GIN

Switch harness Owner's Manual

Please read this manual before flying with the Switch for the first time.

Thank You...

Thank you for choosing the Switch harness. We are confident that this harness will provide you with enhanced comfort, control, performance and fun in flight. This manual contains all the information you need to set up, trim, fly and maintain your harness. 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 harness.

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. 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. If any aspect of the use of our equipment remains unclear, please contact your local GIN reseller or importer in your country.

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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 paragliding equipment that he and any other pilot love to fly. This philosophy applies equally for a harness such as the Switch, as for the world-beating competition glider, the Boomerang. No product is released to the market without Gin's complete satisfaction. Gin Gliders produce a complete range of accessories and can provide you with many useful items for flying which are all manufactured in Gin Gliders own production facility to guarantee highest quality standards.

Gin has over 20 years' experience of designing and manufacturing paragliders and is backed up 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 overall several times 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 Switch

The Switch was developed by GIN GLIDERS to meet the highest standards of the most demanding pilots who participate in speed flying and/or paragliding and want to travel with a lighter and more compact harness. The special feature of the Switch is that it is convertible into a rucksack. The Switch is suitable for a wide range of pilots, from the occasional club pilot to the experienced cross country pilot.

The Switch can be flown with all types of speed glider and paraglider unless the manufacturer of your particular model requires a specific harness to be used with their glider. Please refer to the manual of your glider to find out if this might be the case. The Switch is a sleek and easy harness, designed for maximum comfort and ease of use. The elegant design focuses on simplicity, eliminating the need for complicated adjustments.

The overall geometry of this speed glider harness has been designed to enable the pilot to move comfortably and freely, enabling an easier fast run for take-off and landing.

Leg and chest straps are integrated into the "T-bar system" to prevent the pilot from falling out of the harness if he forgets to fasten the leg straps.

The safety has also been improved by incorporating an airbag into the harness helping to protect the pilot in case he falls on his back. Air inlets are positioned on both sides of the harness so that the airbag can inflate quickly, even with only a small movement through the air and turns of either direction.

Features of the Switch

- Rescue attachment bridle
- Carabiners
- Convertible bag

The Switch has been certified by EN and LTF, and is available in one adjustable size.

Weight: 3.1 Kg

Airbag for back protection (substitution for back protector)

The Switch is a harness with a built-in airbag. Since the air bag is divided into compartments, it can help prevent air being dissipated too rapidly in the event of hard impact. The Switch is designed to reduce the energy of an impact and to help to protect the pilot as much as possible in an accident, but it cannot completely eliminate the risk of injury. The Switch back protection with an airbag has received certification from EN and LTF.

Optional Items

The following items are available as optional extras.

Rescue parachute

The Switch is designed for use with a front mounted rescue parachute, such as Yeti Rescue from GIN. Other manufacturers' rescue systems may also be used. Every first installation of a rescue system into the harness (that means every new combination of harness and rescue system) must be checked by a qualified paragliding professional. This is called a "compatibility check". In this compatibility check the pilot himself, who will be flying with this harness, must always sit in the harness hanging from a simulator and deploy the rescue from the harness container. This check must also be done each time after the rescue has been repacked and re-installed

Other Accessories

For up-to-date information on additional accessories, visit www.gingliders.com or contact your local GIN dealer or the distributor in your country.

3. Before you fly

The Switch must be assembled by a suitably qualified paragliding professional, for example your instructor. In particular great care and attention must be paid to the fitting of the rescue parachute in the harness. The pilot should then adjust the harness for comfort.

Assembly

Gin Gliders recommend that assembly be carried out in the order below. If there is any doubt whatsoever about this procedure, please seek professional advice from your instructor, GIN dealer or importer.

Speed System

The speed system is assembled from top to bottom. Pass the cord of the speed bar through the pair of pulleys in both sides and route it out through the rings at each side of the seat.

Rescue Installation

The Switch is compatible with GIN Yeti rescue parachutes. Other manufacturer's front mounted rescues may be used as well, but as already mentioned earlier in this manual:

Every first installation of a rescue system into the harness (that means every new combination of harness and rescue system) must be checked by a qualified paragliding professional. Prior to the installation, you should also ensure that you have the necessary materials to complete the procedure, for example, suitable maillons and thread.

