

THRILLER^{2K11}



U-TURN your airline...

- Manual - English Rev. 1.3

**!!! Please read the manual before you fly your new
U-Turn THRILLER 2K11 !!!**

Stand: November 2010

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All technical details in this manual have been carefully checked by U-Turn. However we like mention that we don't take any liability for possible mistakes, neither in legal responsibility, nor in liability cases that derive from mistakes details. We preserve the right to change this manual in any way to achieve technical improvements.

You`ve got the stuff to fly!

The U-Turn team would like to congratulate you on the purchase of your new U-Turn paraglider. You have made an excellent choice. We wish you long and enjoyable flights and many happy landings with your new U-Turn THRILLER 2k11.

The Research and Development team at U-Turn can proudly look back at many successful years in the flight sport industry. Our own concepts not only meet but exceed industry standards. The combination between the latest computer based technology and the know-how of experienced test pilots and professional competition pilots provides an excellent basis for quality. We certainly keep our customers needs in mind, and always appreciate your input and constructive criticism. Should any questions occur, please don`t hesitatel to ask your U-Turn dealer or the U-Turn team.

In order to provide you with the latest information on technical development and innovations at U-Turn, we ask you to complete the questionnaire attached. Please mail it to the following address:



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Please read the entire handbook carefully before using your U-Turn THRILLER 2K11 for the first time. We composed this handbook, in order to make the handling of your new U-Turn THRILLER 2K11 as safe and easy for you as possible.



U-TURN GmbH
Im Neuneck 1
D-78609 Tuningen
Germany



NAME:.....

FIRST NAME:.....

STREET:.....

ZIP CODE / CITY:.....

TELEPHONE:.....

E-MAIL:.....

PARAGLIDER TYPE:.....

SERIAL NUMBER:.....

Date of purchase:.....

Dealership:.....

Tested by:.....

Flying hours:.....

Paraglider since:.....

Miscellaneous:.....

☐ Yes, I would like to get the newsletter by email.



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Introduction

The U-Turn THRILLER 2K11 is the worlds leading acro wing. The THRILLER 2K11 is tuned by best pilotes in the world. Please consider that all kinds of flying is dangerous and your personal safety depends only on you! We recommend you to fly konservative with a big room for safety while flying.

Paragliders of U-Turn stand for uncompromising security, best material and outstanding flight characteristics. Our task is to do the best in consultation and support. Therefore our products are sold exclusively by authorised competence centers which train on highest level, qualified and unusual service to guarantee. The borders of physics are incorruptible. To reach the nearest to physics borders however as close as possible - this ambitious goal we used up ourselves. Oscar Wilde noticed once in purest british understatement that its taste is very easy: „The best is me straight well enough “. Also we of U-Turn stand for this uncompromising product philosophy: We want always the optimal paraglider. No more and not less.

The center of our work is the customer, whose desires and needs we want to satisfy. We are always pleased over active contributions for your part in the form of suggestions and criticism. For any questions open, contact please your U-turn-dealer or us directly. We are glad advice and help in any problem.

General Description

U-Turn THRILLER 2K11

Lots of innovations for acro-feeling 2.0

The completely new level of agility and manoeuvrability, as well as mastery and control are now inseparable from the name of the U-Turn THRILLER. A collection of the newest technology has brought about a new flying experience: PPN and PPNplus technology, the Extended Aeration System (EAS) in combination with intelligent Crossports as well as the AFS-System of the newest generation produced a unique high-tech wing as the successor of the legendary G-FORCE.

The best pilots of the world who have flown G-FORCE benefited the advancement of the latter with tips and feedback. The already very good wing was turned into an outstanding one by means of countless small, sometimes minimal changes, which continuously stimulated the improvement process of the G-FORCE. Equipped with this experience and based on this high level, together with exceptional pilots like Pal Takats, Gabor Kezi and others, U-Turn head designer Ernst Strobl developed a benchmark-setting acroglider just as the G-FORCE had previously been.

The THRILLER's aspect ratio of 5.7 is located exactly between the MORPHEUS (5.6) and G-FORCE (5.8). Together with a modified layout and completely newly designed trailing edge as well as an AFS-System (Automatic Flight Stabilisation) that has been modified and optimised for acro operations, the canopy has been freed from a nuanced aggressiveness to the extent that pilots now enjoy larger time frames for possible drive pulses and the feedback from the canopy occurs in a more regulated and at the same time more defined fashion. This of course has no negative effects on the basic agility of the canopy.



General Description

Strobl was especially concerned with the profile nose. Thanks to the excellent dynamics, the THRILLER's profile nose is particularly exposed to pressure. Added to this, acroflying can often cause aeronautically disadvantageous angles of approach that require a well-functioning leading edge even under extreme pressure. As a result the THRILLER 2K11 is equipped with a unique construction: The PPN and PPNplus System. PPN stands for Precision Profile Nose. Synthetic rods have served as a replacement for nose-mylar in the cell walls of gliders for several years. The THRILLER 2K11 is also equipped with this feature.

Nevertheless, Strobl developed the technology a step further. Along with the synthetic reinforcements in the sewn up areas, comprehensive tests have shown that stabilisers sewn across the middle of the cell openings of the profile nose are extremely useful. The synthetic rods in the profile nose sustain the stability of the leading edge, thereby optimizing the flow of air along the profile. Even under extreme flying conditions the small rods of the PPNplus system keep the openings of the profile nose considerably wider open than the case has been up to this point. The inner pressure is maintained palpably longer and with it the stability of the edge. "By means of the PPNplus-System, the discharge in the front area during manoeuvres like the Infinity Tumbling has been distinctly reduced", explained Strobl. The leading openings remain open longer thanks to PPNplus, which greatly enhances the THRILLER's performance.

The PPNplus-System noticeably delays the point of discharge of the leading edge – it can, however, reach its limits during unfavourable thermal conditions or especially during the dynamic performance of specific manoeuvres at certain angles of approach. There is yet a further innovation that raises U-Turn's THRILLER 2K11 to a new dimension: The Extended Aeration System. This refers to intelligent openings (grid) on the upper canopy surface above the regular chamber openings. The openings are closed during normal inflows. This is caused by the pressure and the turbulence emerging from the inflowing air in the fore area of the chambers (see illustration): The cloth flap within the chamber is forced against the grid. If the inner pressure abates despite the AFS System and PPNplus technology, the folded down flap activates the Extended Aeration System. Rammed air pushes into the cells and keeps the form of the profile.

