



ADVANCEOMIKRON

Manual

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Thank you for flying ADVANCE

Congratulations on your choice of an OMIKRON - a quality product from ADVANCE. We hope that you will spend many rewarding hours in the air with it.

This user manual is an important part of the glider. Here you will find instructions and important information about safety, care and maintenance, and that's why we recommend that you read this document carefully before your first flight

Register your OMIKRON online on www.advance.ch/warranty; you will then receive product updates or safety-related bulletins about the OMIKRON direct from us. This information will also be available to download from our website at www.advance.ch, as will the latest version of this manual and further updated information.

If you have any further questions or problems please contact your dealer or get in touch directly with ADVANCE.

Now we wish you a lot of enjoyment with your OMIKRON, and always «happy landings».

Team ADVANCE

About ADVANCE

ADVANCE, based in Switzerland, is one of the world's leading paraglider manufacturers. Since it was founded in 1988, the company has consistently pursued its own directions and concepts, both in development and production. The results are quality products with distinctive characteristics.

Behind the ADVANCE brand name is a team of specialists who share the passion and trust in the company's products. At home in the air themselves, they contribute their valuable personal experience and dedication to the working processes.

Total control of the production process and supervision of the working practices at the ADVANCE factory in Vietnam ensure a high standard of workmanship. Long term relationships with fabric and line manufacturers means that ADVANCE knowledge and expertise also finds its way directly into the development of new materials.

ADVANCE attaches great importance to after-sales customer support, and has built up a worldwide service network for this purpose. An on-going interaction with its customers brings in a steady flow of new knowledge that finds its way into ADVANCE products, thus completing the «Circle of Service».



The OMIKRON

Precise Dynamics

ADVANCE expand their product range with a well-behaved acrobatic paraglider, the OMIKRON, confidently intended to provide the ambitious acro pilot with a lot of enjoyment and acro satisfaction. Developed by committed acrobatic pilots, the OMIKRON finds the perfect balance of dynamics and honest behaviour.

Outstanding features

Dynamics - when you need it

If you ask the OMIKRON for energy you will get it. When you want to quieten things down the wing responds immediately to your brake inputs, and excess energy can be taken out of the manoeuvre, as required. This quality conveys a very agreeable and reassuring pilot's feeling of being in control.

The decision whether to stall the wing in the next instant or continue to make use of the available energy should remain with the pilot over a very wide range of situations.

Low g loading

When developing the OMIKRON special attention was given to reducing acceleration loading for the pilot during Infinity Tumbings. This

was achieved by the perfect profile for the job, and a much better spanwise load distribution to go with it. If you fly an infinity with the OMIKRON you will immediately notice two things when the wing passes the top – it doesn't then shoot forward so aggressively, and it keeps going straighter for longer by itself. The resulting loop has more of a round consistency to it, and the pilot experiences less of a g-load spike. These behaviours are less tiring for the structure, as well as for the pilot..

Pilot Requirements

The OMIKRON is a purebred acro wing that should only be flown by very experienced acro pilots (competition and professional) who intend to make use of its capabilities. To master an OMIKRON and fly it safely you, as its pilot, must fulfil the following conditions:

Physical Fitness:

Acro flying involves much higher loading on the body than is experienced during normal paragliding. In spirals you can quickly achieve more than 3 g. During Infinity Tumbling your head briefly but repeatedly presses down on your spine with 8 times its normal weight. You yourself are the best judge of whether your body is ready for these demands. Approach the subject slowly, and allow time to acclimatise yourself to the vertical acceleration loads that you will come to experience when flying the OMIKRON: step by step

Mental Fitness:

Acrobatic flying requires a very high level of concentration from its pilot. Always be aware of your own mental state and choose the difficulty of your manoeuvres accordingly. On the day after party time, for example, you may find that the brain does not operate at its highest level ...

What is more, before you change to an OMIKRON it is essential that you have mastered the following manoeuvres: Fullstall, Parachutal Stall, Flyback, Helicopter, SAT.

If you cannot fly any one of the above figures cleanly you must continue to train with a Freestyler or a suitable large paraglider.

General advice about paraglider flying

Taking part in the sport of paragliding requires suitable training, a fundamental knowledge of the materials involved, and the necessary licence and insurance. A pilot must be able to correctly assess the local weather conditions. His/her abilities must be adequate for the actual paraglider to be used.