Rescue parachutes should be repacked at least every 150 days; so installing your rescue in a new harness may also provide a good opportunity for a repack.

Check your rescue manual for further details.

When you attach the rescue bridles to the harness webbing, a Maillon Rapid type 7mm Stainless Steel carre (square) is recommended. But in any case, the connector should be rated at least 9 times the maximum weight, for example, a 7mm, 3125kg stainless connector that has an EN certificate of conformity.

The Maillon should be held in place with rubber bands, tape or plastic heat shrink tube. **Webbing to webbing connections are not recommended, due to the danger of getting the knot the wrong way round, which significantly weakens the connection** and also difficult to disconnect the rescue parachute if you land in trees.

Adjustments

The Switch should be adjusted to suit your physique and flying style. It is important to adjust it correctly to ensure you can easily slide into the sitting position after take off.

Adjustments should ideally be tested before your first flight by hanging in a simulator. Additional fine-tuning can be done during your first few flights.

Ensure that the rescue system, back and side protection have been installed before making adjustments.

Shoulder Straps

The optimum setting for the shoulder straps depends on the height of the pilot. Stand upright with the chest/leg straps closed and symmetrically adjust the shoulder straps until they are just tight. During flight, these straps should be a little slack. You will find the adjustable buckles either side of the seat.

Lateral Straps

The lateral straps adjust the angle between the thighs and the back. This angle can be set between 100° and 130°. Lengthening the straps increases the angle and vice-versa. The easiest way to adjust them correctly is during a flight in calm air. Remember that flying in the "supine position" that means leaning back, reduces the stability of the harness and increases the risk of twisting after an asymmetric deflation.

Leg Straps

The correct adjustment of the leg straps includes adjusting the distance between your legs. This will prevent a pilot's legs from splaying apart and pilot will feel more comfortable when flying.

Chest Strap

The adjustment of the chest strap controls the distance between the carabiners and affects the handling and stability of the glider. Widening the distance between the carabiners increases feedback from the wing and allows for easier weight shifting. Closing the strap gives you a more stable feeling in turbulence but increases the risk of stable spiral and also the risk of twisting!

We advise pilots of GIN paragliders to fly with a distance between the carabiners of approximately 44 to 48 cm.

The chest strap may also be adjusted in flight according to the conditions; for example, it may be tightened in turbulent air 9 (within the manufacturer's recommended range) and flown at a looser setting in weak conditions.

Seat Straps

The seat straps change the depth of the seat. Adjust to find a comfortable position. In the sitting position, lengthen the straps to their maximum at first and then use the plastic buckles to shorten the straps to find a comfortable position with good back support. Lengthening the straps also helps you to slide easily into the harness at take off, while shortening the straps helps you to be in the standing position for landing.

Storage

One of the special features of Switch is that it is designed to function as an airbag. Air is scooped into the airbag chambers through a channel on the side of the harness. **Pilots should make sure that this channel and the airways are open and that air is free to flow through and into the air chambers in the back of Switch.**

If you'd like to put in some things like an inner bag that can block an air way inside airbag, you should use a inner pocket in airbag functioning as a cover of the bag's top or side mesh pockets.

There are two pockets inside the airbag. Put bags and other stuff for stowage inside these pockets and zip them closed. Otherwise, the airbag cannot be inflated properly.

4. Flying with the Switch

Pre-flight checks

For maximum safety, use a complete and consistent system of pre-flight checks and repeat the same mental sequence *every* flight.

Check that:

- There is no visible damage to the harness or carabiners that could affect its airworthiness.
- The rescue parachute container is closed correctly and the pins are in the right position.
- The deployment handle and the pin are correctly inserted or attached.
- All buckles, belts, zips are securely fastened. Buckles should click into place as you close them, and a gentle pull on the fastened buckle verifies this. Secure any zips *after* fastening the buckles. Take extra care in snowy or sandy environments.
- The paraglider is connected correctly to the harness and both carabiners are secured by their locking mechanisms.
- The speed bar is attached correctly to the glider.
- All pockets are closed properly and any loose items are tied down safely.
- It is important to check that air chamber intakes made of mesh are open before each use; otherwise it could lead to malfunction of the airbag.
- Check again that you have closed your leg and chest straps before you take off!

