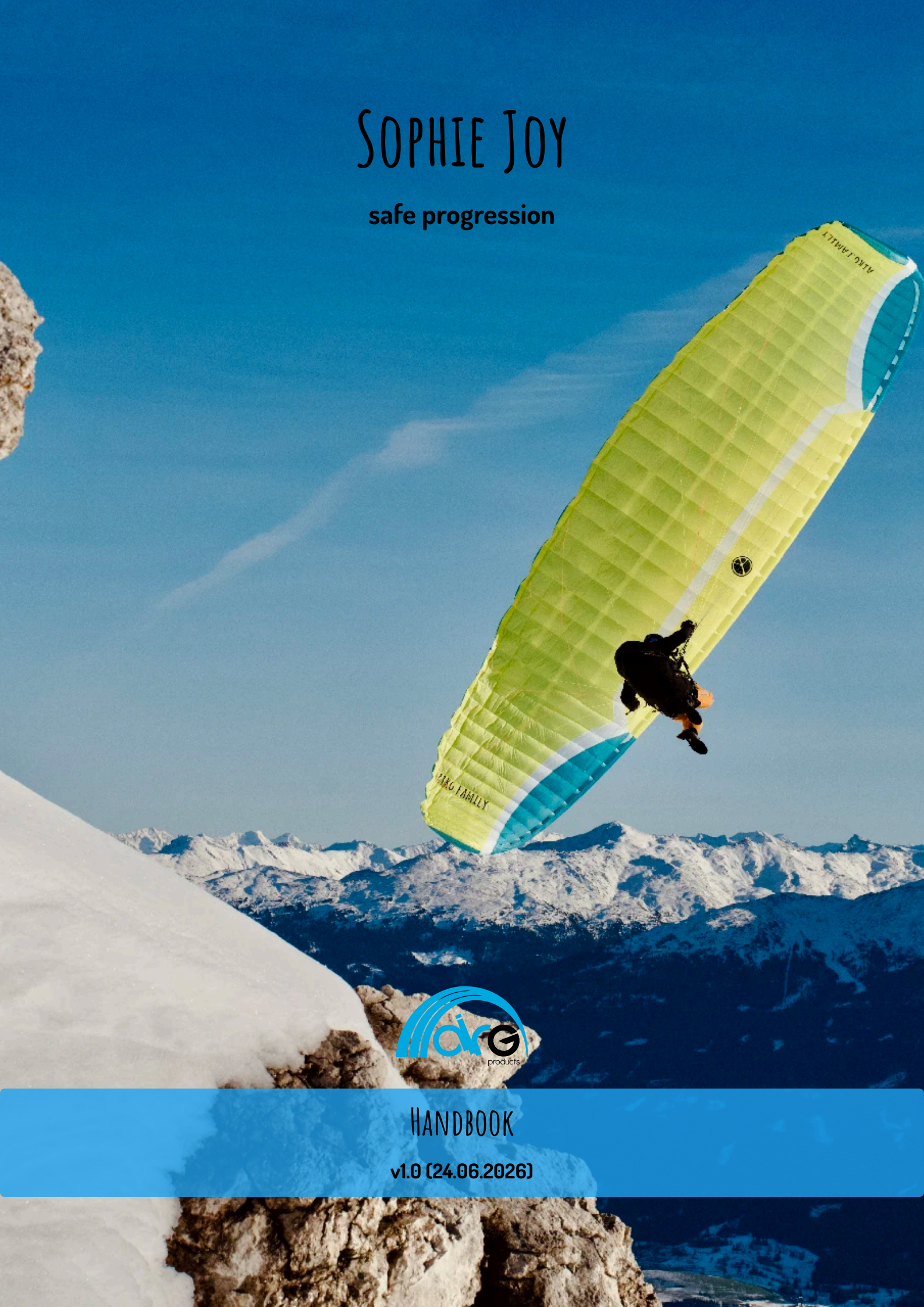
Sophie Joy

safe progression



Handbook

v1.0 (24.06.2026)

Sophie Joy

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1: ABOUT AIRG



AIRG was founded in 2009 by Richard Gallon, a legend of Acrobatic Paragliding and pioneer who helped forge the sport as we know it. Being a World Cup champion, respected instructor and test pilot, Richard created AIRG as a deeply personal project—naming each wing after one of his children: Emilie, Sophie, Marlon, and Carlos.

With authentic leadership and exceptional quality, AIRG quickly became a global leader in acro wings. In 2016, Richard entrusted the company to two talented acro pilots from Innsbruck, Simon Klemenc and Johannes Glatz, who continue his legacy with passion and dedication.

In June 2020, Richard embarked on his final flight.
His legacy lives on in every AIRG wing and in the pilots inspired by his vision.

1.1: Our Mission

Located in the heart of the Alps, our team of passionate pilots and designers has direct access to ideal testing grounds. This allows us to thoroughly test and refine our designs in various conditions while maintaining close contact with our customers.



AIRG's products are crafted by acro pilots, for acro pilots. Each piece of equipment is built to meet the highest standards, combining flawless handling with unmatched durability. A true extension of your passion and performance.

2: INTRODUCTION

The Sophie Joy is your entry to acro.

It is intended to guide you from wingovers to stall and helicopters. The Sophie Joy is suitable for a wide range of pilots from intermediate Pilots to more experienced. It is an ideal choice for pilots who fly, or intend to fly approximately 30-50 hours per year, or for experienced pilots who are searching for a wing with high levels of passive safety and true performance gains in real air conditions.

The Sophie Joy is conforming to EN/LTF B standards, which means it is suitable for intermediate pilots. It is not suitable for tandem flights or high-level aerobatic manoeuvres such as Infinity Tumbling.

2.1: Quality and Testing

Each AIRG paraglider undergoes rigorous quality control throughout the manufacturing process. From material selection to final assembly, every component is carefully inspected to ensure it meets our high standards.

Before delivery, each glider is individually inflated and inspected by our quality control team. This ensures that every Sophie Joy that reaches a pilot is in perfect condition and ready to fly.

The Sophie Joy has been certified according to EN/LTF B standards. The certification tests include various flight maneuvers designed to assess the glider's behavior in different situations, including collapses, stalls, and spiral dives.

2.2: Manufacturer Information

- Manufacturer: AIRG distribution GmbH
- Model: Sophie Joy
- Class: EN/LTF B (Intermediate)

Address

AIRG distribution GmbH
Fürstenweg 25
6020 Innsbruck
Austria

email: hello@airg.family

phone: +43 660 2474 359

2.3: Pilot Ability

The Sophie Joy has been designed as a solo beginner freestyle wing for those looking for maximum levels of security. Due to the forgiving nature of the wing, it is suitable for all levels of training. It is not however suitable for tandem flights or high-level aerobatic manoeuvres such as Infinity Tumbling.

