AFS®
AUTOMATIC FLIGHT STABILISATION

ALPINE PEAK 2

PPN®
PRÄZISIONS PROFIL NASE

U-TURN
your airline...

- Manual - Rev. 1.3

The new light weight-gliding with the PPN system

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Text and Graphics: Ernst Strobl
All technical details in this manual have been carefully checked by U-Turn. However we like to mention that we don`t take any liability for possible mistakes, neither in legal responsibility, nor in liabilty cases that derive from mistakable 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 paraliger. You have made an excellent choice. We wish you long an enjoyable flights and many happy landings with your U-Turn ALPINE PEAK 2.
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 competiton pilots provides an excellent basis for quality. We certainly keep our customer need in mind, and always appreciate your input and constructive criticism. Should any question occur, please don`t hesitate to ask your U-Turn dealer or the U-Turn team.
In order to provice 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 yor U-Turn ALPINE PEAK 2 for the first time. We composed this handbook, in order to make the handling of your new U-Turn ALPINE PEAK 2 as safe and easy for you as possible.

Business Replay Card

U-TURN GmbH
Im Neuneck 1
78609 Tuningen
Germany

NAME: .....

FIRST NAME: .....

STEET: .....

ZIP CODE / CITY: .....

TELEPHONE: .....

E-MAIL: .....

.....

.....

PARAGLIDER TYPE: .....

SERIAL NUMBER: .....

Date of purchase: .....

Dealership: .....

.....

Tested by: .....

Flying hours: .....

Paraglider since: .....

Miscellaneous: .....

.....

.....

.....

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Introduction

U-Turn paragliders are in a class of their own. U-Turn doesn`t compromise on safety, and uses the best quality components and hallmark flight characteristics. Congratulation on your purchase of a U-Turn glider, as it is the brand for those who appreciate the difference.
The laws of physics are well defined. We aspire to achieve the possbile within the framework of its laws. We admit this is ambitious but you will always find U-Turn at the cutting edge of technology. As Oscar Wilde once said in this very British understatement: "His taste is very basics; only always the best is good enough." The U-Turn team embodies this attitude; "We always want to deliver the best possible glider." Nothing more and most cost certainly nothing less.
U-Turn staff takes notice of its customer wishes, so we appreciate any comments or feedback!
Please feel free to contact your competence center or U-Turn directly for any advice or direction.

General Description ALPINE PEAK 2

The new light weight-gliding with the PPN system

The new ALPINE PEAK 2 of U-Turn represents a new ease: easy grounghandling, even easier to start and best glide. Its predecessor set already milestones and now the follow up is proudly presenting latest U-Turn technology.

In datail: The ALPINE PEAK 2 got the PPN-system (Precision-Profile-Nose) of U-Turn. Instead of the heavy nose mylar plastic reinforcement rods of newest generation are used. The wing weight is reduced significant by this. The thin lines could be used again despite the increased performance, so that air resistance in flight is minimal too. As a result there is an extraordinary glide ratio that is even better than the already outstanding performance of the predecessor.

Thanks to the mainly used type 36 and 26 fabric the wing is already extreme light. Some extra weight could be saved by the abdication of the nose mylar. Even the V-ribs (down to the line attachments) and the V-tapes are made of type 27 fabric. The risers are made of 12 mm kevlar band. The Liros lines are the optimal mix between air resistance and strength. (more details in technical data)

The flying characteristic of the ALPINE PEAK 2 is still uncomplicated and very forgiving. The canopy glides accelerated very well and climbs unbelievable. Here the interaction of PPN and AFS combined with the safe and performing profile is obvious. The ALPINE PEAK 2 stands thanks to its outclassing technical U-Turn features more than ever for the safe fun in flight. The AFS of latest generation effects in all cells and prevents most of the unpleasant side collapses in the beginning. The performance is compared to the EMOTION 2 where the wing derivates from slightly better. The ALPINE PEAK 2 is a bit faster a bit more direct and climbs slightly better thermalling- not surprising because of the reduced mass and its effects.

Obvious is the effect of the PPN system in specially doing ground handling and inflating the wing. On the ground the wing lets the pilot get a good sense for the movement of the wing. The filling behavior is exemplary. Overshooting, even when big mistakes are done, not worth so speak about. On takeoff the whole package is unbelievable tolerant when pulling to hard on the A´s. "The ALPINE PEAK 2 is a real machine" abstracts chief designer Ernst Strobl.

All in all the ALPINE PEAK 2 is the optimum between performance and safety as well as light weight and durability, so he is the perfect partner to pilots who like to do hike and fly. And to all who want a very light wing without trade off in performance and comfort.

The ALPINE PEAK 2 is available in 4 sizes and in attractive colors.

PPN description

PPN technology provides unprecedented stability, superior take of behavior, and ideal flying qualities. For several years, now synthetic rods have served as a replacement to the Mylar panels in the cell walls of the wing at the leading edge. This reinforce the shape of the nose. U-Turn has taken this a step further in teaming this technology up with AFS and work togehter in concert.

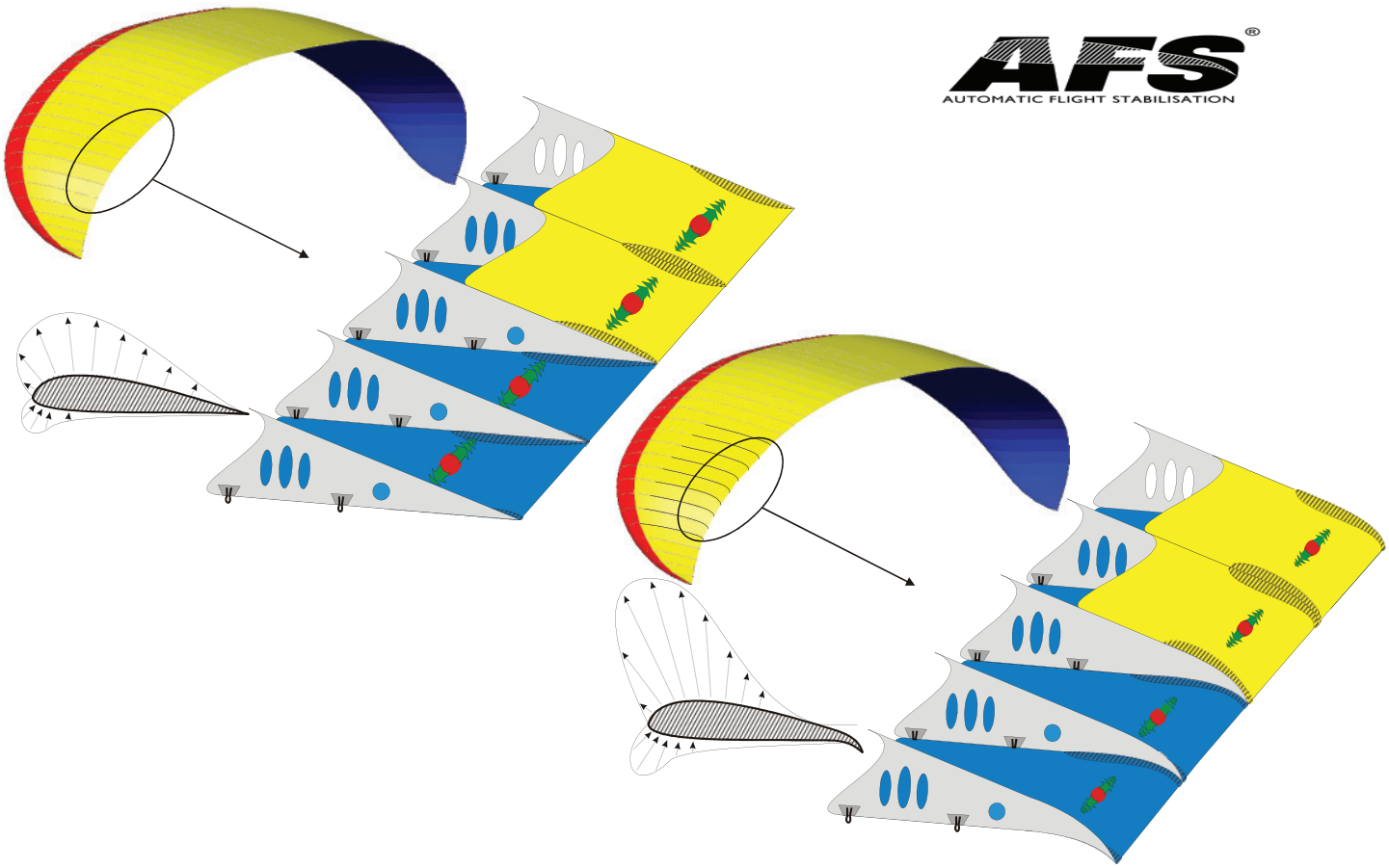
The synthetic rods in the seams of the leading edge sustain the shape of the nose, optimizing the airflow along the profile. Even under extreme flying conditions the small PPN rods keep the cells at the leading edge open in a way Mylar would not be able to do. These characteristics give the glider an unmatched stability. Internal pressure is maintained noticeably longer and the shape of the nose is held up. Even if the internal pressure diminishes, the AFS kicks in by equalizing with the providing the necessary sail tension. The complimentary interaction of these two systems provide this line of gliders with an unparalleled collapse-resistance.

