GIN

BeCool Owner's Manual

Thank you for taking your time to read this manual.

Thank You...

Thank you for choosing the BeCool. We are confident that this paraglider will provide you and your passenger with countless happy experiences as you progress in your flying career. This manual contains all the information you need to fly and maintain your paraglider. A thorough knowledge of your equipment will keep you safe and enable you to maximize your full potential.

Please pass on this manual to the new owner if you do resell your glider.

Happy Flights and Safe Landings,

The GIN Team

Safety Notice

By the purchase of our equipment, you are responsible for being a certified paraglider pilot and you accept all risks inherent with paragliding activities including injury and death. Improper use or misuse of GIN equipment greatly increases these risks. Also keep in mind that your responsibility is increased because you have to care for the safety of your passenger as well. Neither GIN Gliders Inc nor the seller of GIN equipment shall be held liable for personal or third party injuries or damages under any circumstances. Do not modify or change anything on this paraglider, as this will void the certification! If any aspect of the use of GIN Gliders equipment remains unclear, please contact your local paragliding instructor, GIN reseller or the importer in your country.

Contents

1. Gin Gliders

Gin Gliders was formed in 1998 by paraglider designer and competition pilot Gin Seok Song and his team of engineers and test pilots.

Gin's philosophy is simple: to design gliders that he, and any other pilot, will love to fly. This philosophy applies equally for a tandem wing such as the BeCool, as for the world-beating competition glider, the Boomerang. No glider is released to the market without Gin's complete satisfaction.

Gin has over 20 years' experience of designing and manufacturing paragliders, and is backed by an equally experienced team, both within the company in Korea and throughout a worldwide network of distributors and dealers. The "GIN Team" has won the Paragliding World Cup every year from 1998 untill now, and has had countless other competition successes in World Cups, World and National Championships. This high level of expertise provided by dedicated professionals ensures that you get the best possible product support and after sales service.

2. Introducing the BeCool

The BeCool is a new concept of tandem wing. Gin Gliders have drawn on all his years of experience to produce a wing that is uniquely in tune with the needs of today's pilots. The BeCool offers outstanding security, with precise but forgiving handling. This allows the pilot and passenger to accurately feel the sensations of flight. It's easy in take off and has the feel of a solo wing. The BeCool will allow you to experience the full pleasure of free flight, without ever compromising your or your passengers' safety.

For Pilots Who…

The BeCool is a tandem wing and is also suitable as a solo glider for heavier pilots. It's for pilots who like to fly a good performing glider with a high safety margin. The BeCool is designed for all kinds of flying, from ridge soaring to thermaling and cross country flying.

Cutting-edge Design

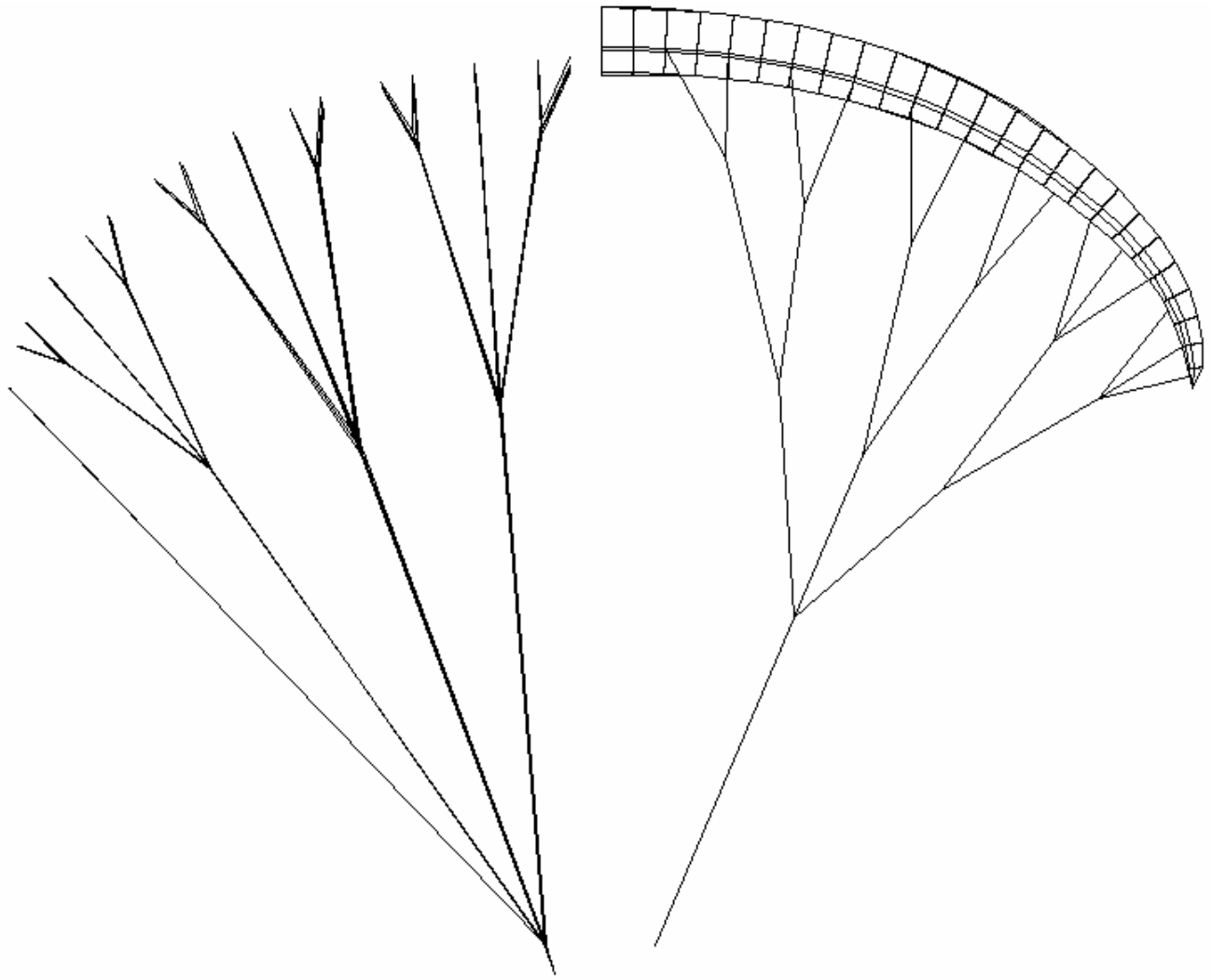
Gin Gliders have made extensive improvements with the BeCool compared to its predecessor, the Beetle. Performance, take-off and handling characteristics have been improved without sacrificing security.