It is essential that an adequate helmet, suitable footwear and clothing be worn. A reserve parachute must be carried. Before every flight all parts of the equipment must be checked for damage and airworthiness. A proper before takeoff check must always be carried out.

Every paraglider pilot bears sole responsibility for all risks associated with the sport of paragliding, including injury and death. Neither the manufacturer nor the seller of the paraglider can guarantee or be held responsible for the safety of the pilot.



Preparing the glider

Delivery

Every ADVANCE paraglider must be flown by the dealer to check for correct adjustment and trimming. The dealer then enters the date of this first flight on the type placard on a centre rib. This entry, and the fully completed warrant form, confirm that product defects attributable to the manufacturing process will be covered by the ADVANCE warranty. See “Warranty” in the “Service” section.

We therefore ask you to complete the corresponding form on our internet site under “Warranty” within 10 days of the glider purchase.

The OMIKRON delivery package contains a COMFORTPACK 2 rucksack, an inner bag, compression strap, repair kit, speed lines with a carbon speedbar, mini-windsock in the wing colours and the «Getting Started» booklet.

Basic settings

Basic OMIKRON set up at delivery corresponds to the original trim that the ADVANCE test team found to be best. Do not make any changes or adjustments to the paraglider such as alteration of line lengths or fitting different risers or quicklinks. This would cancel the glider’s certification. See “Certification” section.

Adjusting the brake lines

The brake line lengths have been set at the factory so that the trailing edge remains unbraked (increased) during fully accelerated flight with brakes released. Fundamentally, this setting should be kept.

If brake lines have to be refitted there must be 8 cm of free brake travel, in unaccelerated flight, between the brakes fully released position and the point where brake lines start to affect the trailing edge. We recommend the bowline knot for attaching the brake handles. See ‘Bowline knot’ illustration in the appendix

Free brakes

The OMIKRON is routinely delivered with brake rings and their connections to the top end of the risers, as is the case with every ADVANCE wing. If you prefer to fly with free brakes we have fixed the riser/brake line connection with a looped elastic band so that it is easy to remove. It will not then interfere with free brake freedom.

Setting the Speed System

We recommend that you correctly adjust your OMIKRON's speed system before your first flight with the glider. You must check that the whole speed system range can be used in flight. When the glider is clipped to the harness the harness/riser speed line connections are made by Brummel hooks.

Fine adjustment can be made to the 2-phase speed system changeover point. If you move the knot that stops the ball (see Ball in the illustration), the speedbar travel and the loading will be altered.

Example: If you move the knot downwards the change from 3:1 to 2:1 gearing will happen sooner, resulting in an earlier rise in speedbar load and a shortening of total speedbar travel. Move the ball upwards and the effects are the opposite – longer easy first push, but longer legs are required for full speed.

The ideal setting of the 2-phase system gives you easy 3:1 pushing when the legs are bent, and a more effective 2:1 straight leg power at the fast end.

The OMIKRON speed system is designed to keep the same wing profile in accelerated flight, therefore at different angles of attack. This retains the profile's useful qualities at high speed.

Caution: The speed system is correctly set when you can use the whole speed range. Make sure – without doubt – that the speed lines are not set too short, so that they would accelerate the wing permanently in flight.

Suitable harnesses

The OMIKRON is certified for use with all Group GH harnesses (without rigid cross bracing) see "Certification" section. The harness hang points should be set to a distance of around 45 cm (similar to shoulder width), and a height of 40 to 48 cm.

The OMIKRON is neither suitable nor certified for GX harnesses (with effective cross bracing). Such harnesses can have a bad effect on both normal handling and extreme flight situations.

Weight ranges

You can find the weight ranges for both sizes in the “Technical Data” section. The figures shown there represent total in-flight weight. This includes everything that is going to fly – body weight, clothes, and the weight of all the equipment (paraglider, harness, reserve, instruments etc.). Flying at the lower and upper weight limits has an effect on flying behaviour, but does not influence your safety. We recommend that you make your first flights with the new glider in quiet conditions at a familiar place. A few pull ups on easy ground will give you confidence in your OMIKRON’s handling right from the start.



Flying qualities

The OMIKRON is a thoroughbred acrobatic paraglider and behaves as such.