Unlike Mylar, if handled carefully PPN technology will retain the shape of the nose for the entire lifetime of the glider. In order to provide the greatest possible protection when folding the glider, U-Turn recommends the optional U-Turn Tubebag. This inner packsack enables you to fold and store the ALPINE PEAK 2 with ease in accordion fold, even on windy days and/or by yourself. The Tubebag preserves the excellent take-off and flight qualities of the glider, thus favorably influencing its resale value. PPN technology also means that the canopy is lighter weight than with Mylar reinforcement. This reduced canopy weight made possible by the PPN technology increases the performance and improves the handling of the glilder. The Tubebag itself is produced with the workmanship you would expect from U-Turn and lives up to the highest demands in use. It features many functional details and ensures that the ALPINE PEAK 2 preserves the launch and flight qualities for many years to come - an advantage that can increase the resale value.The glider has become lighter ever since abandoning the use of Mylar in the cell openings and replacing them with synthetic rods. Its handling advantages and increased performance can be also attributed to PPN technology.

The U-Turn ALPINE PEAK 2 has become more than ever an uncomplicated wing with a broad margin of leeway since all the aforementioned, new technology has been introduced. It is forgiving and good natured in behavior. The ALPINE PEAK 2 is suitable for training and at the same time an agile glider which dares to climb thermals. It suits first class pilots who refuse to make compromises on passive security during high performance flying. Of course the ALPINE PEAK 2 is fitted with top shelf Liros lines.

Automatic flight stabilization / AFS

With the AFS-system U-Turn provides an innovative feature. To fly safely means to fly actively - the system employed on the U-Turn ALPINE PEAK 2 allows this to happen automatically to a certain level. The secret of the AFS-system is based on a pre-tensioning principle. In the are of the brake attachment points the undersurface is pre-tensioned. Whilst the sail is gliding through smooth air, there is enough pressure inside and the pre-tensioning is neutralized: The effect of internal pressure is more powerful than the pre-tensioning and the trailing edge stays aerodynamically perfect in the air like a conventional glider. When entering turbulent air with the ALPINE PEAK 2 the system adjusts immediately, even the slightest drop of internal pressure allows the system to react. The pre-tensioning at the trailing edge is effectively like pulling the brakes.
Ernst Strobl recalls the fine-tuning: "Our computer-based calculations were impressivel confirmed during our tests". The system is extremely responsive so that a top-qualtiy manufacturing is key. U-Turn Cofounder Thomas Vosseler adds: "We guarantee a strongly supervised manufacturing process."
The AFS works like the Electronic Stability Programs known in the automotive industry, you could call it an "ESP for the air". It intervenes for the benefit of safety when an inexperienced pilot, or a pilot in trouble, enters turbulence and is unable to fly actively. Experienced flight-instructors confirm: "This is a major step as far as safety is concerned. The main reason for accidents, the full collapses of the canopy, is minimized dramactically". Even without AFS the U-Turn ALPINE PEAK 2 would be a very safe glider says Strobl. Due to the extremely pulled down wingtips and the resulting spread of the wingloading the U-Turn ALPINE PEAK 2 has far more than average resistance to collapses. The U-Turn ALPINE PEAK 2 gliders stably ahead even after an accelerated asymmetric collapse, a situation that may happen after leaving a thermal, even with 50% of the wing collapsed. This is unprecedented. The computer optimised wing layout leads to very good thermal lift and maximizes the stall characteristics, both improving safety.



New Features

Using the Easy-Fix you can secure the risers when packing the glider and eliminating the tangling of lines in the risers. Every time you get to launch leave out and your lay out is hassle free, when folding your glider at the end of each flight: you will love Easy-Fix. Last but not least are the Dirt-Outs which ease the effort of removing dirt or leave out of the canopy.
In the literal sense, the U-Turn ALPINE PEAK 2 is not only setting the bar as far as safety is concerned, it is introducing a paradigm shift in glider design. Altough the whole design process was primarily focussed on safety, Ernst Strobl managed to design a piece of sports equipment, whose characteristics guarantee untroubled fun.

Important: Having the necessary level of experience can never substitute the need to familiarize yourself with the glider before leaving the ground. Please carefully read the handbook and take advantage of the support from your flight school, or U-Turn directly for that matter.

Please always remember that aviation can be potentially dangerous and your safety is in your own hands. We strongly encourage you to fly conservatively; this includes the judgement concerning conditions as well as the choice you make in flight.

Materiallist

ALPINE PEAK 2 AFS PPN

Material List

U-TURN your airline...

