

SPEEDMASTER ROCKET



- Handbook -
revision 1.2

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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 liability 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 paraglider. You have made an excellent choice. We wish you long and enjoyable flights and many happy landings with your U-Turn SPEEDMASTER ROCKET.

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



Business Reply Card

U-TURN GmbH
Esslinger Straße 23
D-78054 Villingen-Schwenningen



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

Paragliders made by U-Turn are a class its own. U-Turn stands for uncompromising safety, best components and outperforming flight-characteristics. Fly it and be happy, as U-Turn is the brand for those who appreciate the difference. The limits of physics are incorruptibly . To do the most practicable within this given frame is our goal. We concede: This is an ambitious and somehow immodest demand, but you`ll find U-Turn always at the cutting edge of technology. Oscar Wild once said in his very British understatement his taste is just basic: Only the best is always good enough. The U-Turn team agrees with this attitude:

We always want to deliver the best possible glider. Not more, but certainly not less. Customer`s wishes are key for the U-Turn staff, so we appreciate any comments. Please feel free to contact your competence center of U-Turn directly when you`re in need for a good piece of advice.

General Description SPEEDMASTER ROCKET

U-Turn Innovation:

Variable Brake Geometry

Once again a technical innovation from U-Turn GmbH is just around the corner. With "Variable Brake Geometry", brake-adjustment features can be quickly and easily changed. The system is built into the speedglider "Speedmaster" and will be promptly implemented into U-Turn`s complete paraglide and kite range.

U-Turn`s new, innovative system allows for quick and easy fine-tuning to the brake-adjustment features and thereby to all of the features of a glider. From now on it is possible to diminish the braking distance without physically reducing the length of the cord. A long braking distance means that paraglide braking is smoother and that the paraglider turns relatively evenly. With the shortened adjustment braking is done much more directly. By pulling the cord in a gentle and controlled manner, smooth turns can be made – by contrast, pulling vigorously enables intense diving movements, as experienced speedgliders like it.

This is how it works: The base cord that leads to the three separate brake cords is equipped with a sewn up casing near the dividing point onto which a strap can be attached – the U-Hook. The proper strap is sewn to the base cord at the point where it branches off. In opened status the braking geometry is effectively in the factory-provided suspended normal status. The braking distance is reduced when the strap is connected to the U-Hook. The bypassed part of the cord hangs downward in a loop and the traction occurs via the U-Hook. The further away from the branching point the U-Hook is sewn onto the cord, the stronger the effect of the tightening of the breaking features and thereby the trimming features will be.

This solution without the use of metal has the advantage that the braking cord can never be in the position where the cord is weakened: friction and flexing are impossible.

Warning!

Speed Flying and Speed Riding are dangerous.

You could suffer serious injury or death as a result of using this equipment. Using this equipment improperly greatly increases the risks involved. Never use this equipment without proper and thorough instruction from a qualified instructor.

By using the U-Turn SPEEDMASTER ROCKET, you accept all risks involved with the use of this equipment. The designer, manufacturer, distributor, and retailer cannot and will not guarantee your safety when using this equipment. You agree to not hold U-Turn GmbH liable for any injuries to yourself or to third parties resulting from the use of this equipment. It is essential that you understand the proper use of this equipment before attempting to use it in any way.

The User MUST:

- Be an experienced skier with competent knowledge of backcountry skiing and terrain, and be equipped with appropriate safety and rescue equipment when travelling in the backcountry.
- Be an experienced and licensed paraglider pilot.
- Be in an area approved for Speed Flying.
- Use helmet and proper protective equipment.
- Use the wing in a safe and hazard free environment.
- Maintain the equipment properly and inspect it regularly.
- Receive Speed Riding/Flying Instruction prior to using the wing.
- Ensure that all harness connections are fastened properly.
- Practice speed flying with a partner. Be aware of the other people you are travelling with in the back country at all times. Use the buddy system.

Important

- NEVER use your wing in turbulent wind conditions.
- NEVER use your wing in a populated area or an area not approved for Speed Flying.
- NEVER use your wing in a ski area or on a ski slope / ski piste.
- NEVER use your wing around hazardous obstacles such as ski lifts or trees or rocks.
- NEVER use your wing unless you have adequate safety and rescue equipment for winter backcountry travel such as avalanche transceiver, shovel, probe, and other avalanche safety equipment.
- NEVER use equipment if there is any damage to harness, risers, webbing, lines, cloth or stitching.