This function is supported by optimised crossports. Crossports ensure the lateral ventilation of the individual chambers and accelerate, for example, the re-inflation of the glider after a one-sided deflation. They are an essential component of a glider, but not necessary for the construction of the overall stability of the canopy during a normal flight. Thanks to PPNplus and the Extended Aeration Systems, it was possible to significantly reduce the size of the Crossports of the THRILLER 2K11 by an impressive 80%. This gives the THRILLER 2K11 an incredible folding-resistance for an acroglider. Another point to keep in mind: The complexly designed profile nose makes the glider sensationally easy to start and elevate.

The testpilot Pal Takats is certain that "this is the best acroglider that I have ever flown." Individual manoeuvres can be performed to a wonderful perfection, and the transitions are especially phenomenal. "The helicopter-connections are now as simple as pie", raved Takats. "With the THRILLER 2K11 I can easily fly a sequence from SAT to Heli and back to SAT without even having to touch the outer breaks for adjustments." Such energetic and at the same time perfect transitions from one manoeuvre to another – something that jurors are very keen on – allow for high scores during competitions.

Just as with the G-FORCE, the THRILLER 2K11 is under a continuous process of development, always with the goal to promptly integrate the improvements achieved under high pressure into the sequence. U-Turn cofounder Thomas Vosseler is certain that "it worked wonderfully with G-FORCE and the THRILLER 2K11 will also play an important role for future U-Turn LTF-1 or 1-2 wings as an innovation engine."

Attention ! Security Notes



Never fly in close distance to high voltage transmission lines, airports and motorways, over humans or with thunderstorm! - Mortal danger - Otherwise you endanger the life and the body third and/or your own and act at the same time roughly negligently! The minimum distance to these objects is 50m. To airports rises distance to 5 km.

Risk assumption



The use of the U-Turn THRILLER 2K11 accommodates certain dangers of body injury or killing of the user of this product or third. With THRILLER 2K11 use you agree, all well-known and unknown, to take and accept probable and improbable injury risks on itself.

The dangers connected with practice of this kind of sport can be reduced by the attention of the warning references of the manual, as well as the care ordered in individual cases. This sports inherent risks can be reduced to a large part, if one adheres both to the maintenance guidelines, which are listed in this operating instruction, and by the healthy human understanding.

Liability claim and exclusion renouncement



By the sales contract over a U-Turn THRILLER 2K11 you explain yourselves in agreement with the following points within the legal defaults:

THE RENOUNCEMENT OF ALL HOWEVER CONSTITUTED REQUIREMENTS,

from the use of the U-Turn THRILLER 2K11 and either its components now or in the future against the U-Turn GmbH and all other contracting parties involved.



Relieving the U-Turn GmbH and all other contracting parties of each requirements concerning loss, damage, injury or expenditures, which used you, your relatives and/or every other user of the U-Turn THRILLER 2K11 resulting from the use of U-Turn THRILLER, including the liability of the U-Turn GmbH and all other contracting parties resulting in law or contract in the case of production and processing U-Turn THRILLER 2K11 and every of its components.



With the entrance of death or the disability, all regulations stated here coming into force and include also your legal heirs, relatives, executors and fiduciaries, legal successors and legal representatives. The U-Turn GmbH and all other contracting parties did not deliver other verbal or written statement and denials explicit that this was done, with exception that it is specified in and in the manual U-Turn THRILLER 2K11 here.

Security notes



- Acro gliders such as the U-Turn THRILLER 2K11 is life dangerous.
- Execute manouvers with the U-Turn THRILLER 2K11 only over water.
- Pay attention the high sink rates in "dynamic flying".
- Be aware of the high G-force occuring in dynamic flight (5 G and more).
- Fly the U-Turn THRILLER 2K11 never without a rescue paracute. Prefferrable 2 rescues!
- The U-Turn THRILLER 2K11 is not certified by DHV, AFNOR, DAEC, CEN, EN or elsewhere
- The observance in the respective country valid air law laws and regulations is to be considered.
- The required education, training, knowledge and is mandatory for using the U-Turn THRILLER
- The use of suitable and certified gear (helmet, harness, rescue) is mandatory for the use of THRILLER 2K11.
- Weather conditions got serious influence to flight security.
- The flysite got direct infuence to flight security.
- Inspect the glider before each start carefully (canopy, in particular the lines, carabiners, belt buckles, cloth, speed system etc..
- Make sure the glider is in propper condition and all inspections are done.
- Be aware that a pilot must be physically and mentally able to do the flight.

Weather dangers

Inform in the weather forecast and/or locally over upcoming weather conditions. Use the U-Turn THRILLER 2K11 only with winds you are able to keep the glider fully under control. Do not use the U-Turn THRILLER 2K11, if wind conditions are very strongly. Never use the U-Turn THRILLER 2K11 with approaching thunderstorm. Descend fast and land immediately with thunderstorm approaching on horizon!



**Ignoring one or several security rules
can turn a fun flight into a lethal flight!**



Lines and risers

We use DC60, DSL70, PPSL120, PPSL160, PPSL200, PPSL275 Liros lines as well as TSL 190, TSL 220, TSL 280, TSL 380 (TSL -Aramid core) with a special weaved Dyneema core. They have a high tear strength and are unlikely to bend. This stretch resistance denies changes in flight characteristics caused by different stretching after a short time of usage. An optimum of safety and strength in relation to drag is achieved by the use of different line diameters.

The whole line system consists of single elements that are sewed and looped on both ends. All suspension and brake lines are forked in the upper part. The different colour of the lines guarantee easy handling and control. All suspension lines are looped separately in rapidlinks and connected to the risers. The rapidlinks have collectorclips built in to prevent slipping of the lines.

Trimming - Important information

Due to the extremely high loads in ACRO maneuvers and the resulting line stretching, in complex tests we found out the stretches and considered this in manufacturing process of your U-Turn THRILLER 2K11. That means, that all U-TURN ACRO wings are trimmed too fast on delivery. Only by high loads like steep spirals stretch the master lines on the ideal trim! Only after expanding the lines, the glider develops its full dynamics!!!! Please make sure that you load both wing sides symmetrically!!!

