compatibility test).

We recommend that the compatibility test is carried out by the manufacturer.

As part of the pre-flight check, you must check before every flight whether the container is closed properly.

DANGER

If a newly packed chute is integrated in a harness outer container, a deployment check must be carried out, checking whether the deployment force is between 6 and 10kg.

TIP

A video showing how to fit the reserve system can be viewed online:
http://bit.ly/CREresc ue

Adjustment options

The Connect Reverse Evo has various adjustment options so that pilots can adjust the harness according to their particular wishes and preferences. Pilots should take their time in doing this because it will provide a high level of comfort!

We recommend that you hang the harness in a simulator (or frame etc) when making the adjustments.

TIP

The recommended standard adjustments are indicated by red stitching on the straps. This makes it easy to return to the factory settings at any time.

PLEASE NOTE

The reserve must be fitted before the Connect Reverse Evo is adjusted.

Adjusting the seating position

Angle of back section

The first adjustment is to the seating position and size of the harness. The seating position is adjusted by the opening angle of the harness. Decide the angle at which you want to sit (angle between back and thigh - upright or inclined position). The angle of adjustment ranges from approx. 70° to 100°. The adjustment is made using the side buckles (Fig. 13), which you will find at about chest height. If the harness is shortened here, the seating angle will be smaller (upright position); if it is lengthened the seating angle increases (inclined position).

Fig. 13: Buckle to adjust angle of back

Fig. 14: Mark showing standard position

Angle of seat

The second adjustment is to the angle of the seat, allowing a choice of how “deep” to sit in the harness (Fig. 15). A comfortable seating position should be chosen which is suitable for the pilot’s build, so that no further adjustments need to be made during flight. The range of angle adjustment is about 10°, with the pilot sitting “deeper” the more the adjustor is opened.

Fig. 15: Buckle to adjust the seat angle (centre of picture)

Length of shoulder straps

Adjusting the shoulder straps allows the harness to be altered according to the height of the pilot. This is done using the adjustment buckles integrated in the shoulder padding. The strap is loosened upwards above the loop (Fig. 16) and tightened downwards through the strap (Fig. 17).

The shoulder strap is correctly adjusted if it lies on the shoulder but the crimped elastic band at the lower end is not stretched taut.

Fig. 16: Loosening the shoulder strap

Fig. 17: Shortening the shoulder strap

PLEASE NOTE

Make sure that you can see the plastic clips on the shoulder strap. If they are under the Cordura cover, then the shoulder straps may slip through because the adjustment buckles are not quite tightened.

Chest strap

The chest strap (Fig. 18) controls the distance between the two carabiners (hang point) and can be altered from 36 to 42 cm. The smaller the distance between the hang points, the less the glider responds to weight shifting.

Fig. 18: Shortening the chest strap

Adjusting the leg loops

The leg loops are attached to the chest strap using the T-lock system and prevent you falling out of the harness when even one buckle is done up. Test the adjustment of the leg loops while standing, walking and sitting and choose the width which is best for you (simulate the launch procedure). Once again, it is best to use a simulator to do this. If you need to use your hands to get into the right position when flying, the seating angle must be checked again and the leg loops adjusted accordingly (Fig. 19 and Fig. 20).

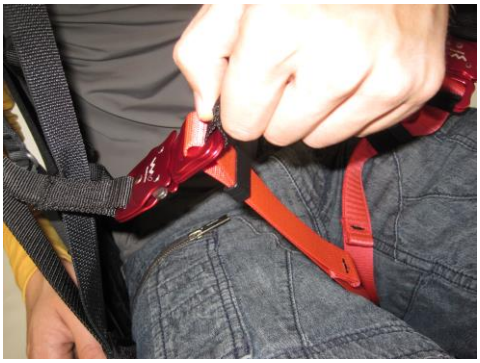

Fig. 19: Lengthening a leg loop

Fig. 20: Shortening a leg loop

The adjustment is correct if you are able to get into your flying position without using your hands.