Marking of components	Material / product name	technical data / Dimension weight / strength	Producer
Attachement loops	Nylon	7,2 g/m / Breaking load 110 kg / 13 mm spreads	Kolon Industrial Co, Korea
Accelerator lines	Nylon	Ø 4,0 mm = Breaking load 350 daN	
Accelerator - brakeroll	GIN Rolle		Gin Glider Korea
Accelerator lock	Brummelhook		Gin Glider Korea
brake attachements	Nylon	7,2g/m Breaking load 110 kg / 13mm spreads	Kolon Industrial Co, Korea
brake handhold	High Tanacity Poliester Yam 22mm	25 g/m / 1000 kg Breaking load	Techni Sangles, France
brake handhold attachement	High Tanacity Poliester Yam 22mm	25 g/m / 1000 kg Breaking load	Techni Sangles, France
brake handhold fixation	Magnet		Gin Glider Korea
break main line 2,3 mm Ø	Dynema Lines	2,3 mm = 250 daN	Gin Teijin Korea
Lines DC60, DSL 70, PSSL 120, 160, 200, 275	Liros Lines		Rosenberger Tauwerke Gin Gliders Korea
belt redirection	Stainless Steel	8g/Ø 3,8 mm / Breaking load 800kg	Ansung Precision CO. Korea
lines lock	Stainless Steel	12g / Ø 4,3 mm / Breaking load 1000kg	Ansung Precision CO. Korea
Top sail	Skytex 36 / Skytex 27	36 g/m² / 27g/m² (PA 6,6 HT)	Porcher Marine, NCV, France
V-Tape	Skytex 27	27 g/m² (PA 6,6 HAT)	Paratex, Germany
Nose reinforcement	P 260	283 g/m²	Dimension-Polyant, Germany
Rips, Profile	Skytex 36 / Skytex 27	36 g/m² / 27g/m² (PA 6,6 HT)	Paratex, Korea
Riser	High Tanacity Poliester Yam 22mm	25 g/m / 1000 kg Breaking load	Techni Sangles, France
Undersail	Skytex 27	27 g/m² (PA 6,6 HT)	Porcher Marine, NCV, France
Reinforcement pivot point B/C/D	W 420	180 g/m²	Porcher Marine, NCV, France
sewing thread conopy	High Tanacity Poliester Yam 150 D/2	0,05 g/m² / 2,9 kg Breaking load	Amann & Söhne GmbH, Germany
sewing thread lines	High Tanacity Poliester Yam 150 D/3	0,083 g/m² / 3,2 kg Breaking load	Amann & Söhne GmbH, Germany

Table of area loading

ALPINE PEAK 2 AFS PPN

Flächenbelastungstabelle / Table of area loading

U-TURN your airline...

Startgewicht / Take off weight (kg)	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130
Alpine Peak 2 XS	2,3	2,5	2,7	2,9	3,1	3,3										
Alpine Peak 2 S				2,7	2,9	3,1	3,3	3,5								
Alpine Peak 2 M							3,0	3,2	3,3	3,5	3,8	3,9				
Alpine Peak 2 L										3,3	3,4	3,6	3,8	3,9	4,1	4,3

U-TURN your airline...

ALPINE PEAK 2 AFS PPN	XS	S	M	L
Take off weight	55 - 80 kg	70 - 90 kg	85 - 110 kg	100 - 130 kg
Wing area flat	24 m²	26 m²	28,5 m²	31,0 m²
Wing area project	21,85 m²	23,63 m²	25,63 m²	27,65 m²
Wing span flat	11,0 m	11,44 m	11,91 m	12,38 m
Wing span project	9,3 m	9,67 m	10,07 m	10,46 m
Aspect ratio flat	4,94	4,94	4,94	4,94
Aspect ratio flat project	3,95	3,95	3,95	3,95
Number of chambers	41	41	41	41
V-Trimm	~38-39 Km/h	~38-39 Km/h	~38-39 Km/h	~38-39 Km/h
V-Min	~ 22 Km/h	~ 22 Km/h	~ 21 Km/h	~ 20 Km/h
V-Max	~ 48 Km/h	~ 48 Km/h	~ 48 Km/h	~ 48 Km/h
Features	AFS, Dirt Out, PPN, Tension Stripes	AFS, Dirt Out, PPN, Tension Stripes	AFS, Dirt Out, PPN, Tension Stripes	AFS, Dirt Out, PPN, Tension Stripes
Number of risers	5	5	5	5
Number of lines storeys	3	3	3	3
Accelerator / Trimmer	Accelerator	Accelerator	Accelerator	Accelerator
Glider weight	3,7 kg	3,9 kg	4,1 kg	4,3 kg
Certification DHV	DHV 1	DHV 1	DHV 1	DHV 1

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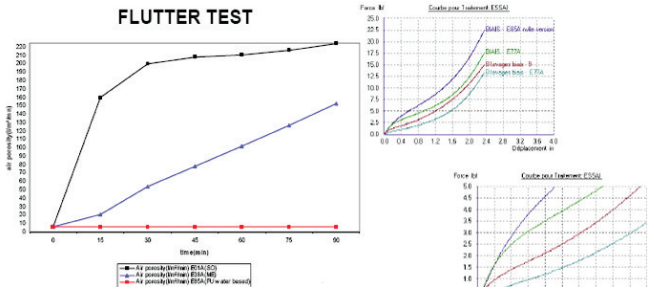
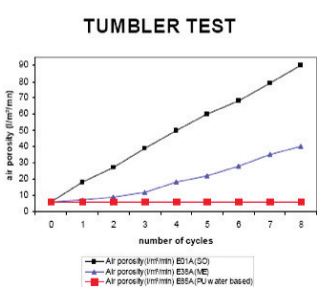
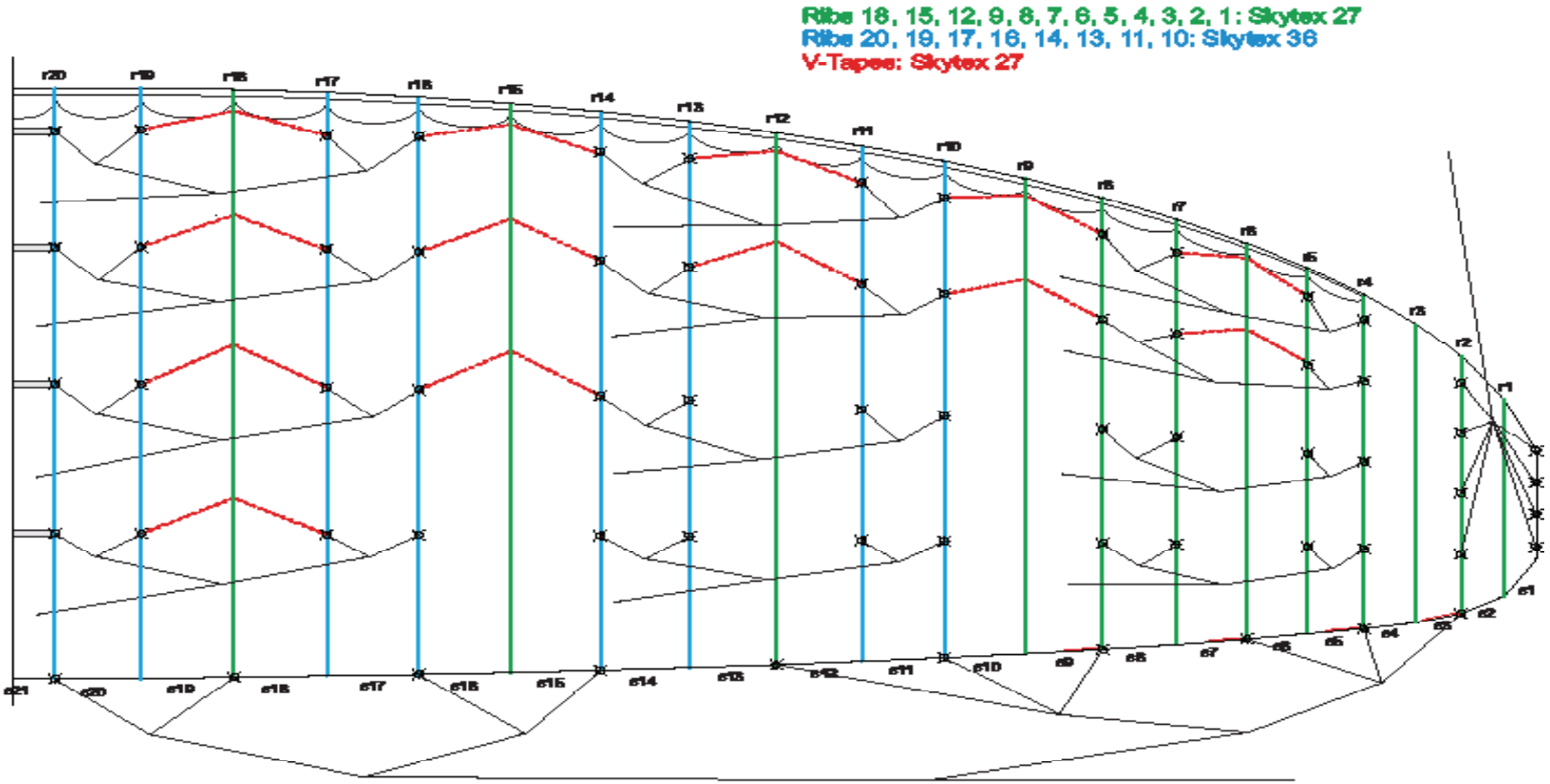
You will find further details regarding the construction and measurement of the U-Turn EMOTION 2 in the "Typenkennblatt" or, in case of equipment with example registration, in the "Luftsportgerätekennblatt" in acoordance with paragraph four of the "Luftverkehrszulassung". (See attachements) You can find possible technical changes in the attachement to this manual.