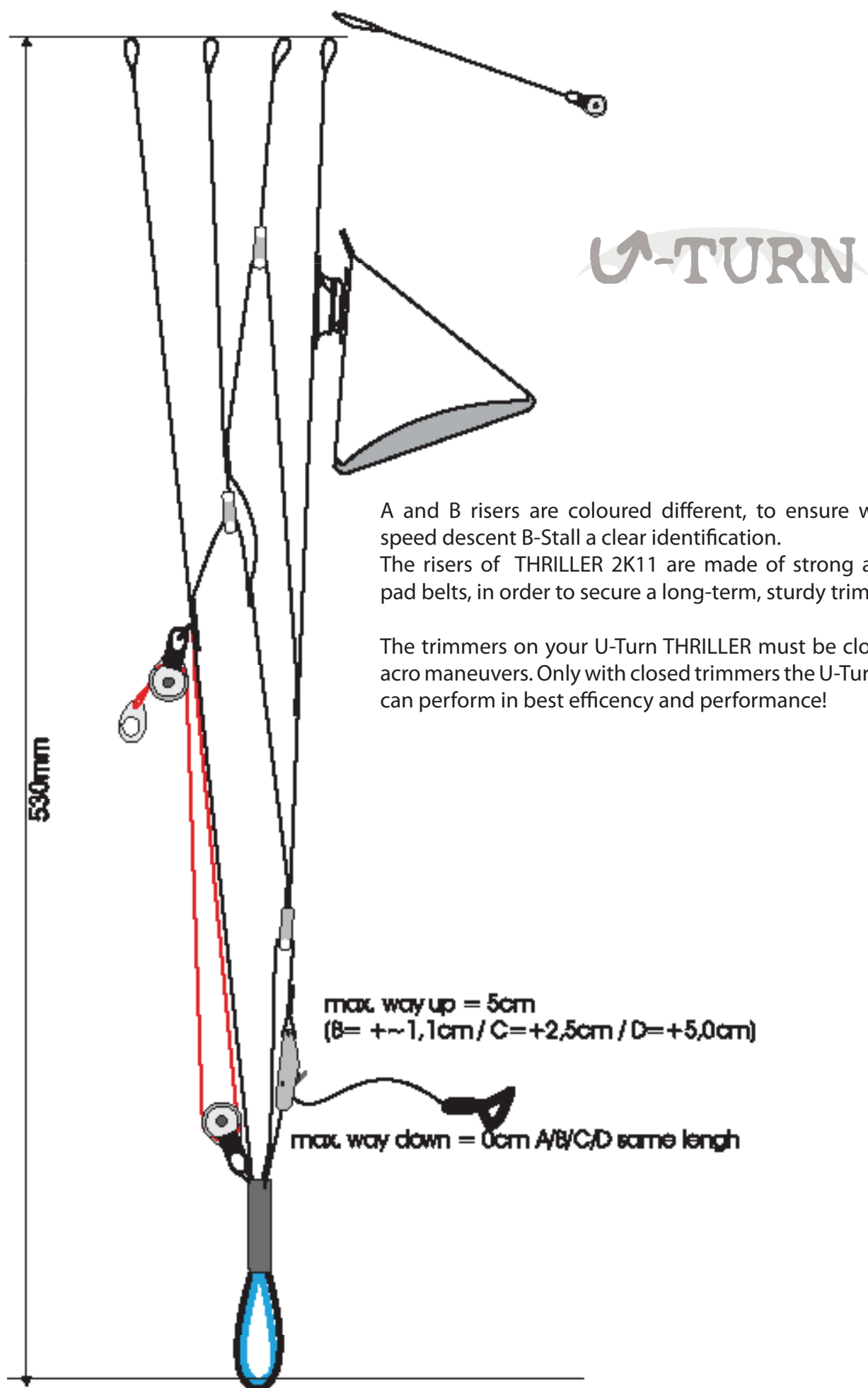
Brake line settings

The main brakeline is looped through a reel at the D-riser with a colourmarking where a brakegrip has to be tied on. The manufacturer setting is 0 travel plus 5 cm. Shortening more than 5 cm is not allowed and results in a "brake" condition in flight which is extremely dangerous for takeoff, flight and landing. The basic setting provides sufficient braking action at landing and in extreme flight conditions besides a comfortable arm positions in trimmed flight.

Please note that with the height of the harness mounting also the relative brake distance changes. When adjusting the setting, both sides have to be symmetrically and a permanent knot has to be used. Optimum solution is the so called "Spierenstich" knot with its high slide resistance and its effect on the lines.



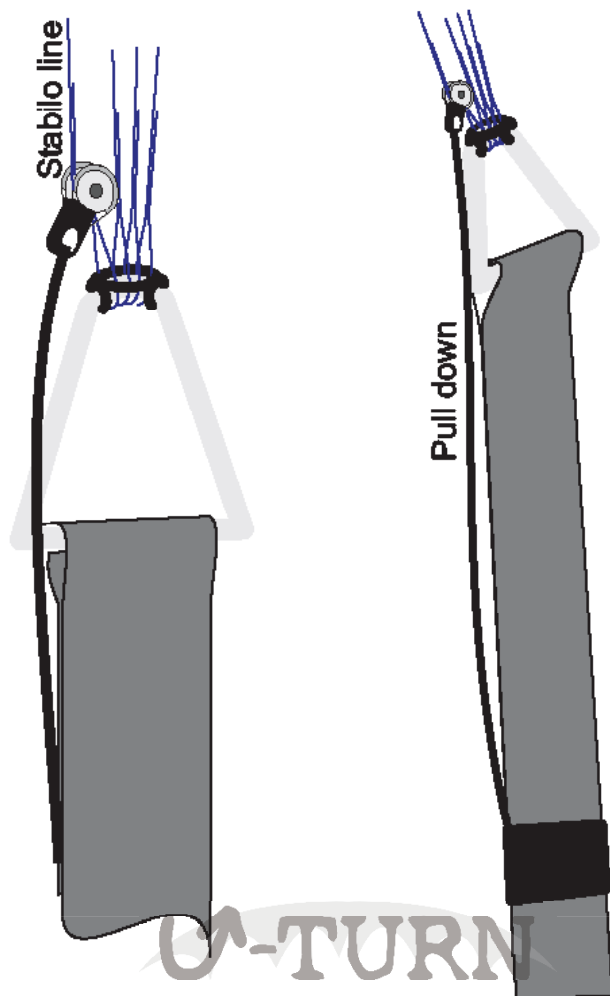
Risers



A and B risers are coloured different, to ensure when starting or speed descent B-Stall a clear identification.
The risers of THRILLER 2K11 are made of strong and stretch-poor pad belts, in order to secure a long-term, sturdy trim

The trimmers on your U-Turn THRILLER must be closed while doing acro maneuvers. Only with closed trimmers the U-Turn THRILLER 2K11 can perform in best efficiency and performance!