Takeoff

Anyone who is familiar with acro wings will appreciate the OMIKRON. It climbs willingly and uniformly above the pilot. But compared with a non-acro wing it definitely needs a clear impulse to get it climbing to the vertical point.

Forward takeoff

Lead the wing up with determined impulse and distinct leaning forward of the upper body, but without too much pull on the A-risers, until the canopy is correctly above you.

After corrections and a look up a few rapid steps will have you airborne, even in little wind.

Reverse takeoff

The reverse pull up is mainly recommended in stronger winds, but is also possible in light wind. Here a good initial impulse is a good idea. Turning round and taking off is straightforward with the OMIKRON.

Normal flight

As with most other paragliders the OMIKRON glides best at trim speed in calm air. Into a headwind we recommend the speedbar position that will give you the best glide angle so that you will arrive over your goal with most height. In a tailwind, light brake will give you the best glide performance over the ground.

In turbulent air an active handling style is necessary with the OMIKRON – like all paragliders. Due to high wing loading collapses only occur in relatively strong turbulence, and the long lines give you a bit more time to react; however, the necessary level of dynamic required for acro manoeuvres turns them into significant events in extreme manoeuvres. Never fly in conditions that demand more than your skill level.

Turning flight

The OMIKRON responds very directly and precisely to steering inputs. For normal turns extremely little brake is required. Be especially careful with your steering when landing or generally flying anywhere near the ground.

Accelerated flight

Bear in mind that paraglider canopies fly at a smaller angle of attack when accelerated, and generally are considered to be less structurally stable. In addition, collapses caused by large control inputs at high speed can turn out to be highly dynamic.

Collapses

Side and front collapses can be almost completely avoided in normal flight by an active flying technique. This wing gives precise feedback about its current situation and enables you to recognise the onset of potential collapses and react accordingly.

If a side or front collapse should occur, prevent turn as a first priority – keep straight. The acro glider's very direct handling means that you do not need much brake to do this. You should mainly use your weight to keep straight. If the canopy does not open by itself after flight direction has been brought under control, you can help it open with a few short pumps on the relevant brake. While doing this, remember that to keep control of your direction and avoid nearby obstacles is always more important than a quick reopening of your wing!

Because the wing has only been tested to maximum foreseeable loads and does not have an EN safety categorisation, you are advised not to carry out simulated collapses of any kind.

Fast descents

For quick and efficient ways to get down we recommend, depending on the situation, the spiral or big ears (this with speedbar). Fast descents should be practised now and then in quiet conditions - so that they do not become an emergency when needed.

Steep spiral

The steep spiral can be a very effective way to descend due to the high wing loading and associated dynamics. Before starting, however, make sure you have plenty of distance from the ground, and are mentally and physically prepared for this manoeuvre! You can quickly exceed 14 m/s vertical speed while still observing a relatively modest angle of bank. The g loading, like all steep spirals, becomes high and requires appropriate pilot experience and training. Be aware that the spiral rotation does not recover by itself once modest bank angles have been reached, but will continue to accelerate with much more airspeed, rotation rate, g and vertical speed. Acro flying requires this kind of handling behaviour.

Symmetrical folding of the wingtips (Big ears)

You can hold a useful sink rate for a long time using big ears with speedbar. Naturally the descent speed achievable is much less than is possible with the spiral. But big ears has the advantage that the pilot does not experience extra g loading – the normal 1g is the same as in steady straight flight at trim speed.

To enter big ears fold both wingtips by pulling both outer A lines down. These lines have a red cover at their quicklink ends to make them easy to see. Then apply speedbar.

To exit - first slowly release the speedbar fully. Then open the ears by releasing both outer A lines. If the ears do not open by themselves it is best to make a turn using brake, first to one side then the other. Alternatively you can make a short brake pump, one side then the other. When you do this make sure you keep flying straight.



Caution: When flying with big ears do not fly spirals or strong changes of direction: the raised loading on fewer lines can cause damage to the structure.



Caution: Be aware that flying with big ears brings you closer to parachutal stall. With big ears applied be cautious with the brake lines, and avoid big ears altogether with a wet paraglider. See also the “Flying with a wet paraglider” section..

B-Stall

A B-stall is very stressful for the whole structure and the profile shape. The consequences on a highly loaded wing are difficult to predict and have not been tested. ADVANCE advise that you do not do a B-stall with an OMIKRON.

