

HEAD[®]

TYROLIA[®]

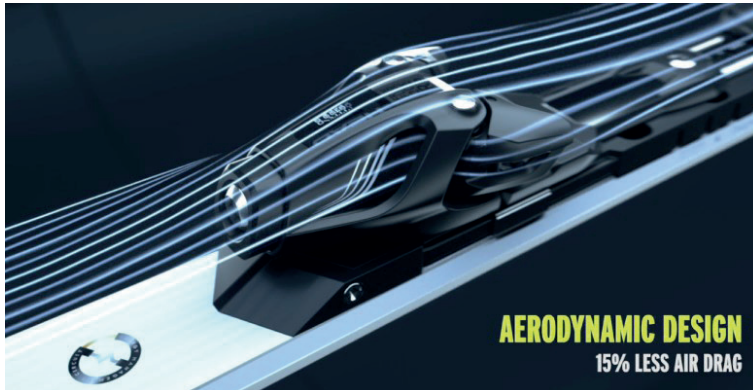


RACING GUIDELINE
23.24

FEATURES - FREEFLEX ST:

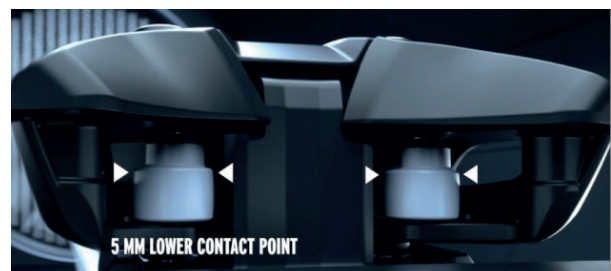
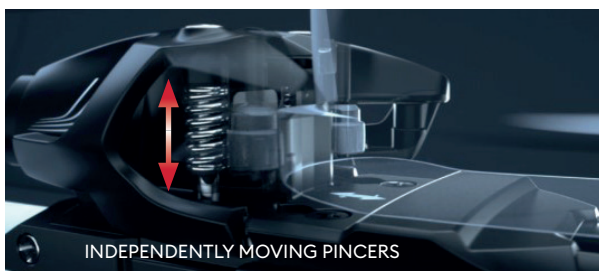
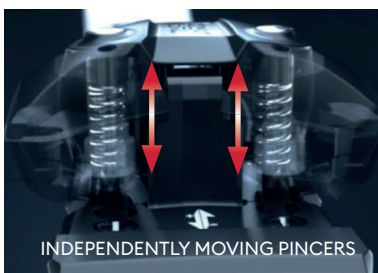
- **AERODYNAMIC DESIGN**

- New aerodynamic design of the Stream toe
- Optimized weight



- **ADAPTIVE SUSPENSION TECHNOLOGY**

- Automatic toe height adjustment
- Independently moving spring-loaded pincers for more precise control
- Shorter pincers, overlap to the boot in vertical direction unchanged but reduced in horizontal direction for safer release
- Two different mounting positions (standard, -10mm) of the gliding element for an adjustable pressure point
- A steel base plate between binding and plate for direct power transmission
- Only on X Models: 5mm lower contact point for a reduced tilting moment (-25%)