Stabilo Line Security Function



A further innovation concerns the repair of cravattes. Even best pilots are not protected against cravattes, for example if they train new figures or existing Choreographies. So far most cravattes end at the rescue parachute. Because of the high acceleration forces in dynamic flying, which constantly rise with less surface size of the glider. For a pilot, who is exposed to these high g-forces, it is not dependent on pilot skills and training condition to find quickly the stabilo line. The repair of the cravatte actually is mostly not a problem, the challenge is in fast finding and the Stabilo line. With the "Stabilo LINE Security Function" becomes now substantially simpler: The SLSF is a pulley, by which the Stabilo line is pulled and fastened with a rubber line to the B-Riser. When getting a cravatte the pilot can pull so the Stabilo line by grabbing and pull the loose rubber line and open the cravatte.

High Pressure Crossport Design (HPCD)

Cross ports are of decisive importance for the cross ventilation of a paraglider, as only a wing with sufficient internal pressure can shape the profile optimally. With the High Pressure Cross port Design HPCD), U-Turn has created the perfect conditions to ensure the ideal internal pressure in the canopy.

During extensive test flights we have mainly ascertained that: 1. The inflation of the canopy and therefore the setup of impact pressure can be considerably optimized by means of differentiated cross ports. 2. The effect of unintentional deflation in ambitious angles of attack or thermally demanding conditions can be moderated and controlled. At the same time the level of control commands increases, generally the feedback of the canopy becomes better. Handle, master.

Therefore, in order to optimize the cross ventilation in the canopy, U-Turn is using cross ports of different sizes and different cross sections. Different levels of pressure come up in the paraglider. In accordance with the physical laws, they are constantly compensating each other in a quick sequence. The individually differentiated cross ports have two effects: On the one hand, the tendency to unintentional discharge due to reduced air inlet is prevented, and on the other hand the re-inflation required after the discharging process is enabled by increased air inlet. Both steps are important for the stability of the wing.

Cross ports in the modern U-Turn wings differ depending on whether the cells, where they are integrated, have line contact points or not. Depending on the calculation values, the openings are made larger or smaller – and also the shape of the openings varies from round to oval.

Whereas the focus of the HPCD functionality for more powerful wings is on better stability against folding, clear feedback and better control, the category 1 paragliders from U-Turn have as particular design objective the minimized surging tendency.

Speed System

The U-Turn THRILLER 2K11 is equipped with a effective leg-actuated speedsystem that increases the speed ca. 13-17 km/h depending on model and pilots weight area load respectively. During extreme manoeuvres the speedsystem should not be activated, when entering an extreme manoeuver it should be immediately deactivated. All extreme manoeuvres (i.e. stalls...) get more dynamically at higher speed. Because the maximal adjustment of the accelerator is related to the safety characteristics of the canopy it may happen, that - using certain harnesses - the broad accelerator adjustment is not available.

Suitable Harness

All officially approved harness systems with mounting about the breast height are suitable for the U-Turn THRILLER 2K11 (they have to be DHV rated GH). The lower the mounting, the better is the steering by shifting of the bodyweight.



The positioning of the mounting also changes the relative brakedistance. If you have any questions about the usage of your harness with the U-Turn THRILLER 2K11; ask your U-Turn dealer or directly contact U-Turn. We assist you in any possible way.

Suitable Rescue System



It is required by law and absolutely necessary for safe operation of your paraglider that you always carry a rescue system with you. When choosing a rescue system, watch out that it is approved and suitable for the intended takeoff weight. With the innovative rescue systems of the SECURE-series by U-Turn light-weighted, convenient and safe reserves are available. The SECURE rescues offer extremely short opening times and low sink-rates. We advice you to use a second rescue. Many acro harnesses are already prepared to use a second rescue.

Winching

Because of its excellent starting characteristics, the U-Turn THRILLER 2K11 is well suitable for winching operations. Take the following points into account:

- maximum linetension for winching is 120 kg.
- if not operating at your usual winch, get acquainted with the local procedures and get a good briefing by a local pilot.
- bodyposition and pulling up the canopy does not differ from a normal takeoff. The canopy has to be completely over the pilot at takeoff. No early steering inputs to avoid falling back of the canopy or being pulled off with a non flyable glider. Never give the takeoff - command before you have total control over your glider. Don't turn too much during the takeoff - phase and before reaching the minimum safe altitude.
- never winch the U-Turn THRILLER 2K11 with loads outside the allowable weight range.
- all involved persons, machines and accessories have to have the appropriate licenses, approvals, certifications for winching.

Motorised Paragliding



The U-Turn THRILLER 2K11 is well suitable for motorized operation due to its outstanding takeoff performance, its wide weight range and its easy handling. Please note that a separate approval is necessary for the glider / motor-combination. If you intend to operate the U-Turn THRILLER 2K11 motorized, please contact the motor manufacturer, U-Turn and the DULV (Deutscher Ultraleichtflug Verband) for official approval. Use only approved motor / glider combinations and adhere to the aeronautical regulations as well as the training requirements.

Maintenance and Care

Because U-Turn only uses high quality materials, your U-Turn THRILLER 2K11 will be airworthy for many years if you take good care. The aging of your U-Turn THRILLER 2K11 depends on the total flying time, the conditions you fly in, the amount of UV radiation it is exposed to and the intensity and quality of care. A couple of tips for maintenance and care:

Long lasting exposure to UV radiation and normal use stress the material

- Don't expose your glider to UV radiation and normal use stress the material
- Consider the choice of terrain where you lay out the glider for takeoff
- Asymmetrical and changing folding patterns prolong the lifetime of the material especially in the middle section

Please take following points into consideration:



- regular checks for damage
- no unnecessary bending
- after an overstress (treelanding, waterlanding and extreme situations), a line-inspection is mandatory, in many cases a replacement of the line will be appropriate
- in case of changing inflight handling characteristics, the line have to be checked for their correct length
- don't tie the brakelines on the grips if not needed, it weakens the line

To clean the canopy use warm water and a soft sponge.

If you use a detergent for hard stains, make sure that you rinse intensively afterwards. Never apply acids and chemicals for cleaning, they weaken the material and damage the coating. Store your glider at a dry and dark location away from any chemicals. After two years or 300 flight hours, whichever occurs first, your U-Turn THRILLER 2K11 has to be inspected by the manufacturer, in case of extreme use we are glad to do that earlier. Only you know about the condition of your glider. Should there be a need for any repairs they are to be done by the manufacturer.

Disclaimer of liability, renouncement of requirements

Herewith you confirm to read carefully the complete manual before using the U-Turn THRILLER 2K11, inclusive every single hint and warning in this manual and to understand it completely.