Wind tunnel research and new software to optimize the shape of the leading edge has produced an even cleaner airfoil.

A double reinforcement at the leading edge has been introduced. This improves take-off characteristics and performance, and increases the lifetime of the canopy.

The brake line layout features an extra upper line that gives the wing an even more precise feel and good feedback to the pilot.

Weight and drag have also been reduced by reduction of the total length of line material used, and by the introduction of a new, hi-tech, light fabric. The lines used for the BeCool are very strong to make the wing safe and to give it a long lifetime. Each lower line has a breaking strength of 469 kg and the cascades above add up to even higher strength. All materials used meet the highest quality standards and guarantee a long lifetime for the glider. These innovations ensure that by purchasing the BeCool, you are getting the best possible glider in its class.



Manufacturing

All GIN gliders are produced in the company's own facilities using the most modern techniques. Highly skilled staff take extreme care during the entire manufacturing process. Stringent quality control is made after each step, and all materials that go into each wing can be traced. These measures guarantee that pilots fly with the assurance that their wing meets the most exacting safety standards.

3. Before you Fly

Pre-delivery Inspection

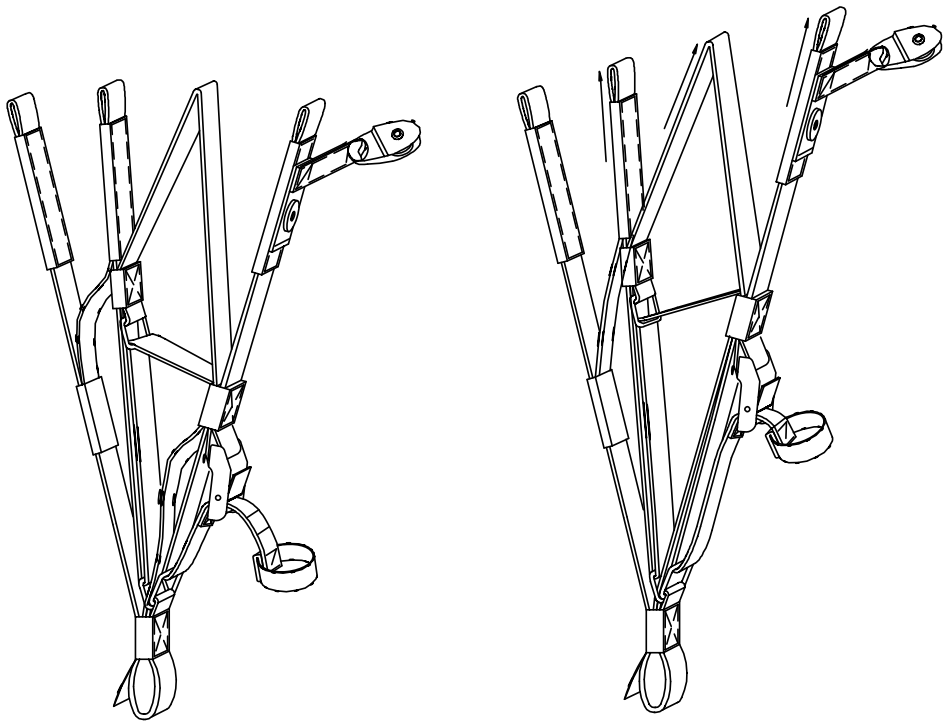
The BeCool is delivered with rucksack, spreader bars, inner bag, compression strap, repair tape, stainless carabiners and this manual. Your instructor or dealer should have made a test inflation followed by a test flight before delivery.

Trim risers

The BeCool has a trimmer system, which is located at the D-risers.

Opening the trimmers increases the maximum speed by approx. 4 km/h. The trimmers are very useful for adjusting the speed depending on the weight of pilot and passenger. We recommend you fly with the trimmers closed (all risers the same length) if you fly in the middle or upper half of the weight range. If you fly in the lower half of the weight range you should open the trimmers to obtain a higher speed and better feeling when thermaling. Trimmers can also improve glide into a head wind.

Riser	A	B	C	D
length trimmers closed	37 cm	37 cm	37 cm	37 cm
length trimmers open	37 cm	38.5 cm	40 cm	41.5 cm



Tandem spreader bars

The BeCool is delivered with Gin's original tandem spreader bars. The pilot loops are shorter and red; the passenger loops are longer and black. The main-attachment loops in the centre have to be connected to the risers of the tandem glider.

Using the two passenger loops you can adjust for different weights of pilot and passenger: If the passenger is heavier than the pilot, connect the passenger to the short loops. If the passenger is lighter than the pilot or very tall, connect the passenger to the longer loops. Always connect the passenger into matching loops on both spreader bars! If the weight difference between pilot and passenger is very high, you can also balance the weight using the main-attachment loops for the risers. If the passenger is much heavier than the pilot, put the main karabiner in the main loop with the largest distance to the pilot. If the passenger is much lighter than the pilot, put the main karabiner in the main loop with the shortest distance to the pilot. Always try to find the right balance.