Stalling

One-sided stall (spin)

In a turn the OMIKRON warns you of the risk of impending stall by an increasing brake load. If the wing does stall, however, you will feel a marked reduction of brake load on the inside of the turn. In this situation both brakes should be fully released immediately, to allow the OMIKRON to return to normal flight by itself.

Fullstall

The fullstall is entered by progressive application of symmetrical brake. Forward speed reduces, as does apparent wind and airflow noise. After reaching minimum flying speed the paraglider goes into a short phase of parachutal stall. Further pulling of the brakes causes the airflow to fully break away from the wing, which will pitch back in fullstall. To recover, the canopy must be carefully preflated over its whole span. To do this first release the brakes slowly, then when the wing has re-inflated the brakes can be released fully.

Parachutal stall

It has not been possible to establish the OMIKRON in stable parachutal stall. But you can bring the wing to parachutal stall using the brakes, and keep it there. The paraglider will recover by itself as soon as brakes are fully released.

Thermaling

Despite its small wing the OMIKRON thermals surprisingly well. While circling in a thermal it is probably best not to try to turn too steeply because the glider's own sink speed rapidly increases with increasing bank. It is possible to make small radius turns without achieving high angles of bank (and speed). This works best if you use very little inside weight steering, in fact it can also be helpful if you sometimes use brief outside weight (without stopping the turn) – high-siding.

Despite all this technique it is still possible that you may fall out of a thermal, and start descending quickly. Always be careful not to circle too close to a hillside, and always keep a good distance from the ground.

Landing

Your OMIKRON flies at a comparatively high wing loading. The trim speed is higher than normal. You must be specially aware of this when landing. The best landings will work for you if you can flare progressively with feeling. You must have enough brake travel remaining when you begin the flare (not too slow or steep).

Flying with a wet paraglider

Especially in competitions pilots often fly acro with gliders that are not completely dry. The canopy is then heavier than normal, and the additional weight is usually distributed strangely. This can cause unusual wing reactions.


Try to do competitions in a sunny place, so you can fly with dry equipment. It will help your scores.

Never do big ears with a wet glider because of the risk of parachutal stall. Another preventative measure is to fly with some speedbar (25-40%). This has a small beneficial effect on the angle of attack. If the wet glider does go into parachutal stall you should recover only by accelerating using the speedbar. See also section "Parachutal stall".

Winching

Winching an OMIKRON is permitted under the following conditions:

- The pilot must have had winch training.
- The towing winch must have a certificate for towing gliders.
- The winch driver must have been trained for winching gliders

 **Caution:** Before takeoff lay out the wing in a clearly defined curved shape: this prevents rosetting.

Motor flying

The OMIKRON is not certified for paramotoring



Maintenance, Repairs and care

Packing

Pack your OMIKRON ribs nose on nose, so that the plastic rods at the leading edge lie as flat as possible on each other and are all at the same height. This will extend the life of your OMIKRON. In addition you should change the position of the centre fold of the wing so that the same lane does not get excessively worn.

Always store your glider in a dry and dark place. Avoid unnecessary tight packing.

Care and maintenance

Ultraviolet light, heat, humidity, sea water, aggressive cleaning agents, unsuitable storing and physical abuse (dragging across the ground) speed up the ageing process.

The life of a paraglider can be extended significantly by observing the following advice:

- Allow a wet or damp glider to dry by leaving it completely unpacked at room temperature, or outside in the shade.
- If the glider gets wet with salt (sea) water rinse it thoroughly with fresh water.
- Clean the glider only with fresh water, and a little neutral soap if

necessary. Do not use solvents under any circumstances.

- If the glider has been subjected to increased stress (such as a tree landing) have it examined by an expert.
- Regularly remove sand, leaves, stones and snow from the cells. Openings with Velcro closures are provided at the wing tips for this purpose.
- Do not leave the glider out in the sun unnecessarily before and after flight (UV light).
- Do not subject the packed glider to excessive temperature fluctuations, and do ensure adequate air circulation to prevent condensation forming.
- Do not drag the glider across the ground.
- When landing, make sure that the canopy does not fall on its leading edge.

Check

Your OMIKRON must have a check every 150 flights, or after a year at the latest. We have chosen these more rigorous check intervals because of the workload experienced by an acro wing. Above all, this is a big safety plus for you.

