GIN

Fuse

pilot manual

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Photo: J. Maupoint

Contents

Thank you...

...for choosing Gin Gliders. We are confident you'll enjoy many rewarding experiences in the air with your GIN Fuse.

This manual contains important safety, performance and maintenance information. Read it before your first flight, keep it for reference, and please pass it on to the new owner if you ever re-sell your paraglider.

Any updates to this manual, or relevant safety information, will be published on our website: www.gingliders.com. You can also register for e-mail updates via our website.

Happy flying and safe landings,
GIN team

Warning

Like any extreme sport, paragliding involves unpredictable risks which may lead to injury or death. By choosing to fly, you assume the sole responsibility for those risks. You can minimize the risks by having the appropriate attitude, training and experience and by properly understanding, using and maintaining your equipment. Always seek to expand your knowledge and to develop self-reliance. If there is anything you do not understand, consult with your local dealer as a first point of contact, with the GIN importer in your country or with Gin Gliders directly.

Because it is impossible to anticipate every situation or condition that can occur while paragliding, this manual makes no representation about the safe use of the paraglider under all conditions. Neither Gin Gliders nor the seller of GIN equipment can guarantee, or be held responsible for, the safety of yourself or anyone else.

Many countries have specific regulations or laws regarding paragliding activity. It's your responsibility to know and observe the regulations of the region where you fly.

About Gin Gliders

Dream

In forming Gin Gliders, designer and competition pilot Gin Seok Song had one simple dream: to make the best possible paragliding equipment that pilots all over the world would love to fly—whatever their ambitions.

At Gin Gliders, we bring together consultant aerodynamists, world cup pilots, engineers and paragliding school instructors, all with one goal: creating better paragliders.

Touch

We're a "hands-on" company that puts continuous innovation and development at the centre of everything we do.

At our purpose-built R&D workshop at head office in Korea, we are able to design, manufacture, test-fly and modify prototypes all in a matter of hours. Our international R&D team is on hand both in Korea and at locations worldwide. This guarantees that your equipment has been thoroughly tested to cope with the toughest flying conditions.

Our own production facilities in East Asia ensure the quality of the finished product and also the well-being of our production staff.

Believe

We believe that the product should speak for itself. Only by flying can the pilot understand the wing and develop trust and confidence in it. From this feeling comes safety, comfort, performance and fun. The grin when you land should say it all!

Introducing the Fuse

The Fuse is a tandem paraglider for professionals who demand only the best for their passengers—and for themselves!

The Fuse contains the same EPT (Equalized Pressure Technology) that's at the heart of our XC wing, the Carrera. EPT means a better launch, a better landing and a better flight all-round! The Fuse is both reliable and efficient for commercial use, yet makes no compromises when flown for pure pleasure.

Effortless inflation and take-off

The Fuse is easy to manage on the ground and inflates smoothly and evenly in all flyable conditions. And because the Fuse profile produces a lot of lift at low airspeeds, you'll get airbourne without a fuss—even if your passenger doesn't move as enthusiastically as you would wish!

Agile, well-balanced handling

The Fuse reacts to your control inputs with speed and precision and goes exactly where you put it. You get just the right amount of feedback, so your passenger stays comfortable and you easily find lift and stay in thermals. Or, if you prefer to land sooner, the agility of the wing means that you can still have some fun on your way down!

Stress-free landing

The Fuse has excellent roll response even at lower speeds, ideal on tight landing approaches. Near minimum speed, the sink rate increases significantly and—in appropriate conditions—you can use this behaviour to your advantage during the last few metres before touchdown. Despite this, the wing's energy retention is good and you can still flare with authority.

CAUTION: To fly the Fuse, you should be a qualified tandem pilot in accordance with your local regulations. You should be flying regularly and be competent in "active flying" techniques.

WARNING: The Fuse is not intended as a training glider!

Before you fly

Delivery

Make sure your dealer has checked and test-flown the glider. Your glider will be delivered to you with the original trim settings which correspond to the tested configuration. Do not make any modifications, such as changing the risers or altering the line lengths. This would invalidate the certification and is potentially dangerous.

Brake lines

GIN test pilots have carefully tuned the brake line lengths during testing, and there should be no need to change them. We generally suggest flying with wraps (a turn of brake line around the hand).

If you do decide to make adjustments to suit your harness, body or flying style, make any adjustments in steps of 2cm. Be sure to test fly the glider after each adjustment. See the reference section at the end of this manual for the recommended knot to use to re-attach the brake handles.

Risers and line layout

A line plan and a diagram of the risers can be found in the reference section at the end of this manual. Familiarize yourself with the layout of the risers and the position of the "stabilo (STB)" line.

NOTE: Your glider may have been delivered with some lines looped around the maillons, this is to allow the glider to be re-trimmed during a professional check at the recommended service interval.

WARNING: If you fly with wraps, be sure to release them in any extreme situation. Failure to do so could prevent normal recovery of the wing.

CAUTION: If you do shorten the brake lines, make sure there is enough free brake travel that the trailing edge is not braked (deformed) when the glider is fully accelerated. There should be at least 10cm of free brake travel when the glider is flown "hands-off".

Trim (speed) system

The trim system varys the angle of attack and functions both as a speed system and also as a means to adjust the trim speed of the wing for varying take-off conditions and passenger weights. The trimmers on the B, C and D risers are operated via Kamet™ buckles on the D risers. An 11cm total range (from slight negative to large positive setting) provides versatility and a large reserve of speed. There are 3 basic positions:

Trimmers neutral: this is marked by red stitching, and is the position for normal flights.