2.4: Registration and Warranty

The Sophie Joy comes with a 2-year warranty against manufacturing defects. This warranty covers normal use of the paraglider and does not cover damage resulting from misuse, neglect, or normal wear and tear.

For warranty claims or service inquiries, please contact your local AIRG dealer or our customer service team directly.

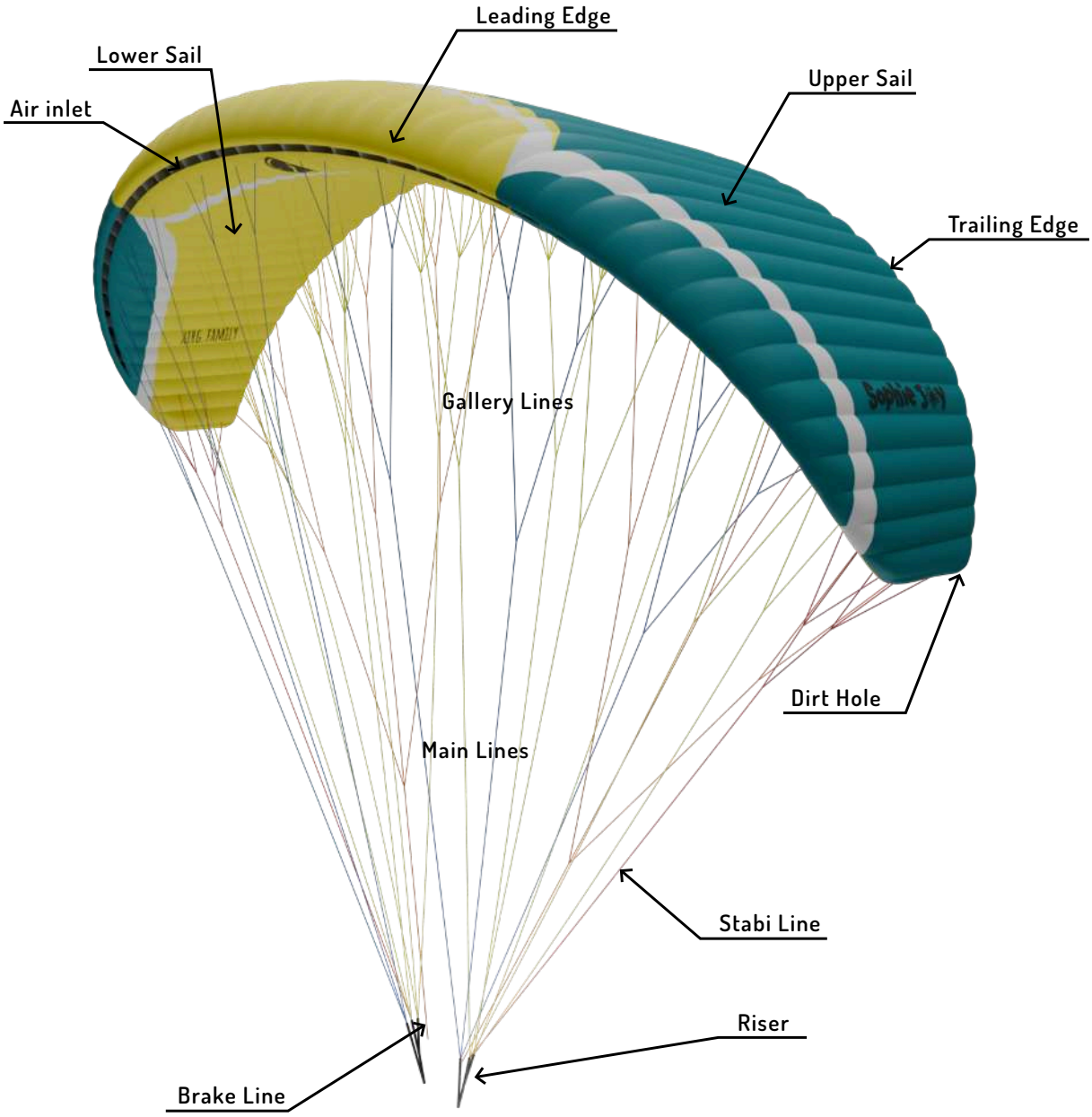
2.5: Accessories Included

Your Sophie Joy comes with the following accessories:

- Inner bag for protection during storage and transport
- Spare A1 main line that can temporarily replace any of the main lines
- Spare Main Brake line
- Ripstop repair tape for small tears in the canopy

3: ILLUSTRATIONS AND TECHNICAL DRAWINGS

3.1: Overall Illustration

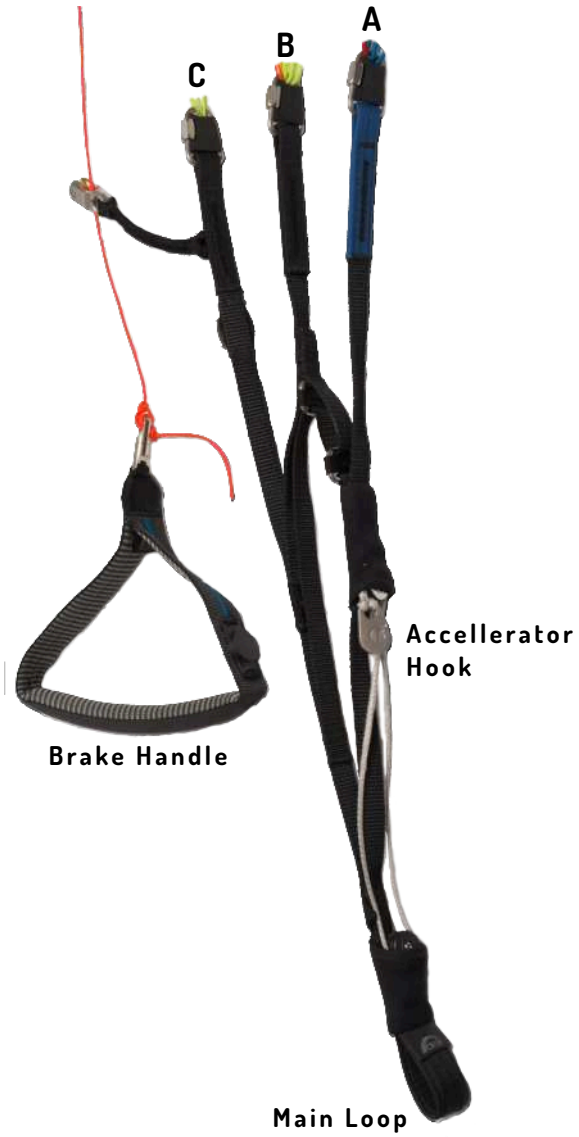


4: TECHNICAL DATA

size	21	23	25	27
number of cells	48			
area	21 m²	23 m²	25 m²	27 m²
area (proj.)	17.9 m²	19.7 m²	21.4 m²	23.0 m²
aspect ratio	5.0			
span	10.3 m	10.8 m	11.2 m	11.6 m
span (proj.)	8.0 m	8.4 m	8.8 m	9.1 m
Min. Takeoff weight	55 kg	60 kg	75 kg	90 kg
Max. Takeoff weight	80 kg	95 kg	105 kg	130 kg
number of risers	3			
accelerator travel	17 cm			
max control travel	55 cm	60 cm	65 cm	69 cm

The figures for “max control travel” are intended as approximate reference values, included in the manual to comply with EN 926 requirements. In practice - particularly in turbulent conditions - a stall can occur much earlier or later than stated.
As a result, their practical significance is limited.