Furthermore you are responsible for that before you let anybody else use your U-Turn THRILLER 2K11 (temporary or in future) the one has read the complete manual and understood it completely inclusive every single hint and warning written in this manual.



U-Turn cannot be hold responsible for any 2-year inspection and any repairs not performed by U-Turn or an U-Turn authorized dealer. Any checking or repairing performed by people not authorized by U-Turn will cause denial of any warranty.



Nature and environment friendly behaviour

We ask you to perform our sport in a manner, that impacts nature and environment with minimum intensity. Please do not walk beside paths, don't leave any waste, please be not noisy and respect the sensitive biological equilibrium in the mountains. Especially at starting areas maximum care for nature is necessary.

Removal

The synthetic materials your U-Turn glider is build must be depolluted appropriately. Please send your U-Turn Glider at the end of its life-cycle back to U-Turn. We will take care for recycling and removal.



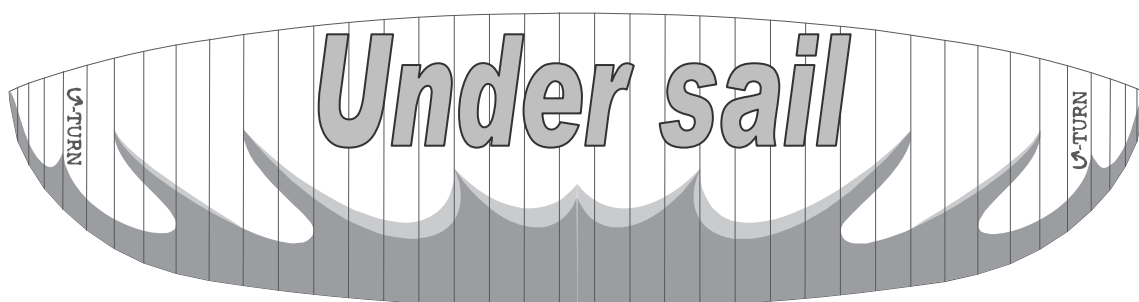
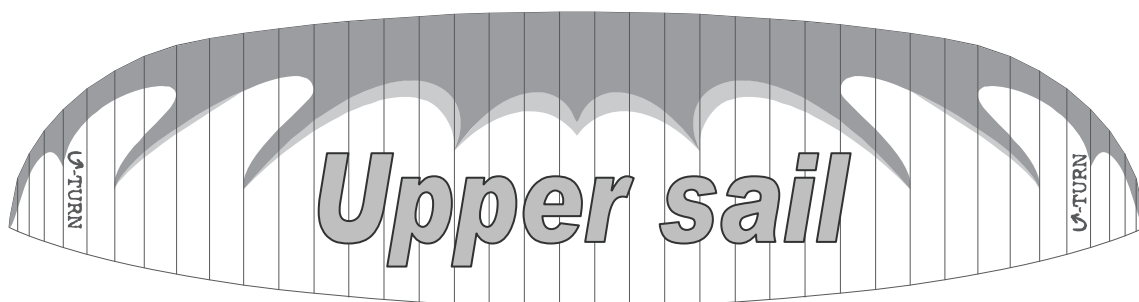
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Germany

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Fax: +49 (0)7464/989128-28

Instruction leaflet for repairs and 2 annual Check

Name:	
Adress:	
Land:	Telephone Number:
E-Mail:	
Paraglider type and Color:	Serial number:
comments/ notes:	

- | | |
|---|---|
| <input type="checkbox"/> 2 annual Check | <input type="checkbox"/> Line Check incl. strength test |
| <input type="checkbox"/> Air permeability check | <input type="checkbox"/> Repair of the marked damage |
| <input type="checkbox"/> Recall with sighting of the paraglider | |



Please, pretend the repair-destitute place in the upper sail and / or under sail.



U-Turn GmbH
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78609 Tuningen
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Tel: +49 (0)7464/9891280
Fax: +49 (0)7464/989128-28

LINE ORDER SHEET / BESTELLFORMULAR FÜR LEINEN

Name	
Adress / Adresse	
E-mail	
Telephone Number / Telefon Nummer	
Paragliding name / Gleitschirm Name	
Size / Größe	
Other / Sonstiges	

Serial Number / Serien Nummer: _ _ _ _ _ . _ _ _ _ _

Line ID / Bezeichnung	Quantity/ Stückzahl	Line ID / Bezeichnung	Quantity/ Stückzahl



Table of area loading



Take off Weight (kg)	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	140	150	160
THRILLER 2K11 12	4,00	4,40	4,80	5,20	5,60	6,00	6,40	6,80	7,20	7,60	8,00	8,40	8,80	9,20	9,60	10,00	10,40	11,20	12,00	12,80
THRILLER 2K11 15	3,23	3,55	3,87	4,19	4,52	4,84	5,16	5,48	5,81	6,13	6,45	6,77	7,10	7,42	7,74	8,06	8,39	9,03	9,68	10,32
THRILLER 2K11 17	2,89	3,18	3,47	3,76	4,05	4,34	4,62	4,91	5,20	5,49	5,78	6,07	6,36	6,65	6,94	7,23	7,51	8,09	8,67	9,25
THRILLER 2K11 18	2,75	3,02	3,30	3,57	3,85	4,12	4,40	4,67	4,95	5,22	5,49	5,77	6,04	6,32	6,59	6,87	7,14	7,69	8,24	8,79
THRILLER 2K11 20	2,50	2,75	3,00	3,25	3,50	3,75	4,00	4,25	4,50	4,75	5,00	5,25	5,50	5,75	6,00	6,25	6,50	7,00	7,50	8,00
THRILLER 2K11 22	2,27	2,50	2,73	2,95	3,18	3,41	3,64	3,86	4,09	4,32	4,55	4,77	5,00	5,23	5,45	5,68	5,91	6,36	6,82	7,27
THRILLER 2K11 24	2,08	2,29	2,50	2,71	2,92	3,13	3,33	3,54	3,75	3,96	4,17	4,38	4,58	4,79	5,00	5,21	5,42	5,83	6,25	6,67
THRILLER 2K11 26	1,92	2,12	2,31	2,50	2,69	2,88	3,08	3,27	3,46	3,65	3,85	4,04	4,23	4,42	4,62	4,81	5,00	5,38	5,77	6,15

Dear Pilots,

The area loading table is intended to give you valuable hints on the behaviour in flight of the canopy under different stress conditions.

The different colors indicate the following:

BLUE: A paraglider with this stress load is only conditionally suited for acro-figures.