Trimmers open: recommended when flying with low to medium hook-in weight, in stronger winds, for towing, for flying with big-ears or when flying with light passengers. It is also useful for long transitions into headwinds.

Trimmers closed: recommended when flying at or near the maximum take-off weight. Closing the trimmers will reduce take-off and landing speed.

Tandem Spreader bars

The Fuse has been tested and certified with a standard T-bar (spreader bar) suspension system. Using the Fuse with other tandem suspension systems is not recommended as it could adversely affect both flight characteristics and the behaviour in extreme flight situations.

Connect your passenger to the appropriate loop in order to balance the relative difference in height and weight between you and your passenger. Be sure to connect the passenger symmetrically to the corresponding loops on each side of the spreader.

Always use tandem-rated carabiners or maillons for these connections and also for those of your rescue system.

CAUTION: Be sure to always set the trimmers symmetrically.

CAUTION: Don't fully open the trimmers in severe turbulence or near the ground.

CAUTION: Be aware that fully open trimmers will place the brake handles much higher up on the riser

TIP: The slight negative trim setting is useful on steep take-offs or with heavy passengers.

NOTE: When using soft spreaders, weight differences are not relevant and the different hang points for pilot/ passenger serve only to equalize height differences.

NOTE: If you choose to use the lower pilot hang-point on the spreader, you may need to adjust the lengths of the brake lines.

Big ears system

A clamp cleat system makes it simple to lock the big ears in place when used for an extended period.

Your harness

It's important for your comfort and safety to fly with a suitable harness that is properly adjusted. When choosing a harness, remember that the height of the attachment points (i.e. distance from the carabiners to the seat plate) affects the sensitivity of the glider and the relative brake travel. The lower (shorter) the attachment points, the more sensitive the glider is to weightshift. The GIN Fuse glider has been developed with the corresponding GIN Fuse pilot and Fuse passenger harnesses, which have appropriate attachment point heights. For any other harnesses, we recommend an attachment point height of 40-44cm (depending on size and model).

Adjust your chest strap so that the distance between the carabiners is approximately 46cm. Lighter pilots may fly with a slightly narrower setting. A rule of thumb is to set the width of your chest strap to that of your shoulders.

Your dealer will be able to offer individual advice regarding harnesses.

Mounting the tandem reserve

Always mount the reserve so that unintentional opening by either passenger or pilot is impossible. Please refer to the reserve manufacturers User Manual.

The reserve bridle should run along the pilot's back, through the Velcro guide of the spreader bar, and be attached to the main carabiners at the main suspension point (where the risers are attached). Any other mode of attachment will compromise the safety of pilot and passenger in

CAUTION: Don't adjust your leg and shoulder straps too tightly. If you do, you may have difficulty sitting back into your harness after take-off.

NOTE: The pilot and passenger's chest strap (horizontal distance between the main carabiners) should be set to the same distance.

NOTE: Information regarding harness dimensions used in certification flights is contained in the documentation of the relevant standards.

the event of a rescue opening.

Rucksack

The Fuse comes with an XXL rucksack, designed to carry all your equipment in comfort.

Weight range

Be sure to fly your glider within the certified weight range given in the Technical Specification section. Due to EPT technology, the Fuse flies well at any wing loading within this weight range. Higher wing loadings result in a more dynamic feel, increased brake pressures and higher speeds. Lower wing loadings result in lower speeds, a softer feel and less dynamic reactions.

TIP: Check your total flying weight by standing on weighing scales with all your equipment packed into your rucksack.

Flying the Fuse

General warnings and advice

Before flying with your paraglider, check the following:

Are you in good physical and mental condition?

Are you familiar and compliant with all applicable laws and regulations in your area?

Are you within the certified weight range of your paraglider?

Do you and your passenger have the necessary valid insurance cover (e.g. liability, medical, life)?

Are you briefed thoroughly about the site, airspace and expected weather conditions of the day?

Is your equipment and choice of site suitable for your level of experience?

Do you have a suitable helmet, gloves, boots, eyewear and adequate clothing?

Are you and your passenger carrying some form of identification, so that people know who you are in case of an accident? Take along a radio and mobile phone if possible.

Do you fully understand how to safely fly your new paraglider? If not, have your instructor or dealer explain anything you are not sure about.

When you go for your first flight on your new Fuse, be sure to pick a day and site that does not present you with any unfamiliar challenges. During your first flight, familiarize yourself with the in-flight characteristics of your new wing.

TIP: Practice inflating your glider and making short flights on a training hill.

NOTE: Remember that you have a duty of care to your passenger and that their life is in your hands. Take extra care with all aspects of safety.

Preparation for launch

Check the condition of your paraglider and other flying equipment before every flight.

Lay out your wing on its top surface in an arc. Make sure that the centre of the wing is higher than the tips.

Prepare for launch by checking the following:

Is the glider fabric dry and free from tears or other damage?

Are the lines free from knots, tangles or other damage?

Are the maillons connecting the lines and risers closed and secured?

Are your carabiners in good condition?

Are the risers (including the trimmer webbing) in good condition?

Is your harness in good condition?

Is your rescue correctly installed in your harness?

Is your rescue handle secure and rescue pin in?

Pre-flight check

Check the following before every take-off:

Is your passenger fully briefed and fit to fly?

Is your personal equipment—and that of your passenger—in order? (harness and helmet straps done up, spreader bar correctly attached, rescue correctly connected to spreader bar, rescue handle secure and pin in, carabiners done up)

Is the trimmer position set correctly?

Is the neoprene cover over the clamp cleat (the clamp cleat must be covered)?

TIP: Always follow a consistent method of preparation and pre-flight checks each time you fly.