4.1: Risers



The Sophie Joy has been designed with 3 risers (A/B/C) per side. The A risers are covered with blue webbing for easy identification.

The risers feature a foot operated accelerator system, they do not feature trimmers or any other adjustment systems.

Riser	Length in trim (mm)	Length at max. accelerator (mm)
A	505 ± 5	335 ± 5
B	505 ± 5	392 ± 5
C	505 ± 5	505 ± 5

Length is measured from the bottom loop to the inside of the maillon.

4.2: Brake Lines

The brake line lengths have been set carefully during testing. We feel it is better to fly with a wrap (one turn of the handle around the hand), for greater turn authority in the thermals and better overall control. Shortening the brakes from the factory setting will affect the trailing edge at full speed, so we strongly recommend to not do so.

In the unlikely event of a brake line snapping in flight, or a handle becoming detached, the glider can be flown by gently pulling the rear risers (C-Risers) for directional control.

If an adjustment is indispensable (e.g., for optimal adaptation to the harness or individual preferences), please ensure that:

- Both brake lines remain of equal length
- At least 10 cm of play remains before the trailing edge begins to deform
- The glider is not inadvertently braked when the speed system is activated

4.3: Harness Compatibility

The Sophie Joy is compatible with all modern harnesses classified as GH (without rigid cross-bracing). The certification tests were conducted with the following harness dimensions:

Total Flight Weight	< 80 kg	80-100 kg	> 100 kg
Vertical Distance	40±2 cm	44±2 cm	48±2 cm
Horizontal Distance	40±1 cm	42±1 cm	44±1 cm

The choice of harness significantly affects the handling and feel of your glider. A more stable harness will dampen turbulence and provide a more secure feeling, while a more dynamic harness will transfer more feedback from the glider and allow for more weight-shift control.

We recommend testing your Sophie Joy with different harness settings to find the configuration that best suits your flying style and preferences. The settings shown in the table are EN specifications and are not to be seen as a recommendation for your personal setting.

4.4: Modifications to the Glider

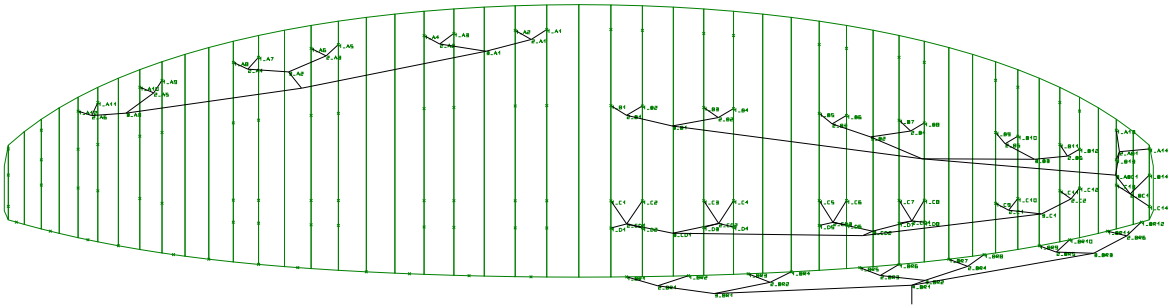
Any modification to your Sophie Joy (e.g., altering the line length, modifying the risers) will invalidate the certification and may compromise the safety of the glider. If you feel that changes are necessary, please contact AIRG or an authorized service center for advice.

The brake line length has been carefully set during development and testing. We recommend maintaining the original brake line length as delivered. If adjustment becomes necessary (e.g., to accommodate different harness types or pilot preferences), ensure that:

- Both brake lines remain of equal length
- At least 10cm of free play remains before the trailing edge begins to deform
- The glider is not inadvertently braked when the speed system is applied

4.5: Line Specifications

Lineplan



Line Measurements

Line lengths are measured under a tension of 50 N, with this tension being slowly and gradually applied before taking the measurement.

You can find the line lengths for all sizes of the Sophie Joy on our website download section, or by contacting your local dealer. If you need to replace any lines, please ensure that the new lines are of the correct length and material specifications.

Line Check Procedure

To check your line lengths:

1. Lay the glider flat on a clean, dry surface
2. Identify the lines to be measured using the line diagram
3. Measure under 50N tension using a proper line measurement tool
4. Compare with the values from the download area
5. If discrepancies exceed ±10mm, contact an authorized service center

5: FLIGHT TECHNIQUES

5.1: Pre-Flight Checks

Before every flight, perform the following pre-flight checks to ensure your safety:

1. **Equipment Check**:
   - Inspect the glider for any damage to the canopy, lines, or risers
   - Check that all lines are free from tangles and knots
   - Verify that the harness is properly connected to the glider
   - Ensure your reserve parachute is properly installed and the handle is accessible
2. **Personal Preparation**:
   - Helmet secured and fastened
   - Harness buckles closed and adjusted
   - Radio and instruments operational (if applicable)
   - Appropriate clothing for the conditions
3. **Environmental Assessment**:
   - Wind direction and strength appropriate for your skill level
   - Weather conditions suitable for flying
   - Airspace clear of restrictions or other traffic
   - Suitable landing options identified
4. **Final Check Before Launch**:
   - Lines clear and untangled
   - Canopy properly laid out in an arc
   - Wind direction aligned with launch direction
   - Airspace clear of other traffic

5.2: Launching

Your Sophie Joy will launch with either the forward or reverse technique. The wing should be laid out in a pronounced arc, with the centre of the wing higher than the tips.

Forward Launch - Nil to Light winds

When the wind is favorable, whilst gently holding the A risers move forward positively, your lines should become tight within one or two steps and the Sophie Joy will immediately start to inflate. You should maintain a constant pressure on the risers until the wing is overhead. Do not pull down or push the risers forward excessively, or the leading edge will deform and possibly collapse.

Move smoothly throughout the entire launch, do not rush or snatch at it. Once above your head look up and check the canopy is fully inflated and there are no knots in the lines before committing yourself to the launch run.

