



KNIGHT

A KNIGHT TO LOOK AFTER YOU...





TRIPLE SEVEN



USER MANUAL

Version 1.1, Date: 22.1.2018



Introduction

Welcome

Welcome to the Triple Seven Team! We are excited that you have chosen to fly the Knight, as we are confident that this glider will be the next step in your piloting career. We wish you exciting flying adventures!

Triple Seven Mission

Our company's goal is to produce high quality products and technologically innovative gliders of all types and classes. We are striving to develop state of the art paragliders, with the optimum compromise between safety and performance, produced in Europe.

Your success is our inspiration; our goal is your success.

Manual

This document contains complete product information and instructions to familiarize you with the main characteristics of your new glider. It contains instructions on how to use and maintain the wing, however, its purpose is not to serve as learning material to pilot this kind of wing. As such, this is not a flying manual. Flying instructions can only be taught by flying schools and specially certified instructors.

It is important that you take time to read this manual carefully before the first flight, as thorough knowledge of your equipment enables you to fly safely and to maximize your full potential. If you borrow or give your glider to another pilot, please pass this manual on with it.

If any use of Triple Seven equipment remains unclear after having read this manual, please contact: your local paragliding instructor, your Triple Seven importer or Triple Seven. This product manual is subject to changes without prior notice. Please check www.777gliders.com for the latest information regarding our products.

Summary			
1. 777 XC SUPERSTAR	3	6.3. Final preflight check	14
II. Introduction	4	6.4. Inflation, control, take-off	14
II.i. Welcome	4	6.5. Line knots or tangles	14
II.ii. Triple Seven Mission	4	6.6. Normal flight, best glide	15
III. Manual	4	6.7. Minimum sink	15
4. Knight	7	6.8. Accelerated flight	15
4.1. Designer's thoughts	8	6.9. Active flying	15
4.2. Who is this glider for?	9	6.10. Flying in turbulence	16
4.3. Certification	9	6.11. Fast decent techniques	18
5. Before flight	10	6.12. Winch launch	19
5.1. Elements, components	10	6.13. Aerobatics	19
5.2. Assembly	10	6.14. Primary controls failure	19
5.3. Harness	11	6.15. Landing	19
5.4. Accelerator settings	11	7. Maintenance	20
5.5. Brakes' adjustments	11	7.1. General advice	20
5.6. Weight range	12	7.2. Packing instructions	20
5.7. Wing inflation	12	7.3. Storage	21
5.8. Modifications on the glider	12	7.4. Cleaning	21
5.9. Preflight safety	12	7.5. Repair	21
6. Flying Knight	13	7.6. Checks and control	21
6.1. First Flight	13	VIII. Packing Knight	22
6.2. Preflight check equipment	13	9. Technical data	24
		9.1. Technical data	26
		9.2. Materials description	26
		9.3. Knight risers arrangement	27
		9.4. Line plan Knight	28
		9.5. Line lengths Knight L	29
		9.6. Line lengths Knight M	30
		9.7. Line lengths Knight S	31
		9.8. Certification specimens	34
		X. Safety and responsibility	38
		XI. Guarantee	39
		XII. Registration information	40
		XIII. Get involved	40
		XIV. Contact	41



- » **Progressive handling, offering easy and precise control characteristics**
- » **Profile and trim speed optimized for good climbing**
- » **Balanced wing tension, together with leading and trailing edge reinforcements for greater stability and good gliding performance throughout a wide speed range**
- » **Optimized geometry of the suspension lines and materials for reduced drag and better gliding performance**
- » **Good pitch stability and easy to pilot**
- » **Light weight and easy launch control**
- » **A unique race look**
- » **EN-B, LTF-B certification**

Knight is a glider designed by the Valic Brothers, made for local soaring and cross country flying. The glider's technical design is based on experience and technology of competition wings, with great emphasis on ease of flying and safety.



Certification

The Knight has passed the European EN/LTF B certification for all commercially available sizes. The homologation results are enclosed at the end of this manual.



Before flight

Elements, components

The Knight is delivered together with a rucksack, inner bag, compression strap, Triple Seven T-shirt and USB key with this manual.

Assembly

Before you rush to the first take-off we recommend you take your time to unpack and test your equipment on a training slope. In this way you will have time and will not be distracted or rushed to prepare your equipment, and you will be able to do your first pre-flight check properly.

The place should be flat, free of obstacles, and with light wind. This will enable you to nicely inflate the wing and also familiarize yourself with it while ground handling. Every glider has to be checked by a Triple Seven dealer, however, as a pilot you want to do a proper pre-flight check yourself.

Firstly, prepare and spread out the glider like you would normally do. While you are spreading out and walking along the glider, observe the fabric material for any abnormalities. When you are done with the inspection of the canopy, grab the risers and spread the lines, check if the risers and maillons (carabiners) are properly closed. Identify and disentangle the A1, A2, B, C risers and the lines including the brake lines. Connect the risers' main attachment points correctly to the harness, watch for any twists and make

sure that the main carabiners are properly closed.

Harness

The Knight has passed EN-B certification testing using a GH - ABS type harness. This certification allows the Knight to be flown with most of the harnesses on the market, but keep in mind that the change of a harness greatly influences the feeling of the glider, depending on the effectiveness of the harness weight shift. Check with the harness manufacturer or with your instructor whether your harness is of the proper type.

The length of the harness chest strap affects the distance between the main carabiners and the wing's handling as well as your stability in the harness. Tightening the chest strap increases your stability, but greatly increases the risk of twisting after a collapse. A tight setting also increases the tendency to maintain a deep spiral. As a rule of thumb, a more opened chest strap gives you more feedback from the glider, which is good for your climbing efficiency and increases safety in a flying incident. But we strongly recommend adjusting the length of the harness chest strap according to the lengths used during certification. This setting varies according to the harness size from 42cm to 50cm. Check the settings used during testing under the certification specimen section.

We recommend that your first flight with the Knight is not also with a new harness. Another rule of thumb is if you want to experience the feeling of new equipment, change only one part of equipment at a time.

Accelerator settings

Before attaching the accelerator system to the Knight risers, check that the speed system inside your harness is correctly routed and that all pulleys are set correctly. Make sure there are no knots or other obstacles that might make the accelerator get stuck during usage.

The length of the speed bar lines should be adjusted on the ground so that your legs are fully extended at the point of full accelerator travel. While setting the speed line lengths make sure they are long enough, so that the speed system does not accelerate the glider by itself. If in doubt how to properly set the accelerator system, please consult your instructor or Triple Seven dealer.

Brakes' adjustments

The length of the brake lines has already been adjusted by the manufacturer and is the same as used during the certification test flights. The length is set and fine-tuned during the development of the glider, therefore generally there should be no need to adjust them. We recommend flying this setting for a while, and you can still change it afterwards if you wish to do so. If you change the length of the brakes, do it in a step by step process of 2 cm at a time. Bear in mind that if you make the brake lines too short, they might be applied unintentionally while the speed system is being used. The brake travel is greater than, up to 80 kg - 55 cm, from 80 kg to 100kg - 60 cm and over 100 kg - 65 cm.

Weight range

Each size of the Knight is certified for its own weight range. The above mentioned weight includes the weight of the pilot and complete paragliding equipment, together with the glider, harness, all accessories and optional ballast. Every glider changes its characteristics by changing the take-off weight. We recommend that you always fly your glider in the specified weight range. To measure your take-off weight, step on a scale with all your equipment packed in the rucksack.

Lower half of the weight range

Flying the Knight, as any other glider, in the lower part of the weight range, causes the agility of the glider to decrease, and when flying through turbulence its tendency for collapses relatively increases as compared to flying it in the upper wing loading range. However, reactions after a collapse are less dynamic and sink rate improves. Therefore, if you mainly fly in weak conditions, you might prefer this weight range.

Upper half of the weight range

Again, as with any other glider, flying the Knight in the upper part of the weight range increases the stability and agility of the glider. Consequently, there is a slight increase in the glider's speed and also gliding performance, especially when flying against the wind. If you normally fly in stronger conditions and you prefer relatively more dynamic flying characteristics, you should set the take-off weight in the higher weight range. Reactions after a collapse may be more dynamic in the upper half of the weight range.

Wing inflation

Still being on the training slope and having prepared and checked everything, inflate your wing and play with it to get a feel of your new glider while ground handling. By doing this you are making a final check of the canopy and lines, and that everything is in order.