Important: any self inflicted changes to the construction that go beyond the allowed adjustment options, void the operating license and are potentially life threatening. Use of this paraglider is at your own risk. The producer and distributor cannot be held liable.





Welches NCV Material Nylon wo verwendet wird, findest du auf Page 5, Materialliste.



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Instruction leaflet for repairs and 2 annual Check

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

☐ 2 annual Check

☐ Line Check incl. strength test

☐ Air permeability check

☐ Repair of the marked damage

☐ Recall with sighting of the paraglider

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

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Germany

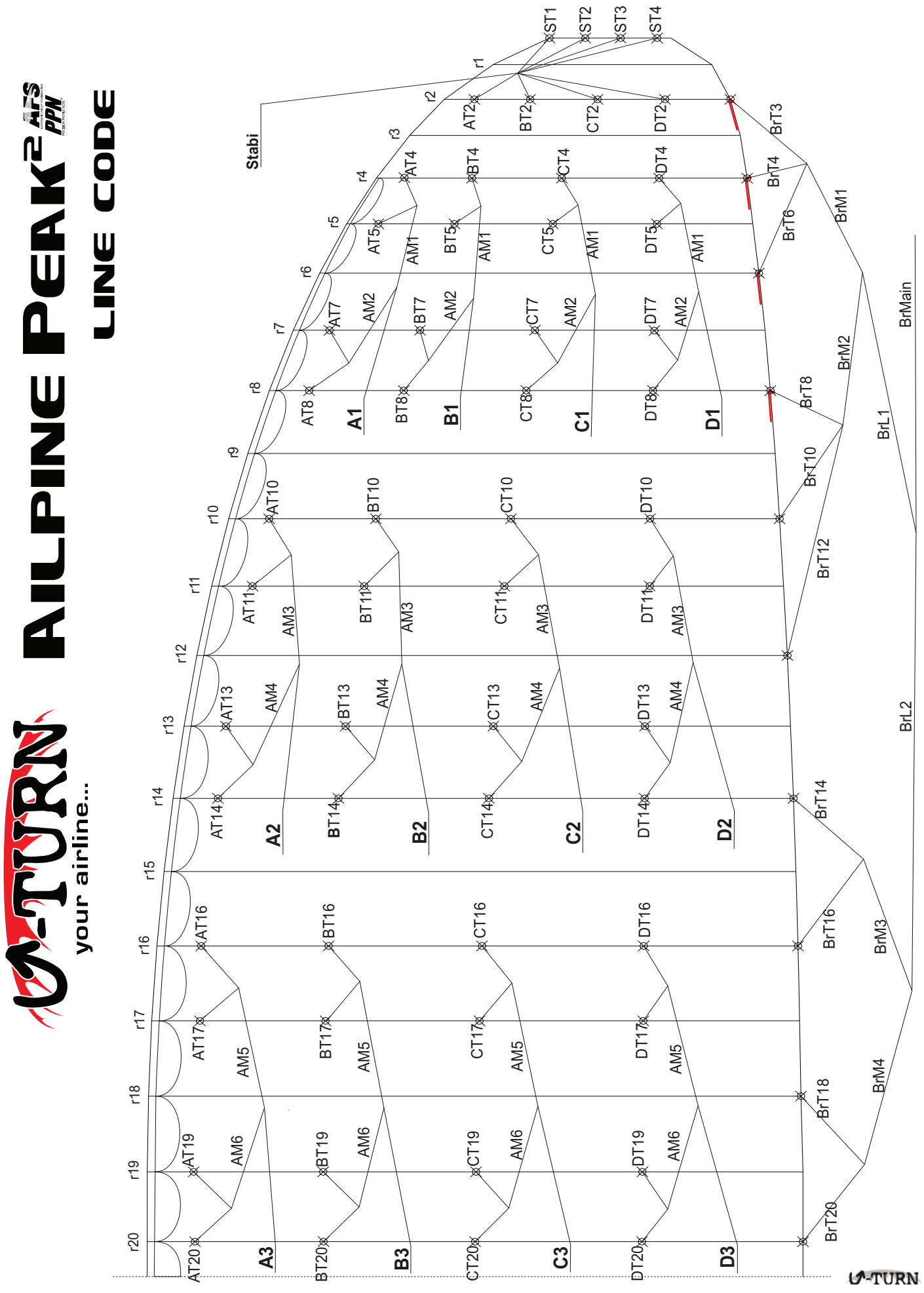
Tel: +49 (0)7464/9891280
Fax: +49 (0)7464/989128-28

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


AILPINE PEAK²
LINE CODE
your airline...
Stabi
ST1
ST2
ST3
ST4
AT2
BT2
CT2
DT2
AT4
BT4
CT4
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BrT12
BrT14
BrT16
BrT18
BrT20
BrM1
BrM2
BrM3
BrM4
BrL1
BrL2
BrMain
U-TURN

ALPINE PEAK 2

Leinenplan / Lineplan

U-TURN your airline...

Alpine Peak 2	XS				rev1
A-Lines					Check Sheet
r 20	563	1681	4685		6929
r 19	508				6873
r 17	508	1644			6836
r 16	554				6883
r 14	563	1505	4740		6808
r 13	508				6753
r 11	508	1440			6688
r 10	554				6734
r 8	563	1154	4925		6642
r 7	485				6564
r 5	536	1006			6467
r 4	508				6439
r 2	1210				5956
Stabilo	997				5743
B-Lines !Riser lenght is 700mm!					
r 20	563	1681	4470		6714
r 19	508				6658
r 17	508	1644			6621
r 16	554				6668
r 14	563	1505	4530		6598
r 13	508				6543
r 11	508	1440			6478
r 10	554				6524
r 8	563	1154	4735		6452
r 7	485				6374
r 5	536	1006			6277
r 4	508				6249
r 2	1163				5910
Stabilo	997		4746		5743
C-Lines					
r 20	563	1681	4645		6888
r 19	508				6833
r 17	508	1644			6796
r 16	554				6842
r 14	563	1505	4730		6798
r 13	508				6743
r 11	508	1440			6678
r 10	554				6724
r 8	563	1154	4925		6642
r 7	485				6564
r 5	536	1006			6467
r 4	508				6439
r 2	1187				5933
Stabilo	1025				5771
D-Lines					
r 20	563	1681	4760		7004
r 19	508				6948
r 17	508	1644			6911
r 16	554				6958
r 14	563	1505	4834		6902
r 13	508				6847
r 11	508	1440			6782
r 10	554				6828
r 8	563	1154	5000		6717
r 7	485				6639
r 5	536	993			6528
r 4	508				6500
r 2	1288				6034
Stabilo	1066				5813
Brake					
r 20	1648	2549	1847	1660	7703
r 18	1367			.+200	7422
r 16	1431	2322			7260
r 14	1270				7099
r 12	1717	1819	1847		7043
r 10	1588				6914
r 8	1616				6942
r 6	1163	2198			6868
r 4	1108				6812
r 2	1048				6752

!! Very Important: All the Check Sheet line length (A;B;C;D lines) are all measured from the A-Riser length (530mm). Otherwise the measure result on the B and Stabilo lines will not match!!