Your tandem parachute bridles should be connected to the main-attachment loops on each spreader bar. There is a Velcro sleeve to attach the parachute bridle to the spreader bar.

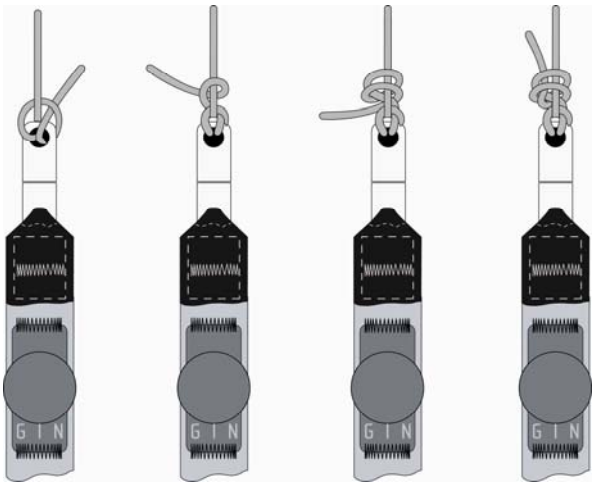
We advise you to use the carabiners with minimum strength of 2.4 kN which are delivered with the glider for the main connection of the risers of the tandem glider to the spreader bars, as well as for the connection of the parachute bridles to the spreader bars.

Brake line adjustment

The brake line lengths of the BeCool correspond to the tested results of EN(LTF). These line lengths have been fine tuned by GIN test pilots, and it should not be necessary to adjust them.

In soaring flight, it is common to fly with half a wrap on the brakes. However, care should be taken to release the wraps in any extreme situation.

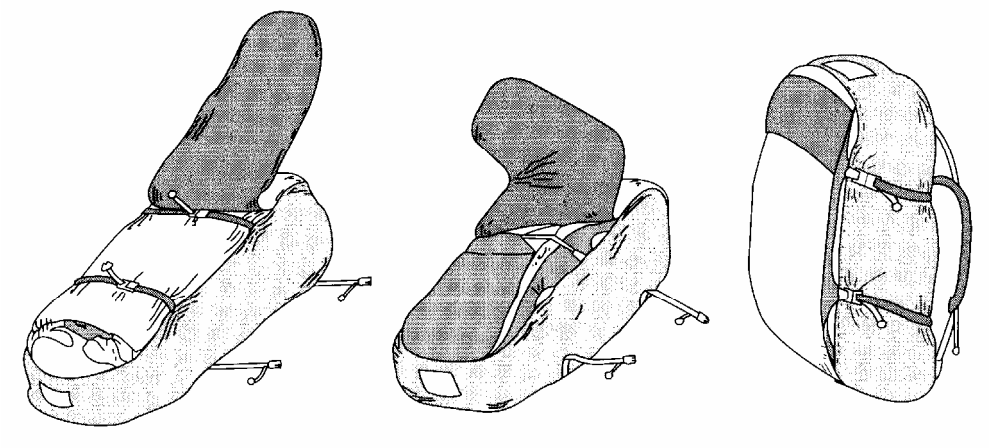
If you do need to make adjustments to suit your harness, body and flying style, we strongly recommend that you test fly the glider after every 2cm of adjustment. There should be a minimum of 10cm of free brake travel when the glider is flown hands-off. This prevents the brakes being applied unintentionally when the trimmers are open. We recommend a double sheepshank or a bowline knot for the brake handle attachment as shown in the diagram.



Rucksack

All GIN gliders are delivered with a durable ripstop KODURA® rucksack, designed for ergonomic carrying comfort and ease of use. For the tandem glider a 200 litre XXL rucksack is supplied as standard to fit everything you need in one bag.

The rucksack should be packed carefully to achieve maximum comfort. First, place the glider inside the pilots harness and then put the top of the harness in the bottom of the rucksack with the glider side next to the back of the rucksack. Then put the passenger harness and helmets on top. Finally, tighten the internal and external compression straps and adjust the shoulder and waist straps to ensure the equipment stays firmly in place when walking. There are also two storage pockets for accessories.



Your harness

The BeCool is certified only when flown with harnesses with variable cross-bracing (GH type) 99% of all harnesses produced after 1993 are GH type harnesses. Older harnesses with fixed cross-bracing (GX type) are not certified and cannot be used. Check with the manufacturer of the harness or your paragliding instructor if in doubt.

The adjustment of the harness chest strap controls the distance between the carabiners and affects handling and the stability of the glider. Tightening the chest strap increases stability, lengthening it gives more feedback from the glider and decreases stability.

Gin Gliders calculates and designes gliders for (draws the plan of the glider with) a distance between the carabiners of 44cm. We recommend setting a distance of 42cm to 50cm between the carabiners, depending on the size and design of the harness.

There is no need to fly with a tight chest strap setting with the BeCool, as there is no tendency for it to feel unstable, unlike older gliders.

Certified weight range

The BeCool must be flown within its certified weight range of total flying weight. It is certified for solo and tandem flight both, and the total weight in flight is the weight of the pilot, passenger, glider, harnesses, clothing and all accessories. The easiest way to check your total flying weight is to stand on a scale with all your equipment packed into your rucksack (plus passenger!).

