CIRRUS 4

Manual

Dear Swing customer,

You have just purchased a sophisticated product. We place great importance on our workmanship and the high quality of the materials used.

If you have any questions which are not answered in this manual, please do not hesitate to contact us directly **+49 (0)8141 3277888 or info@swing.de**), or your Swing dealer.

from

the Swing Team

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1. DISCLAIMER AND EXCLUSION OF LIABILITY

Use of this paraglider is solely at the USER'S OWN RISK. THE CERTIFICATION AND THE WARRANTY SHALL BE RENDERED INVALID if changes of any kind (including changes to the brake lines) or improper repairs are made to this paraglider or if any inspections are missed (annual and 2-yearly check).
Pilots are responsible for their own safety. Before every flight, the pilot must check the glider's air-worthiness and must launch only if it is fit to fly. The pilot must check the weather forecast and only fly if both current and forecasted conditions guarantee a safe flight.
The glider may only be used with a pilot's licence which is valid for the area or under the supervision of an approved flying instructor. There shall be no liability on the part of third parties, in particular the manufacturer and distributor.

In terms of the warranty and guarantee conditions, the paraglider may not be flown if any of the following situations exists:

1. the inspection period has expired, you have carried out the inspection yourself, or the inspection has been carried out by an unauthorised inspector;
2. the take-off weight does not fall within the permissible overall take-off weight range;
3. the glider is flown in rain or cloud or when there is fog or snow;
4. there are turbulent weather conditions or wind speeds higher than 15 km/h;
5. the glider is used for aerobatics / extreme flying or flight manoeuvres at an angle greater than 90°;
6. the pilot has insufficient experience or training;
7. the wrong equipment or inadequate equipment (reserve, helmet, footwear etc) is used;
8. the glider is used for winch launching using a winch which has not been inspected or by non-licensed pilots and/or winch operators;
9. modifications have been made to the canopy, lines or risers which have not been approved;
10. the glider is opened in free fall - this is not a parachute.

2. FOR YOUR SAFETY

- The use of paragliders is subject to various regulations. They may not be flown without a valid certification. Any attempt to fly is highly dangerous.
- This manual does not replace the need to attend a paragliding school.
- The paraglider may only be used for the purpose for which it is designed. Please do not use it as a parachute.
- Use of the paraglider is at your own risk. The manufacturer is not legally responsible for any personal injury or material damage which occurs in connection with Swing paragliders.
- A specialist must test-fly the paraglider. The test-flight must be recorded on the paraglider information label.
- Do not under any circumstances tow your paraglider with a car, motorboat or any similar vehicle which is not fitted with a suitable towing system operated by an experienced winch operator.
- Before towing, ensure that the winch operator has the appropriate training and licences.
- Aerobatics are prohibited.
- Flying with a wet canopy or when it is raining is prohibited; it may cause the glider to stall
- Do not under any circumstances alter the construction of your paraglider. If you do, any claims under the warranty will not be accepted and the certification will lapse.
- When you fly for the first time, use training slopes only.
- When flying, always wear a helmet, gloves, suitable clothing and shoes which protect your ankles.
- Only fly if the wind speed, direction and weather conditions guarantee a safe flight.

This manual contains more information concerning your safety. This information is indicated by two symbols.

Caution! Accident risk!

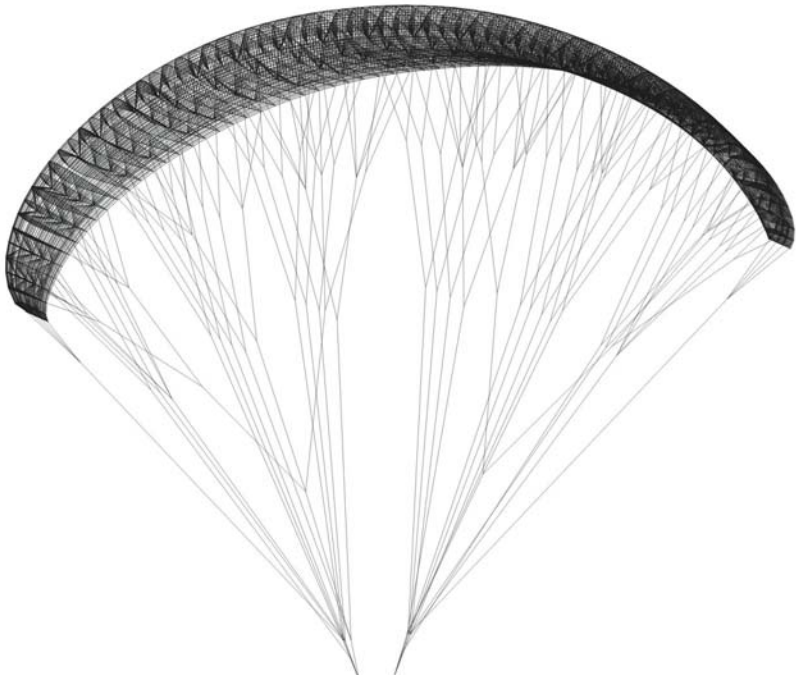
This symbol indicates risks which may arise. We also explain how to avoid the risk or how you should react if the situation arises.