You will find that the Knight inflates very easily and smoothly without excessive energy and with minimum pressure while moving forwards. For inflation and lifting the glider you may use only the A1 risers. Do not pull on the risers just with your hands, instead use your whole harness. Your hands should only accompany the rising movement of the wing. When the wing is above you, apply correct pressure on the brake lines and the glider will stay above you.

Modifications on the glider

Any modifications of the lines or risers' speed system cause the loss of the certification, similarly to flying the wing outside the weight range.

Preflight safety

Before flying the Knight, you should obtain all practical and theoretical training and the certification for flying this kind of wing. Pilots should be physically and mentally fit, using complete paragliding equipment and flying only in conditions suitable for their level of flying expertise.



Flying Knight

First Flight

Now that you have already familiarized yourself with your new glider while ground handling on a training slope, you are ready for your first flight. For the first flight it is recommended that you choose a familiar flying area and to fly your new glider in calm conditions.

Preflight check equipment

Before every flight you need to do a pre-flight check and the inspection of other equipment. Learn to do this, as it takes no extra time. This procedure may vary, depending on the instructor, pilot or equipment settings. Some pilots have their wing always connected to the harness. However you should have a consistent method of checking and preparing your equipment and doing the final pre-flight check.

1. After the arrival on take-off, assess the suitability of flying conditions.
2. While walking around the canopy preparing and spreading out the wing, you should at the same time inspect the canopy.
3. After you check the lines and connect the risers to the harness, grab the lines and slide them through your fingers as you walk towards the canopy. In this way you double check that the lines are not tangled, stuck or damaged. If meanwhile the canopy moves, walk around and correct it again.
4. Inspect the harness, reserve, speed system and all connections.

Final preflight check

1. Strap into the harness. The leg straps should be the first to be connected on the take-off and the last ones to be released after the flight. Make sure you are strapped in correctly and wearing a helmet.
2. Check the risers for a twist and that the carabiners are properly closed. Check if the speed system is not affecting your risers – accelerating unintentionally.
3. Check the lines. The A riser lines should be on top, and all lines untangled. Check if none of the lines are lying over or below the canopy.
4. Check the canopy. The glider should be spread out in the shape of an arch and all cells open.
5. Check the wind, take-off and airspace. The wind should be favourable for take-off and the pilot's level of expertise. Airspace should be cleared, together with the take-off area.

Inflation, control, take-off

The Knight has easy take-off behaviour and does not require any additional advice regarding the forward or reverse launch. Try to divide and practice the take-off procedure in three steps.

1. Inflating and raising the glider
2. Controlling the wing and wing check
3. Accelerating and take-off

It is always advisable to practice and improve proper launching techniques as this reduces unnecessary additional stress before the take-off.

Wind speeds up to 25 to 30km/h are considered strong and extra care is required for the flight. If you are launching in strong winds we recommend the reverse launch technique, with your brakes in the right hands at all times. Launch the glider with a gentle pull and then walk towards it if necessary to reduce the relative wind force. When the glider is above you, gently control the wing and take off.

Line knots or tangles

If you fail to observe a line knot or you find yourself flying with a knot before being able to prevent the unintentional, uncontrolled take-off, try to stay away from the ground or other pilots by flying away from the mountain, before taking any corrective action on the wing. This means that you weight shift and/or counter brake the opposite side of the wing and control the flying direction with the least amount of force needed for the wing to fly straight away from the mountain.

Be careful not to apply too much brake or to fly too slowly to avoid a stall or spin. When you are at a safe distance away from the mountain and you have gained relative height by flying away, you may want to gently and briefly pull the lines that are tangled with the knot. If the knot is on the brake lines you might want to gently and briefly “pump” the appropriate brake line.

Please note that by pulling the lines, the knot may get stuck in a worse position and the situation may escalate also to a stall or spin. Therefore, if you estimate that you can control the wing relatively safely and that the knot is not released by gently and

briefly pulling the tangled lines, immediately fly to the landing zone and land safely.

Normal flight, best glide

Without any brakes applied and without using the accelerator, the wing flies at the so called “trim speed“. In calm air this is theoretically the best glide speed. The best speed glide depends on the glider’s polar and air mass, vertical and horizontal speed. We recommend reading more about the theory of the best glide and McCready theory.

Minimum sink

If you apply brakes on both sides for about 15 to 20cm you will slow the glider to the theoretical minimum sink speed. But we do not recommend using this speed even for thermalling, as you achieve much better climbing and control by letting the glider fly with its “trim speed” and natural energy. With a proper take-off weight you will find that the glider has great climb, reactions and agility.

Accelerated flight

After you get comfortable flying the Knight, you can start practicing using the speed system, which will provide better performance while gliding against the wind and through a sinking air mass. The Knight was designed to be stable through its entire speed range, but this requires the use of active flying techniques. Note that any glider becomes less stable while flying accelerated and that the risk of a collapse is higher in accelerated flight. Additionally, the

reaction of the glider to a collapse in accelerated flight is more radical in comparison to the one which occurs at trim speed.

We recommend that you avoid accelerated flight near the ground and to be very careful using the accelerator in turbulent conditions. Use a soft speed bar, which enables you to accelerate the glider by using only one leg. To control the direction use weight shift. To control the pitch change the amount of the speed bar. Do not use or pull the brakes while using the speed bar. Use the speed bar progressively when accelerating and instantly release when you feel a slight loss of tension, pressure or even a collapse. If you encounter a collapse while using the accelerator, release the speed bar immediately before taking any other corrective action. Always keep more distance from the ground when using the speed bar.

Active flying

This is a basic flying technique for any intermediate and advanced pilot. It implies permanent control and the correction of pitch and roll movements together with the prevention of any deflations or collapses. In a nutshell this means flying straight through active or turbulent air, so that the pilot keeps the glider above his or her head at all times, compensating and correcting any unwanted movements of the wing.

Few examples:

- While entering a strong thermal, the wing will stay a little bit behind relative to the pilot. The pilot should let the brake up allowing the wing to fly faster and to catch up.
- If the wing surges in front of the pilot, the pilot should counter brake until the surge is controlled and then release the glider

to let it fly normally.

- If the pilot feels a loss of tension on the wing or a loss of pressure on the brakes on one side of the wing, he should smoothly apply the brake on the side with loss of pressure and/or weight shift to the opposite side until the pressure returns. After that, again release the brake and/or weight shift to the neutral position and let the glider fly normally.

The key in all cases is to avoid an over-correction and not to maintain any correction longer than necessary. After each action let the glider fly normally again. To re-establish its required flying speed. You can train or get a feeling for most of these movements safely on the ground while ground handling your glider. Good coordination of your movements and coordination with the wing on the ground will enable you a quick progression when actively flying in the air. The next step is to attend SIV courses where you should also get a better understanding of the full brake range and the glider's speeds.

Flying in turbulence

Wing deflations can occur in a strong turbulence. The Knight is designed and tested to recover without pilot's input in almost all situations by simply releasing the brakes and letting the glider fly. To train and understand all the manoeuvres described, attend SIV courses.

Cascade of events

Many reserve deployments are the result of a cascade of over-corrections by the pilot. Over-corrections are usually not problematic because of the input itself or its intensity; but due to

the length of time the pilot continues to over-handle. After every input you have to allow the wing to re-establish its normal flying speed. Note that over-corrections are often worse than no input at all.

Asymmetric deflations

Strong turbulence may cause the wing to collapse asymmetrically. Before this occurs the brake lines and the feeling of the harness will transmit a loss of pressure to the pilot. This feedback is used in active piloting to prevent a collapse. If the collapse does occur, the Knight will easily re-inflate without the pilot's reaction, but the wing will turn towards the collapsed side.

To prevent this from happening turn and actively recover the asymmetric collapse by weight shifting and applying appropriate brake input on the side that is still flying. Be careful not to over-brake your wing's flying side. This is enough to maintain your course and give the glider enough time to recover the collapsed side by itself. To actively reopen the collapsed side after course stabilization, pull the brake line on the collapsed side firmly and release it. You can do this several times with a smooth pumping motion. After the recovery, release the brake lines for your glider to regain its trim speed. You must be aware of the fact that asymmetric collapses are much more radical when flying accelerated. This is due to the difference in weight and the inertia of the canopy and the pilot hanging below.