Pre-flight safety

To fly this tandem glider you should:

- Be an experienced solo pilot with the sufficient, practical and theoretical training and experience to fly a tandem glider, and be qualified as a tandem pilot.
- Have the necessary tandem insurances and licences, as required in your country.
- Be in your right mind, unaffected by extreme stress, recreational or prescribed drugs.
- Only fly in conditions suitable for your level of paragliding. Remember that you are responsible for your passenger as well and always be on the safe side.

Wear suitable head protection, use certified harnesses with back protection and a tandem emergency parachute.
Make a thorough pre-flight check.

4. Flying the BeCool

We recommend that you first practice inflating your glider on a small training hill, or on the flat ground. Make your first flight with your new paraglider in gentle conditions on a familiar flying site.

Preparation for launch

Following a consistent method of preparation, pre-flight check is vital for safe flying. We recommend the following:

On arrival at the flying site, assess the suitability of the conditions: wind speed and direction, airspace, turbulence and thermal cycles.
Inspect your glider, passenger and pilot harnesses, reserve handle and pin, helmets and any other equipment.
Choose a sufficiently large take-off area with even ground and no obstacles.
Lay the glider out according to the planform, and get the lines and risers sorted out.
Secure first your passenger, then yourself in the harnesses and don't forget the leg loops! Put your helmets on.
Connect the spreader bar to the passenger and then the risers to the main attachment loops of the spreader bar, ensuring there are no twists or loops around the lines. Check that the parachute bridle is connected correctly to the spreader bar.
Check the trimmer position is set up right for you and your passenger.
Do a final line check by pulling gently on the risers or lines to ensure there are no new knots, tangles or interfering branches or rocks. Take extra care in nil or light winds.

Pre-flight check list

Reserve parachute: pin in and handle secure.
Helmets on and buckles closed
All buckles of your own harness and the passenger's harness closed, especially the leg straps.
Carabiners and shackles closed, lines free.
Canopy open and into wind, wind OK.
Airspace clear.

Take off

The key to a successful launch technique is to practice ground handling on flat ground whenever you can. You can do a forward or a reverse launch with the BeCool. Explain the takeoff procedure and your commands clearly to your passenger.

Light or Nil Wind Launch

The BeCool inflates steadily in nil wind conditions. Simply guide the glider with the A-risers, keeping your arms bent and hands at the level of the shoulders. Allow your arms to rise in an arc and wait for the glider to inflate and come above your head – do not push the risers. There is no need to pull the risers hard. Run positively as the glider comes above your head. Be sure to look up and check that the canopy is fully inflated and there are no tangles in the lines before you take off. If there is any irregularity and you are not yet airborne, abort the launch immediately by stalling the glider. On steep launches, stall one side of the glider and run parallel to the hill.

If the glider should come up sideways, and the situation is recoverable, run towards the lower side rather than trying to struggle against the force.

An impulse launch (where you start running with slack lines close to the glider) is not needed. Opening the trimmers in nil wind launches is helpful.

Strong Wind Launch

The reverse launch method is recommended, although the forward launch method is possible. For a reverse launch hold the brakes then turn around to face the wing, passing one set of risers over your head as you turn. The passenger always has to look in the direction of the take off. We suggest building a "wall" by partially inflating your glider on the ground, thus sorting lines out thoroughly. Check the airspace is clear around you and gently pull the glider up with the A risers. When the glider is overhead, check it gently with the brakes, turn and launch. In stronger winds, be prepared to take a couple of steps towards the glider as it inflates and rises.

Line knots or tangles

If you do take off with a line knot or tangle, try to get clear of the ground and any traffic before taking corrective action. Weightshift and/or counterbrake to the opposite side and pump the knotted side with your brake. Be careful not to fly too slowly to avoid a stall or spin. If the knot or tangle is too tight to pump it out, immediately fly to the landing zone and land safely.

Min Sink / best glide

The minimum sink speed is achieved by pulling approximately 30 cm of brake. The theoretical best glide speed in calm air is realized at the hands-off position.

Accelerated flight

The trimmers will help you to improve your glide in headwinds and give you better penetration in strong winds. Open the trimmers to increase speed and close them (normal position) to fly at normal speed.

Avoid flying with open trimmers very close to the ground or in turbulence. The wing will react more aggressively after a collapse when flown with the trimmers open.

Active flying

The BeCool has high internal pressure, a strong resistance to tucking and a very high degree of passive safety. However, it is recommended that you always practise an active flying style. This will help you avoid deflations in all but the most turbulent conditions. The key to active piloting is keeping the glider above your head at all times. If it falls back behind you, let up the brakes. If it surges in front of you, counterbrake until the surge is controlled. If you sense a loss of pressure on one side of the canopy, smoothly apply brake and/or weightshift on the appropriate side until you feel the pressure return. In all cases, maintain adequate airspeed and avoid overreaction. The BeCool has progressive brake pressure and you should never stall the wing unintentionally. Nevertheless, when you reach the stall point and feel decreasing brake pressure, you should immediately let the brakes up.

In turbulence

Deflations of the canopy can occur in strong turbulence. The BeCool will recover without pilot input in almost all situations, so whenever in doubt, let up the brakes and let the glider fly. However, it is recommended that you follow the advice below in order to help the wing recover more rapidly.