!! Very Important: The brake lines are measured from main brake line fixing on the brake handles to the canopy. This Check Sheet line length includes the short lines (fixed on tail, ringside) on rib 8,6,4,2. Otherwise the measure result on rib 8,6,4,2 will not match!!

Alpine Peak 2	S				rev1
A-Lines					Check Sheet
r 20	586	1748	4865		7164
r 19	528				7105
r 17	528	1709			7069
r 16	576				7117
r 14	586	1565	4930		7045
r 13	528				6988
r 11	528	1498			6918
r 10	576				6968
r 8	586	1200	5125		6876
r 7	504				6796
r 5	557	1047			6691
r 4	528				6663
r 2	1258				6330
Stabilo	1037				6113
B-Lines !Riser lenght is 700mm!					
r 20	586	1748	4650		7102
r 19	528				7046
r 17	528	1709			7007
r 16	576				7055
r 14	586	1565	4715		6993
r 13	528				6933
r 11	528	1498			6866
r 10	576				6914
r 8	586	1200	4925		6838
r 7	504				6758
r 5	557	1047			6655
r 4	528				6623
r 2	1210				6285
Stabilo	1037		4935		6114
C-Lines					
r 20	586	1748	4830		7117
r 19	528				7059
r 17	528	1709			7019
r 16	576				7067
r 14	586	1565	4917		7027
r 13	528				6968
r 11	528	1498			6902
r 10	576				6948
r 8	586	1200	5119		6863
r 7	504				6779
r 5	557	1047			6680
r 4	528				6643
r 2	1234				6310
Stabilo	1066				6142
D-Lines					
r 20	586	1748	4950		7241
r 19	528				7185
r 17	528	1709			7147
r 16	576				7195
r 14	586	1565	5027		7142
r 13	528				7083
r 11	528	1498			7014
r 10	576				7066
r 8	586	1200	5195		6937
r 7	504				6854
r 5	557	1032			6741
r 4	528				6713
r 2	1340				6416
Stabilo	1109				6185
Brake					
r 20	1714	2650	1921	1750	7976
r 18	1421			.+200	7683
r 16	1489	2415			7520
r 14	1320				7352
r 12	1786	1892	1921		7296
r 10	1652				7162
r 8	1681				7433
r 6	1210	2286			*7333*
r 4	1152				*7226*
r 2	1090				*7121*

!! Very Important: All the Check Sheet line length (A;B;C;D lines) are all measured from the A-Riser length (530mm). Otherwise the measure result on the B and Stabilo lines will not match!!

!! Very Important: The brake lines are measured from main brake line fixing on the brake handles to the canopy. This Check Sheet line length includes the short lines (fixed on tail, ringside) on rib 8,6,4,2. Otherwise the measure result on rib 8,6,4,2 will not match!!

Alpine Peak 2	M				rev 0
A-Lines		(!Riser lenght is 530mm!)			Check Sheet
r 20	610	1820	5070		7456
r 19	550				7396
r 17	550	1780			7356
r 16	600				7403
r 14	610	1630	5130		7337
r 13	550				7279
r 11	550	1560			7204
r 10	600				7250
r 8	610	1250	5335		7165
r 7	525				7084
r 5	580	1090			6970
r 4	550				6942
r 2	1310				6582
Stabilo	1080				6354
B-Lines		(!Riser lenght is 700mm!)			
r 20	610	1820	4840		7389
r 19	550				7328
r 17	550	1780			7283
r 16	600				7334
r 14	610	1630	4910		7278
r 13	550				7218
r 11	550	1560			7145
r 10	600				7193
r 8	610	1250	5130		7116
r 7	525				7031
r 5	580	1090			6924
r 4	550				6889
r 2	1260				6535
Stabilo	1080		5140		6353
C-Lines		(!Riser lenght is 530mm!)			
r 20	610	1820	5030		7413
r 19	550				7353
r 17	550	1780			7312
r 16	600				7362
r 14	610	1630	5120		7316
r 13	550				7255
r 11	550	1560			7182
r 10	600				7231
r 8	610	1250	5330		7141
r 7	525				7056
r 5	580	1090			6952
r 4	550				6915
r 2	1285				6559
Stabilo	1110				6379
D-Lines		(!Riser lenght is 530mm!)			
r 20	610	1820	5155		7536
r 19	550				7478
r 17	550	1780			7441
r 16	600				7487
r 14	610	1630	5235		7428
r 13	550				7369
r 11	550	1560			7302
r 10	600				7351
r 8	610	1250	5410		7224
r 7	525				7140
r 5	580	1075			7018
r 4	550				6984
r 2	1395				6670
Stabilo	1155				6431
Brake					
r 20	1785	2760	2000	1760	8311
r 18	1480			.+200	8006
r 16	1550	2515			7833
r 14	1375				7660
r 12	1860	1970	2000		7601
r 10	1720				7463
r 8	1750				*7754*
r 6	1260	2380			*7649*
r 4	1200				*7535*
r 2	1135				*7421*

!! Very Important: All the Check Sheet line length (A;B;C;D lines) are all measured from the A-Riser length (530mm). Otherwise the measure result on the B and Stabilo lines will not match!!

The brake lines are measured from main brake line fixing on the brake handles to the canopy. This Check Sheet line length includes the short lines (fixed on tail, ringside) on rib *8,6,4,2*. Otherwise the measure result on rib *8,6,4,2* will not match!!