Risers

Your wing has 2 risers. Each riser is covered with colored webbing, which makes them easy to identify.

Riser Systems

The trimmer system can be used to increase or decrease your angle of attack. We recommend becoming very familiar with your wing before using the trimmer system. Never fly your wing in turbulent conditions.

Preparation

Lay out your wing on its top surface in a pronounced arc, with the centre of the wing higher than the tips. Lay out the lines one side at a time. Hold up the risers and starting with the brake lines, pull all lines clear. Repeat with the B and A lines, laying the checked lines on top of the previous set, and making sure no lines are tangled, knotted or snagged. Repeat the process on the other side. If necessary, use the provided snow stakes to secure your wing to the snow.

Always perform the following pre-flight check before launching your wing:

1. Helmet- chin strap firmly fastened.
2. Harness to wing carabiners closed and locked.
3. All Harness Buckles firmly closed.
4. corners of your wing- A and B lines (including brakes) on both sides clear and free.
5. Airspace and weather - clear and calm.



Launching

Your wing will launch with either the forward or reverse techniques, but it is easiest to forward launch with skis. After your line check and pre-flight check, inflate your wing by skiing forward. The wing will launch and inflate easily with or without A riser input if you pull it evenly from the hips. Before flying, be sure that all lines are in the correct configuration. If they are not, abort the launch.

IMPORTANT: Never take off with a wing that is not fully inflated or if you are not in complete control of your wing.

Landing

Choose a landing area that is smooth and free of obstacles. Flare your wing by applying both brakes at the appropriate moment. Doing this will decrease your sink rate to almost zero and allow you to touch down easily. Never make turns or aggressive maneuvers close to the ground or on your landing approach.

Safety Acro Flying

Speedflying is dangerous. Acro Flying greatly increases the danger and therefore should not be attempted.

Your wing is stable in flight and load tested to 6 Gs, but we do not recommend flying acro or any flight maneuvers that exceed 45 degrees of bank angle.

Pilot Health

Speedflying exerts very high stresses on the human body. Pilots must ensure that they are physically and mentally fit enough to cope with these stresses. Know your limits and be progressive.

Rapid Descent Techniques

Do not attempt paragliding rapid descent techniques such as Big Ears, B-Stalls, or Spirals. Your wing has a high sink rate and you should always avoid flying in weather which might require the use of rapid descent techniques.

Deflations

The U-Turn SPEEDMASTER ROCKET series wings are very stable and are highly resistant to deflations or collapses. However, if you have a collapse, the first thing to do is to control your direction: You should fly away from the ground or obstacles and other pilots, or at least not to fly into them. Asymmetric collapses can be controlled by weight shifting away from the collapse and, only if necessary, applying a very small amount of brake to control your direction. Most important, do not over-react. Most of the time all that is needed is a moment for the glider to recover on its own.

Once a glider is deflated it is effectively a small wing, so the wing loading and stall speed are higher. This means the glider will spin or stall with less brake input than normal. In your efforts to stop the glider turning towards the collapsed side of the wing you must be very careful not to stall the side of the wing that is still flying. If you are unable to stop the glider turning without exceeding the stall point then allow the glider to turn whilst you reinflate the collapse.

IMPORTANT:

No pilot and no wing are immune to collapses. However, active flying will virtually eliminate any tendency to collapse. Always be aware of your altitude and do not over-react. We strongly advise that you maintain control of your brakes at all times. Do not fly in turbulent conditions.

Caring for your wing

This wing is a very durable and should last for hundreds of flights if properly cared for. Treat your wing with care: do not ground-handle it excessively, keep it out of direct sunlight as much as possible, keep it as dry as possible, and never pack it if it is dirty or wet.

Storage

Always store all of your equipment in a dry room, protected from direct heat. Your wing should be dry before being packed away. Heat and humidity are the worst factors in damaging your glider. (Storing a damp glider in your car under the sun would be terrible, for example). Dry your wing out of the sun, in the wind. Never use a hair dryer etc.

DO NOT STORE WET.

Take care that no insects get packed away with the wing they may eat the cloth and create holes in a bid to escape, they can also leave acidic deposits if they die and decompose.