TIP: Explain the takeoff procedure and your commands clearly to your passenger.

CAUTION: If the glider has obvious folds due to tight packing or long-term storage, carry out some practice inflations before your first launch and smooth out the trailing edge a little. This ensures that the flow profile is correct during launch. This is particularly important in low temperatures.

Are you holding the 'A' risers and brake handles?

Is the wing arranged in an arc with the leading edge open and into wind?

Is the wind strength and direction suitable?

Is the airspace and visibility clear?

Launching

The Fuse has smooth and progressive inflation characteristics with no tendency to hang back or shoot forwards.

Forward launch (nil to light winds)

Lean forward positively and guide the 'A' risers smoothly upwards in an arc, keeping your elbows bent and hands at the level of the shoulders. The Fuse will inflate easily—there is no need to aggressively pull or push the risers. As the glider comes above your head, make sure that the canopy is correctly inflated, that you are centrally positioned under the glider, and that there are no knots or tangles in the lines. Check that the airspace and visibility are clear. If everything is in order, move forward decisively off the take-off.

Reverse launch (light to strong winds)

Take the brakes and turn around to face the wing. Pass one set of risers over your head as you turn. Make sure the lines are free from knots or tangles. Check that the airspace and visibility are clear. Gently pull up the glider in an arc with the 'A' risers. When the glider is overhead, brake it gently if necessary, turn around and launch.

TIP: If the glider comes up slightly off-centre, make small corrections by moving towards the lower side.

TIP: In stronger winds, be prepared to take a couple of steps towards the canopy as it inflates and rises.

TIP: Practice ground-handling regularly to improve your take-off skills!

CAUTION: Groundhandling (especially on rough surfaces) will accelerate the ageing process of your wing.

Landing

Remember the following general points to make a good landing:

Observe the wind direction and strength, and any hazards in, or near, the landing area.

Fly a proper landing circuit and plan your final approach well in advance.

Actively choose a spot on the ground in the landing field to aim for. Adopt an upright position in your harness by sliding your legs forward, ready to make contact with the ground.

Make your final approach as straight as possible. Fly at around trim speed (keep just enough tension on the brakes to keep contact with the wing, a little more tension in turbulent air). Once you come within a metre of the ground, brake progressively to maintain a level flight path.

In nil or light winds, flare positively to reduce your groundspeed to a minimum. In stronger winds, use only the minimum amount of flare necessary to sufficiently minimize your vertical and horizontal speed. If you flare too hard in strong winds, the glider will climb rapidly upwards and backwards, and you may get injured.

In strong winds, turn to face your wing as soon as your feet touch the ground. Immediately stall the glider as rapidly as possible with the brakes or rear risers. Be prepared to run towards your wing.

CAUTION: Never let the leading edge crash to the ground, you risk damaging the seams and/or internal structure.

WARNING: Never perform steep turns near the ground. This may cause the pilot to pendulum dangerously.

CAUTION: Be sure to brief your passenger in advance on any actions you may require of them during landing.

In-flight characteristics

Normal flight

"Neutral trim" (trimmers set to neutral, brakes fully released) is the best glide speed in still air.

Minimum sink speed on the Fuse is achieved by light braking. In a normal flying position (knees parallel to the ground and your body slightly reclined), your hands should be holding the brakes at a level between your eyes and your shoulders. Use this speed for thermalling and ridge soaring.

Stall speed is approached by bringing your hands towards your hips. Notice the decreased wind noise and a significant increase in brake pressure. Be sure not to allow your glider to enter a stall.

Accelerated flight

The trim system causes the glider to accelerate by lowering the angle of attack. Use the trimmers when gliding in sinking air, headwinds and crosswinds. Remember that the wing will react more dynamically after a collapse when flown with the trimmers open or with a higher wing loading.

Turning

Make your first turns gradual and progressive. Also remember that your harness and its set-up has an influence of the turning behaviour of the wing.

Enter a turn with good airspeed, weightshift and then apply the brake. Once established in the turn, regulate your speed and turn radius with weightshift and the outer brake.

TIP: During your first few flights, familiarize yourself with your glider's speed range and corresponding brake positions and pressures.

CAUTION: Always check for clear airspace before initiating a turn.

Active flying

Practice active flying to eliminate collapses in all but the most turbulent conditions.

Keep tension on the brakes approximately equal to the weight of your arms. This allows you to stay relaxed and sensitively feel the internal pressure in the wing through the brakes. If you feel a loss of pressure in one or both sides of the wing, quickly apply the appropriate brake(s) to re-gain pressure. Release the brake promptly as soon as normal pressure is resumed.

If you miss the above timing and get a collapse, be sure to first raise your hands and release the brakes before considering any other corrective actions.

The Fuse has excellent pitch stability. Nonetheless, in turbulence or during manoeuvres, the glider may pitch. If the glider pitches in front of you, apply brake to slow it down. If the glider drops behind you, ease off the brakes to allow it to speed up. The objective is to reduce the pendulum effect by adjusting the speed of your glider so that glider and pilot are travelling at the same speed.

Due to the inherent stability of the Fuse, collpases not induced by pilot action are rare in all but the most turbulent conditions.

TIP: The further in front of you the glider pitches, the larger the brake input required, but for a shorter duration.

CAUTION: Never release the brakes when the glider is behind you but accelerating forwards.

Rapid descent techniques

Learn and practice the techniques in this section under qualified supervision. Big ears and spiral dives are generally the most common methods of descent. Big ears can achieve a moderate rate of descent with the advantage of forward speed and manoeuvrability. Spiral dives attain higher rates of descent, but the G-forces can be significant and the manoeuvre is more technically demanding and may have an undesirable effect on your passenger. 'B-stalls' have little or no advantages compared to the other methods of descent and are not recommended in normal situations.