Repairs

As a general rule you should not attempt to repair a paraglider yourself. The various seams and lines are made with great precision, and, for this reason, only the manufacturer or an authorised service centre may fit identical replacement parts or replace entire cells. Exceptions to this rule are the replacement of lines and the repair of the small tears or holes in the fabric that may be glued with the self-adhesive ripstop included in the repair kit. After a repair, or the replacement of a line, the glider must always be opened out and checked on the ground before the next flight.

Spare parts such as lines, quicklinks and repair materials for the OMIKRON can be obtained from ADVANCE or an ADVANCE Service Centre and/or dealer.

Disposal

Environmental protection plays an important role in the selection of materials and the manufacture of an ADVANCE product. We use only non-hazardous materials that are subjected to continuous quality and environmental impact assessments. When your paraglider reaches the end of its useful life in a number of years time, please remove all metal parts and dispose of the lines, canopy and risers in a waste incineration plant.

Technical details

OMIKRON

		17	18
Area flat	m ²	17	18
Area projected	m ²	14,6	15,5
Recommended Takeoff weight ¹	kg	70-100	75-110
Glider weight	kg	4,7	4,8
Aspect ratio flat		5,7	5,7
Aspect ratio projected		4,3	4,3
Span flat	m	9,8	10,1
Span projected	m	7,9	8,2
Certification		Lasttest EN-926-1	Lasttest EN-926-1
Number of cells		53	53
Number of risers		4	4
Maximum chord	m	2,1	2,2
Riser lengths	cm	53	53
Max. accelerate travel	cm	14	14
Max. line lengths incl. risers	cm	733	753

Das Gewicht des Schirms kann aufgrund von Schwankungen des Tuchgewichts um bis zu 100 g variieren.

¹ Pilot, Schirm, Ausrüstung

Materials

Lines	Base lines	Edelrid A-6843-340/240/200/160
	Middle galleries	Edelrid A-6843-200/ A-6843-160
	Upper galleries	Edelrid A-6843-200/ A-6843-160
	Brake lines	Liros DSL 070/FL 115
	Upper main brake lines	Liros DFL 115
	Brake main lines	Edelrid A-7850-240
Risers	Standard risers	Polyester 22mm, 1100kg
Riser quicklinks:		Peguet Delta 3.5mm
Leading edge		Porcher Sport Skytex 38 Universal
Upper surface		Porcher Sport Skytex 38 Universal
Lower surface		Porcher Sport Skytex 38 Universal
Ribs		Porcher Sport Skytex 40 hard finish
Miniribs		Porcher Sport Skytex 40 hard finish

We carry out a variety of ongoing checks and tests on the raw materials available to us. Like all ADVANCE products the OMIKRON has been designed and manufactured using the latest knowledge and techniques. We choose the materials we use very carefully, in accordance with the strictest quality requirements.



Service

ADVANCE Service Centres

ADVANCE operates two company-owned Service Centres that carry out checks and repairs of all types. The workshops based in Switzerland and France are official maintenance operations, certified by the German Hanggliding and Paragliding Federation (DHV), which has many years' experience and in-depth product-specific expertise. The ADVANCE worldwide service network includes other authorised service centres which provide the same services. All service facilities use original ADVANCE materials exclusively. You can find all the information about checks and repairs, and the relevant addresses at www.advance.ch.

The ADVANCE website

At www.advance.ch you will find detailed information about ADVANCE and its products, as well as useful addresses which you can contact if you have any questions.

Among the things you will be able to do on the website are:

- complete the warranty card online up to 10 days after purchasing the glider, enabling you to enjoy the full benefits of the ADVANCE warranty.

- find out about new safety-related knowledge and advice concerning ADVANCE products
- download an application form in PDF format which you can use when sending your glider in for a check at ADVANCE.
- find an answer to a burning question among the FAQs (Frequently Asked Questions)
- subscribe to the ADVANCE Newsletter so that you will be regularly informed by e-mail about news and products.

It is well worth visiting the ADVANCE website regularly because the range of services offered is continuously being expanded.