GREY: All rhythmical figures can be performed as of this stress load, even the INFINITY Tumbling is possible with corresponding pilot experience and expertise.

GREEN: This medium to upper area is the ideal stress loading per unit area. The paraglider has the perfect balance between controllability and agility.

All manoeuvres can be done with high dynamic precision.

ORANGE: The paraglider can develop an immense dynamic level if handled incorrectly, this level can only be handled and kept under control by professional pilots. loading! Errors can very quickly lead to life endangering situations. U-Turn recommends to strictly avoid these levels of area stress

RED: It is not allowed to do any acro-maneuvres in this region of area stress loading.

The paraglider can reach such a high dynamic level which exceeds what the pilot and the material can withstand.

This can even lead to the pilot getting unconscious and the paraglider being destroyed.

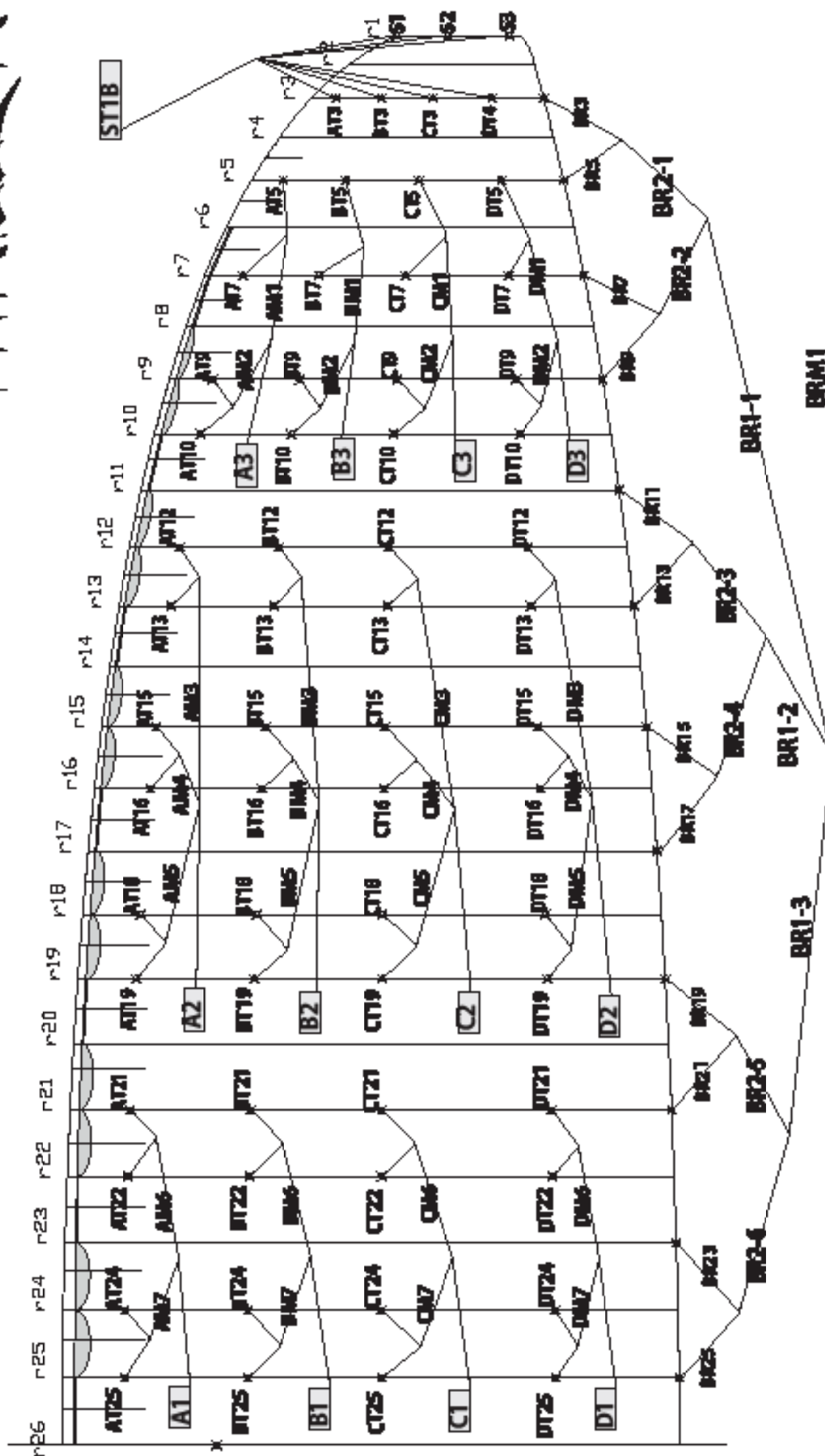


	12	15	17	18	20	22	24	26
Take off weight:	40 - 100 kg	40 - 100 kg	70 - 105 kg	80 - 110 kg	90 - 120 kg	100 - 130 kg	100 - 140 kg	100 - 150 kg
Wing area flat:	12,5	15,5	17,3	18,2	20	22	24	26
Wing area project:	11,24	13,93	15,55	16,36	17,98	19,78	21,58	23,38
Wing span flat:	8,37	9,33	9,85	10,11	10,59	11,11	11,61	12,08
Wing span project:	7,08	7,89	8,33	8,54	8,96	9,4	9,81	10,21
Aspect ratio flat:	5,6	5,6	5,6	5,6	5,6	5,6	5,6	5,6
Aspect ratio flat project:	4,4	4,4	4,4	4,4	4,4	4,4	4,4	4,4
Number of chambers:	50	50	50	50	50	50	50	50
V-Trimm	~ 47 Km/h (75kg Take off weight)	44 Km/h (75kg Take off weight)	44 Km/h (95kg Take off weight)	44 Km/h (100kg Take off weight)	44 Km/h (110kg Take off weight)	43 Km/h (125kg Take off weight)	42 Km/h (125kg Take off weight)	42 Km/h (130kg Take off weight)
V-Min	28 Km/h	25 Km/h	25 Km/h	25 Km/h	24 Km/h	24 Km/h	22 Km/h	22 Km/h
V-Max	65+ Km/h	60+ Km/h	58+ Km/h	58+ Km/h	58+ Km/h	58+ Km/h	58 Km/h	58 Km/h
Features	V-Tapes (ST), Tension Stripes Accelerator/Trimmer PPN / PPN plus	V-Tapes (ST), Tension Stripes Accelerator/Trimmer PPN / PPN plus	V-Tapes (ST), Tension Stripes Accelerator/Trimmer PPN / PPN plus	V-Tapes (ST), Tension Stripes Accelerator/Trimmer PPN / PPN plus	V-Tapes (ST), Tension Stripes Accelerator/Trimmer PPN / PPN plus	V-Tapes (ST), Tension Stripes Accelerator/Trimmer PPN / PPN plus	V-Tapes (ST), Tension Stripes Accelerator/Trimmer PPN / PPN plus	V-Tapes (ST), Tension Stripes Accelerator/Trimmer PPN / PPN plus
Number of risers	4	4	4	4	4	4	4	4
Number of line storeys	3	3	3	3	3	3	3	3
Slider weight	2,9 kg	3,9 kg	4,3 kg	4,7 kg	5,1 kg	5,5 kg	6,0 kg	6,5 kg
Certification DHV	No	No	No	No	No	No	No	No