Asymmetric deflation

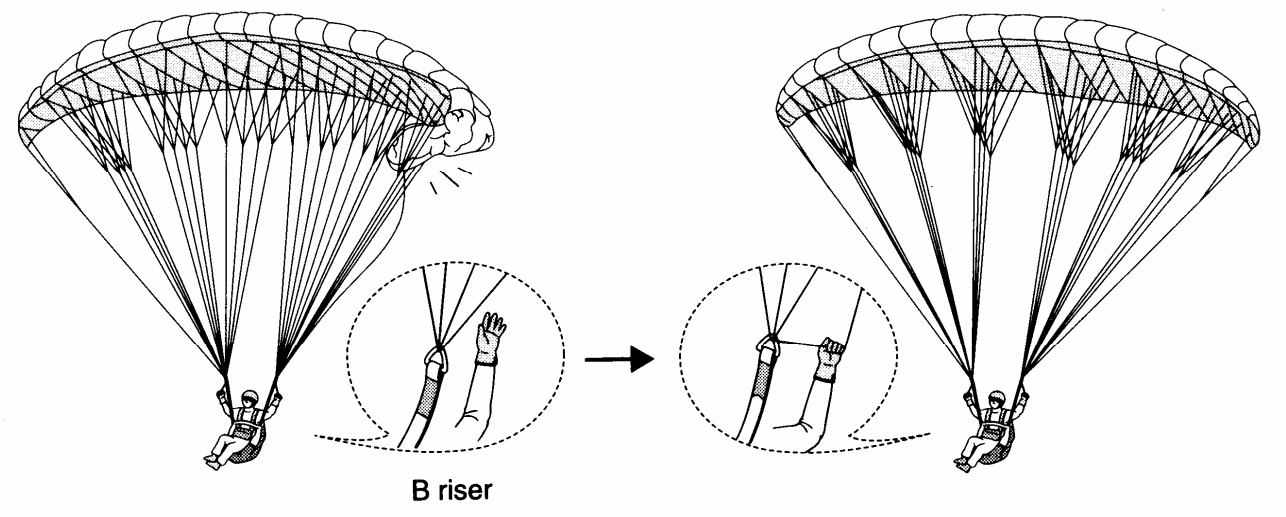
In the event of encountering strong turbulence and suffering an asymmetric deflation (collapse on one side), the BeCool will promptly and easily re-inflate without interference from the pilot, but the course might alter slightly. This might be unwanted close to the ground or other gliders. Maintain your course by weight shift away from the collapsed side. This action can be aided by applying a little force on the brake opposite to the deflation. This will normally be sufficient. However, if the deflation fails to come out, pump the deflated side with a firm and smooth pumping motion. Let the glider regain its flying speed after it has re-inflated.

Symmetric deflation

A symmetric (frontal) deflation will come out promptly without pilot's input. The glider will regain airspeed with a small surge. If counter-braking, be careful not to over-correct.

Cravat / glider wrapped around lines

A cravat can occur after a severe deflation when the wingtip becomes trapped in the glider's lines. It is extremely unlikely to occur on the BeCool. Nevertheless, the pilot should be familiar with the procedure for correcting it. Counter-brake and/or weight shift and pump the brake on the tangled side. On all Gin gliders, there is a separate stabilizer/winglet main line that goes down to the B riser. This line usually comes slack in the event of a cravat. Pull it down completely until it comes tight and the cravat normally comes out.



Flat spin

In normal thermaling flight, you are very far from the limits of a flat spin. Nevertheless, should this occur, just let up the brakes and wait for the glider to surge forward.

Deep stall (parachuting, stable stall)

The BeCool does not have a tendency to get into nor stay in a deep stall. Should this nevertheless occur, first open the trimmers, then put your hands on the A-risers and push them forward to gain speed. Never try to steer out of a deep stall.

You can recognise a deep stall by the glider getting "mushy" and the airflow around your ears decreasing. A deep stall is usually achieved by flying in turbulence or by exiting a deflation with too much brake applied.

Full stall (dynamic stall)

This is an extreme manoeuvre and there should never be any need to perform one, especially on a tandem.

Do not take wraps with your brakes before entering a full stall, but it's ok to hold the brake on the ring. Keep your hands close to your body during the stall, and lock them under your harness seat plate if necessary. In a stable full stall, the canopy will oscillate back and forth. Before releasing the stall, raise your hands slightly and evenly to fill the glider with air. If possible, let the brakes up when the glider is in front of you to avoid excessive surge. The BeCool will slow down the surge on its own, but you may counter brake the dive briefly for comfort if needed and then let up the brakes to regain airspeed. Be careful to not stall the glider again when damping the surge.

Never attempt a stall and then change your mind and release the brakes, as the glider will surge radically.

Cascade of events

Many reserve deployments are a result of a cascade of over-corrections by the pilot. Please note that over-corrections are often worse than no input at all.

Losing altitude

Extremely strong and widespread lift is found, for example, in storm conditions. The best place to be in this situation is on the ground. Nevertheless, if you've been caught out by the weather and found yourself needing to descend rapidly, there are several ways to do so. The best way is, of course, to find sink. Failing that, try one of the techniques below. They are presented in order, from the least to the most extreme. Most of these techniques place undue stress on your glider, and should be avoided if you wish to extend its lifetime. We recommend you initially practice these manoeuvres under qualified supervision during a safety training course.

Big ears

Big ears are a safe method of moderately losing altitude while maintaining some forward speed. Pull in big ears with the outer "A" line on each side. The BeCool is fitted with a "big ears kit" to facilitate this process. Simply pull the red handles velcroed to the risers outwards and downwards as shown and lock the knot of the lines on the locking system on the risers.

Although the noise of the wind around your ears may indicate that the airspeed increases, it actually does not increase when doing big ears. You should open the trimmers when doing big ears to maintain your forward speed but increase the sink rate.

The glider can be steered while in the big ears mode using weight shift alone.

When the lines are released by taking out the line knot out of the locking system, the BeCools ears will come out on their own. Release the big ears at least 100m above the ground. If this is not possible, keep the big ears in until you flare for landing rather than letting them out on the approach. This is a safer method because of a possible wind gradient close to the ground and your low airspeed/high wing loading with big ears in.