Symmetric deflations

Symmetric or frontal deflations normally reopen immediately by themselves without pilot's input. The glider will then regain its airspeed accompanied by a small surge forwards. To actively

control this event, apply both brakes slightly when the collapse occurs and then instantly release the brakes to let the glider fly. Be prepared to compensate for the glider's slight surge forward while returning to normal flying.

Wing tangle, cravat

A cravat is very unlikely to happen with the Knight, but it may occur after a severe deflation or in a cascading situation, when the wing tip gets caught in the glider's lines. A pilot should be familiar with the procedure of handling this situation with any glider. Familiarize yourself with the stabilizer's main line ("stabilo" line) already on the ground. If a cravat occurs, the first thing to do is to try to keep the glider flying on a straight course. Do this by weight shifting and counter braking the untangled side. After that, grab the stabilizer's main line on the tangled side and pull it down until it becomes tight again. At this point the cravat normally releases itself.

Possible solutions of the cravat situations (consult your SIV instructor):

- Pulling the wing tip "stabilo" line
- Using a full stall, but it is essential to be very familiar with this manoeuvre. You also want to have a lot of relative height.
- If you are in a situation where you have a cravat and you are low in rotation or even with twisted risers, then the only solution is the reserve parachute.

Negative spin

In normal flight you are far from negative spin. But, certain circumstances may lead to it. Should this occur, just release the brake lines progressively and let the wing regain its flying speed.

Be prepared for the glider to surge forward, compensating the surge with brake input if necessary.

Full stall

A full stall does not occur unintentionally on its own – it happens if you pull both brakes for 100% and hold them. The wing then performs a so called full stall. Releasing the brakes improperly may lead to massive surge of the glider with danger of falling into the canopy. This is a complex manoeuvre and as such outside the scope of this manual. You should practice and learn this manoeuvre only on a SIV course under professional supervision.

Deep stall

Generally when in deep stall, the wing has no forward motion and at the same time high sink speed. When in deep stall the wing is almost fully inflated. With the Knight it is very unlikely to get into this situation unintentionally. This could possibly happen if you are flying at a very low speed in turbulent conditions. Also the porosity of the material and line stretch on a very old glider can increase the possibility of the deep stall tendency. If you trained this manoeuvre on a SIV course you would realize that it is very hard to keep the Knight in deep stall. If you apply the brakes a little bit too much you enter the full stall. If you release the brakes just a little bit too much the wing returns to normal flight. If you want to practice the deep stall on SIV courses, you need to master the full stall first.

Fast decent techniques

Fast descent techniques should be well familiar to any pilot as they are important resources to be used in certain situations. These manoeuvres should be learned at your flying school as a part of paragliding pilot training. Nevertheless, we recommend practicing these manoeuvres on SIV courses under professional supervision.

Big ears

This is a safe method to moderately loose altitude while still maintaining forward speed. To do big ears, release any brake line loops around your wrist, set your leg on the speed bar, but do not push it. Now pull the outer A lines (the A2 risers in the drawing) on both sides. As long as you keep the A2 risers pulled, the wing tips stay folded and the sink speed increases. To regain normal flight, release the A2 risers, and if necessary apply the brakes with short impulse movements. Release big ears at least 100 meters above the ground. While using big ears, the wing speed decreases, which is why we also recommend using the accelerator half way in combination with big ears to maintain enough horizontal speed and to also additionally increase vertical speed. Be careful not to pull the brakes while making the ears! Steering is done by weight shift only. Always do the big ears first and then accelerate; not the other way around as you will risk getting a frontal collapse.

B line stall

While in the B-stall the glider has no horizontal speed and the sink rate increases to about -8m/s. To enter the B-stall reach for the B risers just below the maillons and pull both B line risers symmetrically for about 20 cm. To exit the manoeuvre, simultaneously release both risers quickly. On exit the Knight

gently dives without deep stall tendencies.

Spiral dive

The spiral dive is the most demanding of all three manoeuvres (Big ears, B-stall, Spiral) and should only be trained gradually and always at high altitude. The spiral dive should be practiced and learned on a SIV course under professional supervision.

To enter the spiral, weight shift to the desired side and gradually apply the brake on the same side. Then let the wing accelerate for two turns and you will enter the spiral dive. While in the spiral, you can control your descent rate and bank angle by applying more or less inner brake. Depending on how steep the spiral is you may need to use also outer brake.

To exit the spiral dive we recommend that the pilot is in the neutral weight shift position. If you release the inner brake, the wing exits the spiral dive by itself. The Knight has no tendency of a stable spiral but you should be aware of the procedure for exiting a stable spiral.

To exit a stable spiral dive, weight shift to the opposite side of the turn and apply the outer brake until feeling the deceleration of the wing rotation. Then release the outer brake and let the glider decelerate for the next couple of turns. To avoid a big pendulum movement after exiting the spiral, apply a short brake input on the inner side before the glider exits the spiral.

Warnings (Spiral dive):

- There is a possibility of losing consciousness while in the spiral dive. Never make a spiral with more than 16-18m/s

sinking speed.

- In fast spirals it may be necessary to apply the outer brake to begin exiting the spiral dive.
- If practicing the spiral dive low, a pilot may not have enough altitude or time to safely exit this manoeuvre.

Winch launch

The Knight is easy to launch using a winch and has no special characteristics considering this kind of launching. To practice this launching technique special training is needed and you have to be aware of the procedures and dangers, which are specific for winching. We do not recommend using any special towing device which accelerates the glider during the winch launch.

Aerobatics

The Knight was not designed for aerobatics, therefore, these may not be performed on this glider. In addition to this, any extreme manoeuvres place unnecessary stress on the glider and shorten its lifespan.

Primary controls failure

If for any reason you cannot use the brake lines, you have to pilot the wing to the landing place by using weight shift. Weight shift should be enough to safely land the glider. You can also use the C risers to control and steer the wing. Be careful not to over-handle the glider by using the C riser technique when steering. By pulling the C risers too strong you can cause a stall or a negative spin. Land your glider at trim speed without using the C risers, to avoid

over-handling the glider low above ground. We recommend using weight shift.

Landing

Similarly to the take-off, the Knight's landing characteristics are easy. In turbulent conditions it is advisable to apply about 15% of the brakes, to increase stability and the feeling of the glider. Before landing, adopt the standing position as this is the most effective and the safest way to compensate the touch down with your legs. Again we recommend training the landing manoeuvre, as it might be useful to be able to land in small places, especially in an unknown cross country terrain. Learn to evaluate the wind direction by observing the signs on the ground and also your drift while making turns. This proves to be useful for cross country, when landing outside of your usual landing field. Another advice we suggest taking into account in stronger winds is to go higher for the landing fields and thus assuring you reach them. Likewise, always look for possible alternatives downwind.

Maintenance

General advice

Careful maintenance of your glider and the following simple guidelines will ensure a much longer airworthiness and performance of your wing:

- Pack your glider after you land and do not unnecessarily expose it to UV radiation by leaving it on the landing site unpacked. The sun UV radiation degrades the cloth and lines material.
- Fold your glider like recommended under the section of packing instructions.
- If the glider is damp or wet when you pack it, partially unfold it at home to allow it to dry. Do not dry it in direct sunlight.
- Avoid exposing the glider to violent shocks, such as the leading edge hitting the ground.
- Avoid dragging the glider on the ground or through rocky terrain as you might damage the lines or canopy.
- Avoid stepping on the lines or canopy, especially when they are lying on a hard surface.
- Avoid exposing the glider to salt water, as it damages the lines and the canopy material (wash with fresh water).
- Avoid bending your lines, especially in a small radius.
- Avoid opening your glider in strong winds without first untangling the lines.
- In general, avoid exposing your glider to very hot or humid environments, UV radiation or chemicals.

Packing instructions

It is important to correctly pack your glider as this prolongs its lifespan. We recommend that you fold the glider like a harmonica, neatly aligning the profiles with the leading edge reinforcements side by side. The wing should then be folded in three parts or two folds. The wing should be packed as loosely as possible. While packing be careful not to trap any grasshoppers inside your canopy as they will tear the canopy cloth. This technique will make your glider last longer and ensure its best performance.

Storage

Correctly packed, store your glider in a dry place at room temperature. The glider should not be stored damp, wet, sandy, salty or with objects inside the cells of the glider. Keep your equipment away from any chemicals.