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THRILLER



Lineplan U-Turn THRILLER 2K11 short

THRILLER^{2K11}

Leinenplan / Lineplan

LANG / LONG



Thriller 17	Line plan		rev1
Rb # 24	440	1260	5228
Rb # 23	390		
Rb # 21	410	1200	
Rb # 20	430		
Rb # 19	380	2934	4148
Rb # 17	390		
Rb # 15	430	2934	
Rb # 14	400		
Rb # 12	410	2040	
Rb # 11	410		
Rb # 9	440	1260	4768
Rb # 8	390	640	995
Rb # 6	640	995	
Rb # 4	610		
Rb # 2 Stabi	1100		
Stabi	960		

Thriller 17	Line plan		rev1
Rb # 24	440	1260	5188
Rb # 23	390		
Rb # 21	410	1200	
Rb # 20	430		
Rb # 19	440	2934	4098
Rb # 17	390		
Rb # 15	430	2934	
Rb # 14	400		
Rb # 12	410	2040	
Rb # 11	410		
Rb # 9	440	1260	4728
Rb # 8	390		
Rb # 6	640	995	
Rb # 4	610		
Rb # 2 Stabi	1100		
Stabi	970		5028

Thriller 17	Line plan		rev1
Rb # 24	440	1260	5188
Rb # 23	390		
Rb # 21	410	1200	
Rb # 20	430		
Rb # 19	440	2934	4109
Rb # 17	390		
Rb # 15	430	2934	
Rb # 14	400		
Rb # 12	410	2040	
Rb # 11	410		
Rb # 9	440	1260	4748
Rb # 8	390		
Rb # 6	640	995	
Rb # 4	610		
Rb # 2 Stabi	1095		
Stabi	1025		

Thriller 17	Line plan		rev1
Rb # 24	440	1260	5283
Rb # 23	390		
Rb # 21	410	1200	
Rb # 20	430		
Rb # 19	440	2934	4194
Rb # 17	390		
Rb # 15	430	2934	
Rb # 14	400		
Rb # 12	410	2040	
Rb # 11	410		
Rb # 9	440	1260	4809
Rb # 8	390		
Rb # 6	640	995	
Rb # 4	610		
Rb # 2 Stabi	1170		
Stabi	1100		

Thriller 17	Line plan		rev1
Rb # 24	440	1260	2400
Rb # 23	390		
Rb # 21	410	1200	
Rb # 20	430		
Rb # 19	440	2934	2400
Rb # 17	390		
Rb # 15	430	2934	
Rb # 14	400		
Rb # 12	410	2040	
Rb # 11	410		
Rb # 9	440	1260	2400
Rb # 8	390		
Rb # 6	640	995	
Rb # 4	610		
Rb # 2 Stabi	1170		
Stabi	1100		

Thriller 18	Line plan		rev2
Rb # 24	451	1292	5393
Rb # 23	400		
Rb # 21	420	1236	
Rb # 20	441		
Rb # 19	451	2292	4626
Rb # 17	400		
Rb # 15	441	2148	
Rb # 14	410		
Rb # 12	420	2102	
Rb # 11	420		
Rb # 9	451	1323	4891
Rb # 8	400		
Rb # 6	695	979	
Rb # 4	625		
Rb # 2 Stabi	1133		
Stabi	984		

Thriller 18	Line plan		rev2
Rb # 24	451	1292	5301
Rb # 23	400		
Rb # 21	420	1236	
Rb # 20	441		
Rb # 19	451	2292	4194
Rb # 17	400		
Rb # 15	441	2148	
Rb # 14	410		
Rb # 12	420	2102	
Rb # 11	420		
Rb # 9	451	1323	4890
Rb # 8	400		
Rb # 6	695	979	
Rb # 4	625		
Rb # 2 Stabi	1133		
Stabi	995		5198

Thriller 18	Line plan		rev2
Rb # 24	451	1292	5317
Rb # 23	400		
Rb # 21	420	1236	
Rb # 20	441		
Rb # 19	451	2292	4214
Rb # 17	400		
Rb # 15	441	2148	
Rb # 14	410		
Rb # 12	420	2102	
Rb # 11	420		
Rb # 9	451	1323	4871
Rb # 8	400		
Rb # 6	695	979	
Rb # 4	625		
Rb # 2 Stabi	1123		
Stabi	1061		

Thriller 18	Line plan		rev2
Rb # 24	451	1292	5419
Rb # 23	400		
Rb # 21	420	1236	
Rb # 20	441		
Rb # 19	451	2292	4301
Rb # 17	400		
Rb # 15	441	2148	
Rb # 14	410		
Rb # 12	420	2102	
Rb # 11	420		
Rb # 9	451	1323	4932
Rb # 8	400		
Rb # 6	695	979	
Rb # 4	625		
Rb # 2 Stabi	1200		
Stabi	1081		

Thriller 18	Line plan		rev2
Rb # 24	451	1292	2400
Rb # 23	400		
Rb # 21	420	1236	
Rb # 20	440		
Rb # 19	451	2292	2400
Rb # 17	400		
Rb # 15	441	2148	
Rb # 14	410		
Rb # 12	420	2102	
Rb # 11	420		
Rb # 9	451	1323	2400
Rb # 8	400		
Rb # 6	695	979	
Rb # 4	625		
Rb # 2 Stabi	1200		
Stabi	1100		

Thriller 20	Line plan		rev1
Rb # 24	461	1302	5480
Rb # 23	409		
Rb # 21	430	1263	
Rb # 20	461		
Rb # 19	461	2342	4349
Rb # 17	409		
Rb # 15	461	2195	
Rb # 14	419		
Rb # 12	430	2148	
Rb # 11	430		
Rb # 9	461	1352	4996
Rb # 8	409		
Rb # 6	671	1011	
Rb # 4	639		
Rb # 2 Stabi	1158		
Stabi	1032		6277