Big ears

To enter big ears, pull down firmly the outermost A lines on each side of the wing one-by-one until the wingtips fold under.

Once in big ears, the glider can still be steered using the brakes. If using big ears for an extended period, lock them in place using the clamp cleat on the rear riser. Before using the clamp, remove the neoprene cover.

To increase your sink rate and forward speed, release the trimmers. Always release the trimmers AFTER entering big ears, never before.

To exit big ears, release both A lines at the same time. Apply brake progressively one side at a time to help re-inflation. Be careful not brake too deeply on both sides at the same time as this could cause a stall.

Spiral dives

Before entering a spiral, make sure you have adequate height for recovery. To enter the spiral

TIP: Always try to avoid the need to use these descent techniques. Thoroughly check the conditions before launch, and pay close attention to how the day develops.

NOTE: The outer A-line of the Fuse is attached to a separate riser. This makes applying big ears easier.

WARNING: Do not attempt to release big ears near the ground.

dive, weight shift and progressively apply the inside brake until the glider enters the spiral. As the glider accelerates into the spiral, centre your weight and control your rate of descent with weightshift and outer brake.

To exit the spiral, check your weight is centred (or slightly towards the outside) and progressively release the inside brake. As the glider starts to exit the spiral, you may also choose to reduce the pendulum moment by briefly re-applying the inside brake.

The Fuse has no tendency to remain in a stable spiral dive under normal conditions. The Fuse will recover spontaneously, after the inside brake is released progressively in one turn, from an established spiral dive. However, in certain cases, such as spirals with excessive sink rates or wrong harness settings, pilot action may be required. In such cases, exit the spiral by weightshifting to the outside and progressively applying the outside brake.

B-stall

Although it is not recommended for normal situations, the B-stall does not present particular difficulties.

To enter a B-stall, symmetrically pull down the B risers. This action may require considerable effort. To exit the manoeuvre, release the B-risers smoothly and symmetrically. Be sure to allow the glider to resume normal flight before making any other actions.

WARNING: The high G-forces experienced in steep or prolonged spirals may result in disorientation or even loss of consciousness. Spirals with descent rates above 10 m/s are not recommended.

CAUTION: Frequent steep spirals may cause premature aging of your wing.

WARNING: Do not attempt to enter a spiral dive while in big ears. This places excessive forces on the paraglider and may result in structural failure.

Incidents in flight

Asymmetric collapses

Use active flying techniques to virtually eliminate collapses in normal flying conditions. Nevertheless, if you do get a collapse, stabilize your weight in your harness and do not allow yourself to fall to the collapsed side. Control your course with weightshift and a little outside brake. The deflation should re-inflate spontaneously.

If the deflation does not re-inflate spontaneously, apply brake on the closed side in a smooth, progressive pumping action. Be sure not to apply too much brake too slowly as this may risk a stall. Remember that a partly collapsed wing has a reduced surface area and thus a higher stall speed.

Symmetric collapses

Symmetric (frontal) collapses will normally re-open without pilot input. Assist this process if necessary with a symmetric application of the brakes. Take care not to apply too much brake for too long as this may stall the wing.

Cravattes

A cravatte occurs when a wing tip becomes stuck between the glider lines, for example, following a bad take-off preparation. If you get a cravatte, first control your direction. Do this by using weightshift and enough counter-brake to stop the turn, but not too much to risk a stall of the opposite side. Then pull down the stabilo line (STB-see line plan) until it becomes tight. This normally frees the cravatte. If not, the last resort to attempt recovery is to make a full stall (symmetric or asymmetric). Do not attempt this unless you have the necessary skill, training and

CAUTION: After a large collapse, an instinctive reaction to the body falling is to attempt to hold something. This can result in the pilot unintentionally applying brake, which prevents proper recovery. Always make sure you have fully released the brakes (including any wraps taken) after any incident. Let the glider fly.

WARNING: Do not hesitate to throw your reserve parachute if the rotation in a cravatte is increasing uncontrollably or if you are at low altitude.

CAUTION: Always remain aware of other aircraft and terrain when dealing with a problem on your wing (e.g. cravattes)

experience to perform this manoeuvre safely.

Rear riser steering

If, for any reason, you are unable to use the brakes to steer the glider, you can also use the rear risers. Take care to use only small inputs. Pulling the rear risers too hard may cause a stall.

Flying with a wet paraglider

Never fly with a wet paraglider or in the rain. Doing so increases the risk of a deep (parachutal) stall. If you do get caught out, never use big ears. Fly with the minimum of brake and head for the landing immediately.

Deep stall

A deep (parachutal) stall is only likely to occur in exceptional circumstances, such as if the glider is flown when wet, if the lines are significantly out-of-trim or if the glider is flown in extreme turbulence.

In a deep stall, the canopy may be open, but is descending vertically with little or no forward speed.

To exit a deep stall, fully release both brakes and allow the glider to return to normal flight. If the glider remains in the deep stall, put your hands on the A-risers and push forwards or release the trimmers.

CAUTION: Never apply the brakes, including any wraps taken, in a deep stall.

WARNING: During any incident in flight, always monitor your altitude. If you have any doubt that you have sufficient height for recovery, deploy your reserve without hesitation. "If low, then throw".

Other modes of flight

SIV / Safety training

During a safety training course, avoid subjecting the materials of your paraglider to excessive stress. Uncontrolled flight positions may occur which are outside the manufacturer limits of the paraglider. This may cause a general deterioration in flight characteristics, premature ageing, or even structural failure.