B-line stall

To quickly lose altitude without straining your body with high G-forces, you can use the B-line stall. To perform a B-line stall on a tandem glider is very difficult and not recommended by GIN Gliders. If you nevertheless want to try it, you must reach up to the B-risers just above the maillons and twist your hands while pulling strongly. It will be difficult at first and you will notice extremely high pressure, which will become a bit lighter, the more you break the aerofoil. Once pulled, do not release immediately. The glider needs to settle into a stable B- line stall before releasing. On exiting the B-line stall the BeCool has a very gentle dive without deep stall tendencies. We advise you to release the B-line stall symmetrically with both hands in a decisive manner.

Spiral dive

The spiral dive should be considered an extreme manoeuvre. Practice spiralling with caution and lesser sink rates to get a feel from the BeCool's behaviour. Weight shift and pull the brake on one side gradually. Let it accelerate for two turns and you will enter the spiral dive. Once in the spiral, you can control your descent rate and bank angle with weight shift and the outer brake.

WARNING! A pilot who is dehydrated and/or not accustomed to spiralling can lose consciousness in a steep spiral dive! As with all types of aircraft, we advise you to assist the glider to exit from the spiral dive in a controlled manner. Let the glider decelerate for one or two turns by applying outer brake and/or weight shift. Take care of your passenger, only spiral gently and never close to the ground!

Steering without brakes

If a brake is not operational for some reason, you can steer the BeCool with the D-risers. Add steering input by weight-shifting in your harness. Be careful not to steer too much with the riser to avoid any possibility of a spin.

Aerobatics

The BeCool is not designed for aerobatics. Besides the inherent risks, any kinds of extreme manoeuvres place unnecessary stress on the glider and effectively shorten its lifespan.

Steering without brakes

If a brake is not operational for some reason, you can steer the BeCool with the D-risers. Add steering input by weight-shifting in your harness. Be careful not to steer too much with the riser to avoid any possibility of a spin.

Aerobatics

The BeCool is not designed for aerobatics. Besides the inherent risks, any kinds of extreme manoeuvres place unnecessary stress on the glider and effectively shorten its lifespan.

Landing with the BeCool

Select a familiar landing area free of obstacles and carefully note the wind speed and direction in the landing area. The low minimum flying speed of the BeCool and its easy flare will help you to make soft landings in all conditions. Approach the landing with sufficient airspeed and don't leave your last turn too late or too steep.

Before landing, advise your passenger to adopt an upright position. Then slide your legs forward in the harness so that you both adopt an upright position. NEVER land in the seated position; it is very dangerous for your back even if you have back protection, which is only a passive safety system. Standing up before landing is an active safety system, and is much more effective. It is safer to land side by side. Push your passenger to one side before landing, so that you both have the opportunity to run a few steps if needed.

Winch Towing

The BeCool is suitable for winch towing. The pilot needs to have the relevant towing license for tandem paragliders. The BeCool has no tendencies towards deep stall/parachutal stall. Always tow with the trimmers open. There is sufficient margin to counter steer the glider in a normal towing situation. Make sure you use proper equipment, which is certified for tandem towing. The personnel must be experienced and licensed for tandem paraglider towing. You must observe the recommended techniques and all relevant safety precautions for tandem paraglider towing.

Motorized flight

DHV paraglider certification does not include motorized flight. However, motorized flying with the BeCool has been made with great success due to its very easy take off characteristics, good performance, stability and good handling. Always use certified combinations of engine/harness/glider. Always check with your federation if in doubt.

5. Care, Maintenance and Repairs

The materials used in the BeCool have been carefully selected for maximum durability. Nevertheless, following the guidelines below will keep your paraglider airworthy and will ensure a longer period of continuous and safe operation. Excessive wear is caused by careless ground handling and packing, unnecessary exposure to UV light, chemicals, heat and moisture.

Ground handling

The following should be avoided:

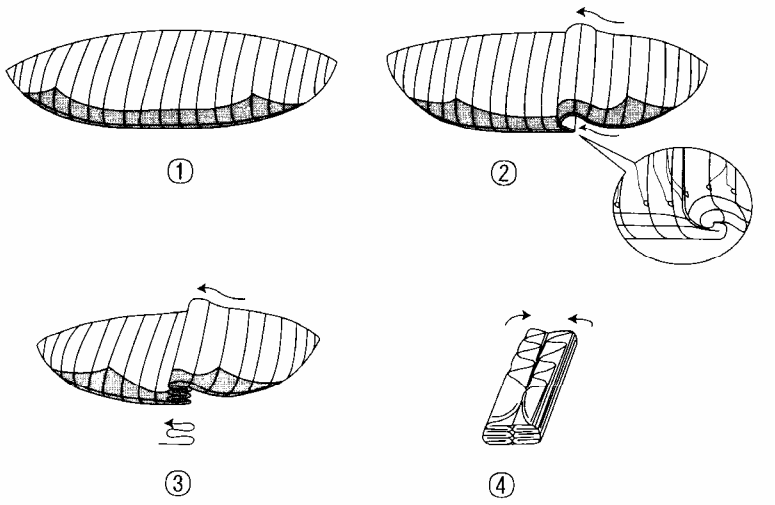
Violent shocks to the canopy (e.g. when the canopy crashes to the ground leading edge first whilst ground handling).
Dragging the glider along the ground.
Stepping on the lines or canopy. The Kevlar inside the sheath can take lots of pulling force without stretching, but is sensitive to bending with small radius.
Opening your wing in strong winds without first untangling the lines.

UV damage

Avoid leaving the glider out in the sun unnecessarily. UV rays from the sun degrade paraglider cloth.

Packing instructions

We advise you to pack the glider 'accordion wise' as shown in the diagram. This packing procedure takes slightly longer and requires an assistant, but it conserves the rigidity in the profile reinforcements.