Reverse Launch - Light to Strong Winds

Lay out your wing as you would for the forward launch. Turn to face it by passing one entire set of risers over your head as you turn. Inflate the glider using your body weight and the A-risers. Once the wing is

overhead, release the risers, brake gently if necessary, turn and launch. In stronger winds, be prepared to take a few steps towards the glider as it inflates. This will take some of the energy out of the wing and it will be less likely to overshoot you or pick you off your feet.

5.3: Speed to Fly

The Sophie Joy achieves its best glide in still air at trim speed. To maximize glide ratio when gliding downwind or when the air is not excessively sinking fly at trim speed or slightly slower by applying gentle pressure on the brakes. To penetrate better in headwinds and improve the glide ratio in sinking air, crosswinds or headwinds you should fly faster than trim speed using the accelerator. Using up to half bar does not degrade the glide angle or stability significantly and will improve your efficiency.

Do not fly full speed close to the ground or in turbulent conditions.

By applying approximately 15 cm of brakes the Sophie Joy will achieve its Minimum-Sink rate; this is the speed to use for thermalling and ridge soaring.

5.4: Turning

To familiarize yourself with the Sophie Joy your first turns should be gradual and progressive. To make efficient and coordinated turns, first check the airspace is clear and then lean in the direction you want to go. The first input for directional change should be weight-shift, followed by a smooth application of the brake until the desired bank angle is achieved. To regulate the speed and radius of the turn, coordinate your weight shift and use both the outer and inner brake.

Never initiate a turn at minimum speed (i.e. with full brakes on) as you could risk entering a spin.

5.5: Active Flying

To minimize the likelihood of suffering collapses in turbulent conditions, it is essential to fly the wing actively. The aim of active flying is to maintain a constant pressure and pitch control of the wing. If you feel a reduction or loss of pressure quickly apply the brakes until you feel normal pressure again. Once you have normal pressure, raise the hands back to the original position. Avoid flying with continuous amounts of deep brake in rough air as you could inadvertently stall the wing - always consider your airspeed.

We strongly advise you to keep hold of your brakes at all times and to not leave the glider to itself in turbulent conditions.

5.6: Steering in Case of Brake Failure

In the unlikely event of a brake line snapping in flight, or a handle becoming detached, the glider can be flown by gently pulling the rear risers (C-risers) for directional control. This technique should be practiced at altitude under supervision before it is needed in an emergency.

To steer using the rear risers:

1. Take hold of the C-risers (rear risers) on both sides
2. Pull down gently on one side to initiate a turn in that direction
3. Use smooth, progressive inputs - the response will be less immediate than with brakes

4. For landing, use both C-risers symmetrically to slow the glider, but be aware that the flare will be less effective than with brakes
5. Plan for a longer landing approach and be prepared for a higher ground speed

5.7: Landing

The Sophie Joy shows no unusual landing characteristics but as a reminder, here are some tips:

- Always set up for your landing early, give yourself plenty of options and a safe margin for error.
- Once below 30 metres avoid turning tightly as the glider will have to dive to accelerate back to normal flight. If you are at low altitude, or if you hit sink, this could mean you hit the ground harder than necessary.
- Lean forward out of your harness before the actual landing (especially if it's turbulent), and make sure your legs are ready for the landing.
- Allow the glider to fly at hands up (trim) speed for your final descent until you are around 1 metre above the ground (in windy or turbulent conditions you must fly the glider actively all the way). Apply the brakes slowly and progressively to slow the glider down until groundspeed has been reduced to a minimum and you are able to step onto the ground.
- In light winds/zero wind you need a strong, long and progressive flare to bleed off all your excess ground speed. In strong winds your forward speed is already low so you are flaring only to soften the landing. A strong flare may result in the glider climbing upwards and backwards quickly, leaving you in a vulnerable position.
- If the glider does begin to climb, ease off the brakes (10-20cm) - do not put your hands up all the way - then flare again, but more gently this time. Keep the brakes at mid speed, stand up, be ready to run and make sure you brake fully as you arrive on the ground.
- Choose the appropriate approach style in function of the landing area and the conditions.
- In strong winds you need to turn towards the glider the second your feet touch the ground. Once facing the wing pull smoothly and symmetrically down on the brakes to stall the wing. If the glider pulls you, run toward it.
- If the wind is very strong, and you feel you might be dragged, or lifted again, stall the glider with the C risers. This stalls the wing in a very quick and controllable way and will drag you less than if you use the brakes.
- Always land heading into wind!

6: RAPID DESCENT TECHNIQUES

6.1: Big Ears

Folding in the wing tips increases the sink rate without radically changing the airspeed. This is useful for staying out of cloud or descending quickly through the lift band of the hill, for example when top landing. To pull Big Ears, keep hold of your brake handles and take the outermost A-line on each side, then pull out and down (preferably one at a time) until the wing tips fold under.

The size of the Big Ears can be adjusted by pulling more line, or reaching higher up the line. For directional control while using the Big Ears, you should use weight shift. To reopen the ears, release both A lines at the same time. To help reinflation, brake gently one side at a time until tips regain pressure. Avoid deep symmetric applications of the brake as this could accidentally induce a parachutal or full stall.

You may use Big Ears for the final landing approach but they should be released before making the final flare. We advise to not use this technique in turbulent or windy conditions due to the reduced ability to fly actively and the risk of an inadvertent stall whilst descending through the wind gradient.

Pulling Big Ears increases the chance of parachutal / deepstall. To prevent this, you should use the speed-bar. As a side-effect this increases the sink-rate even more.

DO NOT perform spiral dives with the big ears engaged.

6.2: B-Line Stall

B-stall is for fast descents in emergency situations only, sink rates of around 6 m/s can be achieved. It is however faster and safer to lose altitude with a spiral dive than a B-stall.

To initiate the B-stall, keep the brakes in your hand and take hold of both the B risers near the maillons. Pull down firmly - there is a lot of pressure so it requires a reasonably amount of force. As you pull the B-lines the airflow over the wing is broken and the glider loses its forward speed but remains open with a reduced cord. Once the wing is in B stall, maintain your position. Make sure to pull symmetrically otherwise the wing can rotate during the B stall, if this occurs pull the opposite side to stop the rotation or release the B risers to resume normal flight.

To exit the B-stall the B-risers should be released symmetrically and in one smooth, progressive motion. The glider will resume normal forward flight without further input. Check you have forward flight again before using the brakes. Should the glider not pick up speed in time, we recommend pushing the A-risers vigorously forward.

6.3: Spiral Dives

The spiral dive is the most effective form of rapid descent. To initiate a spiral, look and lean in the direction you want to turn, then smoothly and progressively pull down the inside brake. The Sophie Joy will first turn almost 360 degrees before fully entering the spiral. Once established, re-centre your weight and control the descent rate using both inside and outside brake inputs.