Cleaning

If necessary always clean your glider with fresh water and a cloth only, without using any cleaning chemicals. This includes also the lines and canopy. More importantly, always remove any stones or sand from the canopy as they will gradually damage the material and reduce the glider's lifespan.

Repair

To repair small damages (less than 5cm) on the canopy cloth, you can use the rip stop tape. Greater damages, including stitches and lines must be repaired by a specialized repair shop. Damaged lines should be replaced by a Triple Seven dealer. When replacing a line it should always be compared with the counterpart for adjusting the appropriate length. After the line was repaired, the wing should be inflated before flying, to ensure that everything was done correctly. Major repairs, such as replacing panels, should only be carried out by a Triple Seven distributor or Triple Seven. If you are unsure about the damage or in any doubt please contact Triple Seven.

Checks and control

To ensure the wing's airworthiness the Knight has to be periodically serviced and checked to guarantee that the glider continues to fulfil the EN certification results and to extend your glider's lifespan. We recommend a line check and trim inspection every 100 hours or 12 months depending what happens first. After that, the glider needs to be fully checked after 150 hours or 24 months of usage, whichever comes earlier. This inspection includes checking the suspension lines, line geometry, riser geometry and the permeability of the canopy material. A certified inspector can then define the check interval depending on the glider's condition. Please note that the condition of the glider can vary considerably depending on the type of usage and environment. Salty coastal air or dunes will considerably affect your wing's material. For more information please visit our website.