Since folding the glider weakens the materials, pack the glider as loosely as possible.

Transport and Storage

Moisture is the worst enemy for your glider, leading to early ageing of fabric, lines and reinforcements. The BeCool should therefore be kept dry and cool. Do not pack the glider away for a prolonged period if it is damp, sandy, salty, or if other objects have entered the cells. Always allow it to dry naturally before storage in a dry room. Leave the rucksack zip open whenever possible to allow residual moisture to evaporate, and do not transport or store the glider in the proximity of chemicals such as gasoline, paints or other solvents.

Cleaning

Use only lukewarm water and a soft cloth to clean your wing. Never use any abrasive materials or detergents. Only clean the wing if it is absolutely necessary e.g. after a landing in salt water.

Inspections and inspection intervals

The BeCool must be fully inspected by an authorized Gin agent:

For non-commercial use: perform the first maintenance check after 24 months or after 200 flying hours (whichever comes first). For all subsequent maintenance checks; do after the next 24 months or after every 100 flying hours (again, whichever comes first).

For commercial use: perform the first maintenance check after 12 months or after 200 flying hours (whichever comes first). For all subsequent maintenance checks; do after the next 12 months or after every 100 flying hours (again, whichever comes first).

A full inspection will give you peace of mind and extend your glider's lifetime. Additional inspections should be performed by a qualified person following a crash or violent landing on the leading edge, or if you note a deterioration of performance or behaviour.

You should also check for any damages to your lines, sail, and carabiners before each flight.

Repairs

Very small holes in the sail can be repaired with the sticky back tape provided with your glider. Damaged lines should ideally be replaced by your GIN dealer. Before fitting a replacement line, check it for length against its counterpart on the other side of the wing. When a line has been replaced, always inflate the glider on the flat ground to check that everything is in order before flying.

Major repairs, such as replacement of panels, should only be carried out by the distributor or manufacturer.

6. Reference

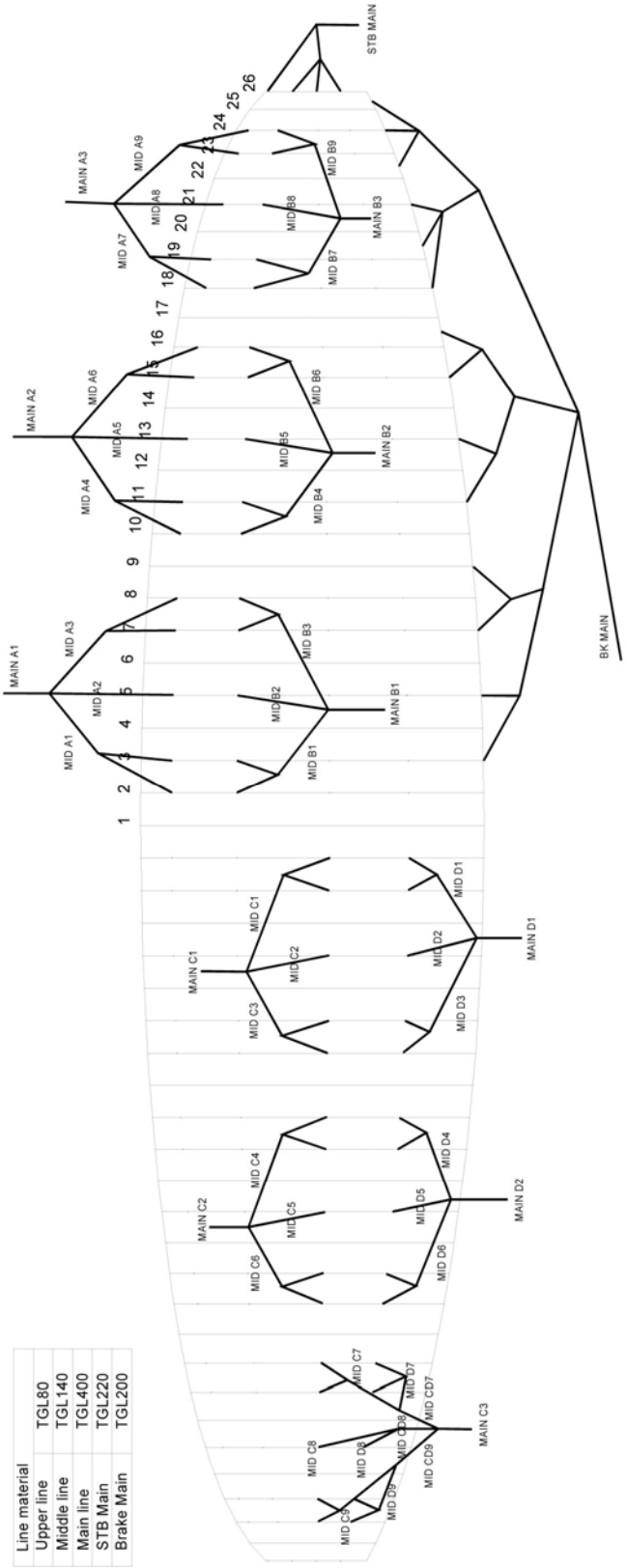
Testing and Certification

The Gin Gliders BeCool has passed DHV 1-2(GH) and EN C with trimmers. The BeCool has also passed load tests and shock tests with a load exceeding 8G of the maximum weight in flight.