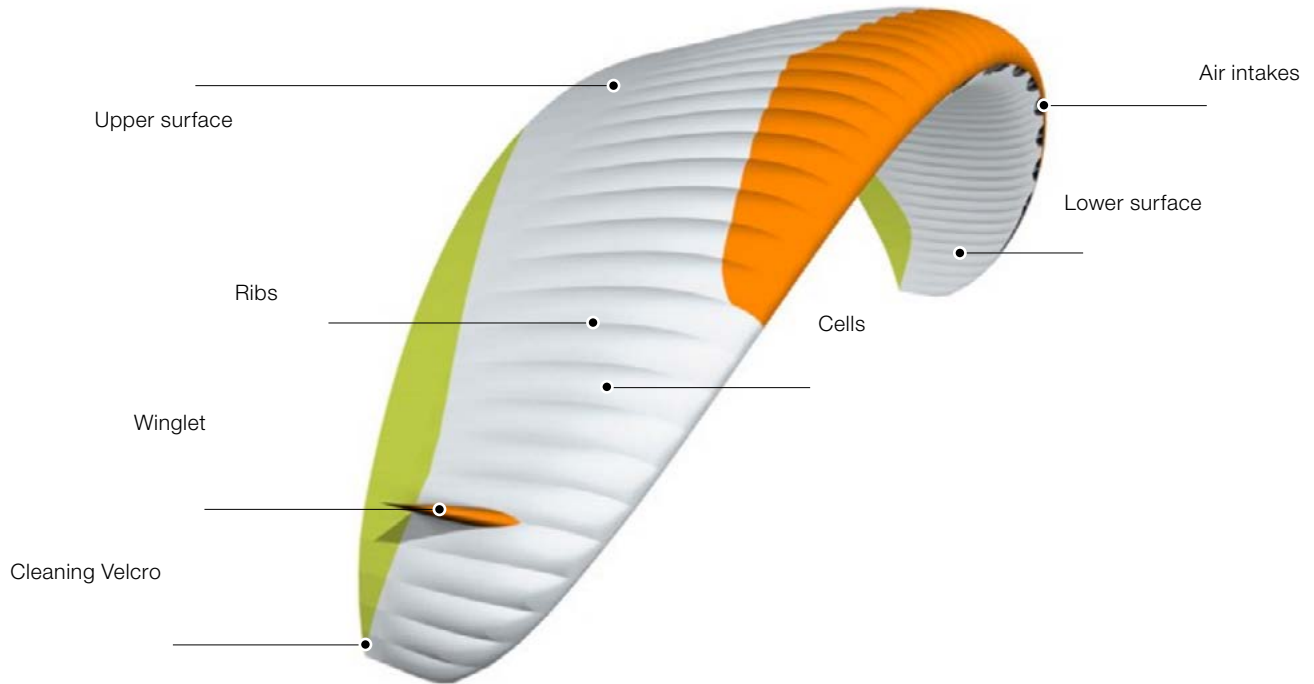
Warranty

In order to enjoy the full benefits of the ADVANCE warranty, you are requested to complete the relevant form on the website in the «Warranty» section within 10 days of purchase.