Sink rates of more than 10 m/s are possible, but at these values the high speeds and g-forces can be disorientating. Always keep a close watch on your altitude.

To exit the spiral, smoothly shift your weight to the outside of the turn and apply the outside brake while gradually releasing the inside brake. If the pilot strongly weight-shifts toward the centre, the Sophie Joy may remain in a neutral spiral state. In this case, actively assist the exit by maintaining the opposite weight shift and applying enough outside brake to slow the rotation until the wing starts to decelerate and returns to normal flight.

Avoid abrupt or strong opposite inputs during recovery, as this can cause an aggressive climb and forward surge. Instead, manage the energy smoothly and allow the wing to unwind progressively until it resumes level flight without overshooting.

Never perform spiral dives close to the ground. We recommend practicing these maneuvers under supervision, preferably over water.

7: INCIDENTS IN FLIGHT

7.1: Collapses

No pilot or wing is immune to deflations, however flying in suitable conditions with correct active flying will reduce the chances significantly.

Asymmetric collapses should be controlled by first weight shifting away from the collapse, fly away from the mountain, obstacles and other pilots. Apply enough opposite brake to control your direction, this action alone will be enough to start the recovery process. In your efforts to stop the glider turning towards the collapse be very careful not to stall the flying side. If you are unable to stop the glider turning without exceeding the stall point, allow the glider to turn during the reinflation process.

If the deflation does not spontaneously reinflate make a deep, smooth, progressive input on the deflated side. Pumping too short and fast will not reinflate the wing and pumping too slow might take the glider close to, or beyond, the stall point.

Symmetric front collapses normally reinflate without pilot input, however 15 to 20cm of brake applied symmetrically, and released immediately will speed the process. After a symmetric collapse always consider your airspeed. Make sure the glider is not in parachutal stall before making any further inputs.

If your Sophie Joy collapses in accelerated flight, immediately release the accelerator and manage the collapse using the methods described above.

7.2: Cravats

Cravats are when the wing tips become trapped within the lines and can result in the wing entering a spiral dive if not addressed correctly. The first action should be to stabilise the glider, i.e get control of your direction using opposite weight shift and brake input. Large cravats may require the wing to continue turning to avoid stalling the flying side.

Once you have control of the spiral use strong deep pumps of the brake on the cravated side to try to free the tips. When doing so it is important to lean away from the cravat otherwise you risk spinning or deepening the spiral. The aim is to empty the air out of the wing tip, without spinning. Correctly done, this action will clear the cravat quickly, it is the most efficient and effective method. Also try to pull vigorously on the stabilo line.

If it is a very large cravat and the above options have not worked then a full stall is the next option. Only attempt this if you have enough altitude.

Remember if the rotation is accelerating and you are unable to control it, throw your reserve parachute immediately whilst you still have enough altitude.

7.3: Deep Stall / Parachutal Stall

It is possible for gliders to enter a parachutal stall, this normally occurs when flying with too much brake, after a front collapse or when flying with a wet wing. If the wing is out of trim this can also be a contributing factor.

If the wing enters a parachutal stall, your first reaction should be to fully raise both hands. This allows the glider to return to normal flight but If nothing happens after a few seconds, reach up and push the A-risers forwards or better, apply the speed bar to encourage the wing to regain normal flight. Ensure the glider has returned to normal flight (check your airspeed) before you use the brakes again.

Do not fly in rain, doing so significantly increases the likelihood of parachutal stalls occurring. To reduce the chance of stalling in rain avoid using deep brake movements or big ears. Find a safe area to land and - using the speed bar - maintain a good airspeed at all times.

8: OTHER MANOUVERS

Preparation

Configure your harness to the sitting position with the chest strap released to maximum width. Position your legs beneath the harness to prevent riser twisting during the maneuver. If brake lines are excessively long, take one wrap to ensure adequate control authority.

8.1: Full stall

The Full Stall is a fundamental maneuver in which the entire canopy is stalled. This technique is essential for advanced flight training and serves as a critical recovery method when other control inputs have failed. Mastery of the Full Stall significantly enhances pilot safety and provides essential knowledge of the wing's flight envelope limits.

Preparation

Configure your harness to the sitting position with the chest strap released to maximum width. Position your legs beneath the harness to prevent riser twisting during the maneuver. If brake lines are excessively long, take one wrap to ensure adequate control authority.

Entry Procedure

Reduce airspeed to minimum by applying gentle, symmetrical brake input. Once the glider is stabilized overhead without pendulum motion, apply full brake input rapidly and decisively. As airflow separation occurs across the entire wing, the canopy will stall and fall behind your position. Maintain full brake input throughout the initial phase until you pendulum back beneath the wing.

Initially, the canopy will exhibit significant oscillations due to the deep brake position. To achieve a stabilized configuration, progressively and symmetrically release brake input to approximately elbow level (exact position varies with wing model, size, harness and brake configuration) until oscillations diminish and brake pressure stabilizes. This configuration is termed "Stabilized Full Stall." In this state, the canopy remains largely inflated with only the wingtips collapsed and oriented forward, while the pilot descends in a tail-first attitude similar to a Tail Slide. Achieving this stabilized state requires practice and familiarity with your wing.

Exit Procedure

From an unstabilized Full Stall, the canopy will oscillate and the pilot will pendulum beneath. While not recommended, it is possible to exit in this state. When the canopy is overhead or slightly forward, rapidly release brake input to a lightly braked position. The wing will reinflate and surge forward as it accelerates. Apply progressive brake input immediately after the surge begins to prevent collapses. The magnitude of brake input required is proportional to the violence of the surge.

From a stabilized Full Stall, exit is straightforward as the canopy remains overhead. Release brake input rapidly, then control the subsequent surge with measured brake application.

If asymmetric surge is observed, apply brake only to the faster-descending side until both wingtips reach the same level, then arrest the surge with symmetrical brake input.

Safety Considerations

Critical Safety Information

CRITICAL WARNING: If pendulum motion causes the canopy to fall significantly behind your position, you must maintain full brake input. **Never release brakes while the canopy is behind you.** The combined effect of the wing's forward surge and your rearward pendulum can generate sufficient dynamic force to propel you into the canopy, resulting in catastrophic consequences.

Unintended brake release may occur due to high brake forces, particularly during oscillations. If one brake is inadvertently released, you must either immediately release the other brake to exit the maneuver, or rapidly re-establish the released brake. Failure to act quickly will result in rapid rotation and potential riser twist. Refer to the Spin and riser twist sections for additional information. Note that brake force requirements vary significantly between wing models, sizes and wingload.

The exit phase presents the highest risk. The wing must accelerate from zero (or negative) horizontal speed. Excessive brake input during the surge can induce a secondary stall, typically asymmetric in nature. Conversely, insufficient brake input may result in severe collapses and cravats. If rotation develops with a cravated wing and insufficient altitude remains for recovery, deploy your reserve parachute immediately.