Technical Specifications

SIZE		39	42
FLAT	AREA	39.5m²	42.25m²
	SPAN	14.31m	14.80m
	A.R	5.18	5.18
PROJECTED	AREA	33.93m²	36.3m²
	SPAN	11.36 m	11.75m
	A.R	3.8	3.8
CHORD	ROOT	3.53m	3.65m
	TIP	0.85m	0.88m
TOTAL HEIGHT		8.89m	9.20m
CELL NUMBER		50	50
GLIDER WEIGHT (kg)		9.5kg	10.1kg
WEIGHT IN FLIGHT (kg)		125 ~ 193	145 ~ 235
LTF		1-2	1-2
EN		C	C

Line Plan


STB MAIN
BK MAIN
MAIN A1
MAIN A2
MAIN A3
MAIN B1
MAIN B2
MAIN B3
MAIN C1
MAIN C2
MAIN C3
MAIN D1
MAIN D2
MID A1
MID A2
MID A3
MID A4
MID A5
MID A6
MID A7
MID A8
MID A9
MID B1
MID B2
MID B3
MID B4
MID B5
MID B6
MID B7
MID B8
MID B9
MID C1
MID C2
MID C3
MID C4
MID C5
MID C6
MID C7
MID C8
MID C9
MID CD7
MID CD8
MID CD9
MID D1
MID D2
MID D3
MID D4
MID D5
MID D6
MID D7
MID D8
MID D9
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
Line material
Upper line TGL80
Middle line TGL140
Main line TGL400
STB Main TGL220
Brake Main TGL200

Description

FABRIC OF CANOPY

SUPPLIER	NAME	N.C.V INDUSTRIES			
	ADDRESS	L'Isle d'Abeau, Parc de Chesnes, 75, rue du Ruisseau 38070 SAINT QUENTIN FALLAVIER Cedex / France			
TYPE OF FINISH		SIDE COATED(POLYURETHANE)			
TYPE OF YARN		PA 6.6 HIGH TENACITY – 33 dtex			
FABRIC CODE		9092 E85A (Top Surface, Diagonal)	9092 E29A (Main Rip)	9017E38A (bot surface)	9017 E29A (Ripl)
PATTERN		Rip Stop	Rip Stop	Rip Stop	Rip Stop
Coated fabric's weight (g/sqm)		46+/-2	45+/-3	40+/-2	40+/-2
Tear Strength	WARP (DaN)	4.2 mini	2.0 mini	1.5 mini	1.5 mini
	WEFT (DaN)	2.3 mini	1.5 mini	1.5 mini	1.5 mini
Elongation on bias 3 lbs (%)		11 maxi	6.5 maxi	8 maxi	1 maxi
Elongation on bias 5 lbs (%)		17 maxi	15 maxi	17 maxi	2 maxi
Elongation on bias 10 lbs (%)		26 maxi	27 maxi	28 maxi	10 maxi
Break Strength	WARP (DaN/5cm)	47 mini	40 mini	38 mini	38 mini
	WEFT (DaN/5cm)	38mini	33mini	33mini	33mini
AIR Permeability p=2000Pa (l/SQMXMN)		20 maxi	40maxi	40maxi	100(maxi)

SUSPENSION LINE

MATERIAL		ARAMID(TECHNORA)			
SUPPLIER	NAME	TEIJIN LIMITED, JAPAN			
	ADDRESS	1, UCHISAIWAI-CHO 2-CHOME, CHIYODA-KU, TOKYO 100, JAPAN			
DIAMETER(mm)		1.1	1.4	1.6	2.3
YARN COUNT		1,000 D	1,000 D	1,000 D	1,000 D
NUMBER OF CORE		4	7	11	20
BREAKING STRENGTH		80kg	140KG	220kg	400kg

REINFORCEMENT

FABRIC CODE		P260 1.0 UVM
SUPPLIER	NAME	DIMENSION-POLYANT Gmbh
	ADDRESS	Speefeld 7 - D-47906 Kempen – GERMANY
MATERIAL		POLYESTER SCRIM
STYLE		P260
FINISH		1.0 UVM
WEIGHT (g/m2)		283
CONSTRUCTION		150P * 150P FILM 150P * 150P

RISER

MATERIAL		POLYERSTER TAPE
SUPPLIER	NAME	Güth & Wolf GmbH
	ADDRESS	Herzebrockerstr. 1-3 D-33330 Gütersloh GERMANY
WEIGHT (GR/M)		34
BREAKING STRENGTH		1,100DAN
WIDTH (mm)		20mm

MAILLONS

MATERIAL		STAINLESS STEEL
SUPPLIER	NAME	ANSUNG PRECISION CO.
	ADDRESS	212-32 ANYANG 7 DONG, MANANGU, ANYANG CITY, KYUNG KI-DO, KOREA
WEIGHT(GR)		12
BREAKING STRENGTH		1,000kg
DIAMETER(mm)		4.3

BRIDLE(ATTACHMENT LINES)

MATERIAL		NYLON
SUPPLIER	NAME	KOLON INDUSTRIAL CO.
	ADDRESS	45 MU KYO DONG JUNG – GU, SEOUL, KOREA
WEIGHT(GR/M)		7.2
BREAKING STRENGTH (kg)		110
WIDTH(mm)		13

THREAD

MATERIAL		HIGH TENACITY POLYESTER YARN	
SUPPLIER	NAME	AMANN & SOHNE GMBH & CO.	
	ADDRESS	INDUSTRIESTRASE 1, D-74391 ERLIGHEIM, GERMANY	
DENIER		150D/2	250D/3
BREAKING STRENGTH (kg)		2.9	3.2
WEIGHT(GR/M)		0.05G	0.083G

"Designing paragliders is a personal journey of challenge and discovery, an ongoing search for perfection."

- Gin Seok Song

Every effort has been made to ensure that the information in this manual is correct, but please remember that it has been produced for guidance only. It should not be used as a "how to fly" manual. This owner's manual is subject to changes without prior notice. Please check www.gingliders.com for the latest information regarding the BeCool and other GIN products.