Packing the Knight

1. FOLD THE GLIDER LIKE HARMONICA

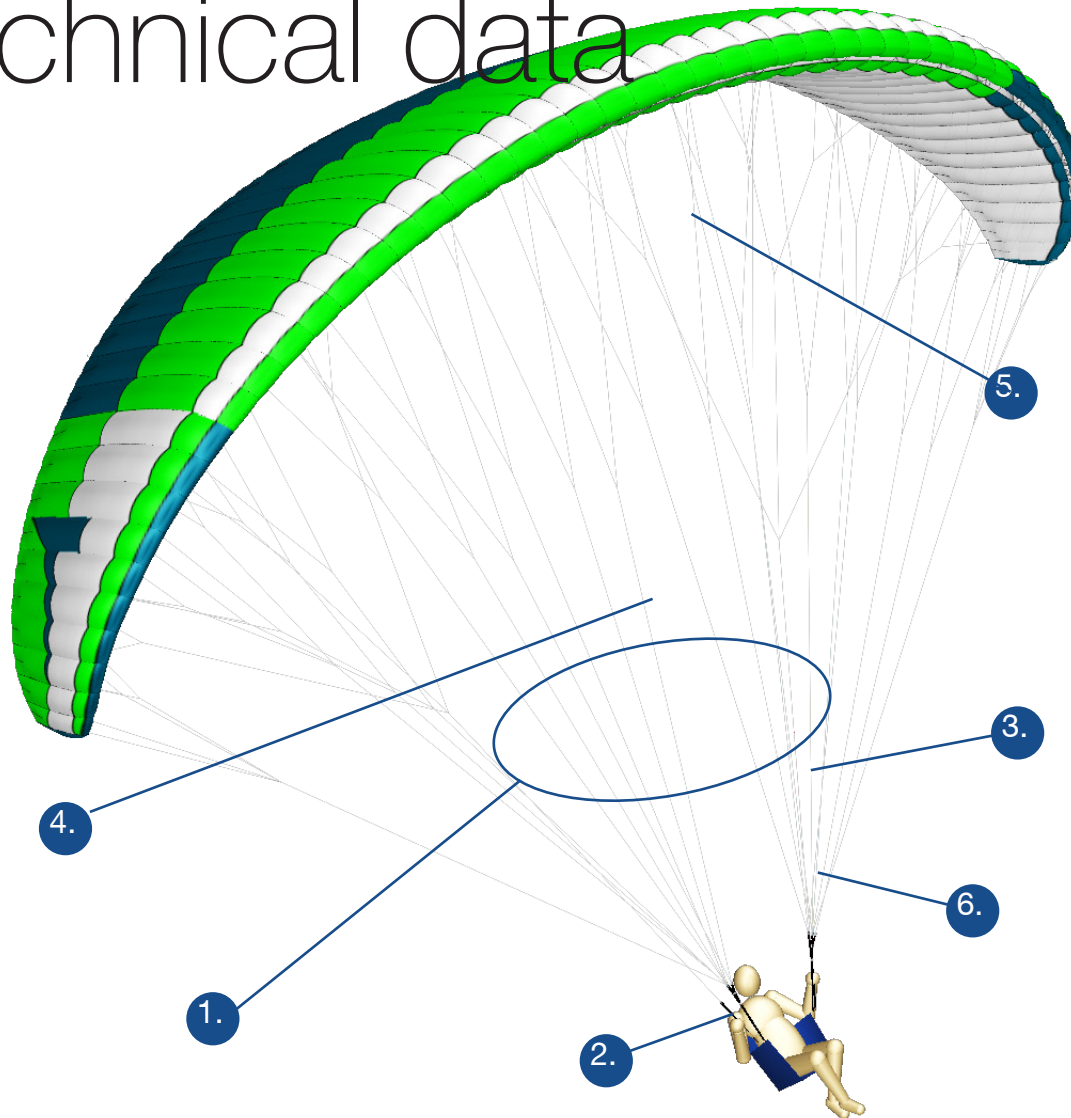


2. ALIGN THE CELLS

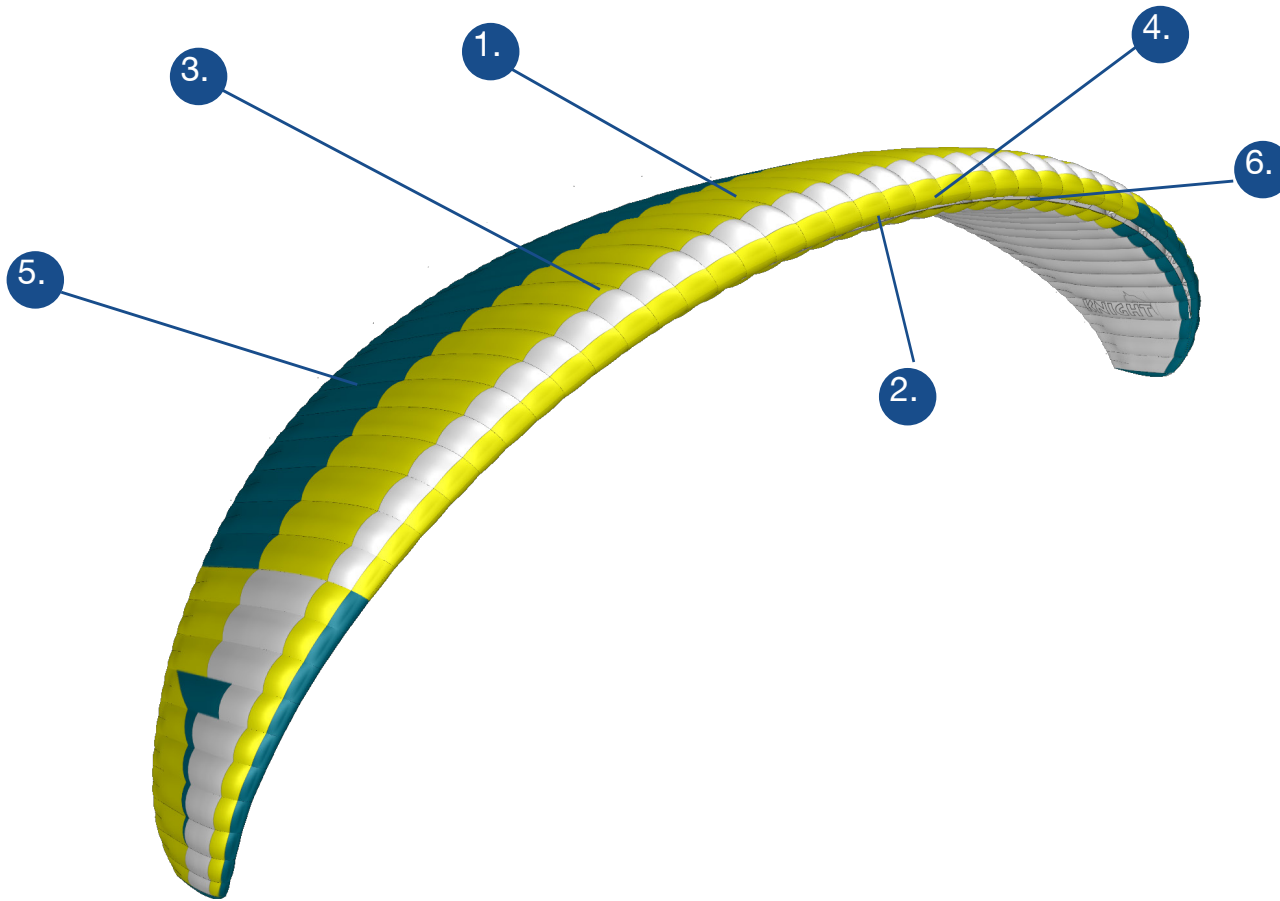




Technical data



1. Suspension lines
2. Risers
3. Main lines
4. Middle cascades
5. Upper cascades
6. Brake lines



1. Canopy
2. Bottom surface
3. Top surface
4. Leading edge
5. Trailing edge
6. Intake cell openings

Technical data

SIZE			Knight S	Knight MS	Knight ML	Knight L
CELLS	NUMBER		51	51	51	51
FLAT	AREA	m ²	23.7	26.4	28	29.8
	SPAN	m	11.4	12	12.3	12.7
	ASPECT RATIO		5.4	5.4	5.4	5.4
PROJECTED	AREA	m ²	20.1	22.4	23.7	25.3
	SPAN		8.8	9.3	9.5	9.8
	ASPECT RATIO		3.8	3.8	3.8	3.8

RISERS		A	B	C	
Knight S	LENGTHS (mm)	530	530	530	STANDARD
Knight S	LENGTHS (mm)	380	430	530	ACCELERATED
		S-Distance between pulleys: 150			

Knight MS	LENGTHS (mm)	550	550	550	STANDARD
Knight MS	LENGTHS (mm)	380	440	550	ACCELERATED
		MS-Distance between pulleys: 170			

Knight ML	LENGTHS (mm)	565	565	565	STANDARD
Knight ML	LENGTHS (mm)	380	440	565	ACCELERATED
		ML-Distance between pulleys: 185			

Knight L	LENGTHS (mm)	590	590	590	STANDARD
Knight L	LENGTHS (mm)	400	558	590	ACCELERATED
		L-Distance between pulleys: 190			

Glider weight	(kg)	4.8	4.9	5.3	5.6
	TRIMS	NO	NO	NO	NO

IN FLIGHT WEIGHT MINIMUM	kg	65	75	85	100
	MAXIMUM	kg	85	95	105

Materials description

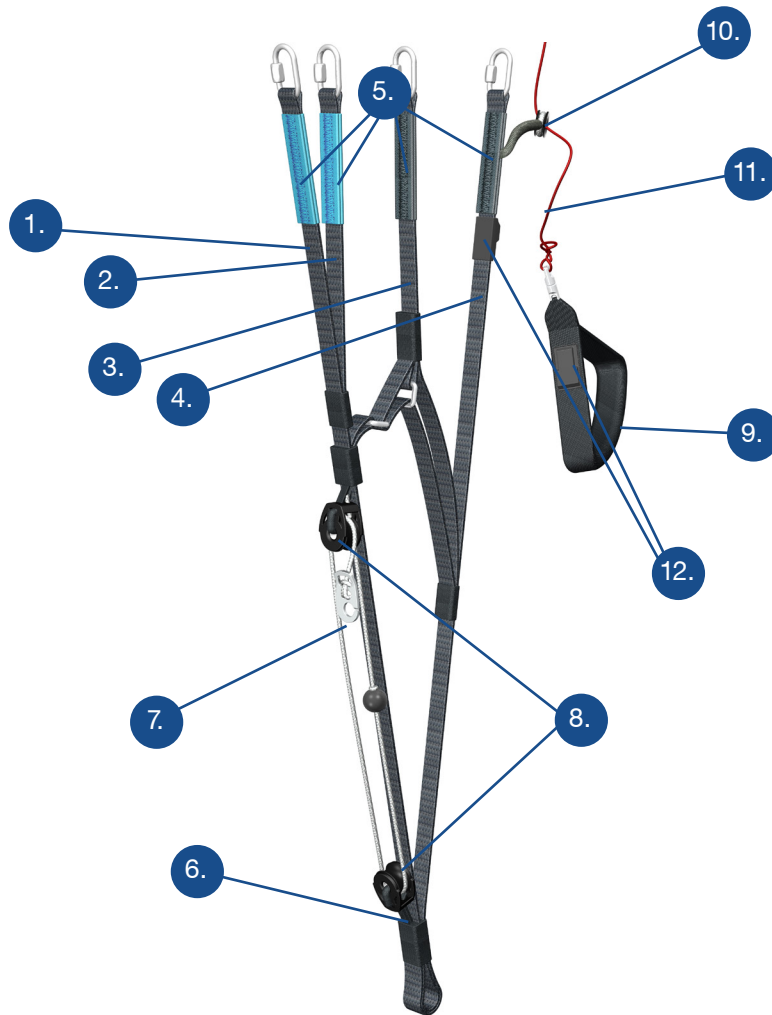
CANOPY	FABRIC CODE
Leading edge	Dominico 30D MF
Upper surface	Dominico 20D MF
Bottom surface	Dominico 20D MF
Profiles	Porcher Skytex 40 Hard 9017 E29
Diagonals	Porcher Skytex 40 Hard 9017 E29
Internal construction D-Ribs, H-Straps, Mini ribs	Porcher Skytex 40 Hard 9017 E29

SUSPENSION LINES	FABRIC CODE
Upper cascades	Edelrid A8000U
Middle	Edelrid A8000U
Main	Liros PPSLS, Edlerid A8000U
Brake lines	Edelrid A8000U
Main brake	Liros PPSL 191

RISERS	FABRIC CODE
Material	Webbing Liros 13mm kevlar
Brake ring	Tylaska 4 (original)
Pulleys	4x Harken P18

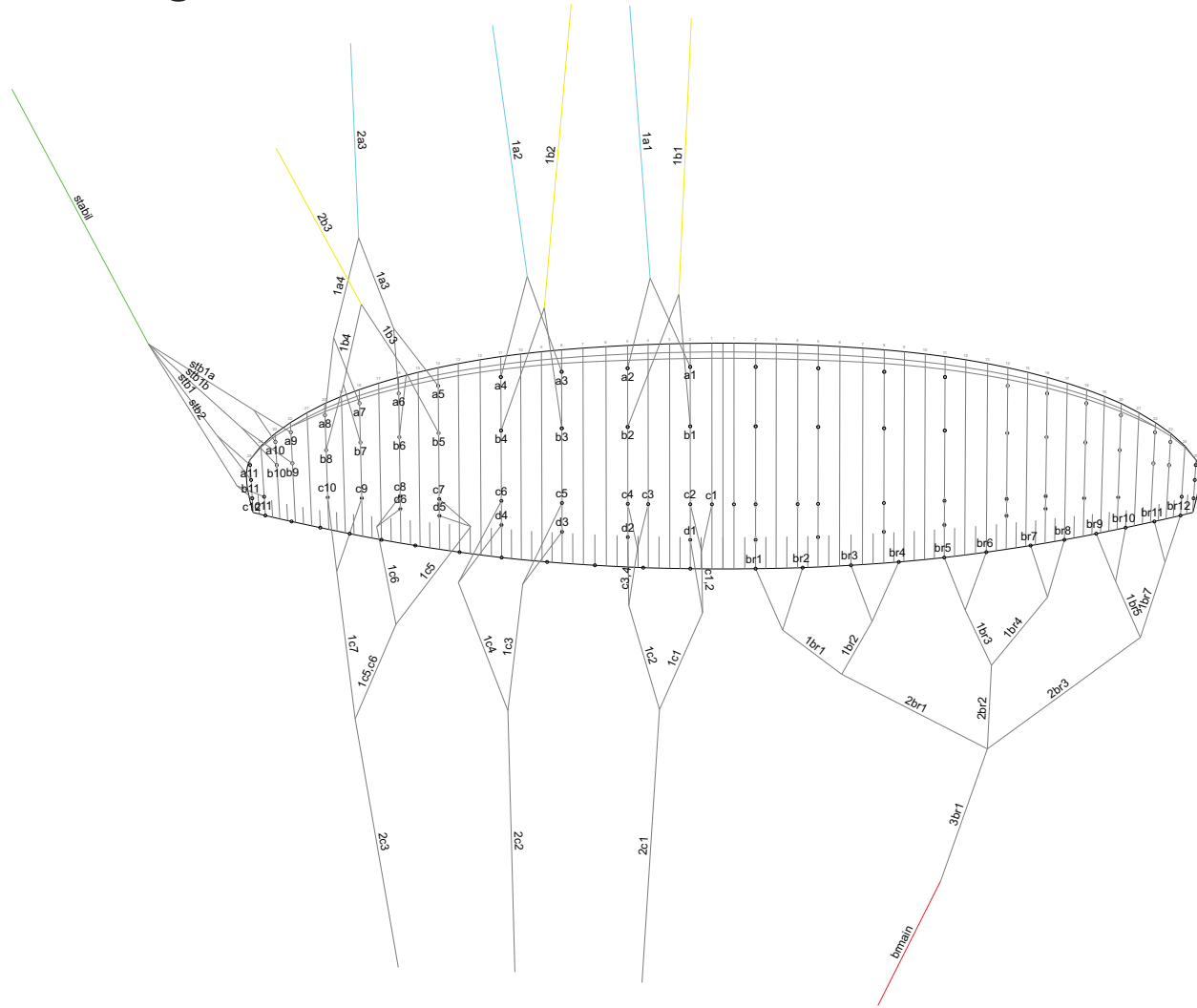
The spare parts can be obtained by Triple Seven dealers and representatives which can be found at www.777gliders.com