This maneuver should only be practiced with wings in good condition with acceptable porosity values. Degraded wing fabric significantly increases the risk of deep stall (parachutal stall) following exit, particularly if brake release is delayed. Should deep stall occur, apply speed bar immediately, or if unavailable, push the A-risers forward with your palms to restore normal flight.

8.2: Spin

During a Spin, one side of the glider turns backward (negative) whilst the other continues flying forward (positive). The glider oscillates, the pilot swings beneath it, and the negative side's tip collapses forward.

Entry Procedure

The following describes a left Spin:

Slow the glider to minimum speed with symmetrical brake input until stabilized overhead. Release the right brake, grab the right riser, and immediately pull the left brake to full stall point. The glider begins spinning.

Alternatively, from trim speed grab the right riser and pull the left brake fully down. You will swing out and the glider spins in front of you for 1-2 turns.

Exit Procedure

Recommended method: Pull the right brake to stall point and Full Stall the glider for a symmetrical exit.

Alternative: Release the brake when the glider is overhead or slightly forward, then control the surge. Exit when rotation slows to reduce riser twist risk.

Advanced: Progressively release the left brake while gently applying right brake (avoid Full Stall). The glider stops and surges forward.

Safety Considerations

Critical Safety Information

RISER TWIST DANGER: If your body cannot turn as fast as the glider, riser twist will occur. Exit immediately and untwist by moving legs or grabbing lines above the twist. If twisted multiple times, brake lines may jam causing loss of control. Grab brake lines above the twist, Full Stall, and attempt to untwist. Without sufficient altitude, deploy your reserve immediately!

Balance surge control carefully: too much brake risks asymmetric stall, too little causes collapses and cravats. Releasing brakes with the glider behind you can propel you into the canopy. **Do not attempt with a pod harness.** Master Full Stalls before attempting this maneuver.

8.3: Helicopter

Important

The Sophie Joy has been additionally certified in Helicopter according to EN 926-2.
Certifying a non-standard manouver that is not suitable for beginners (such as Helicopter) automatically bumps the Certification category to EN/LTF C.
That means that normally you are flying an EN/LTF B glider but when you decide to make a Helicopter you are - in this moment - flying the EN/LTF C version of the same glider which has the following names and certification numbers:

- Sophie Joy & Heli 21: DHV GS-01-3085-26
- Sophie Joy & Heli 23: DHV GS-01-3086-26
- Sophie Joy & Heli 25: DHV GS-01-3087-26
- Sophie Joy & Heli 27: DHV GS-01-3088-26

As a result, this section only applies to these certification numbers and for these models “Sophie Joy” shall be replaced with “Sophie Joy & Heli” as they are the same glider but with a different certification.

Recommendation

We recommend practicing the helicopter maneuver under controlled conditions and under supervision.
(See 9.3 Safety Training (SIV))

The Helicopter is a controlled autorotation maneuver in which the fully inflated canopy rotates horizontally while the pilot remains centered beneath the wing. The rotation is stable and continuous, resembling a helicopter rotor, with a descent rate of approximately 2-3 m/s.

This is an advanced maneuver requiring exceptional brake control precision and extensive practice. Due to its technical complexity, pilots pursuing Helicopter proficiency should dedicate focused training time exclusively to this maneuver.

Preparation

Configure your harness to the sitting position with the chest strap released to maximum width. Position your legs beneath the harness to prevent riser twisting. Prepare for continuous rotation with the wing throughout the maneuver.

Entry Procedure

This maneuver is highly sensitive to atmospheric turbulence, particularly during entry. Practice should only be conducted in completely calm air conditions.

The following procedure describes a right-hand Helicopter:

Reduce airspeed to minimum by applying gentle, symmetrical brake input. Once the glider is stabilized overhead without pendulum motion, apply additional brake input to induce deep stall (characterized by loss of brake pressure and elimination of horizontal speed). When the canopy is directly overhead and descent is stable, simultaneously release the left brake, grasp the left riser, and maintain (or slightly increase) right brake input. As rotation initiates, progressively release the right brake until brake pressure begins to increase and rotation stabilizes. Typically, only 5-10 cm of brake input is required to maintain the Helicopter. Excessive brake input will induce wingtip collapse.

If the glider begins to rotate while positioned forward of vertical, insufficient brake input was applied during the deep stall phase. In this case, additional brake input on the inside (right) brake may be required to initiate rotation, though this is not optimal. Apply weight shift toward the inside until you pendulum back beneath the wing, then return to center.

Avoid excessive brake input during the deep stall phase, as this will cause the canopy to fall behind your position (rearward slide), which is not conducive to proper entry.

Body position and weight shift are critical throughout the maneuver. Brake control precision and proper weight shifting are equally important. During initial training, maintaining a centered body position is paramount. Develop awareness of how body movements affect rotation stability, as inadvertent oscillations in the harness or unintended brake movements of even a few centimeters can significantly destabilize the maneuver.

In a stable Helicopter, rotation rate can be increased by applying progressive weight shift to the outside (left side for right rotation).

Advanced pilots may develop the ability to correct unstable rotation and restore proper configuration. This skill develops through extensive practice rather than explicit instruction, as the required technique varies with wing characteristics. The fundamental correction technique involves:

Applying gentle outside brake input to reduce rotation rate. As rotation slows, the wing stabilizes more readily. When the glider is directly overhead, progressively release the outside brake to re-accelerate rotation. Coordinated weight shifting enhances this correction process.

Exit Procedure

From a stable rotation, exit is straightforward. Return to a centered body position, release brake input, and control the subsequent surge, which is typically slightly asymmetric.

Alternative exit: Apply outside brake input (without inducing stall) while progressively releasing inside brake until rotation ceases. Allow the wing to surge forward and control with appropriate brake input.

For initial training, the safest exit method is to apply full brake input on both sides to induce a Full Stall, then execute a standard Full Stall exit procedure. With experience, you will develop the ability to exit safely from unstable configurations without resorting to Full Stall.

9: LIMITATIONS

9.1: Total Weight in Flight

Each Sophie Joy glider has been designed and certified for a defined weight range. We strongly recommend that you respect these weight ranges. If you are between sizes the following information may help you make a decision as to which size to buy:

- For learning manouvers it is better to choose the bigger size, as the glider will be more forgiving and easier to control.
- For the most precise and dynamic handling or if you generally fly in mountains and/or in strong conditions, you should chose to fly near the top part of the weight range.
- If you want a better sink rate, or if you generally fly in flat lands and/or in weaker conditions, you may choose to fly nearer the middle part of the weight range. Remember, you can always add ballast when conditions are stronger.
- It is not recommended to fly at the very bottom of the weight range.