Thriller 20	Line plan		rev1
Rb # 24	461	1302	5418
Rb # 23	409		
Rb # 21	430	1263	
Rb # 20	461		
Rb # 19	461	2342	4296
Rb # 17	409		
Rb # 15	461	2195	
Rb # 14	419		
Rb # 12	430	2148	
Rb # 11	430		
Rb # 9	461	1352	4997
Rb # 8	409		
Rb # 6	671	1011	
Rb # 4	639		
Rb # 2 Stabi	1158		
Stabi	1017		5971

Thriller 20	Line plan		rev1
Rb # 24	461	1302	5434
Rb # 23	409		
Rb # 21	430	1263	
Rb # 20	461		
Rb # 19	461	2342	4307
Rb # 17	409		
Rb # 15	461	2195	
Rb # 14	419		
Rb # 12	430	2148	
Rb # 11	430		
Rb # 9	461	1352	4978
Rb # 8	409		
Rb # 6	671	1011	
Rb # 4	639		
Rb # 2 Stabi	1148		
Stabi	1085		6356

Thriller 20	Line plan		rev1
Rb # 24	461	1302	5540
Rb # 23	409		
Rb # 21	430	1263	
Rb # 20	461		
Rb # 19	461	2342	4395
Rb # 17	409		
Rb # 15	461	2195	
Rb # 14	419		
Rb # 12	430	2148	
Rb # 11	430		
Rb # 9	461	1352	5040
Rb # 8	409		
Rb # 6	671	1011	
Rb # 4	639		
Rb # 2 Stabi	1185		
Stabi	1227		6489

Thriller 20	Line plan		rev1
Rb # 24	461	1302	2515
Rb # 23	409		
Rb # 21	430	1263	
Rb # 20	461		
Rb # 19	461	2305	2515
Rb # 17	409		
Rb # 15	461	2305	
Rb # 14	419		
Rb # 12	430	2305	
Rb # 11	430		
Rb # 9	461	2305	2515
Rb # 8	409		
Rb # 6	671	2305	
Rb # 4	639		
Rb # 2 Stabi	1227		
Stabi	1250		6719

Thriller 22	Line plan		rev2
Rb # 24	486	1420	5986
Rb # 23	440		
Rb # 21	462	1358	
Rb # 20	485		
Rb # 19	485	2520	4679
Rb # 17	440		
Rb # 15	485	2352	
Rb # 14	451		
Rb # 12	462	2311	
Rb # 11	462		
Rb # 9	486	1454	5377
Rb # 8	440		
Rb # 6	722	1077	
Rb # 4	688		
Rb # 2 Stabi	1268		
Stabi	1092		6733

Thriller 22	Line plan		rev2
Rb # 24	486	1420	5928
Rb # 23	440		
Rb # 21	462	1358	
Rb # 20	485		
Rb # 19	485	2520	4611
Rb # 17	440		
Rb # 15	485	2352	
Rb # 14	451		
Rb # 12	462	2311	
Rb # 11	462		
Rb # 9	486	1454	5332
Rb # 8	440		
Rb # 6	722	1077	
Rb # 4	688		
Rb # 2 Stabi	1268		
Stabi	1094		6764

Thriller 22	Line plan		rev2
Rb # 24	486	1420	5943
Rb # 23	440		
Rb # 21	462	1358	
Rb # 20	485		
Rb # 19	485	2520	4633
Rb # 17	440		
Rb # 15	485	2352	
Rb # 14	451		
Rb # 12	462	2311	
Rb # 11	462		
Rb # 9	486	1454	5305
Rb # 8	440		
Rb # 6	722	1077	
Rb # 4	688		
Rb # 2 Stabi	1264		
Stabi	1167		6837

Thriller 22	Line plan		rev2
Rb # 24	486	1420	5958
Rb # 23	440		
Rb # 21	462	1358	
Rb # 20	485		
Rb # 19	485	2520	4729
Rb # 17	440		
Rb # 15	485	2352	
Rb # 14	451		
Rb # 12	462	2311	
Rb # 11	462		
Rb # 9	486	1454	5423
Rb # 8	440		
Rb # 6	722	1077	
Rb # 4	688		
Rb # 2 Stabi	1264		
Stabi	1167		6890

Thriller 22	Line plan		rev2
Rb # 24	486	1420	5958
Rb # 23	440		
Rb # 21	462	1358	
Rb # 20	485		
Rb # 19	485	2520	4706
Rb # 17	440		
Rb # 15	485	2352	
Rb # 14	451		
Rb # 12	462	2311	
Rb # 11	462		
Rb # 9	486	1454	5423
Rb # 8	440		
Rb # 6	722	1077	
Rb # 4	688		
Rb # 2 Stabi	1264		
Stabi	1167		6890

Thriller

THRILLER^{2K11}

Material List

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Marking of components	Material / product name	Producer
Attachement loops	Nylon	Aqua Dynamics
Accelerator lines	Nylon	Aqua Dynamics
Accelerator - brakeroll	Nylon	Aqua Dynamics
brake handhold	HT Poliester Yarn 22mm	Aqua Dynamics
brake handhold attachement	HT Poliester Yarn 22mm	Aqua Dynamics
brake handhold fixation	Magnet	Aqua Dynamics
break main line 2,3mm Ø	Dynema Lines	Aqua Dynamics
Lines: (detail please see line plan)	LTC ; TSL	UIROS, Rosenberger Tauwerke
belt redirection	Stainless Steel	Aqua Dynamics
lines lock	Stainless Steel	Aqua Dynamics
Top sail - A - B - C	AQ-44-C (44-46 g/m²; PA 6.6 HAT)	Aqua Dynamics
V-Tape	AQ-44-C (44-46 g/m²; PA 6.6 HAT)	Aqua Dynamics
Nose reinforcement	PPN / PPN plus	Aqua Dynamics
Rips, Profile	AQ-44-C (44-46 g/m²; PA 6.6 HAT)	Aqua Dynamics
Riser	21 g/m / 1000 kg Bruchlast	Güthe & Wolf, Germany
Under sail - A - B - C	Skytex 36	Aqua Dynamics
Reinforcement pivot point B/C/D	DP 260	Dimension Polyant, Germany
sewing thread canopy	HT Poliester Yarn 150D/2	Amann & Söhne GmbH, Germany
sewing thread lines	HT Poliester Yarn 150D/3	Amann & Söhne GmbH, Germany