Maintenance and Care

Because U-Turn only uses high quality materials, your U-Turn SPEEDMASTER ROCKET will be airworthy for many years if you take good care. The aging of your SPEEDMASTER ROCKET 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.
- 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
- 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 flight hours, whichever occurs first, your U-Turn SPEEDMASTER ROCKET 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.

Modifications

Your wing was designed and trimmed to give the optimum balance of performance, handling and safety. Any modification will probably make the glider more difficult to fly and less safe. For these reasons, we strongly recommend that you do not modify it in any way.

Nature and environment friendly behavior

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.

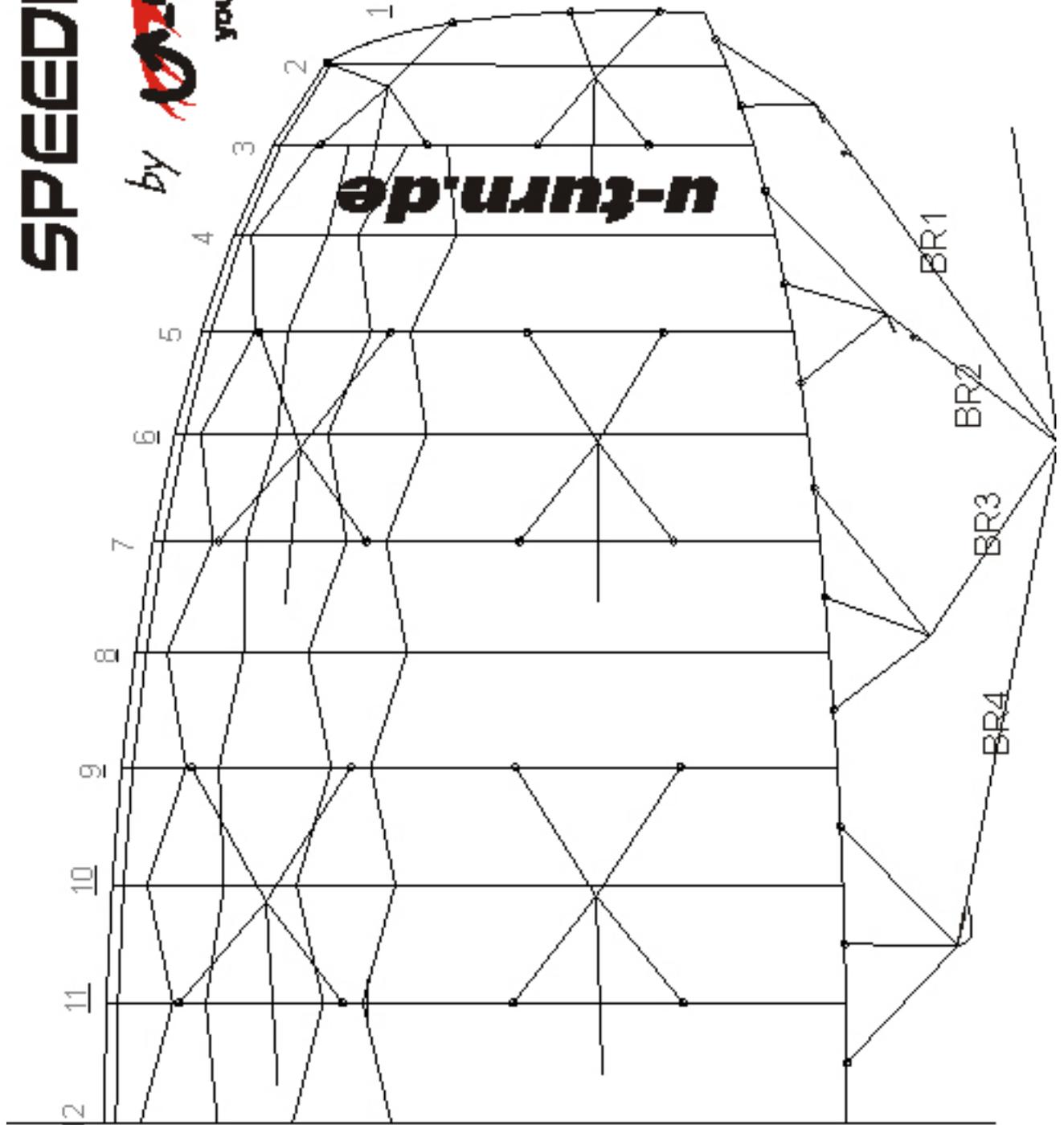


The company U-Turn GmbH does not take any responsibility, liability and/or warranty for from their conducted checks and repairs!