Tip

This symbol is used when we give advice on correct handling of the paraglider, how to protect it from damage and general information.

3. FEATURES OF THE PARAGLIDER

3.1 What does the Cirrus 4 look like?



The A-risers are split to allow better handling of "big ears".

3.2 Who is the Cirrus 4 suitable for?

The Cirrus 4 is a high performance glider suitable for ambitious cross country pilots who appreciate, lively handling and very good thermic and glide qualities. It offers total flight enjoyment with a very high performance level.

Classification

- DHV 2-3 GH
- Take-off-weight (pilot + equipment + glider). The estimated weight of the equipment is about 22 kg.

3.3 Connecting a harness to the Cirrus 4

The Cirrus 4 can be connected to any harness which has DHV “GH” harness classification. You can find out more about this on the DHV website at <www.dhv.de>.

3.4 Winch-towing

The Cirrus 4 is suitable for winch-towing. Make sure that the brakes are unclipped when the paraglider takes off. Use weight-shifting while towing to assist the steering.

☞ **Tip**

Winch-towing is only recommended and permitted if:

- the pilot has completed the appropriate training.
- the winch and release used have a certificate of compliance which covers the towing of paragliders.
- the winch operator has adequate training which includes the towing of paragliders.

3.5 Motorised flight

This is regulated by the DULV in Germany (the German Ultralight Association) and by other equivalent national organisations.

4. SETTING UP THE CIRRUS 4 AND TEST-FLYING

4.1 Laying out the paraglider and pre-flight check

Laying out the paraglider

Place the paraglider with the upper surface against the ground and spread it out so that the leading edge is slightly curved.

Carefully separate all the rigging-lines and take care that no lines are underneath the canopy, tangled or caught up in any way.

The Cirrus 4 can be reverse launched easily with a wind speed of just 3m/s.

Pre-flight check

Before launching, always check the following:

1. Are there any tears in the glider or other damage?
2. Have all the lines been untangled?
3. Are the brake lines clear and tightly connected to the handle?
4. Are the brake lines properly adjusted?
5. Are the quick links fastened securely to the lines and to the risers?
6. Is the canopy dry?
7. Are the risers and seams in good condition?
8. Is the harness in good condition?
9. Is the handle for the reserve chute secure?

4.2 5-point check

We recommend that you carry out the following 5-point check immediately before launching:

1. Is the canopy arranged in a half moon shape and are all the air-entrances open?
2. Are all the lines untangled? Are there any lines under the canopy?
3. Check your equipment: harness, carabiners, reserve, helmet. Are the leg straps done up?
4. Do the wind-direction and strength ensure a safe flight?
5. Are the airspace and launch area clear?

4.3 The first flight

Tip

Carry out your first few flights only during stable weather conditions, and in a familiar area or on a training slope.

To start with, you should steer gently and carefully so that you can get used to the reactions of the paraglider while you are not under stress.

Caution! Accident risk!

Do not overestimate yourself! Don't let a paraglider that can easily be maneuvered or the behaviour of other pilots make you careless.

4.4 Adjusting the main brake lines

Securing the main brake lines

The main brake lines must be checked by an expert before the test-flight.

The main brake lines must be fastened so that the mark is visible slightly above the knot (approx. 5mm).