Aerobatics

Your Fuse is not intended to be used for aerobatics (acro). By engaging in such an activity, you voluntarily assume an increased risk of injury or death. Aerobatics may also cause premature ageing of the materials and in the worst case, structural failure.

Wingovers (steeply backed alternating turns)

Wingovers up to 90 degrees angle of bank may be performed by pilots with the appropriate training.

Towing

The Fuse is suitable for towing using standard towing procedures. Open the trimmers for towing—this ensures that the glider stays in a more vertical position above the pilot rather than hanging back.

Tow-release adapters for solo towing are not recommended for tandem towing. Hooking into the passenger harness main carabiners will result in a more optimal load distribution of the pilot/passenger weight.

CAUTION: Be sure your passenger is fully briefed about any manouvres you intend to perform.

WARNING: uncoordinated wingovers can result in large asymmetric collapses or cravattes. Always make sure you have sufficient ground clearance and the necessary skill and experience before attempting such manoeuvres.

TIP: Make sure your wing is overhead at the start of your tow. Be careful not to over-control the wing as it reacts differently to control inputs when on tow.

You are responsible for ensuring that your towing operations are safe and in accordance with any applicable tow regulations. Make sure you have appropriate tow training and use a suitable harness attachment and release mechanism. Always use an approved tow system and qualified tow operator.

Paramotoring

Details of GIN wings suitable for motorized flight can be found in the paramotoring section of our website.

Care and maintenance

Appropriate care and maintenance is essential both for your safety in flight and to extend the life of your glider. Excessive wear is caused by careless groundhandling, packing or storage; exposure to excessive humidity, heat, salt or chemicals; and insects or small animals.

General care tips

Don't groundhandle or take-off on abrasive surfaces.

To move the paraglider to another spot, don't drag it across the ground. Pick it up and carry it.

Don't repeatedly inflate the glider and allow it to crash back down. Step towards the wing as it comes down to take the force out of this action.

Don't let the leading edge crash to the ground. This stresses the seams and can even cause the cell to explode.

Don't step on the lines or the canopy, or allow others to do so.

Don't open your wing in strong winds without first untangling the lines.

Don't leave your glider out in direct sunlight longer than necessary.

Don't sit on your rucksack when your glider is packed inside.

Don't pack your glider with foreign objects inside. In particular, insects may bite through the fabric or produce acids when their bodies decompose.

Always rinse your glider immediately if it has been exposed to salt water (see "Cleaning").

Packing instructions

Although the plastic rods used in the sail have been selected for their excellent recovery characteristics and in the worst case can be replaced, we recommend keeping them in their best

condition by packing your glider concertina style.

Pack your glider so that the plastic rods lie as flat as possible on each another and there is no unnecessary bending or twisting of the rods. Fasten any straps or bands by pulling gently—do not overtighten. We recommend the use of the GIN concertina bag. Please ask your dealer for details or refer to our website.

NOTE: concertina packing ensures that the leading edge is treated carefully, which will help increase the glider's life, performance and launch behaviour.

Cleaning

Remove sand, dirt or small stones from inside the canopy. Use only lukewarm water and a sponge or soft cloth to clean your glider. Leave your glider to dry naturally in a well-ventilated area out of direct sunlight. Never use abrasive materials, solvents or detergents.

Storage

Always make sure your glider is completely dry before storage. Do not store your glider for a prolonged period if it is sandy, salty or if other objects have entered the cells. Store your glider in a dry place out of direct heat and light and away from chemicals or small animals. If you intend to store your glider for a long period, we recommend storing it loosely.

NOTE: never expose your glider to extreme heat e.g. in the boot of a car in summer.

Inspections and repairs

The canopy, lines, risers and connections must be inspected before every flight for correct function and any signs of damage. If, at any time, your glider shows unusual changes in flying behaviour, have it checked by a qualified professional.

Pay particular attention to the trimmer webbing as this is an area of high wear and tear. The trimmer webbing should be replaced if worn.

Small holes in the sail, which do not affect a seam, can be repaired with the sticky backed

IMPORTANT: Do not attempt to perform repairs unless you have the knowledge, experience, materials and tools needed to do the job properly.

ripstop tape provided with your glider. Plastic rods can also be replaced by sliding the rod out of its pocket and inserting the replacement rod.

For all other repairs and maintenance, please see your dealer or specialist repair shop.

Replacement lines can be ordered from your GIN dealer. Check replacement lines for length against its counterpart on the other side of the wing. Always perform a test inflation on flat ground to check everything is in order before flying.

Inspection period

A qualified professional should perform a formal maintenance inspection no later than 24 months after the first flight or after 100 hours. The inspection should consist of measurements of the fabric porosity, tear resistance, line strengths, line lengths and a full visual check. The full protocol is available on our website.

If you fly or groundhandle frequently (e.g. over 100 hours) or fly in harsh conditions, we recommend an annual check. It's your responsibility as a pilot to ensure that your wing is airworthy at all times.

GIN quality and service

We take pride in the quality of our products and are committed to putting right any problems affecting the safety or function of your equipment and which are attributable to manufacturing faults. Your GIN dealer is your first point of contact if you have any problems with your equipment. If you are unable to contact your dealer or GIN importer, contact Gin Gliders directly via our website.

WARNING: Always replace damaged lines. A damaged line can cause loss of control of the glider

Care of the environment

We are priviledged to fly in areas of outstanding natural beauty. Respect and preserve nature by miminmizing your impact on the environment. When visiting an area, contact the local club for details of environmentally senstive areas and local restrictions.