The type of clothes you are wearing makes a difference here, because they can make it either easier or more difficult for you to “settle into” the harness.

The leg loops are adjusted using the buckles. Make sure that the leg loops are even.

Speed system

The Connect Reverse Evo is designed for use with a speed bar. The pulley required for this is ideally positioned in order to ensure the perfect flow of force. It is a high-quality, smooth-running pulley. The cord inside the harness ensures energy-saving and efficient use of the speed bar.

Adjusting the speed bar

After you have set up the best seating position, the speed system must be adjusted.

The pulleys required are already on the harness.

The speed bar line is attached to the harness as shown in Fig. 21. First it is fed through the ring attached at the front under the seat (1), which is attached with elastic. It then goes through the metal eyelet (2) in the guide channel. At its other end it goes through the pulley (3). Now it just has to be fed through the small ring (4) and then attached using a Brummel hook.

Fig. 21: Installing the speed system

Foot stirrup and leg cover

Please check our website www.swing.de for information about compatible foot stirrups and leg covers for the Connect Reverse Evo. Only the products named may be used.

There is a risk that the harness will be damaged if you attach the wrong foot stirrup, in particular one which is attached only at the two front loops.

TIP

A video showing how to install the speed system and foot stirrup is online: **www.bit.ly/CREspeedbar**

04 Flying with the Connect Reverse Evo

Converting the harness

The Connect Reverse Evo can be turned from a backpack into a harness and vice versa in just a few steps.

Conversion from backpack into harness

Fig. 22 to Fig.25 show how to convert the backpack.

PLEASE NOTE

The two pockets on the outside of the backpack can still be used to store small objects when it is used as a harness. This allows you to keep safe items which would otherwise annoy you in your jacket pocket. These pockets cannot be done up, so be careful not to lose anything when changing it back into a backpack.

It is better to keep larger items such as a spare t-shirt in the top lid pocket or in the pocket for the hydration system bladder.

WARNING

The zip for the back section must be done up completely to ensure the full level of protection is provided by the airbag's rear chamber.

The compression straps for the backpack must be loosened off fully in order to allow the airbag to inflate completely.

Fig. 22: Open the backpack

Fig. 23: Turn the sides inside out

Fig. 24: Do up the main zip

Fig. 25:Harness ready to fly (Airbag prepared)

Conversion from harness into backpack

To change the harness back into a backpack, follow the steps above in reverse order.

PLEASE NOTE

Open the compression straps first. This facilitates packing and in particular makes it easier to close the zip.

When packing, make sure that none of the buckles are caught between the seat and the back, as this can cause dents in the seat over time.

WARNING

The surface of the airbag must not be bent and must go smoothly around the reserve. The reserve must be up as far as possible so that the airbag's surface sits neatly. Complete inflation can be affected if the surface of the airbag has any bends.

Putting on the harness

Fig. 26 to Fig. 31 show how to put on the harness.

First, pick up the harness and shake the airbag open slightly to make it easier for it to inflate later on.

Next, put on the harness, with your arms going between the shoulder straps and the adjustment for the back section.

Then do up both leg straps and the chest strap. The buckles must be properly clicked into place. Check that you have done this by pulling firmly on each of them.

Finally, close the connecting strap between the shoulder straps. The harness is now on properly.

WARNING

Immediately before launch, check once again whether the airbag has been pre-inflated and that there is nothing which could obstruct the vent during flight, to ensure maximum protection during the launch phase as well.

Fig. 26: Put on the harness

Fig. 27: Do up the right leg strap

Fig. 28: Do up the left leg strap

Fig. 29: Do up the chest strap

Fig. 30: Do up the connecting strap

Fig. 31: Harness on properly

Pre-flight check

It is essential that you thoroughly check all equipment before launch!