Rescue Deployment

It is vital to periodically feel the position of the rescue handle in normal flight, so that the action of reaching for the rescue handle is instinctive in an emergency.

In the event of an emergency, the pilot must quickly evaluate his or her height and the seriousness of the incident. Deploying the rescue when the glider is recoverable may increase the danger of injury. If you have sufficient height and the glider is in a flat spin, it is preferable to first try to stop the spin (e.g. full stall), due to the risk of entanglement. On the other hand, a second's hesitation in deploying the reserve could prove costly if there is insufficient height.

If the rescue is to be deployed, the procedure is as follows:

- Look for the rescue handle and grasp it firmly with one hand
- Pull sideward and upwards on the handle to release the deployment bag from the harness container
- Look for a clear area, and in a continuous motion, throw (and RELEASE!) the rescue away from yourself and the glider, preferably into the air stream and against the direction of spin
- After deployment, avoid entanglement and pendulum motions by pulling in the glider as symmetrically as possible with the B, C, D or brake lines
- On landing take an upright body position and be sure to do a PLF (Parachute Landing Fall) to minimize the risk of injury

Pockets

The Switch includes a mid-size pocket inside the airbag which can be used as a top cover of the bag plus two smaller side pockets made of mesh. There is also a radio compartment inside the back pocket and a buttonhole to pass the cable or a drink tube through for a handheld speaker-microphone or a Camel Back.

Landing with the Switch

Before landing, slide your legs forward in the harness so that you adopt the standing position. NEVER land in the seated position; it is very dangerous for your back even if you have an airbag. Standing up before landing is an active safety precaution, and is much more effective than the passive system of any back protection.

5. Miscellaneous

Towing

The Switch isn't equipped with extra system for towing. The tow release can be connected to the main carabiners. The best way to attach a tow release is to use a towing adapter, which slides over the lower ends of the risers of the paraglider before attaching the main carabiners. For further details refer to the documentation provided with your tow release or towing adaptor or ask a qualified towing instructor at your tow site.

Tandem Flying

The Switch is not designed for tandem flying.

Flying over water

It is not recommended to use the Switch on any flights over water, especially extreme manoeuvres training, due to the possibility that the airbag could keep the pilot under water in the event of a water landing. So, if you do fly over water, you must take extreme care.

6. Maintenance and Repair

The materials used in the Switch have been carefully selected for maximum durability. Nevertheless, keeping your harness clean and airworthy will ensure a long period of continuous safe operation.

Maintenance

Avoid dragging your harness over rough or rocky ground.

Unnecessary exposure to UV rays, heat and humidity should be always avoided.

Keep the folded harness in your rucksack when not in use.

Store all your equipment in a cool, dry place, and never put it away while damp or wet.

Keep your harness as clean as possible by regularly cleaning off dirt with a plastic bristled brush and/or a damp cloth. If the harness gets exceptionally dirty, wash it with water and a mild soap. Make sure you first remove the entire sub-components for example, rescue parachute etc. When you clean, don't scrub the fabric inside the Airbag with a brush (especially the back) since the fabric can be damaged by rubbing. Allow the harness to dry naturally in a well ventilated area away from direct sunlight.

If your rescue parachute ever gets wet (e.g. in a water landing) you must separate it from the harness, dry it and repack it before putting it back in it's separate outer container.

After a hard landing you must check your back protection for damage. A tear in the GINSOFTIII(II) could significantly reduce the efficiency of the protection it provides.

The zips and buckles may be occasionally lubricated with silicone spray, no more than once a year.