Knight risers arrangement

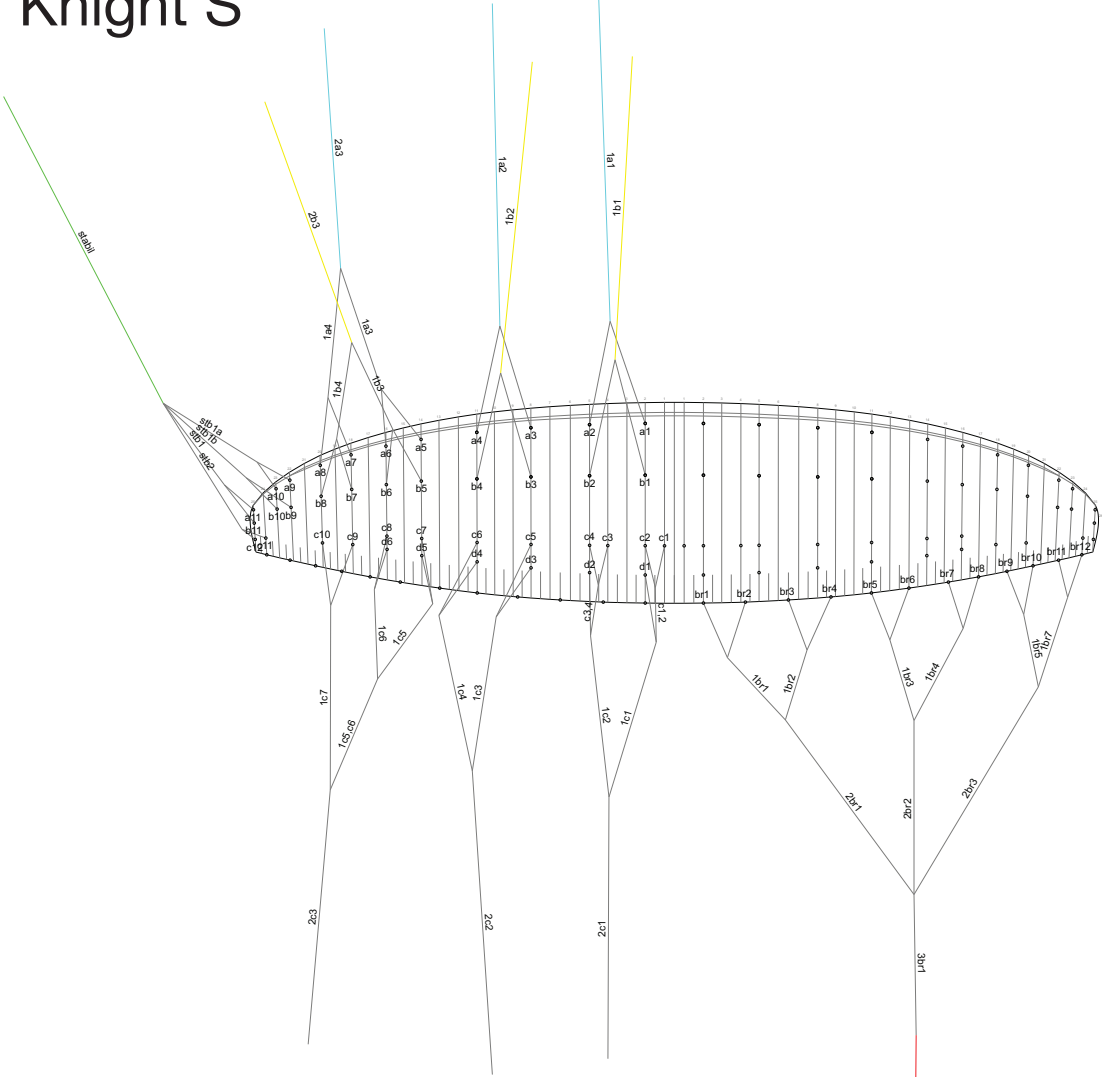


1. A1 riser
2. A2 riser, (Ears)
3. B riser, (B-Stall)
4. C riser
5. Maillons
6. Main attachment point
7. Speed bar attachment point
8. Speed bar pulleys (200mm)
9. Brake handle
10. Brake line pulley
11. Main brake line
12. Clip for brake handle
13. Knight has no trimmers or any other adjustable or removable device

Line plan Knight MS, ML, L



Line plan Knight S



Line lengths Knight S

Line lengths shall be specified when measured under a tension of 50 N, this tension being slowly and gradually applied before taking the measurement.

Triple Seven Knight S Lines Length (mm)

First gallery

Lines A	mm	Lines B	mm	Lines C	mm	Lines D	mm	BR lines	mm	a1	7019	c6	6942
a1	2336	b1	2323	c1	971	d1	1867	br1	936	a2	6988	c7	6890
a2	2306	b2	2291	c2	920	d2	1724	br2	729	a3	6954	c8	6782
a3	2259	b3	2241	c3	910	d3	1313	br3	929	a4	6928	c9	6709
a4	2231	b4	2211	c4	913	d4	1238	br4	818	a5	6896	c10	6665
a5	1345	b5	1323	c5	1191	d5	1366	br5	817	a6	6804	c11	6298
a6	1261	b6	1242	c6	1146	d6	1241	br6	684	a7	6740	c12	6228
a7	1187	b7	1161	c7	1333			br7	600	a8	6688	d1	7171
a8	1138	b8	1126	c8	1224			br8	602	a9	6485	d2	7131
a9	455	b9	442	c9	1157			br9	557	a10	6371	d3	7104
a10	343	b10	350	c10	1110			br10	439	a11	6157	d4	7030
a11	503	b11	515	c11	265			br11	473	b1	6960	d5	6938
				c12	199			br12	424	b2	6920	d6	6812

Second gallery

Lines A	mm	Lines B	mm	Lines C	mm	Lines C	mm	BR lines	mm	b3 <td>6891</td> <td>br1</td> <td>7429</td>	6891	br1	7429
1a3	1345	1b3	1314	c 1,2	813	1c1	683	1br1	2103	b4	6861	br2	7220
1a4	1349	1b4	1331	c 3,4	687	1c2	788	1br2	1744	b5	6823	br3	7054
Stab1 a	1536	Stb 1b	1503	1c3	854	Stb2	1538	1br3	1597	b6	6743	br4	6947
Stb1	1160			1c4	855			1br4	1545	b7	6676	br5	6871
				1c5,c6	1166			1br5	960	b8	6640	br6	6739
				1c7	1160			1br6	846	b9	6437	br7	6606

Main Lines

Lines A	mm	Lines B	mm	Lines C	mm	BR lines	mm	c1	7083	br10	6375		
1a1	4159	1b1	4108	2c1	4113	2br1	1850	Br main	1481	c2	7035	br11	6295
1a2	4175	1b2	4129	2c2	4427	2br2	1922			c3	7000	br12	6248
2a3	3683	2b3	3667	2c3	3883	2br3	2438			c4	6999		
		Stab main	3979			3br1	996			c5	6986		

Line lengths Knight MS

Line lengths shall be specified when measured under a tension of 50 N, this tension being slowly and gradually applied before taking the measurement.