Always check the following as part of the pre-flight check:

- Are there any tears, areas of wear or other damage to the harness or airbag?
- Are there any bends in the vent reinforcement?
- Are the harness and the speed system correctly adjusted?
- Is the reserve system in order or does it need to be inspected/repacked?
- Are the pockets all done up?
- Are the reserve deployment handle and pins in the correct position?
- Are both carabiners properly closed / secured?
- Was there a clearly audible 'click' when you did up the buckles and do they stay closed if you pull on them? Be particularly careful if there is snow or ice: always keep buckles free of snow and ice!
- Has the zip on the backpack been done up completely?
- Are the vents between the airbag and the rear compartment clear?
- Are the side compression straps in the backpack loosened off?
- Are the speed system lines attached to the glider and is the speed system attached to the harness?
- Did you check the airbag again after you put on the harness?

Towing

The Connect Reverse Evo is also suitable for towing. The appropriate towing devices are available from specialist stores. They are attached to the main carabiners.

Swing also recommends using a towing aid, which is attached between the towing device and the harness. The Swing range includes the “Pro-Tow” tow aid which can be used for this purpose.

Tandem flights

The Connect Reverse Evo is not intended for use in tandem flights.

05 Maintaining your harness

Care and maintenance

Care

The harness is made from top quality materials, but you must nevertheless be careful never to drag it across the ground or to leave it exposed unnecessarily to sunlight, heat or moisture.

Pay particular attention when making the harness/backpack conversion not to damage the reinforcement. Avoid making any major bends in the surface of the airbag when packing the backpack as this can permanently misshape the surface of the airbag.

If the harness gets dirty, it can be sponged with lukewarm, soapy water.

Storage

Swing recommends that all of your paragliding equipment be stored away from UV light in a dry room which is well-aired and has a constant temperature. Open the backpack and/or inner bag and the belt a little so that air can get in

Maintenance

Keep the harness locking apparatus clean and oil with a few drops of sewing machine or bicycle oil when necessary. This should be done at least once a year.

Inspect the condition of your harness regularly, or at least once a year. Check in particular whether the seams or straps have any areas of wear or tears.

Airbag

Check the condition of the airbag regularly, in particular whether there are any holes or areas of wear, which could result in the airbag failing to deploy.

Reinforcements in the surface of the airbag

Check regularly for any kinks or misshaping, which can cause the airbag to deploy slowly or inadequately.

DANGER

A damaged airbag may malfunction. Inspect your airbag regularly for damage (especially if it ever comes in contact with the ground).

We recommend in particular that the aluminium carabiners be replaced at least every two years. Unintentional knocks can cause tiny cracks in the aluminium which reduce the breaking strength of the carabiner and, in the worst case scenario, could cause the carabiner to break.

Leg straps

Check that the leg straps go the right way around the seat (over the abrasion protection).

Seat

A damaged seat could break and should be replaced.

Carabiners

Aluminium carabiners must be replaced after approx. 300 hours of use or four years, because the material fatigues.

PLEASE NOTE

Swing recommends use of a transport cover to protect the harness. This can be used both as rain protection and as protection during travel, and is available from Swing, our dealers and in specialist sports shops.

Contact with salt water

If salt water gets on the harness, it should be rinsed immediately in fresh water (before it dries) and then allowed to dry in a well-ventilated place in the shade.

There can be permanent damage to the fabric of the harness if it is not rinsed thoroughly.

Repairs and inspection

Repairs

Swing workshops

All repairs and servicing should be carried out by a Swing-authorised workshop or directly by Swing. Swing workshops have trained staff, original Swing parts and the necessary know-how, all of which will ensure top quality work.

Repairs to the airbag should only be carried out by the manufacturer.

Small repairs to the harness

You can repair small tears in the harness yourself using self-adhesive sail material, provided that the tears are in places which do not bear heavy loads, are not at the seams and are no bigger than 3cm.

The material is available from SWING.

TIP

Swing harnesses have an accurate identification in the rear storage compartment or under the V-line cover, which is obligatory for all equipment used in aviation sports. The information required is set out in the airworthiness requirements.

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

Inspection

General

Swing's service programme as set out in the Maintenance and Service book should be followed so that the same high level of flight safety, operational safety and reliability is ensured for your harness in the future as well. This can be downloaded from the Swing website under Product Information.