Correct adjustment

Correctly installed brake lines have about 10 cm of feed. This is how far you must pull the brakes down before the trailing edge of the canopy starts to move downwards and start braking. The manufacturer has pre-set this. It will allow you to steer and launch the paraglider without any delay.

The length of the brake line is indicated by a mark at its lower end. This mark must be next to the ring of the brake handle. If you have shorter arms, the length of the brake lines can be extended in relation to the mark.

Too long

If the brake lines are too long, the paraglider reacts slowly and is difficult to land. However during the flight you can twist the brake lines around your hands to minimise this problem. Adjust the brake lines to a suitable length after you have landed.

Caution! Accident risk!

If the brake lines are too short, the following risks could arise:

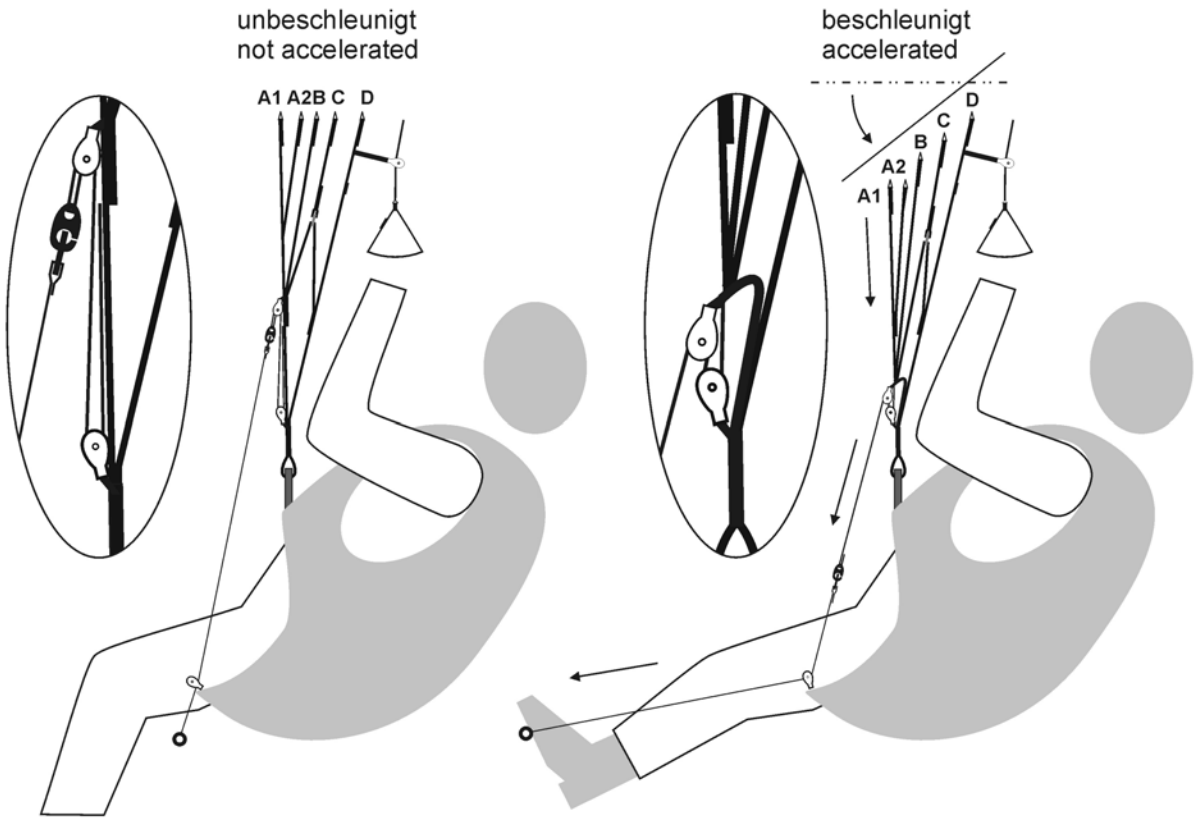
- there could be an early stall.
- the paraglider does not launch well and there is a risk of deep-stall.
- the paraglider's behaviour in extreme flying is dangerous.

4.5 Adjusting the speed system

Although the Cirrus 4 is already trimmed to a sufficiently high basic speed, it is also equipped with a speed system. You will use it in particular if there is a strong headwind, when you fly over valleys or if you want to leave a dangerous area quickly.