Inspection checklist

In addition to regular pre-flight checks, the Switch should be inspected thoroughly on every rescue repack, normally every 2 years of 200 hours. Additional inspections should be performed after any crash, bad landing or take off, or if there are any signs of damage or undue wear. Always seek professional advice whenever in doubt. The following checks should be carried out:

- Check all webbing, straps and buckles for wear and damage, especially the areas that are not easily seen, such as the inside of the carabiner hook-in points.
- All sewing must be intact and any anomalies attended to immediately to avoid exacerbation of the problem.
- Special attention should be paid to the rescue installation, particularly the elastic and Velcro parts.
- The seat and back plates must be free from cracks.
- **The main aluminium carabiners must be replaced at least every 5 years or after 500 hours, whatever comes first.** Impacts may create undetectable cracks that could result in structural failure under continuous load.

Repair

The manufacturer or an approved specialist should carry out any repair that involves critical parts of the harness. This will ensure that the correct materials and repair techniques are used.

7. Technical Data

Specification

Description	Paragliding or speed gliding harness
EN, LTF certified max. load	100 Kg
Height of main attachment points above seat plate	43 cm (for size M)
Carabiner Distance	36-51 cm
Weight (without parachute)	3.1 Kg
Parachute Container	Optional (Outer container of parachute must be attached securely to main chest strap)
Protector	Air bag for back protection

Certification

Switch harness
LTF Nr.EAPR-GZ-7044/08

DESCRIPTION

FABRIC OF HARNESS

1-1). OUTSIDE

FABRIC CODE		600D KODURA PU 60”	420D HD N/OXFORD PU 60”	Klingler K4662/WR PU 484
SUPPLIER	NAME	Dong Jin international Corp.		Klinger textile AG
	ADDRESS	950-11 Daechi-Dong, Kangnam-Gu, Seoul-City, Korea		Wilerstrasse3, CH-9200 Gossau
MATERIAL		100% NYLON F.YARN WOVEN FABRIC (OXFORD SHUTTLELESS LOOM)		100% NYLON codura
FINISHED		P/D & W/R & W/P		
YARN W’T		320GR/YD	290GR/YD	
TOTAL W’T		350GR/YD	320GR/YD	180GR/M2

1-2). INSIDE

FABRIC CODE		420D HD N/OXFORD PU 60”
SUPPLIER	NAME	Dong Jin international Corp.
	ADDRESS	950-11 Daechi-Dong, Kangnam-Gu, Seoul-City, Korea
MATERIAL		100% NYLON F.YARN WOVEN FABRIC (OXFORD SHUTTLELESS LOOM)
FINISHED		P/D & W/R & W/P
YARN W’T		290GR/YD
TOTAL W’T		320GR/YD

WEBBING

2-1). HARNESS WEBBING

MATERIAL		POLYESTER
SUPPLIER	NAME	SIN KWANG CO
	ADDRESS	752-1 Dogok-Ri, Wabu-Ub, Namyangju-City, Kyunggi-Do, Korea
WIDTH(mm)		30
BREAKING STRENGTH (KS K 0411)		1409.6 KG
ELONGATION (KS K 0411)		22.4 %

BUCKLES/RING

Name		T-LOOK SAFETY BUCKLE "LIGHT" BUCKLE AUTOMATIQUE LIGHT 30MM
SUPPLIER	NAME	SUP'AIR
	ADDRESS	SUP'AIR France Z.L. de Voray 14, avenue des Vieux Moulins 74000 Annecy
WEIGHT(g/pc)		54
BREAKING STRENGTH		1300kg

THREAD

MATERIAL		100% POLYESTER	100% POLYESTER
SUPPLIER	NAME	Coats Hong Kong Limited	WONANG Company
	ADDRESS	JOS Tower, Millennium City 2 378 kwun Tong Road Kowwon	Pocheon-Gun Kyeongki-Do, Korea
DENIER		P/F 210 D/9 Bonded	P/F 210 D/4 & 210 D/6 Bonded
BREAKING STRENGTH (KSK 0409)		11 kg	5 kg / 7.5 kg
ELONGATION (KSK 0409)		17-20 %	17-20 %

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.
This owner's manual is subject to changes without prior notice. Please check with www.gingliders.com for the latest information regarding the Switch and other GIN products.