Alpine Peak 2	L				rev2
A-Lines					Check Sheet
r 20	634	1890	5260		7757
r 19	571				7698
r 17	571	1849			7655
r 16	623				7704
r 14	634	1693	5335		7631
r 13	571				7571
r 11	571	1620			7494
r 10	623				7543
r 8	634	1298	5540		7440
r 7	545				7356
r 5	602	1132			7241
r 4	571				7209
r 2	1361				6840
Stabilo	1122				6605
B-Lines !Riser lenght is 700mm!					
r 20	634	1890	5020		7679
r 19	571				7614
r 17	571	1849			7571
r 16	623				7623
r 14	634	1693	5100		7561
r 13	571				7499
r 11	571	1620			7421
r 10	623				7471
r 8	634	1298	5328		7392
r 7	545				7305
r 5	602	1132			7190
r 4	571				7158
r 2	1309				6795
Stabilo	1122		5339		6608
C-Lines					
r 20	634	1890	5225		7710
r 19	571				7644
r 17	571	1849			7599
r 16	623				7652
r 14	634	1693	5320		7609
r 13	571				7547
r 11	571	1620			7474
r 10	623				7522
r 8	634	1298	5535		7427
r 7	545				7342
r 5	602	1132			7232
r 4	571				7196
r 2	1335				6818
Stabilo	1153				6639
D-Lines					
r 20	634	1890	5355		7842
r 19	571				7780
r 17	571	1849			7741
r 16	623				7793
r 14	634	1693	5440		7725
r 13	571				7665
r 11	571	1620			7589
r 10	623				7639
r 8	634	1298	5620		7513
r 7	545				7426
r 5	602	1117			7297
r 4	571				7264
r 2	1449				6933
Stabilo	1200				6688
Brake					
r 20	1854	2867	2077	1875	8614
r 18	1537			.+200	8298
r 16	1610	2612			8118
r 14	1428				7939
r 12	1932	2046	2077		7877
r 10	1787				7733
r 8	1818				*8027*
r 6	1309	2472			*7918*
r 4	1246				*7808*
r 2	1179				*7687*

!! Very Important: All the Check Sheet line length (A;B;C;D lines) are all measured from the A-Riser length (530mm). Otherwise the measure result on the B and Stabilo lines will not match!!

The brake lines are measured from main brake line fixing on the brake handles to the canopy. This Check Sheet line length includes the short lines (fixed on tail, ringside) on rib *8,6,4,2*. Otherwise the measure result on rib *8,6,4,2* will not match!!

Lines and risers

We use DC60, DSL70, PPSL120 Liros Lines with a special waved Dyneema core. This stretch resistance prevents changes in flight characteristics caused by different stretching after a short time of use. An optimum of safety and strength in proportion to drag is achieved by the use of different line diameters. The whole line system consists of single element that are sewn and looped on both ends. All suspension and brake lines are forked in the upper cascade. The different color of the lines guarantee ease of handling and control. All suspension lines are looped separately in maillons and connected to the risers. The maillons have clips bulit in to prevent slipping of the lines. The main brake line is looped through a pulley at the D-riser with a color marking where a brake toggle has to be tief off.

The manufacturer settings 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 factory settings provides sufficient brake travel on landing and in extreme flight conditions, as well as a comfortable arm positon on trim speed.

Please note that with the height of the harness mounting also the relative distance changes. When adjusting the setting, both sides have to be symmetric and a permanent knot has to be used. Optimum solution is the so called "Spierenstich" knot which doesn`t slip or affect the lines adversely.

Speed System

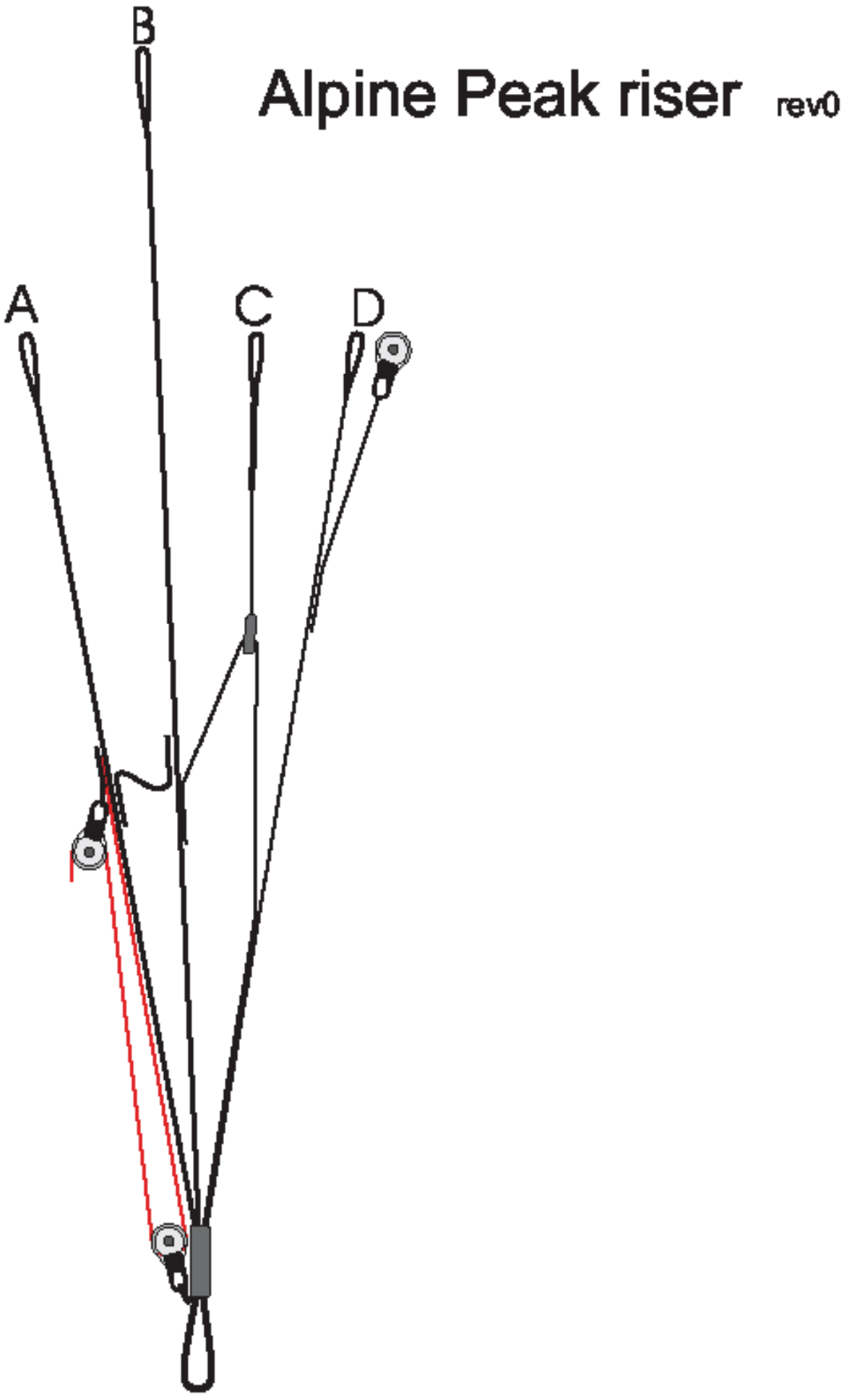
The U-Turn ALPINE PEAK 2 is equipped with a very effective leg-actuated speedsystem that increases the speed btw. 12 and 15 km/h depending on model and pilots weight area load respectively. During extreme manoeuvers the speedsystem should not be activated, when entering an extreme manoeuvres it should be immediately deactived. 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 ALPINE PEAK 2 (they have to be DHV rated GH). The lower the mounting, the better is the steering by shifting of the bodyweight. U-Turn recommends the new IQ4 harness for its highest level of safety and convenience. The positioning of the mounting also changes the relative breakedistance. If you have any questions about the usage of your harness with the ALPINE PEAK 2, ask your U-Turn dealer or directly contact U-Turn. We assist you in any possible way.

Risers

The A- and B-risers have a different color to ensure positive identification at take off and during a B-stall descent. The length of all risers has been chosen in a way to get easy access to all and lineshackles in-flight for special manoeuvres.
Mode of rigid and stretch resistandt Polyster-webbing, the ALPINE PEAK 2 risers guarantee a long term, stable trim.