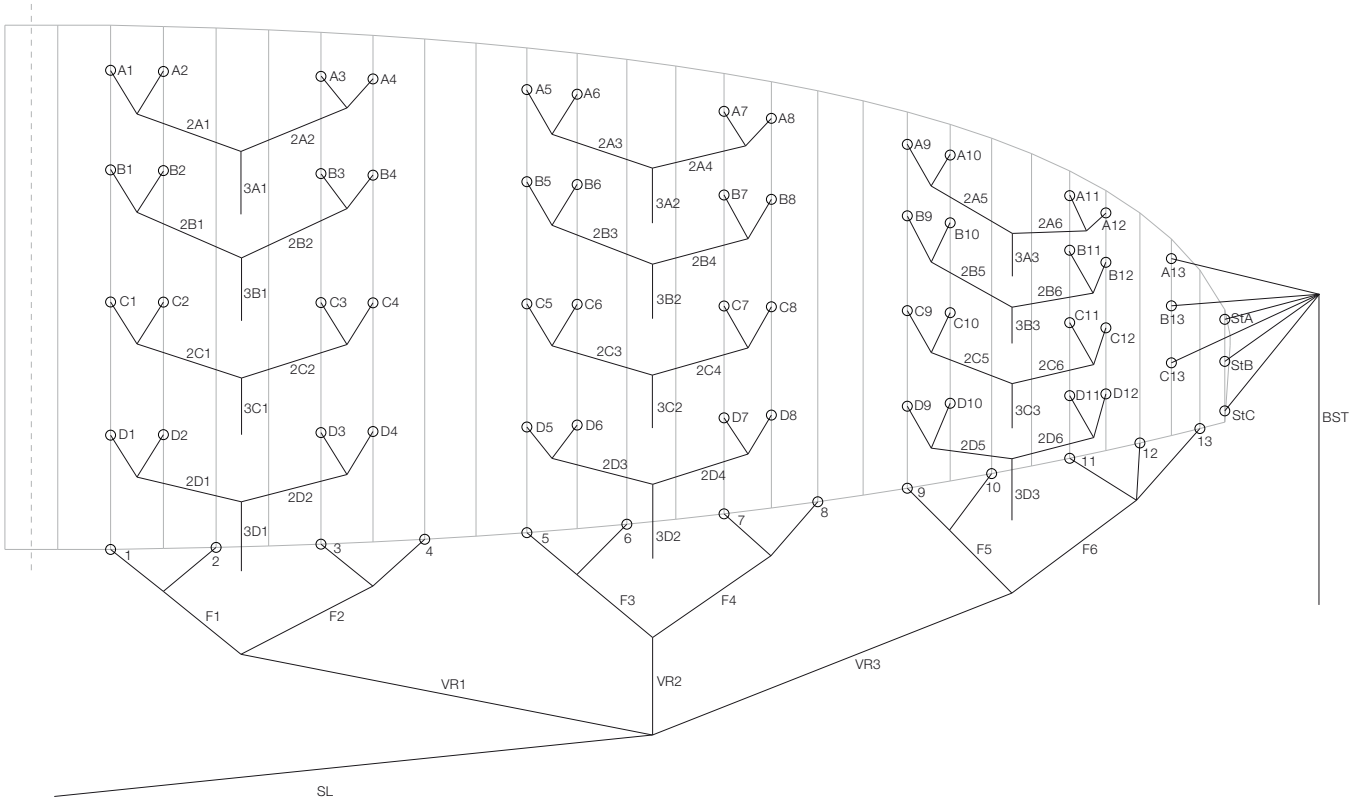
As part of the ADVANCE warranty, we undertake to rectify any defects in our products that are attributable to manufacturing faults. In order for a warranty claim to be made, ADVANCE must be notified immediately on discovery of a defect, and the defective product sent in for inspection. The manufacturer will then decide how a possible manufacturing fault is to be rectified (repair, replacement of parts or

replacement of the product). This warranty is valid for three years from the date of purchase of the product. Warranty and Service Intervals begin from the date of the glider's first flight, recorded on the identification plate. If no date is evident the applicable date is that on which the glider was transferred from ADVANCE to the ADVANCE dealer. The ADVANCE warranty does not cover any other claim. Claims in respect of damage resulting from careless or incorrect use of the product (e.g. inadequate maintenance, unsuitable storage, overloading, exposure to extreme temperatures, etc.) are expressly excluded. The same applies to damage attributable to an accident or normal wear and tear.

Wing parts

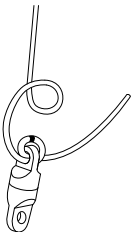


Line plan



Bowline

Step 1



Step 2



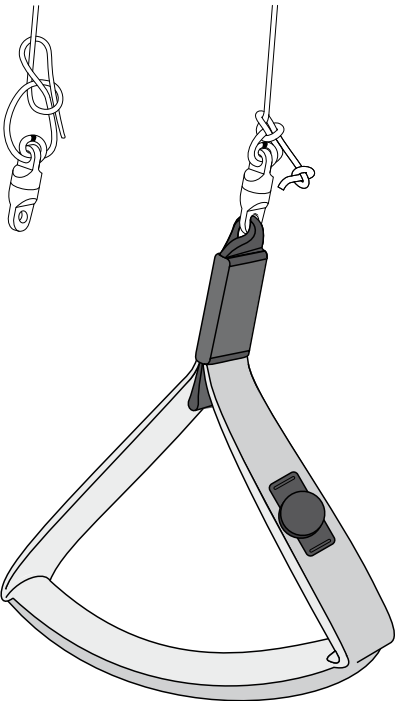
Step 3



Step 4



Step 5





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