SPEEDMASTER

by **U-TURN**
your airline...



Order form for lines and instruction for repairs



your airline...

Tel: +49 (0)7720/807111
 Fax: +49 (0)7720/807112

U-Turn GmbH
 Esslingerstr. 23
 78054 Villingen-Schwenningen
 Germany

LINE ORDER SHEET / BESTELLFORMULAR FÜR LEINEN

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

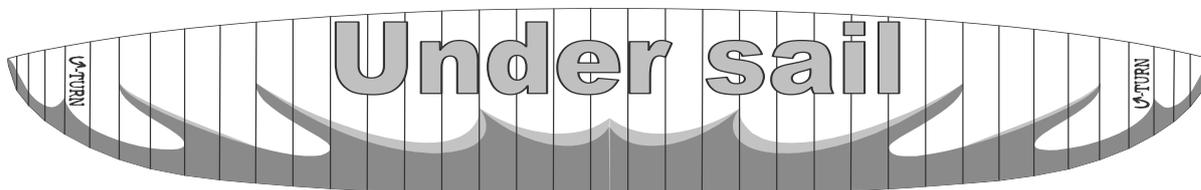
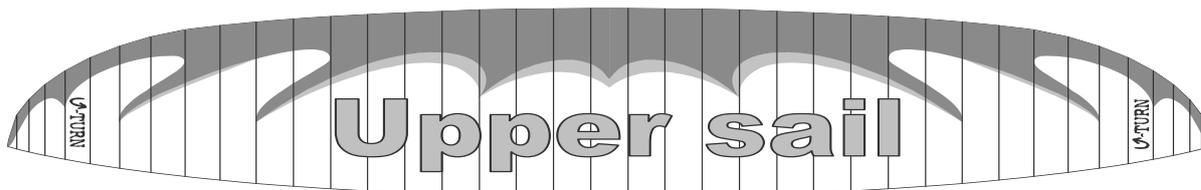
Serial Number / Serien Nummer: -----

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

Instruction leaflet for repairs and 2 annual Check

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

- 2 annual Check
- Air permeability check
- Recall with sighting of the paraglider
- Line Check incl. strength test
- Repair of the marked damage



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

Line Configuration

SPEEDMASTER ROCKET				Line config.	rev3	cousin
A-Lines						
rib 10	CT 1.9mm	CT 2.5mm		red		
rib 8	CT 1.9mm					
rib 6	CT 1.9mm	CT 2.5mm		red		
rib 4	CT 1.9mm					
rib 2	CT 1.8mm	CT 2.5mm		red		
rib 1	CT 1.8mm					
Stabilo	CT 1.8mm					
B-Lines						
rib 10	CT 1.9mm					
rib 8	CT 1.9mm					
rib 6	CT 1.9mm					
rib 4	CT 1.9mm					
rib 2	CT 1.8mm					
C-Lines						
rib 10	CT 1.9mm	CT 2.5mm		blue		
rib 8	CT 1.9mm					
rib 6	CT 1.9mm	CT 2.5mm		blue		
rib 4	CT 1.9mm					
rib 2	CT 1.8mm	CT 2.5mm		blue		
Stabilo	CT 1.8mm					
D-Lines						
rib 10	CT 1.8mm					
rib 8	CT 1.8mm					
rib 6	CT 1.8mm					
rib 4	CT 1.8mm					
rib 2	CT 1.8mm					
Stabilo	CT 1.8mm					
Brake-Lines						
rib 11	CT 1.5mm	CT 1.8mm	CT 2.5mm			
rib 10	CT 1.5mm					
rib 9	CT 1.5mm					
rib 8	CT 1.5mm	CT 1.8mm				
rib 7	CT 1.5mm					
rib 6	CT 1.5mm					
rib 5	CT 1.5mm	CT 1.8mm				
rib 4	CT 1.5mm					
rib 3	CT 1.5mm					
rib 2	CT 1.5mm	CT 1.8mm				
rib 1	CT 1.5mm					