When your paraglider eventually reaches the end of its useful life, dispose of it with consideration and follow any local regulations.

Final words...

Most of us today live in a dependent society where we are regulated and protected. There are few opportunities for individuals to develop the self-responsibility that is the foundation of safety in extreme sports such as paragliding.

Most accidents are caused by getting into situations that are too demanding for your level of experience. This happens if you lack fundamental understanding, are incapable of assessing the risk or simply do not pay sufficient attention to your surroundings or your own state of mind.

To stay safe, the best you can do is to increase your understanding, skill and experience at a rate you can manage safely. There is no substitute for self-responsibility and good judgment.

In the end, paragliding offers a unique opportunity to learn to take control of your own destiny. Memento mori, carpe diem!

Fly safely, and...E N J O Y!
GIN team

Technical specification

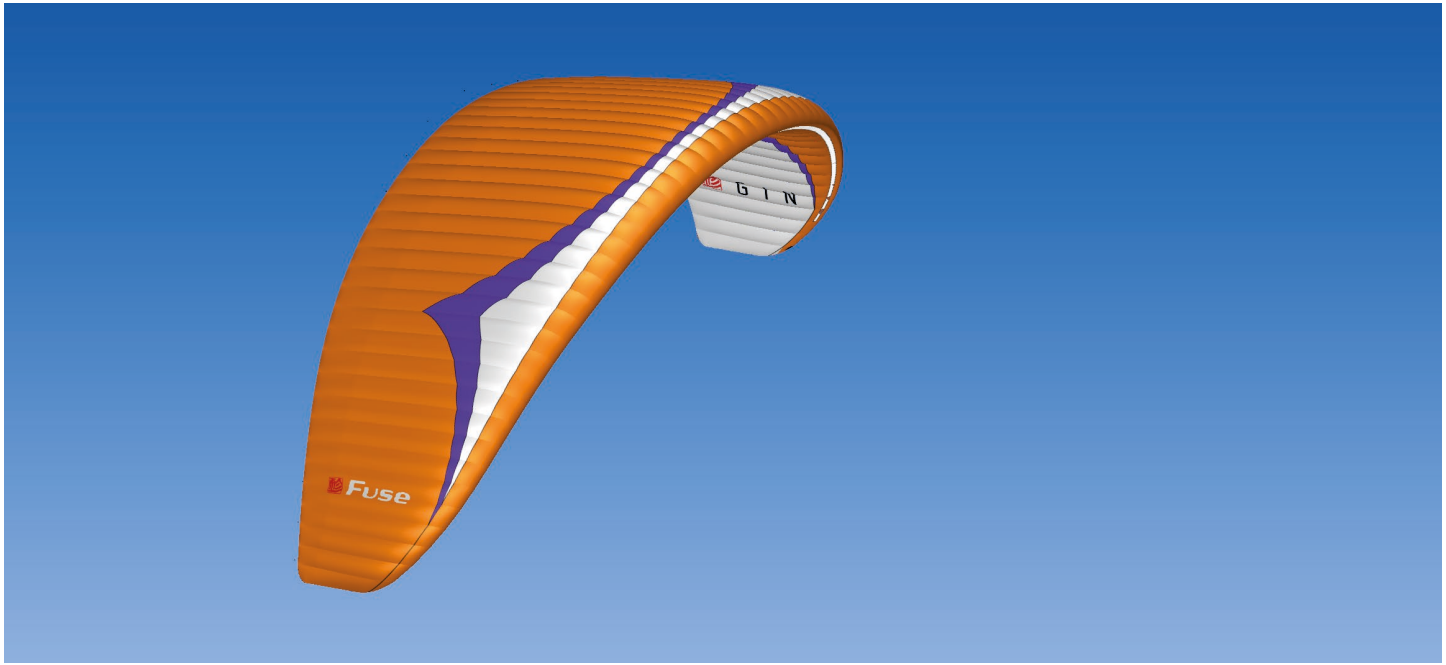
Size	41
Flat surface area (m^2)	41.15
Flat span	14.84
Flat aspect ratio	5.35
Projected surface area (m^2)	34.77
Projected span	11.68
Projected aspect ratio	3.93
Cell number	49
Glider weight (kg)	7.9
Weight in flight (kg)	110-220
EN/LTF (160-220kg)	B
EN/LTF (110-159kg)	C

CAUTION: Certification flights consist of simulated flight manoeuvres in calm air without normal pilot input. Do not use the certification rating as a primary indicator of the level of security of the glider.

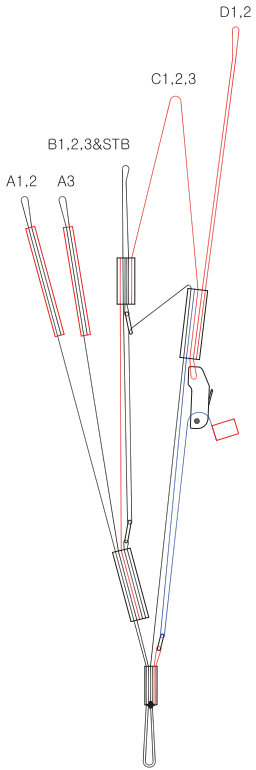
EN/LTF Certification

The Fuse received EN-B and EN-C certification in the final classification by the licensing body. Further information about certification is available on the website of the relevant licensing body.