Triple Seven Knight MS Lines Length (mm)

First gallery

Lines A	mm	Lines B	mm	Lines C	mm	Lines D	mm	BR lines	mm	a1	7014	c6	6967
a1	2464	b1	2452	c1	531	d1	1133	br1	870	a2	6981	c7	6916
a2	2434	b2	2420	c2	458	d2	1081	br2	567	a3	6952	c8	6824
a3	2381	b3	2364	c3	487	d3	920	br3	852	a4	6932	c9	6772
a4	2361	b4	2342	c4	482	d4	849	br4	775	a5	6910	c10	6752
a5	1354	b5	1275	c5	808	d5	475	br5	769	a6	6833	c11	6361
a6	1277	b6	1198	c6	767	d6	431	br6	619	a7	6772	c12	6297
a7	1190	b7	1110	c7	417			br7	510	a8	6737	d1	7198
a8	1155	b8	1096	c8	404			br8	592	a9	6536	d2	7159
a9	454	b9	438	c9	1016			br9	533	a10	6423	d3	7108
a10	340	b10	347	c10	996			br10	432	a11	6208	d4	7043
a11	486	b11	501	c11	285			br11	409	b1	6950	d5	6975
				c12	221			br12	450	b2	6915	d6	6851

Second gallery

Lines A	mm	Lines B	mm	Lines C	mm	Lines C	mm	BR lines	mm	b3 <th>6888</th> <th>br1</th> <th>7681</th>	6888	br1	7681
1a3	1344	1b3	1257	c 1,2	546	1c1	1420	1br1	1411	b4	6865	br2	7378
1a4	1370	1b4	1293	c 3,4	546	1c2	1432	1br2	861	b5	6846	br3	7112
Stab1 a	1409	Stb 1b	1378	1c3	474	1c5,c6	1363	1br3	993	b6	6769	br4	7031
Stb1	1048			1c4	1359	Stb2	1402	1br4	992	b7	6716	br5	6875
				1c5	1366			1br5	548	b8	6702	br6	6725
				1c6	767			1br6	526	b9	6489	br7	6614
				1c7	687					b10	6398	br8	6696
										b11	6223	br9	6553

Main Lines

Lines A	mm	Lines B	mm	Lines C	mm	BR lines	mm	c1	7144	br10	6455		
1a1	3999	1b1	3948	2c1	4116	2br1	2336	Br main	1580	c2	7071	br11	6409
1a2	4024	1b2	3978	2c2	4296	2br2	2049			c3	7041	br12	6448
2a3	3665	2b3	3766	2c3	3842	2br3	2410			c4	7037		
		Stab main	4127			3br1	1580			c5	7001		

Line lengths Knight ML

Line lengths shall be specified when measured under a tension of 50 N, this tension being slowly and gradually applied before taking the measurement.

Triple Seven Knight ML Lines Length (mm)

First gallery

Lines A	mm	Lines B	mm	Lines C	mm	Lines D	mm	BR lines	mm	a1	7224	c6	7176
a1	2538	b1	2526	c1	546	d1	1169	br1	895	a2	7190	c7	7123
a2	2504	b2	2490	c2	471	d2	1115	br2	583	a3	7160	c8	7028
a3	2450	b3	2432	c3	501	d3	950	br3	877	a4	7140	c9	6975
a4	2429	b4	2410	c4	496	d4	876	br4	797	a5	7117	c10	6954
a5	1393	b5	1312	c5	831	d5	489	br5	791	a6	7038	c11	6552
a6	1314	b6	1233	c6	789	d6	443	br6	637	a7	6975	c12	6486
a7	1224	b7	1142	c7	429			br7	525	a8	6939	d1	7413
a8	1188	b8	1128	c8	416			br8	609	a9	6732	d2	7373
a9	467	b9	451	c9	1045			br9	548	a10	6616	d3	7321
a10	350	b10	357	c10	1025			br10	444	a11	6395	d4	7254
a11	500	b11	515	c11	293			br11	421	b1	7158	d5	7184
				c12	227			br12	463	b2	7122	d6	7056

Second gallery

Lines A	mm	Lines B	mm	Lines C	mm	Lines C	mm	BR lines	mm	b3	7094	br1	7903
1a3	1383	1b3	1293	c 1,2	562	1c1	1461	1br1	1452	b4	7071	br2	7591
1a4	1410	1b4	1330	c 3,4	488	1c2	1473	1br2	886	b5	7051	br3	7318
Stab1 a	1450	Stb 1b	1418	1c3	488	1c5,c6	1402	1br3	1022	b6	6972	br4	7240
Stb1	1078			1c4	1398	Stb2	1443	1br4	1021	b7	6917	br5	7074
				1c5	1405			1br5	564	b8	6903	br6	6919
				1c6	789			1br6	541	b9	6684	br7	6805
				1c7	707					b10	6590	br8	6890

Main Lines

Lines A	mm	Lines B	mm	Lines C	1425	BR lines	mm	c1	7358	br10	6642		
1a1	4107	1b1	4062	2c1	4233	2br1	2404	Br main	1615	c2	7283	br11	6594
1a2	4132	1b2	4093	2c2	4420	2br2	2108			c3	7252	br12	6634
2a3	3665	2b3	3875	2c3	3947	2br3	2480			c4	7248		
		Stab main	4246			3br1	1485			c5	7211		

Line lengths Knight L

Line lengths shall be specified when measured under a tension of 50 N, this tension being slowly and gradually applied before taking the measurement.

Triple Seven Knight ML Lines Length (mm)

First gallery

Lines A	mm	Lines B	mm	Lines C	mm	Lines D	mm	BR lines	mm	a1	6872	c6	6822
a1	2618	b1	2604	c1	564	d1	1200	br1	923	a2	6837	c7	6768
a2	2584	b2	2569	c2	486	d2	1145	br2	602	a3	6807	c8	6671
a3	2527	b3	2509	c3	517	d3	973	br3	904	a4	6785	c9	6615
a4	2506	b4	2486	c4	512	d4	896	br4	823	a5	6762	c10	6594
a5	1437	b5	1353	c5	858	d5	502	br5	816	a6	6680	c11	6179
a6	1355	b6	1272	c6	814	d6	455	br6	657	a7	6615	c12	6111
a7	1263	b7	1178	c7	443			br7	541	a8	6578	d1	7068
a8	1226	b8	1163	c8	429			br8	628	a9	6365	d2	7026
a9	482	b9	465	c9	1078			br9	566	a10	6245	d3	6972
a10	361	b10	368	c10	1057			br10	459	a11	6017	d4	6903
a11	516	b11	532	c11	303			br11	434	b1	6804	d5	6831
				c12	235			br12	478	b2	6767	d6	6699

Second gallery

Lines A	mm	Lines B	mm	Lines C	mm	Lines C	mm	BR lines	mm	b3	6739	br1	8153
1a3	1427	1b3	1334	c 1,2	580	1c1	1507	1br1	1498	b4	6714	br2	7831
1a4	1454	1b4	1372	c 3,4	503	1c2	1520	1br2	914	b5	6694	br3	7549
Stab1 a	1496	Stb 1b	1463	1c3	1442	1c5,c6	1447	1br3	1054	b6	6612	br4	7469
Stb1	1112			1c4	1450	Stb2	1488	1br4	1053	b7	6556	br5	7297
				1c5	814			1br5	582	b8	6541	br6	7138
				1c6	729			1br6	558	b9	6315	br7	7020
				1c7	1470					b10	6218	br8	7107
										b11	6033	br9	6956

Main Lines

Lines A	mm	Lines B	mm	Lines C	1470	BR lines	mm	c1	7010	br10	6852		
1a1	4242	1b1	4062	2c1	4369	2br1	2480	Br main	1690	c2	6933	br11	6803
1a2	4269	1b2	4093	2c2	4566	2br2	2175			c3	6901	br12	6844
2a3	3890	2b3	3997	2c3	4075	2br3	2558			c4	6897		
		Stab main	4381			3br1	1532			c5	6859		

Certification specimens

AIR TURQUOISE SA | PARA-TEST.COM
 Route du Pré-au-Comte 8 • CH-1804 Villeneuve • +41 (0)21 965 65 65
 Test laboratory for paragliders, paraglider harnesses
 and paraglider reserve parachutes



Class: **B**

In accordance with standards
 EN 926-2:2013, EN 926-1:2015 & LTF 91/09:

PG_1220.2017
 25. 01. 2018

Date of issue (DMY):

Manufacturer: 777 jadrlna padala d.o.o.