SPEEDMASTER ROCKET				Line code
A-Lines				
rib 10	AT10	A3		red
rib 8	AT8			
rib 6	AT6	A2		red
rib 4	AT4			
rib 2	AT2	A1		red
rib 1	SA1			
Stabilo	S1			
B-Lines				
rib 10	BT10			
rib 8	BT8			
rib 6	BT6			
rib 4	BT4			
rib 2	SB2			
C-Lines				
rib 10	CT10	C3		blue
rib 8	CT8			
rib 6	CT6	C2		blue
rib 4	CT4			
rib 2	SC2	C1		blue
Stabilo	S2			
D-Lines				
rib 10	DT10			
rib 8	DT8			
rib 6	DT6			
rib 4	DT4			
rib 2	SD2			
Stabilo	S3			
Brake-Lines				
rib 11	BR11	BR1-4	DSL 350	
rib 10	BR10			
rib 9	BR9			
rib 8	BR8	BR1-3		
rib 7	BR7			
rib 6	BR6			
rib 5	BR5	BR1-2		
rib 4	BR4			
rib 3	BR3			
rib 2	BR2	BR1-1		
rib 1	BR1			

Cousin Technora = CT

CT 2.5mm
CT 2.1mm
CT 1.9mm
CT 1.8mm
CT 1.5mm
CT 1.2mm

Cousin Dyneema = CD

Edelrid
A6843-160
A6843-200

Liros
TSL380
TSL280

Lineplan SPEEDMASTER ROCKET 8

SPEEDMASTER ROCKET 8					Line plan	rev4
A-Lines						
rib 10	1377	1652				3029
rib 8	1331					2983
rib 6	1290	1652				2941
rib 4	1244					2896
rib 2	1148	1652				2800
rib 1	1131					2782
Stabilo	1099					2751
B-Lines						
rib 10	1402					3054
rib 8	1365					3016
rib 6	1319					2970
rib 4	1290					2941
rib 2	1190					2841
C-Lines						
rib 10	1477	1647				3124
rib 8	1439					3087
rib 6	1394	1660				3054
rib 4	1352					3012
rib 2	1240	1639				2879
Stabilo	1149					2788
D-Lines						
rib 10	1601					3248
rib 8	1560					3208
rib 6	1511					3171
rib 4	1447					3107
rib 2	1293					2933
Stabilo	1198					2837
Brake-Lines						
rib 11	1410	1390	1065			3865
rib 10	1302		.+ 200			3757
rib 9	1248					3703
rib 8	1273	1202				3540
rib 7	1211					3478
rib 6	1190					3457
rib 5	1194	1086				3345
rib 4	1173					3324
rib 3	1165					3316
rib 2	1152	1132				3349
rib 1	1094					3291

U-Hook System	
Hot version	Lines to extend/shorten
1302	.- 87 // Mark at 177mm
stay same	
1019	.-67 // Mark at 157mm
915	.-216 // Mark at 306mm

Lineplan SPEEDMASTER ROCKET 10

SPEEDMASTER ROCKET 10					Line plan	rev4
A-Lines						
rib 10	1522	1826				3348
rib 8	1472					3298
rib 6	1426	1826				3252
rib 4	1375					3201
rib 2	1269	1826				3095
rib 1	1250					3076
Stabilo	1215					3041
B-Lines						
rib 10	1550					3376
rib 8	1509					3334
rib 6	1458					3284
rib 4	1426					3252
rib 2	1315					3141
C-Lines						
rib 10	1633	1821				3454
rib 8	1591					3413
rib 6	1541	1835				3376
rib 4	1495					3330
rib 2	1371	1812				3183
Stabilo	1270					3082
D-Lines						
rib 10	1770					3591
rib 8	1725					3546
rib 6	1670					3505
rib 4	1600					3435
rib 2	1430					3242
Stabilo	1325					3137
Brake-Lines						
rib 11	1559	1536	1177			4273
rib 10	1440		.+ 200			4153
rib 9	1380					4093
rib 8	1407	1329				3914
rib 7	1338					3845
rib 6	1315					3822
rib 5	1320	1200				3698
rib 4	1297					3675
rib 3	1288					3666
rib 2	1274	1251				3702
rib 1	1210					3638

U-Hook System	
Hot version	Lines to extend/shorten
1440	.+ 95 // Mark at 190mm
stay same	
1127	-.75 // Mark at 165mm
1012	-.240 // Mark at 330mm