Diagram of parts

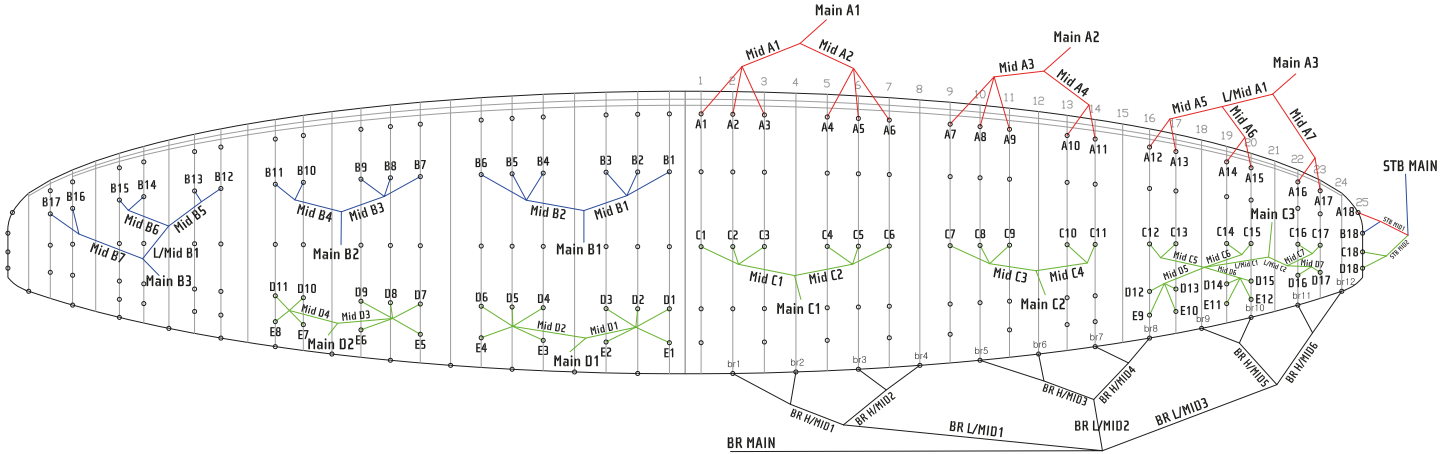


Riser diagram



Riser	A	B	C	D
Length at trim closed (cm)				
Length at trim neutral (cm)	37.0	37.0	37.0	37.0
Length at trim open (cm)	37.0	39.0	43.5	48.0

Line plan


Main A1
Mid A1
Mid A2
Main A2
Mid A3
Mid A4
Main A3
Mid A5
L/Mid A1
Mid A6
Mid A7
STB MAIN
Main C3
Mid C7
Mid C6
Mid C5
Mid C4
Mid C3
Mid C2
Mid C1
Main C1
Main C2
Mid B7
Mid B6
Mid B5
L/Mid B1
Main B3
Mid B4
Mid B3
Main B2
Mid B2
Mid B1
Main B1
Mid D4
Mid D3
Main D2
Mid D2
Mid D1
Main D1
BR MAIN
BR H/MID1
BR H/MID2
BR L/MID1
BR L/MID2
BR L/MID3
BR H/MID3
BR H/MID4
BR H/MID5
BR H/MID6

Certification and line lengths

Deutscher Hängegleiterverband e.V. im DAeC
DHV/OeAeC-Technikreferat
LBA-anerkannte Prüfstelle für Hängegleiter und Gleitsegel

DHV

Herstellerangaben zum Luftsportgeräte-Kennblatt

Gleitsegel

I. Musterprüfung

1. Gerätemuster: **Fuse**

2. Hersteller: **Gin Gliders Inc.**

3. Inhaber der Musterprüfbescheinigung: **Gin Gliders Inc.**

II. Merkmale und Betriebsgrenzen

1. Gerätemasse(kg): **7,9**

2. Zulässiges Startmasse minimal (kg): **160** maximal (kg): **220**

3. Anzahl der Sitze: **2**

4. Klasse: **LTF / EN-B**

5. Gurtzeugbeschränkung GH / GX: **ja GH**

6. Fußbeschleuniger: **nein**

7. Trimmer: **ja**

8. Projizierte Fläche (m²): **34,77**

9. Windenschlepp: **ja**

10. Tragegurtlängen (mm):

Tragegurt A1,2:	Tragegurt B:	Tragegurt C:	Tragegurt D:
normal: **370**	normal: **370**	normal: **370**	normal: **370**
beschleunigt: **370**	beschleunigt: **390**	beschleunigt: **435**	beschleunigt: **485**
geschlossen: **370**	geschlossen: **360**	geschlossen: **357**	geschlossen: **345**

11. Leinenlängen (mm), **von der Kappenmitte beginnend**:

	A	B	C	D	E	Bremse	
1	**8600**	**8518**	**8540**	**8630**	**8750**	**9485**	1
2	**8480**	**8393**	**8420**	**8520**	**8610**	**9170**	2
3	**8450**	**8368**	**8385**	**8490**	**8575**	**8975**	3
4	**8410**	**8333**	**8350**	**8455**	**8610**	**8950**	4
5	**8385**	**8303**	**8325**	**8430**	**8545**	**8765**	5
6	**8455**	**8383**	**8400**	**8500**	**8470**	**8595**	6
7	**8395**	**8323**	**8340**	**8440**	**8400**	**8525**	7
8	**8305**	**8233**	**8250**	**8365**	**8390**	**8555**	8
9	**8315**	**8248**	**8260**	**8380**	**8290**	**8440**	9
10	**8265**	**8203**	**8215**	**8305**	**8175**	**8345**	10
11	**8275**	**8218**	**8225**	**8305**	**7990**	**8300**	11
12	**8165**	**8105**	**8105**	**8190**		**8370**	12
13	**8060**	**8000**	**8000**	**8080**			13
14	**7895**	**7845**	**7835**	**7905**			14
15	**7855**	**7815**	**7800**	**7865**			15
16	**7710**	**7680**	**7665**	**7705**			16
17	**7690**	**7660**	**7630**	**7675**			17
18	**7350**	**7295**	**7315**	**7365**	**7945**		18
19							19
20							20
21							21
22							22
23							23
24							24
25							25
26							26
27							27
28							28
29							29
30							30