Function

The A-, B- and C-risers can be shortened by using the speed bar. This decreases the canopy's original angle of attack.



Caution! Accident risk!

Disturbances (e.g. collapses) are more dramatic with increased speed than when the glider is unaccelerated. Because of the increased risk of collapse, we strongly recommend that you do not use the speed system in turbulent areas or near the ground.

Test the system in advance. It is best to do this suspended from a frame. Tie the lines to the speed bar at the right length. You should still be in a comfortable flight position even when the speed system is used to its full extent.

Adjustment Do not make the speed system too short or you will not be able to access it easily. You will not be able to use the speed system to its full potential if it is too long.

5. FLYING

5.1 Normal flight

Launch Pull the Cirrus 4 up ensuring your arms and the lines are down and behind you. Hold both the inner A-risers, without shortening them too much. The Cirrus 4 launches very smoothly and is easy to control. Launching is even easier if the canopy is arranged in a half-moon shape.

Level flight The Cirrus 4's flight is stable and level when the brakes are up.

Turns The Cirrus 4 performs best in turns when it is flown with sufficient speed. Too much braking increases the sink rate unnecessarily.
The glider has no negative tendency.

Landing Start pulling down the brakes as far as they will go when you are approximately 1 to 1.5 meters above the ground, so that the paraglider has been fully braked just before the ground is reached. The Cirrus 4 can be landed without any problem.

Caution! Accident risk!

Always fly with sufficient speed when you are near the ground (well above the stall speed).

5.2 Instructions for extreme flying and dangerous situations

Sources of danger There are no problems during a normal flight. However, pilot error during the flight or extreme wind conditions may leave the wing in an unusual flying position. This may require the pilot to make corrections during flight to which he is unaccustomed.

In this section we explain how to correct any extreme situations you may get into. We also describe how the Cirrus 4 reacted in simulations during test-flights.

Tip

These instructions do not replace safety training or specialised literature. We recommend that you undertake special safety training which will prepare you for extreme situations.

Caution! Accident risk!

Always keep within the recommended limits. Do not perform aerobatics or extreme flying manoeuvres, such as spirals with "big ears". This will prevent accidents caused by over-loading the glider.

Deep stall

Various things can cause a paraglider to deep stall, e.g. shrinkage of the C and D lines as a result of dampness or flying in the rain. The airflow from the front of the glider gradually breaks away towards the back and the canopy sags, with the glider remaining upright. Paragliders are particularly susceptible to deep stalls if the wing loading is too low.
C and D lines which are too short, for example, can often be recognised because launch behaviour deteriorates.

You can recognise a deep stall because there is less flight noise than normal. In addition, your sink rate will increase (4-5 m/s).

Recovery

Remain in an upright position and push the A- and B-risers in the direction you are flying, so as to shorten them by 5 to 10 cm.

If you have a speed system, simply use it to accelerate. After you have landed safely, the length of the lines must be checked.

Caution! Accident risk!

A wet canopy or flying in the rain increases the weight of the canopy and may cause a stall. You must not fly in these circumstances.

Front Stall

Strong turbulence can cause part or all of the leading edge of the glider to fold or tuck under.

Normally the Cirrus 4 will immediately recover its normal flight position.

Recovery

If the Cirrus 4 does not immediately recover from a frontal tuck, brake quickly and strongly with both steering-lines (brake lines) to re-inflate the glider.

Asymmetric tucks

If there is turbulence, one side of the paraglider may collapse. Some of the cells deflate and the paraglider could collapse or spin.

During test flights the Cirrus 4 self-recovered on release of the A-risers which were pulled down and caused the collapse.

Recovery

- Counter-brake slightly on the side of the paraglider that is still inflated to stop it turning away and to stabilise it.
- Counter-brake just enough that the paraglider continues to fly straight ahead.
- If the wing has not yet self-recovered, pump with the brake on the side that has collapsed in order to open it, making use of the full braking distance. "Shaking" is not enough.

Caution! Accident risk!

Counter-braking too strongly can result in a stall on the inflated side.

Full stall A full stall occurs if full brake is applied during the flight. The paraglider slows down, surges backwards and deflates. If the brakes are held down, the canopy comes up over the pilot again. The result is an almost vertical descent with a sink rate of about 8m/s.