9.2: Environmental Considerations

As paraglider pilots, we have a responsibility to minimize our impact on the environment and respect the natural areas where we fly. Please observe the following guidelines:

- Respect wildlife by maintaining distance from nesting areas and avoiding low flights over animals
- Stay on designated paths when accessing launch and landing sites
- Pack all trash and leave no trace of your visit
- Respect local regulations regarding access to flying sites
- Be considerate of other outdoor enthusiasts sharing the space
- Avoid unnecessary noise, especially in sensitive natural areas

By following these guidelines, we help ensure continued access to flying sites and preserve the natural beauty of our flying environments for future generations.

9.3: Safety Training (SIV)

The Sophie Joy is designed to be used for SIV training. Ensure you fully understand the correct and safe use of this equipment before attempting SIV and only do so under expert tuition over water with all the necessary safety precautions in place.

9.4: Flying in the Rain

Modern wings are susceptible to rain and moisture, flying with a wet wing can result in the loss of normal flight.

Due to the efficient, wrinkle-free design of the sail, water tends to bead on the leading edge causing flow separation. Flow separation will make the wing more prone to entering inadvertent parachutal stalls, so flying in the rain, or with a wet wing (e.g early morning dew) should be avoided at all costs.

If you are accidentally caught-out in a rain shower, it is best to land immediately. If your wing becomes wet in the air it is advised to maintain accelerated flight using the speed bar, even during the final approach. DO NOT use big ears as a descent technique, big ears increases drag, and with a wet wing this

will further increase the chances of a parachutal stall occurring. Instead, lose height with gentle 360's and maintain your air speed at all times. If your wing enters parachutal stall when wet, immediately accelerate the wing with the speed bar to regain airspeed.

9.5: Powered Flight / Paramotor

The Sophie Joy has not been specifically designed or tested for powered flight (paramotoring). While some pilots may use it with a paramotor, we do not recommend this application as the glider's behavior may change significantly under power.

If you intend to use the Sophie Joy with a paramotor, please consult with a qualified paramotor instructor and contact AIRG for specific advice regarding suitability and setup.

9.6: Winch Towing

The Sophie Joy is suitable for winch towing when using proper equipment and techniques. When being towed:

- Use a certified tow release system appropriate for paragliders
- Ensure the tow operator is experienced with paraglider towing
- Before takeoff, make sure that the glider is completely inflated and over your head
- Begin with gentle tension, gradually increasing as the glider rises
- Maintain active control of the glider throughout the tow
- Release immediately if any abnormal flight behavior occurs

Always receive proper training for winch towing before attempting this launch method. It is the pilot's responsibility to use suitable harness attachments and release mechanisms and to ensure that they are correctly trained on the equipment and system employed.

9.7: Disposal

When your paraglider reaches the end of its useful life, please dispose of it in an environmentally responsible manner. The synthetic materials used in paragliders do not decompose naturally and should be properly recycled where facilities exist.

Remove all metal parts (maillons, pulleys) for separate recycling. The fabric, lines, and risers can typically be treated as non-biodegradable waste. Some specialized recycling programs for paragliding equipment may be available in your area.

Contact your local waste management authorities for specific guidance on proper disposal or recycling options in your region.

A very nice alternative is to donate your old glider to an **upcycling project** so that it can be repurposed into new products, such as bags, clothing, or accessories. This helps reduce waste and gives your old glider a new life while supporting sustainable practices in the paragliding community.

Here are some options to consider for upcycling your old glider:

- Miolento (Germany)
- Paracyclage (France)
- Re-Para (Switzerland)
- Gleitschirm Upcycling (Switzerland)

10: LOOPS

Due to aging and the g-forces during flight, your lines will stretch over time. This can significantly affect the flying characteristics of your glider. To restore the original performance, we recommend having your lines looped. Here's some basic information about making loops and their effects. Before trimming your glider, consult with a professional or measure the lineset at a local flight school.

Figure 1 — normal loop



Figure 2 — double loop

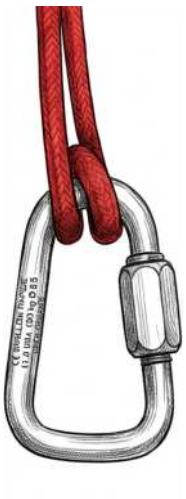


Figure 3 — anchor stitch



Figure 4 — anchor stitch plus



If you are unsure or if you have a very old lineset it is best to simply order a new one for a special price at hello@airg.family

11: CARE AND MAINTENANCE

11.1: Packing

At AIRG we prefer to fly than to pack and we have designed the Sophie Joy to be easy to pack and unpack. We recommend that you pack your wing loosely and avoid compressing it too much. The inner bag provided is designed to make packing quick and easy, while also providing some compression for travel and storage.

If you want to pack your wing more tightly for travel, we recommend to align the rods in the leading edge to prevent damaging them.

When packing, start by laying the wing out flat and straightening the lines. Then, fold the wing in half lengthwise, aligning the leading edges. Next, fold the wing in thirds or quarters, depending on its size, while keeping the leading edges together. Finally, place the folded wing into the inner bag without forcing it in or compressing it excessively. Avoid packing the wing in a way that creates sharp bends or kinks in the fabric or lines, as this can lead to premature wear and damage. Always handle your wing with care during packing and transport to ensure it remains in good condition for many flights to come.

11.2: Caring Tips

Careless handling damages many paragliders. Here are some things to avoid in order to prolong the life of your aircraft:

- DO NOT drag your wing along the ground or any hard surface as this is guaranteed to damage to the sailcloth. Lift it up and carry it clear of the ground.
- DO NOT try to open your wing in strong winds without untangling the lines first - this puts unnecessary strain on the lines.
- DO NOT walk on the wing or lines.
- DO NOT repeatedly inflate the glider and then allow it to crash back down. Try to keep this movement as smooth as possible by moving towards the glider as it comes down.
- DO NOT slam your glider down on the ground leading edge first. The impact puts great strain on the wing and stitching and can even explode cells.
- FLYING in salty air, in areas with abrasive surfaces (sand, rocks etc.) and ground handling in strong winds will accelerate the aging process.
- DO NOT fly in the rain or expose the wing to moisture.
- DO NOT expose the wing to unnecessary UV or high levels of heat. Leaving the wing sitting in the sun or allowing it to get hot (e.g in the back of a car) will significantly increase the chances of premature ageing.
- Change your main brake lines if they are damaged.
- When ground handling be careful to not saw the brake lines against the risers or main lines. The abrasion caused by a sawing motion can damage the main lines and the risers. If you notice any signs of abrasion, especially to the lines, make sure to replace them. It is important to modify your ground handling technique to stop any future damage.

It is recommended that you regularly CHECK your wing, especially after a heavy period of use, after an incident or after a long period of storage.