12. Sonstige Besonderheiten:

III. Betriebsanweisung in der Fassung vom: 22.04.2014

Ort, Datum, Stempel und Unterschrift des Herstellers:
Yongin, den 23.04.2014

GIN GLIDERS INC.
GIN SEOK, SONG/PRESIDENT

Bearbeitungsvermerk DHV:
Kennblatt geprüft
am:

von:

Certification and line lengths

Deutscher Hängegleiterverband e.V. im DAeC
DHV/OeAeC-Technikreferat
LBA-anerkannte Prüfstelle für Hängegleiter und Gleitsegel

DHV

Herstellerangaben zum Luftsportgeräte-Kennblatt

Gleitsegel

I. Musterprüfung

1. Gerätemuster: **Fuse**

2. Hersteller: **Gin Gliders Inc.**

3. Inhaber der Musterprüfbescheinigung: **Gin Gliders Inc.**

II. Merkmale und Betriebsgrenzen

1. Gerätemasse(kg): **7,9**

2. Zulässiges Startmasse minimal (kg): **110** maximal (kg): **159**

3. Anzahl der Sitze: **2**

4. Klasse: **LTF / EN-C**

5. Gurtzeugbeschränkung GH / GX: **ja GH**

6. Fußbeschleuniger: **nein**

7. Trimmer: **ja**

8. Projizierte Fläche (m²): **34,77**

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10. Tragegurtlängen (mm):

Tragegurt A1,2:	Tragegurt B:	Tragegurt C:	Tragegurt D:
normal: **370**	normal: **370**	normal: **370**	normal: **370**
beschleunigt: **370**	beschleunigt: **390**	beschleunigt: **435**	beschleunigt: **485**
geschlossen: **370**	geschlossen: **360**	geschlossen: **357**	geschlossen: **345**

11. Leinenlängen (mm), **von der Kappenmitte beginnend**:

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12. Sonstige Besonderheiten:

III. Betriebsanweisung in der Fassung vom: 22.04.2014

Ort, Datum, Stempel und Unterschrift des Herstellers:
Yongin, den 23.04.2014

GIN GLIDERS INC.
G I N
GIN SEOK, SONG/PRESIDENT

Bearbeitungsvermerk DHV:
Kennblatt geprüft
am:

von:

Materials

Canopy fabric	
Top surface	Dominico 30 DMF (WR) 41g/m^2
Bottom surface	Dominico N20 DMF (WR) 35g/m^2
Ribs (diagonal, loaded, band)	Porcher Skytex 9017 E29A
Ribs (unloaded, half-ribs)	Dominico N30 DFM 32g/m^2

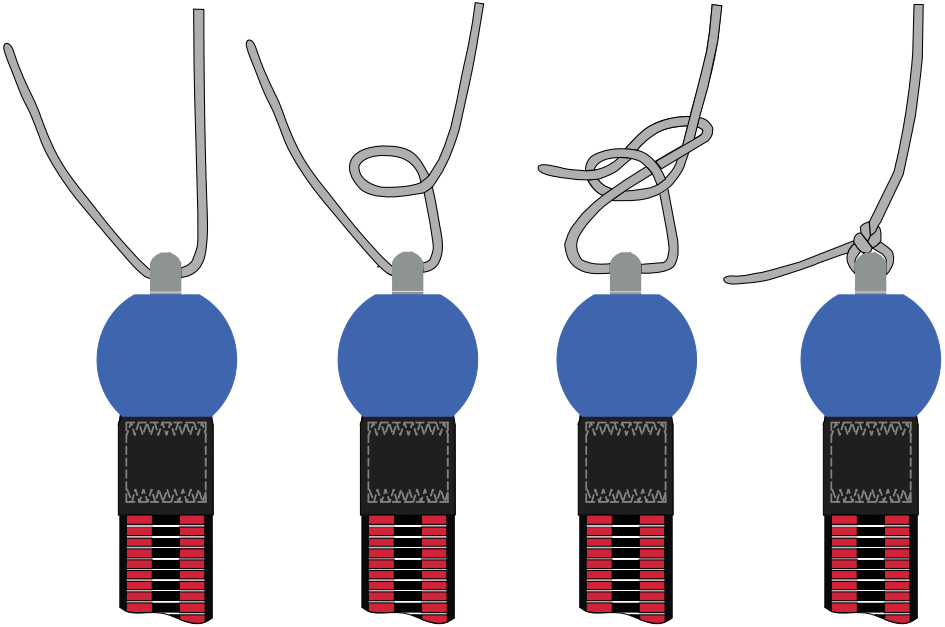
Lines	
upper	Edelrid 7950 (Sleeved dyneema)
mid/main	Edelrid 7343 (Sleeved technora aramid)

Riser	
	Güth & Wolf COUSIN Technora and Polyester 20mm

Maillons	
	Stainless steel 3.85Ø

Thread	
	Amann & Söhne - Mill Faden150D/3 Polyester bonded

Brake line knot diagram



::: Gin Gliders Inc. :::
2318-32, Baegok-daero,
Mohyeon-myeon, Cheoin-Gu,
Yongin-city, Gyeonggi-Do,
449-851 Korea

GIN

www.gingliders.com

Dream. Touch. Believe.