Recovery Fully release the brakes within 3 seconds. If you release the brakes too slowly, the paraglider may spin. The spin stops automatically when the brakes are released completely.

Caution! Accident risk!
If the canopy has gone backwards, you must hold the brakes down. Otherwise the canopy can surge forward and, in an extreme case, end up underneath the pilot. Hold the brakes down until the canopy is above you again.

Spin Spins occur when one side of the canopy stalls. The stalled part of the canopy continues to fly forward while the other side turns in the opposite direction.

Recovery Quickly release the brakes.

Tip

If the spin does not stop:

1. Check whether you have released the brakes fully.
2. If this does not work, use your reserve.

Caution! Accident risk!

In strong turbulence, always keep far enough away from rock faces and other obstacles. You need time and enough height to recover from extreme situations.

5.3 Rapid descents

In some situations you need to lose height quickly to avoid dangerous situations, e.g. the upcurrent from a cumulus cloud, an approaching cold front, a storm front etc. Below we explain three ways to make a rapid descent, so that you can avoid these situations and similar ones.

Spiral dives The spiral dive is the classic method for making a rapid descent. It is particularly suitable where there is a high ascent rate and little wind. Generally the DHV certification tests differentiate between rates under and over 14 m/s and tests are carried out accordingly. With the Cirrus 4, the canopy automatically recovers within one turn under the 14 m/s rate. Above 14 m/s, breaking the outside half of the wing and/or weight shifting to the outside may be required to recover from the spiral. The DHV tests are carried out with a carabiner distance (centre to centre) of 42cm.

Starting the manoeuvre

Whilst flying at full speed, start to apply the brake on one side. This will steer the paraglider into a turn with a strong bank. You can tell that you are in a spiral dive if you are being pressed hard against your seat (high centrifugal force).

When you are in a spiral dive, you should steer very carefully because the paraglider will react immediately. Banking and rate of turn increase if braking efficiency increases. Look down before and during a spiral dive so that you can tell how far you are from the ground!

☞ **Tip**

When you are in a spiral dive, the outer part of the wing can collapse, but this is no cause for concern. You can avoid this by braking slightly in the outside of the turn. Release the brakes carefully.

Recovery

If you release the brakes too quickly, the increased speed can cause the wing to climb, become unsettled, or partly collapse.

If the glider does not stop turning, you can stop it by weight-shifting to the outside of the turn.

Caution! Accident risk!

- With spiral dives, very high turn speeds can be reached, with an increase in the acceleration (up to over 6g) due to gravity. So be careful when you try this!
- Do not continue the spiral dive too long; you could lose consciousness.
- Never attempt this with less than 150 to 200 meters ground-clearance.
- Spiral dives with "big ears" lead to extreme loading of the open section of the canopy. This move is prohibited in Germany.

B-line stall

The B-line stall is another way to descend rapidly and has a sink rate of approximately 8 m/s. It is suitable where there is an average ascent rate and little wind.

Starting the manoeuvre

Grasp both of the B-risers at the coloured mark. Pull both of them slowly and evenly towards your chest until the airflow is gone and the wing goes into a vertical descent flight mode. The B-risers should then be held in the same position to ensure a gentle descent.

Check before and during the B-line-stall that the airspace beneath you is free.

Recovery

Return the B-risers to their normal position quickly and evenly. If you put the B-risers back too slowly, a deep stall or negative spin could occur.

Caution! Accident risk!

The canopy speeds up after the B-risers have been released. Under no circumstances should you apply the brakes at this time.

Tip

If the paraglider does not speed up immediately because recovery is too slow or for some other reason, accelerate using the speed system or pull the A-risers forwards.

Big ears

"Big ears" is another way to descend quickly and has a sink rate of approximately 3 to 5 m/s. The forward speed stays the same. You can use the "big ears" method together with the speed system. It is suitable for avoiding a dangerous situation where there are high ascent rates and strong wind.

Starting the manoeuvre

Pull both outer A-risers downwards. You can now descend safely on the stable middle part of the wing. Steer by weight-shifting The brakes must not be applied during the manoeuvre, e.g. by wrapping the brakes.

Recovery

Let go of both A-risers. If the ears do not open automatically, assist the opening process by pumping the brakes.

Caution! Accident risk!