11.3: Storage and Transport

Your wing should be dry before being packed away. Always store all your flying equipment in a cool, dry room, protected from direct heat and high levels of humidity. Moisture, heat and humidity are the worst elements for damaging your glider. Storing a damp glider in your car in the sun will lead to premature ageing of the cloth and should be avoided at all costs.

Take care that no insects get packed away with the wing. They may eat the cloth and make holes in a bid to escape. They can also leave acidic deposits if they die and decompose.

Transport the wing in the supplied bags and keep away from any oils, paints, chemicals and detergents.

11.4: Cleaning

Any kind of wiping/scratching can damage the coating of the cloth. We recommend to not clean the wing, but if you do have to, use a soft cloth dampened with a small amount of water and use gentle movements across the surface. If you land in salt water, you must first rinse it thoroughly with clean fresh water. Dry the wing completely, preferably out of the sun, in the wind. Never use a hair dryer or other sources of direct heat.

11.5: Wing Repairs

Always let a registered dealer, professional repair centre or the manufacturer carry out any major or complex repairs, especially those near seam margins.

If you damage the sail: If the rip is small and in the middle of a panel however you can fix it yourself. You'll find all the materials in the repair kit. The fabric can be simply mended with the sticky rip stop/ spinnaker tape. When cutting out the patches allow ample overlap of the tear and make sure both sides are different sizes. Make sure to round off each corner of the patches.

If you damage a line: Any line that is visually damaged MUST be replaced. Lines can be ordered from your local dealer, alternatively use a reputable paragliding service centre to make the replacement lines.

It is important that replacement lines are made from the correct materials and diameters. You should check lengths against their counterpart on the other side of the wing to make ensure symmetry. Once the line has been replaced, inflate and check the glider before flying.

11.6: Maintenance Checks

Your wing should be checked regularly to ensure proper airworthiness. It should be serviced by a qualified professional for the first time after 24 months, or after 100 hours. If you are a frequent flyer, more than 100 hrs per year, then we recommend to have the wing serviced annually.

The dimensions of the lines tend to move during their life, it is therefore recommended to have a performance trim check within the first 50hrs of use. To ensure the correct trim, the lines should be measured and adjusted to the published values as necessary.

It is important to perform regular inspections to know the exact condition of all of the components of your wing. We recommend that inspections are carried out by a qualified professional. The sail cloth and the lines do not age in the same way or at the same rate so you will have to change the line set during the normal use of the wing.

Periodic inspections must include at least: visual and condition inspection, porosity check, line strength, canopy strength, line geometry, and documentation. All inspections must be performed according to PMA (Paraglider Manufacturers Association) standards.

You alone are responsible for your flying equipment and your safety depends on it. Take care of your equipment and have it regularly inspected. Changes in inflation/ground handling/flying behaviour indicates the gliders aging, if you notice any changes you should have the wing checked before flying again.

12: MATERIALS

All Sophie Joy gliders are made from the highest quality materials available.

12.1: Cloth

- Upper Surface: Porcher Skytex 38 (E25)
- Lower Surface: Porcher Skytex 38 (E25)
- Internal Ribs: Porcher Skytex 40 HF (E29)
- Leading Edge Reinforcement: Nylon 2mm

12.2: Line Set

- Riser Lines: Edelrid 7343, sheathed Aramid, various diameters
- Middle Lines: Edelrid 7343, sheathed Aramid, various diameters
- Upper Lines: Edelrid 8001, unsheathed Aramid, various diameters
- Brake Gallery: Liros DSL 70 sheated Dyneema
- Brake Middle: Liros DFL 115 sheated Dyneema
- Brake main line: Edelrid 7950-240 sheated Dyneema

12.3: Risers and hardware

- Shackles: Maillon Rapides (stainless steel, 3.5mm)
- Riser webbing: 11mm Kevlar reinforced polyester
- Pulleys: Ronstan ball bearing pulleys
- Brake handles: Techni Sangles Strap tube 21mm PA

12.4: Certification

All sizes of the Sophie Joy have been tested and certified according to EN/LTF B standards. Certification tests were conducted by an independent testing laboratory in accordance with European standards.

Compliance Statement

The compliance of the Sophie Joy's suspension lines, control lines, and risers with the dimensions provided in this manual has been verified by "Deutscher Hängegleiterverband e.V." (DHV) after completion of the certification test flights.

All dimensions of the suspension lines and risers conform to the specifications within the tolerances allowed by the EN 926-2 standard (±10 mm for overall line lengths and ±5 mm for riser lengths).

12.5: Spare Parts and Replacements

Available Spare Parts

The following spare parts are available for the Sophie Joy:

- Replacement lines (A, B, C, and brake lines in various diameters)
- Complete riser sets
- Brake handles with swivels
- Repair kit (fabric patches, line material)
- Compression straps

- Inner pack bag

How to Obtain Spare Parts

Spare parts for your Sophie Joy can be ordered through your local AIRG dealer or directly from AIRG distribution GmbH. When ordering replacement parts, please provide your glider's serial number to ensure you receive the correct components.

See 14 Contact for contact information.

13: SAFETY INSTRUCTIONS

- Wings of AIRG Products can get you into life-threatening situations
- Fly new maneuvers only over water! - take care of other flying objects and respect the others!
- Never underestimate sink speed or G-forces resulting from dynamic flight
- Always fly an AIRG glider with reserve. Use two of them for acrobatics!
- Be aware that some of the AIRG wings don't have a valid DHV seal of quality, AFNOR, DAEC, CEN or other registration. Check the regulations in your country!
- Make sure you respect local air traffic laws
- Only use gear (helmet, harness etc.) which is locally authorized before flying an AIRG Products wing
- Choose an appropriate flying area
- Check all your gear (carabiner, fabric, lines, rescues etc.) before launch
- Make sure that you are mentally and physically fit to fly
- Check the weather forecast and make sure that your flying skills match the conditions. It is always a good idea to get in touch with the locals!

REFERENCES

No.	EN-Ref.	LTF-Ref.	Description	Page
1	7.a.1	12.1.1.b	Paraglider model name	1
2	7.a.2	12.2	Name and address of manufacturer	6
3	7.a.4	12.1.3 c)	Min. and max. total weight in flight	9
4	7.a.5	3. a) 5)	Max. symmetric control travel	9
5	7.a.6	12.2.1 b)	Introduction to intended use	6
6	7.a.7	12.2.3 a)	Class of paraglider (EN 926-2)	6
7	7.a.8	3. a) 8)	Harness dimensions used	11
8	7.a.9	12.2.1.a	Version and date of issue	1
9	7.b	12.2.3.a	Pilot skill recommendations	6
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14	7.c.5	12.1.3 f)	Number of risers	10
15	7.c.6	12.1.3 h)	Trimmers	10
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14: CONTACT

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