Lineplan SPEEDMASTER ROCKET 12

SPEEDMASTER ROCKET 12					Line plan	rev3
A-Lines						
rib 10	1655	1985				3640
rib 8	1600					3585
rib 6	1550	1985				3535
rib 4	1495					3480
rib 2	1380	1985				3365
rib 1	1315					3300
Stabilo	1380					3365
B-Lines						
rib 10	1685					3670
rib 8	1640					3625
rib 6	1585					3570
rib 4	1550					3535
rib 2	1430					3415
C-Lines						
rib 10	1775	1980				3755
rib 8	1730					3710
rib 6	1675	1995				3670
rib 4	1625					3620
rib 2	1490	1970				3460
Stabilo	1390					3360
D-Lines						
rib 10	1935					3915
rib 8	1885					3865
rib 6	1825					3820
rib 4	1750					3745
rib 2	1595					3565
Stabilo	1440					3410
Brake-Lines						
rib 11	1695	1670	1200			4565
rib 10	1565		.+ 200			4435
rib 9	1500					4370
rib 8	1530	1445				4175
rib 7	1455					4100
rib 6	1430					4075
rib 5	1435	1305				3940
rib 4	1410					3915
rib 3	1400					3905
rib 2	1385	1360				3945
rib 1	1315					3875

U-Hook System	
Hot version	Lines to extend/shorten
1565	.+105 // Mark at 195
stay same	
1225	.-80 // Mark at 170
1100	.-260 // Mark at 350

Lineplan SPEEDMASTER ROCKET 14

SPEEDMASTER ROCKET 14		Line plan		rev4
A-Lines				
rib 10	1778	2132		3910
rib 8	1719			3851
rib 6	1665	2132		3797
rib 4	1606			3738
rib 2	1482	2132		3615
rib 1	1460			3592
Stabilo	1419			3551
B-Lines				
rib 10	1810			3942
rib 8	1762			3894
rib 6	1703			3835
rib 4	1665			3797
rib 2	1536			3668
C-Lines				
rib 10	1907	2127		4033
rib 8	1858			3985
rib 6	1799	2143		3942
rib 4	1746			3888
rib 2	1601	2116		3717
Stabilo	1483			3599
D-Lines				
rib 10	2067			4194
rib 8	2014			4141
rib 6	1950			4093
rib 4	1868			4011
rib 2	1670			3786
Stabilo	1547			3663
Brake-Lines				
rib 11	1821	1867	1375	5063
rib 10	1681		.+ 200	4923
rib 9	1611			4853
rib 8	1643	1552		4571
rib 7	1563			4490
rib 6	1536			4463
rib 5	1541	1402		4318
rib 4	1515			4291
rib 3	1504			4281
rib 2	1488	1461		4324
rib 1	1413			4248

U-Hook System	
Hot version	Lines to extend/shorten
1681	-.117 // Mark at 207mm
stay same	
1370	-.90 // Mark at 180mm
1230	-.290 // Mark at 380mm

Technical Data / Table of area loading **SPEEDMASTER ROCKET**

SPEEDMASTER ROCKET	8.0	10.0	12.0	14.0
Wing area flat	8.0 m ²	10.0 m ²	12.0 m ²	14.0 m ²
Wing area project	6.9 m ²	8.7 m ²	10.4 m ²	12.1 m ²
Wing span flat	5.32 m	5.95 m	6.52 m	7.04 m
Wing span project	4.6 m	5.1 m	5.6 m	6.1 m
Aspect ratio flat	3.5	3.5	3.5	3.5
Aspect ratio flat project	3.0	3.0	3.0	3.0
Number of chambers	22	22	22	22
Number of risers	2	2	2	2
Trimmer	Trimmer	Trimmer	Trimmer	Trimmer

Flächenbelastungs Tabelle / Table of area loading SPEEDMASTER															
Start Weight (kg)	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120
SPEEDMASTER 8	6,3	6,9	7,5	8,1	8,8	9,4	10,0	10,6	11,3	11,9	12,5	13,1			
SPEEDMASTER 10		5,5	6,0	6,5	7,0	7,5	8,0	8,5	9,0	9,5	10,0	10,5	11,0		
SPEEDMASTER 12				5,4	5,8	6,3	6,7	7,1	7,5	7,9	8,3	8,8	9,2	9,6	
SPEEDMASTER 14					5,0	5,4	5,7	6,1	6,4	6,8	7,1	7,5	7,9	8,2	8,6