Alpine Peak riser rev0
B
A
C
D

Suitable Rescue System

It is required by law and absolutely neccessary for safe operation of your paraglider that you always carrry a rescue system with you. When choosing a rescure system, watch out that it is approved and suitable for the intended takeoff weight. With the innovative rescure systems of the SECURE-series by U-Turn light-weight, convenient and safe reserves are available.

Range of Operation

This instruction manual only pays attention to those points of flying technique which are important for the ALPINE PEAK 2. It is not meant to substitute a basic flying education in an approved flying school! If a lying education and the appropriate experience is missing, paragliding is dangerours life.

Field of Operation

The ALPINE PEAK 2 has been developed and tested for ordinary take offs, winching, and is also well suitable for motorized operations. An unauthorized or unapproved use of the ALPINE PEAK 2, or operation out of its operational limits is improper and dangerous.

Aerobatics

Aerobatics are illegal and dangerous. There is a danger of unpredictable flight conditions that could results in overstressing both material and pilot.

Motorised Paragliding

The U-Turn ALPINE PEAK 2 is suitable due to its outstanding launching characteristics, its wide weight range and its unproblematic handling particularly well for the motorized paragliding. Please note that for the motorized use its own permission of the combination is necessary for engineunit and glider. If you intend to operate the ALPINE PEAK 2 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 regulations as well as the training requirements.

Preflight Check

A careful pre flightcheck is absolutely mandatory. Double-check everything when you don´t fly yourself and make sure the person flying your ALPINE PEAK 2 does the same. Also ensure that the pilot flying your ALPINE PEAK 2, knows its operational limits and has the required license.
All lines, risers and the canopy have to be carefully checked for damage before every takeoff. Even in case of minor damages takeoff is not an option. After the glider is unpacked and layed on the ground in a halfcircle-shape, check following items:

- Lay down the canopy to draw on the middle line before the outer lines, when pulling up the glider with the A-risers, to get an easy and stable takoff.
- Set yourself up into the wind to get a symmetrical load on both sides when pulling up the canopy
- The risers may not be twisted to enable smooth looping of the brakelines.
- Make sure no lines are under the canopy to avoid a dangerous situation on takeoff.
- Preflight all other equipment after the check of the glider carefully.

During a strong wind takeoff attempt, ground handling and landing tha leadingwdge can hit the ground with high speed. Avoid this! Otherwise the ribs, the sewings or the fabric can be damaged.

Der Start

The U-Turn ALPINE PEAK 2 has a very easy take off.

It is important to evenly lay out the canopy with care. The middle of the glider is determined by the U-Turn ALPINE PEAK 2 logo at the leading edge. It is sufficient to only hold the A-main harnesses. Being that the U-Turn ALPINE PEAK 2 shows no tendencies to overshoot forward it only needs to be slowed down minimally in the take-off phase. Necessary correction in direction using the brakes should only be performed once the canopy is above the pilot, otherwise the glider might fall back due to excessive braking.

The remaining risers should not be held during take off. The canopy will fill up with evenly distributed pull but altogether very light startimpulse. Unlike other gliders it is not necessary to fill the U-Turn ALPINE PEAK 2 with strong inflation motion or even several fast steps. This is also true for very little wind and even zero wind. The easiest and safest way to start the U-Turn ALPINE PEAK 2 is moderate inflate. Once the pilot ensures that the canopy is fully opened above him, the final decision for take off can be made. After several forceful steps they take off.

Turning

The U-Turn ALPINE PEAK 2 has a normal agility and reacts directly and instantly to steering inputs. You can fly flat turns with little altitude loss by shifting of bodyweight. A combination of appropriate pull on the inner brakeline and shift of bodyweight is the best way for a coordinated turn. The Turn radius depends on the amount of pull on the brakeline.

At about 75% of brakeline travel, the ALPINE PEAK 2 increases bank significantly and performs a fast sleep turn that can be continued to a diving spiral. The diving spiral has to be initiated and terminated slowly. The bank angle is controled by increasing and decreasing the pull on the inner brakeline.

WARNING: A rapid pull on the the brakeline may cause a spin.

Active Flyling

The U-Turn ALPINE PEAK 2 should be flown with light braking on both sides when there is turbulent air. An increase in angle of attack provides better stability. When entering heavy thermals or strong turbulences be mindful of that the canopy does not get behind the pilot. To avoid that, release the brakes a bit to get an increase in speed when entering the updraft.
If the canopy gets in front of the pilot when leaving a updraft or entering a downdraft the brakes have to be applied to counter that. Accelerated flight however is advisable when flying through a downdraft zone. The ALPINE PEAK 2 is very stable overall, never the less is active flying a big flight safety factor.
Collapsing and deforming of the canopy can be avoided by active flying (as above mentioned) in turbulent air.

Landing

Start your landing preperation at sufficient altiude. Due to its excellent flaring characteristics, the ALPINE PEAK 2 is very easy to land. Glider in fairly normal to a straight- in final against the wind and get up in the harness early enough. According to the wind, the brakes have to be pulled firmly and dynamically, about one meter above ground, beyond the stalling point. If there is a strong headwind, be careful with the amount of braking. Don`t perform landings out of steep turns and big directional changes short prior landing, to avoid PLF.

Winching

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

- maximum linetension for winching is 100kp.
- 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 ALPINE PEAK 2 with loads outside the allowable weight range
- all involved persons, machines and accessories have to have the appropriate licenses, approvals, certifications for winching.

Advanced Handling

Even with its high stability and good flight characteristics it is possible that the ALPINE PEAK 2 gets into an extreme flight condition due to pilot mistakes or turbulent air. To be prepared for such situations and able to handle them in a calm and superior manner it is best to take part in a flight safety course. Advanced manoeuvers may only be flown at sufficient altitude, in calm air and with professional supervision (i.e. during a safety course). Once again we mention that a rescuesystem is required by the law.

The following extreme manoeuvers can be either caused intentionally, by pilots mistakes or by bad weather conditions. Every pilot can get in such a situation! All mentioned extreme manoeuvers are dangerous if they are performed without the appropriate knowledge or enough altitude or the necessary introduction. A wrong execution of these manoeuvres may have fatal consequences!

Wingovers

The pilot has to perform right and left turns with increasing bank until the desired angle is reached. Appropriate break pressure during up or down swing will prevent the wing tips from folding. Collapsing is only a factor when the bank angle is very high. Collapsing is only a factor when the bank angle is very high.

Full Frontal

A negative AoA caused by turbulence or the simultaneous pulldown of the A-risers by the pilot, results in a frontal callapse of the leading edge. The U-Turn ALPINE PEAK 2 normally comes out of a frontstall by itself very quickly. Smooth and symmetric applying of the brakes assists the opening of the canopy positively.

Deep Stall

The U-Turn ALPINE PEAK 2 is not stall sensitive. If in a stall, caused by overpulling on the brakes, the rear risers or a delayed B-stall exist, the release of the brakes or the rear risers, recovers the stall. Should the stall be caused by an extreme flight condition or configuration (i.e. takeoff weight to low), a symmetric forward push on the A-risers or step the speed system recovers the stall.

Warning: Practicing stalls should be done with enough safe altitude. Never apply asymmetric brakes during a stall, it could cause a spin.

Fullstall

To enter a fullstall pull both brakes full travel (ensure no twisted or wrapped lines). The canopy has to be stabilized before recovering the fullstall. Rise both brakes slowly and symmetrically to recover. If done right, the canopy overshoots a little forward without collapsing. Avoid an asymmetric recovery by all means. The dynamic forces drive the canopy to overreact and a collapse could occur.