When the technique of "big ears" is used, there is a higher load for the line groups which are still weight-bearing. Do not fly any extreme manoeuvres with "big ears".

6. LOOKING AFTER YOUR PARAGLIDER

6.1 Transporting and storing the paraglider

Transport Always transport your paragliding equipment in the special backpack and/or in the inner bag.

Storing Store all of your paragliding equipment 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.

☞ **Tip**

- Sunlight, warmth and humidity can damage your equipment.
- Temperatures lower than -10°C and higher than 50°C can make the wing unfit to fly. The manufacturer's warranty will not apply if the paraglider is not stored at the correct temperature.
- Never store a paraglider which was packed up while still wet.

If the paraglider gets wet, spread it out immediately so that air reaches all parts of it. Since the fibres absorb water, it can take several days until it is completely dry. If a paraglider is stored wet, it can become unsuitable for flying after a short time.

6.2 Checking the lines

Measuring Measuring the length of the lines is part of the regular paraglider inspection.

The lines must be measured with a load of 5kg to get comparable results. You will find the original line measurements in the service and inspection manual.

Have your paraglider checked at least every two years by the manufacturer or an authorised inspector. In Germany, pilots have been able to carry out the inspection themselves since 01.07.2001 provided that they fulfil all requirements. See part 7, “Inspections” for more information.

☞ **Tip**

We recommend an inspection every 50 to 100 flight hours or once a year.

6.3 Cleaning and repairing the paraglider

Cleaning Only clean the paraglider with a soft sponge and clean water**.**

Tip

☞ Harsh chemical substances, high-pressure cleaners or steamers will destroy the paraglider's surface layer. Clean the paraglider only if it is absolutely necessary.

Repairs Repairs should only be carried out by the manufacturer or a specialist recommended by the manufacturer.

You can repair small tears in the wing yourself using self-adhesive sail material, as long as they are in places which do not bear heavy loads, are not at the seams and are not bigger than 3 cm.

☞ **Tip**

Always replace lines that are damaged.

If you need to replace damaged or worn-out parts, use only original parts or parts that have been authorised by the manufacturer.

7. INSPECTIONS

General

Failure to observe the inspection periods shall invalidate the warranty and certification.
A properly completed logbook will help you to comply with these periods.
There is more information on inspections and technical data in two separate booklets, both of which form part of this manual

1. Inspection instructions for Swing gliders (required only in Germany and Austria)
2. Service papers (1 booklet for each size and model)

Inspection periods

In Germany, Swing gliders must be inspected as follows (check the situation in your country):
A) For tandem gliders (if used commercially) and gliders used by schools an inspection (the same as the 2-yearly check) must be carried out every 12 months from the purchase date.
B) Gliders for personal use and tandem gliders (not used commercially) must be inspected every 2 years from the purchase date.
C) The paraglider must be inspected after 150 hours of use (including ground handling) if this occurs prior to the periods in A) and B) above.

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

Validity of inspection

If Swing is to accept guaranty and warranty claims, all inspections must be carried out by SWING, or an inspection agent authorised by SWING. The documentation and the result of the inspection must be clearly identifiable by the inspector (date and place / name of inspector) and be entered near the glider information/certification sticker.

Inspections by the pilot

Pilots in Germany have been able to carry out the inspection themselves since 01.07.2001 provided that they fulfil all requirements. However, in this event, SWING's liability and warranty lapse. There are more details on these inspections in a separate booklet (Swing paragliders inspection instructions)

8. WARRANTY

General The terms of the warranty are in the enclosed warranty card.
Please remember to return the warranty card to Swing within 14 days after you purchase the paraglider.

The manufacturer must be notified immediately of any defects in the product, variations or changes in flight behaviour and any warranty claims and, if necessary, the glider must be made available for inspection by the manufacturer.

9. INTERNET – PRODUCT INFORMATION AND SAFETY NOTICES

swing.de Swing now sends relevant product and safety information by email to all registered customers. If you would like to receive this, please register your name through our website.
Swing generally includes all email addresses provided in the warranty cards in the distribution list. If you do not wish to be included, please do not give your email address on the warranty card. We will not provide your e-mail address to any third parties.

Our website: www.swing.de

dhv.de There is also data and information about our products on the DHV website www.dhv.de .

We hope you have fun and many enjoyable flights

The Swing Team

Notitzen