The inspection documentation should be completed and signed immediately.

Failure to observe the inspection periods renders invalid the certification and warranty. A properly completed logbook with details and all flying and training will help you to comply with these periods.

Swing recommends that you send the harness for inspection at the same time as the wing.

Inspection periods

The following inspection periods apply in Germany to the Connect Reverse Evo (check the situation in your country):

- Harnesses used by schools or commercially must be inspected every 12 months from the date of purchase.
- Harnesses for personal use must be inspected every 2 years from the date of purchase.
- The harness must be inspected after 150 hours of use (including ground handling) if this occurs prior to the period given in a) and b) above.

Ground handling time must be at least doubled when calculating the total hours of use because of the increased wear and tear on the harness.

Validity of inspection

In order to benefit from Swing's warranty, every inspection must be carried out by SWING or by an inspection agent authorised by SWING. The documentation and the result of the inspection must be clearly identifiable (date and place/name of the inspector) and must be entered near the harness information/certification sticker.

Personal requirements for inspection by pilot

Personal requirements for inspection by a pilot of solo gliders:

- Valid restricted pilot's licence for paragliders/hang gliders or equivalent licence.

Personal requirements for inspection on behalf of another party

- Professional training required for inspection work.
- Two years' professional experience in manufacturing or servicing paragliders and hang gliders or a technically similar activity, of which 6 months within the last 24 months is with a manufacturer of aviation equipment, or by confirmation from the manufacturer.
- Adequate relevant training with the manufacturer or importer.
- Specific instruction for each equipment type which is renewed annually.

Inspection by the pilot

In Germany, inspection by the pilot is permitted by law provided that certain conditions are fulfilled. Check the situation in your country.

However, the liability and warranty of Swing Flugsportgeräte GmbH will lapse if a pilot carries out an inspection.

SWING recommends that inspection is carried out by the manufacturer/importer or by an authorised inspection agent.

What to do if damage is discovered, Repairs

If damage is discovered when the harness is being inspected which affects its airworthiness, then the harness must be returned to the manufacturer or an authorised service centre for repairs. This also applies to any damage if its effect on the system's airworthiness cannot be clearly determined.

PLEASE NOTE

Repairs should only be carried out by the manufacturer or an authorised service centre

Warranty

The terms of the warranty offered by Swing are given in the warranty provisions on our website:
www.swing.de/guarantee.html

Disposal

Even the best products and materials have only a limited useful life.

The materials used in a paraglider harness must be disposed of properly. Please ensure that you dispose of your SWING harness properly if it has reached the stage where its useful life is over.

If you wish, you can return it to us and we will then dispose of it for you.

06 Swing on the World Wide Web

Swing website

Swing has a comprehensive website, which provides additional information about many topics 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 paragliders, useful products for pilots, as well as additional information and accessories.

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.

Paragliders

www.facebook.com/pages/Swing.Paragliders
http://twitter.com/swingparaglider

Speedgliders

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.swing-tv.de

TIP

A product video on the Connect Reverse Evo can be viewed online:
http://bit.ly/CREvideo

At this point we would like to say

We hope you enjoy yourself and have many great flights with the Connect Reverse Evo

The

SWING Team

07 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
Germany

Tel.: +49 (0) 8334 - 534470
Fax: +49 (0) 8334 - 534469

Email: info@para-academy.eu
www.para-academy.eu

Air Turquoise SA

Rte du Pré-au-Comte
CH-1844 Villeneuve
Switzerland

Tel.: +41 219656565

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

Versions

Version: 1.1

Date: 25.07.2014

First version of the instruction manual

Harness details

Model:	Size:	Manufacturing Date:	Serial number:
Connect Reverse Evo		__/__ - 201__	70 - __/__/__/__/

Pilot details / Proof of ownership

1st owner:	
Name:	
Address:	
Telephone:	
Email:	
2nd owner:	
Name:	
Address:	
Telephone:	
Email:	
3rd owner:	
Name:	
Address:	
Telephone:	
Email:	