Model: Knight S

Serial number: KN-S-001

Configuration during flight tests

Paraglider		Accessories	
Maximum weight in flight (kg)	85	Range of speed system (cm)	15
Minimum weight in flight (kg)	65	Speed range using brakes (km/h)	15
Glider's weight (kg)	4.9	Range of trimmers (cm)	0
Number of risers	3	Total speed range with accessories (km/h)	25
Projected area (m2)	20.1		
Harness used for testing (max weight)		Inspections (whichever happens first)	
Harness type	ABS	every 24 months or every 100 flying hours	
Harness brand	Supair	Warning! Before use refer to user's manual	
Harness model	Evo CX M	Person or company having presented the glider for testing: None	
Harness to risers distance (cm)	44		
Distance between risers (cm)	44		

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
 A A B A A A A A A A A A A B A A A B A B A A 0

Sticker generated automatically by AIR TURQUOISE SA, valid without signature // GB | REV 01 | 07.06.2016 // ISO | 71.9.10 // Page 1 of 1

AIR TURQUOISE SA | PARA-TEST.COM
 Route du Pré-au-Comte 8 • CH-1804 Villeneuve • +41 (0)21 965 65 65
 Test laboratory for paragliders, paraglider harnesses
 and paraglider reserve parachutes



Class: **B**

In accordance with standards
 EN 926-2:2013, EN 926-1:2015 & LTF 91/09:

PG_1191.2017
 20. 06. 2017

Date of issue (DMY):

Manufacturer: 777 jadrlna padala d.o.o.

Model: Knight MS

Serial number: KN-MS-V1

Configuration during flight tests

Paraglider		Accessories	
Maximum weight in flight (kg)	95	Range of speed system (cm)	16.5
Minimum weight in flight (kg)	75	Speed range using brakes (km/h)	13
Glider's weight (kg)	4.9	Range of trimmers (cm)	0
Number of risers	3	Total speed range with accessories (km/h)	26
Projected area (m2)	22.4		
Harness used for testing (max weight)		Inspections (whichever happens first)	
Harness type	ABS	every 12 months or every 100 flying hours	
Harness brand	Advance	Warning! Before use refer to user's manual	
Harness model	Success 4 L	Person or company having presented the glider for testing: None	
Harness to risers distance (cm)	44		
Distance between risers (cm)	44		

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
 A A A A A A A A A B A A A B A A A B A B A B A 0

Sticker generated automatically by AIR TURQUOISE SA, valid without signature // GB | REV 01 | 07.06.2016 // ISO | 71.9.10 // Page 1 of 1



Class: **B**

In accordance with standards
 EN 926-2:2013, EN 926-1:2015 & LTF 91/09:

PG_1207.2017
 29. 08. 2017

Date of issue (DMY):
 Manufacturer: **777 jadralna padala d.o.o.**
 Model: **Knight ML**
 Serial number: **KN-ML-0097**

Configuration during flight tests

Paraglider		Accessories	
Maximum weight in flight (kg)	105	Range of speed system (cm)	19
Minimum weight in flight (kg)	85	Speed range using brakes (km/h)	16
Glider's weight (kg)	5.5	Range of trimmers (cm)	0
Number of risers	3	Total speed range with accessories (km/h)	27
Projected area (m2)	23.7		

Harness used for testing (max weight)		Inspections (whichever happens first)	
Harness type	ABS	every 12 months or every 100 flying hours	
Harness brand	Gin Gliders	Warning! Before use refer to user's manual	
Harness model	Gingo 2 L	Person or company having presented the glider for testing: None	

Harness to risers distance (cm)	43
Distance between risers (cm)	46

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
 A A B A A A A A A A B A A A B A A A B A B B A 0 □



Class: **B**

In accordance with standards
 EN 926-2:2013, EN 926-1:2015 & LTF 91/09:

PG_1221.2017
 01. 09. 2017

Date of issue (DMY):
 Manufacturer: **777 jadralna padala d.o.o.**
 Model: **Knight L**
 Serial number: **KN-L-V1**

Configuration during flight tests

Paraglider		Accessories	
Maximum weight in flight (kg)	120	Range of speed system (cm)	19
Minimum weight in flight (kg)	100	Speed range using brakes (km/h)	16
Glider's weight (kg)	5.8	Range of trimmers (cm)	0
Number of risers	3	Total speed range with accessories (km/h)	27
Projected area (m2)	29.8		

Harness used for testing (max weight)		Inspections (whichever happens first)	
Harness type	ABS	every 12 months or every 100 flying hours	
Harness brand	Gin Gliders	Warning! Before use refer to user's manual	
Harness model	Gingo 2 L	Person or company having presented the glider for testing: None	

Harness to risers distance (cm)	43
Distance between risers (cm)	48

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
 A A A A A A A A A B A A A B A A A B A A B B A 0 □

Safety and responsibility

Paragliding is a dangerous and high risk activity, where safety depends on the person practicing it. By purchasing this equipment you are responsible to be a certified paragliding pilot, and you accept all risks involved in paragliding activities, including serious injury and death. Improper use or misuse of paragliding equipment considerably increases these risks.

The designer, manufacturer, distributor, wholesaler and retailer cannot and will not guarantee your safety when using this equipment or accept responsibility for any damage, injury or death as a result of the use of this equipment. This equipment should only be used by qualified and competent pilots or by pilots under supervision of qualified paragliding instructors. You must not use this equipment if you are not trained.

You alone as a qualified and competent pilot must take full responsibility to ensure that you understand the correct and safe use and maintenance of this paragliding equipment and to use it only for the purpose that it was designed for and to practice all proper safety procedures before and during its use.

Guarantee

Triple Seven WARRANTY:

All Triple Seven products are fully warranted for 24 months, against material defects that are not the result of normal wear or accidental damage.

Warranty online reference:

www.777gliders.com/warranty

Enviromental information

When the glider has reached its hours and is not in the regulations of flying safe, please dispose the glider material with the right authorities under the regulations applied for the materials used in a paraglider.

Registration information

To fully use all Triple Seven maintenance and warranty services you need to register your glider on our website. Wanting to provide good product support, we invite you to do so, even if you bought your glider second-hand.

Triple Seven Warranty & Product registration:

<http://www.777gliders.com/tripleseven/support>

Get involved

As a new Triple Seven pilot we invite you to contact us in case of any technical or practical issues regarding equipment or techniques. We also invite you to send us your flying photos, videos or even postcards. We would like to hear from you and your exciting adventures with your new Knight! Finally, join our Facebook community and share the passion. Have fun!

Contact

Triple Seven Gliders

Company: 777 jadralna padala d.o.o.

Address: Ulica IV prekomroske 61

Postal Code / City: 5270 Ajdovščina

Country: Slovenia

Tel.: +386 40 777 313

Email: info@777gliders.com

Online resources

For complete help, the latest news, product information and support go to:

Official website:

www.777gliders.com

Facebook:

www.facebook.com/TripleSevenParagliders

Newsletter register:

www.777gliders.com/newsletter/subscriptions

Ask questions, make suggestions

General questions:

info@777gliders.com

Technical questions:

info@777gliders.com



Top 5 XC tips

1. Master your equipment and techniques. Climbing is the most important! Practice it, especially in weak conditions and don't be afraid to bomb out. Attend safety and XC courses and learn to fly your glider safely along its full speed range.
2. When circling in a weak thermal, cruise and explore it for better lift. When you hit strong cores, tighten up!
3. Know the theory and try it out! Imagine thermals and when you find them, look down and think... Where is it coming from? What was the trigger? Look around, Look around, Look around! Use every sign of luck and don't hesitate to take it.
4. Plan your XC at home and let your imagination free. In this way, you will have a mission on the take-off and you will not be taken by surprise at cloud base, not knowing what to do next.
5. Fly together with friends and have fun! Share exciting experiences, ask questions and don't forget the first rule of aviation - always have an alternative option or plan B.

“Primož Susa”

TRIPLE SEVEN