Caution: Never release the brakes at the beginning of the recovery when the canopy tilts forward, the canopy may accelerate foward in a way that makes contact or even falling into the canopy possible.

The fullstall is a dangerous manoeuver and should not be performed intentionally except during a flight safety course.

Emergency Piloting

In any situation where normal steering with the brakelines is not possible, the ALPINE PEAK 2 can be steered with the back risers easily.

Negative Turn

To enter a spin the pilot has to fully and quickly pull one of the brakelines when he is near the stallpoint. The glider rotates fast around its center while the inner wingtip flies backwards. For recovery just release the applied brake to let the glider accelerate.

Warning: The spin is a dangerous manoeuvres and should not be performed intentionally except during a flight safety course.

Collapses

Even with its high stability and very responds well in turbulence, strong turbulences can cause the ALPINE PEAK 2 to collapse. That situation is not really dangerous and clears itself automatically, without any further input required. To support the recovery, firmly apply brakes on the affected side and simultaneously steer opposite on the open side. When a large part of the canopy is collapsed be careful and smooth when applying opposite steering to avoid a complete disruption of airflow and entering a fullstall.

How to avoid collapses

Single side collapses close to the ground are the number one reason for accidents with paragliders. To avoid them, or how to handle the situation when it happened, some tips and tricks from U-Turn test- and competition pilot Ernst Strobl:

The best way to avoid collapses upfront is the right choice of the paraglider. A lot of pilots fly a glider that is a little too hot to handle for them. So why don`t you get a glider with a lower rating but in the end fly better and higher in the updrafts and have a lot more fun and by the way be safer, too. To optimize the feeling for your glider on the ground, try the following:

Practise on the ground with the right wind at a suitable location. Slowly pull up the canopy and try to hold it up as long as possible without looking towards it. That is a good way to improve the feeling for your glider and is a prerequisite for „active flying“ (the key to avoid collapses). Very important is also a close look at the terrain. Watch for obstacles that could cause turbulences (buildings, trees, ...). On certain days, for example a freshly mowed madow as landing field, could cause a lot of thermal activity. Fly very alert on a thermal active day. Watch your canopy, collapses most of the time, announce themself. Light braking in turbulences mostly avoids a collapse. You should have already practised that on the ground. Should a collapse occur close to the ground don´t always try to prevent a turn away. There is a danger when the braking on the open side is to strong, to lose the airflow on this side and stall the glider. Rather use the turn away motion to try to open the collapsed side.
Apply smooth braking on the open side, depending on the size of the collapse, and maybe a little pumping action. Some canopies open a lot better when the brakes are fully applied once on the according side, but that depends on the brakeline adjustment and your armlength. Wrapped lines are cleared by braking the opposite side at enough altitude and pumping the affected side a couple of times. Watch out for a possible stall. If that does not clear the situation, try to pull down the outer line as much as possible. If you are too low for that, stabilize the canopy on the opposite side to avoid turning away, and leave the lines like they are. Instead of any -risky manoeuvers rather concentrate on the landing. In the end one more advice in order to have all kinds of situations under control.

Visit a safety-training above water. There is no better way to practice the right behaviour than simulating a dangerous situation. Don’t get caught off guard by your first collapse. In addition, during safety-training you can familiarize yourself with the particulars of your equipment and you gain confidence in your glider as well as your own abilities.

Thus far the expert advise concerning collapses, by Ernst Strobl

Rapid Descent

In any situation where you have to get down ASAP for different reasons (weather, extreme updraft, or other dangers,) there are a couple of techniques that are described in this chapter.

Caution: The descriped manoeuvres stress you paraglider more than normal and should only be performed for practise or in a real emergency!

Spiral Dive

Like a normal turn, it is very easy to get the ALPINE PEAK 2 into a spiral dive. The spiral dive gets you a descent rate up to 20m/s. To prepare oneself in case of, practise it in optimum conditions. The diving spiral gets the pilot down faster than other techniques and is therefore best suited for an emergency descent. They move down vertically within the airmass. Don`t forget the G-forces when diving down, and take that into consideration before initiating a rapid descent.

Caution: If initiation is too fast there is a danger of a spin, in this case release the brake an try a smoother initiation.

Warning: Never fly a spiral dive while "big earing" the glider. It is illegal aerobatics and may over stress the both pilot and material.

Big Ears

Pull both on the outer A-risers one after the other (grab the line shackles) about 15-20cm to fold the wingtips. Whilst holding the braketoggles together with the A-risers. The glider stays fully steerable and descents with 4-7m/s straight forward. If you release the A-risers, the folded wingtips open automatically. Should there be any problem with the reopening, you may pump the brakes gently.
„Big earing" is due to the high wingload a very stable flight condition and well suited for turbulent air. Be aware that you reduce the trimspeed, but that can be compensated by accelerating with your legs.

Warning: Don`t fly extreme manoeuvres in this configuration, it is dangerous due to the danger of overstressing your glider. Fullstalls and spins are dangerous for a rapid descent because a wrong termination could have fatal consequences no matter what glidertype you are flying.

B-Stall

Another very efficient descent method is the B-Stall. It allows for a rate of descent of 6 to over 9 meters per second. Check the airspace under and behind you prior to initiating a B-Stall. To initiate it you hold the two B-risers above the lines carabiner. While you hold the brakes in your hands at all times, pull them down progressively and symmetrically. Hold this position. Your sail will stop flying forward, partially empty, and stabilize itself above your head. Exit B-stall flight by returning the risers symmetrically into their original position.
We recommend not to simply let the risers snap shut as this puts a lot of pressure on the material.
In the paragraph titled "advanced handling" you can read what to do if you get caught unexpectedly in a stall.

ALL KINDS OF RAPID DESCENTS SHOULD BE PRACTISED IN SMOOTH AIR AND WITH ENOUGH ALTITUDE TO BE PREPARED FOR EXTREME SITUATIONS WHEN YOU NEED THEM

Maintenance and Care

Because U-Turn only uses high quality materials, your ALPINE PEAK 2 will be airworthy for many years if you take good care. The aging of your ALPINE PEAK 2 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 the sun when there is no need to.
- Consider the choice of terrain where you lay out the glider for takeoff.
- Assymmetrical 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 unneccessary bending
- lines after overloads (tree landings, water landings, etc.) for its strength and correct length to be checked and exchanged if necessary.
- in case of changing inflight handling characteristics, the lines have to be checked for their correct length
- don't tie the brakelines on the grips if not needed, it weakens the lines

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 any 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 flighthours, whichever occurs first, your EMOTION 2 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.

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!

Safety Advices and Liability

This glider complies with EAPR, AFNOR (SHV and ACPUL) regulations, for the tested type, at time of delivery (see appendix).
The operation of the glider is at your own risk. The manufacturer and the dealer don´t take any liability for accidents and follow on damages. Please consider all safety notes, cautions and warnings for safe flying. Further, we assume that the pilot has the necessary certifications and that the legal limitations are being followed. Use of the equipment is at your own risk. Follow the safety instructions for a safe flight. Special emphasis on following points:

- stick to the rules and regs of the country you fly in
- required licenses and actual experience
- use only suitable, approved and certified accessories (helmet, harness, safety systems...)
- appropriate weather condition
- suitable terrain
- all required checks done and airworthiness of the glider
- personal shape of the pilot
- know your manual and stay within the published limits

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 marked 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.