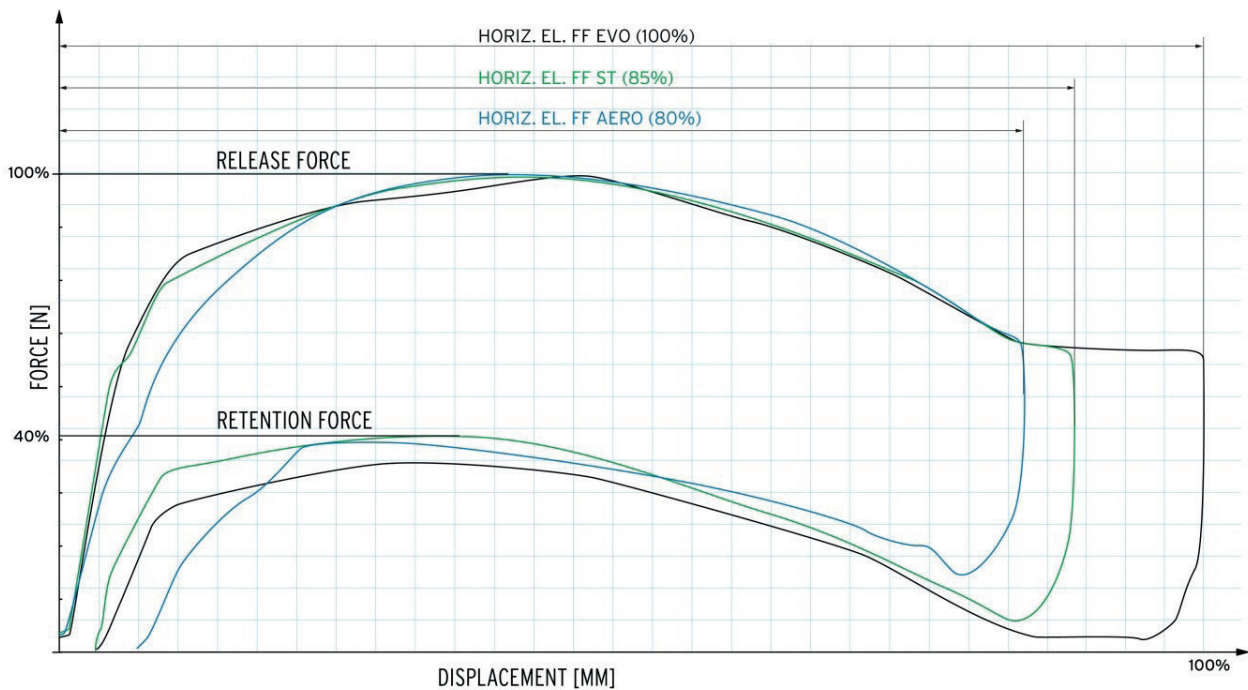


DIFFERENCE - EVO vs. STREAM TOE

DEFINITIONS:

- HORIZONTAL ELASTICITY:** Distance the ski boot is displaced when horizontal force is applied while retention force is reduced to zero (no re-centering).
- RELEASE FORCE:** Maximum force that is required to be exceeded in order to release the boot.
- RETENTION FORCE:** Force that the sole retention arms of the toe apply to the boot in horizontal direction in order to re-center the boot.

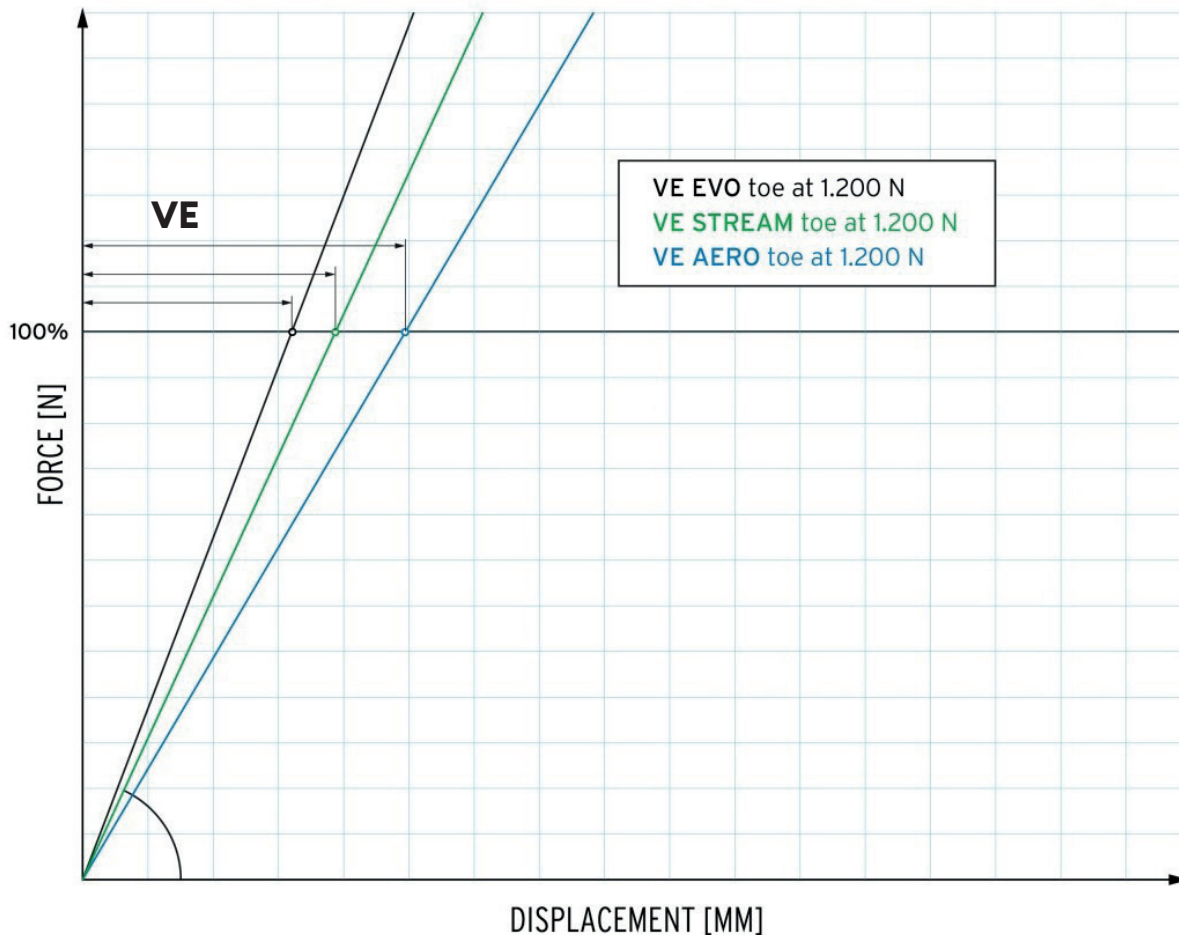
HORIZONTAL ELASTICITY:



RESULTS:

- Reduced horizontal elasticity compared to the EVO toe in order to release the boot earlier in the event of an accident
- Increased horizontal stability, less play and deformation compared to AERO toe
- Precise re-centering after displacement – similar to EVO toe

VERTICAL ELASTICITY:



VERTICAL ELASTICITY: Vertical displacement of the ski boot at a certain vertical force. VE is shown at an applied force of approximately 1.200 N. The steeper the angle of the measurement curve, the lower the vertical elasticity (the stiffer the binding).

RESULTS:

- Higher vertical elasticity compared to the EVO toe reducing the “clamp-feeling”
- Automatic sole height adjustment as opposed to the manual adjustment of the EVO toe

WHY ARE THE LOWER CONTACT POINT ROLLERS ONLY USED ON THE RACING (X) BINDINGS?

Our Racing (X) bindings are optimized to the maximum for the best possible performance. Considering the fact that racing ski boots use solid soles and stiff materials it is possible to work with two rollers and lower the contact point of the rollers in order to reduce the tilting moment and still guarantee flawless function of the release mechanism.

Retail racing bindings (FF ST 16 and 14) have to work perfectly with every type of adult alpine ski boot. As most retail ski boots use exchangeable sole pads made of soft plastics or rubber, the contact area needs to be on the hard interface of the boot and can therefore not be lowered. Furthermore these models are equipped with four rollers to guarantee constant and correct release values within the ISO standard.

WHAT'S THE DIFFERENCE BETWEEN THE VARIOUS FREEFLEX BINDINGS?

	FF ST 20/16 X RD	FF ST 14 X	FF ST 16	FF ST 14	FF 14/11 GW	FF 11 RACE
GENERAL INFORMATION						
DIN Z	10.5-20 10.5-16	7-14	5-16	4-14	4-14 3-11	3-11
WEIGHT	3150 g (DIN-Z 20) 3130g (DIN- Z 16)	2720g	2650g	2290g	2230g (DIN- Z 14) 2260g (DIN- Z 11)	2220g
TOE						
TOE TYPE	STREAM X	STREAM	STREAM	STREAM	RX	RX
FRONT SCREWS	Screw head Ø 10mm Penetration depth 9mm	Screw head Ø 8mm Penetration depth 8mm	Screw head Ø 8mm Penetration depth 8mm	Screw head Ø 8mm Penetration depth 8mm	Screw head Ø 8mm Penetration depth 8mm	Screw head Ø 8mm Penetration depth 8mm
WINGS	Independently moving aluminum wings against springs 2 roller - pincers with 5 mm lower contact point to reduce tilting moment	Independently moving plastic wings against springs 4 roller - pincers softer springs compared to X RD/RS models	Independently moving plastic wings against springs 4 roller - pincers softer springs compared to X models	Independently moving plastic wings against springs 4 roller - pincers softer springs compared to X models	Plastic GFK with 4 roller-pincers	Plastic GFK with 4 roller-pincers
AFD	STREAM AFD POM (X) Special high performance POM "Delrin" gliding element Adaptable pressure point	STREAM AFD Teflon Black Teflon gliding element Adaptable pressure point	STREAM AFD Teflon Black Teflon gliding element Adaptable pressure point	STREAM AFD Teflon Black Teflon gliding element Adaptable pressure point	ABS 3mm lifter under the toe to reduce ramp angle	AFD Teflon Black Teflon gliding element Adaptable pressure point
Wing- AFD ADJUSTMENT	Automatic sole height adjustment	Automatic sole height adjustment	Automatic sole height adjustment	Automatic sole height adjustment	Automatic sole height adjustment	Automatic sole height adjustment
HEEL						
Heeltype	RACE PRO RD with spindle adjustment especially for accurate adjustment of the forward pressure ± 32 mm	RACE PRO X with spindle adjustment especially for accurate adjustment of the forward pressure ± 32 mm	RACE PRO ± 32 mm	NX Race ± 32 mm	D-RX (DIN 14) NX (DIN 11) ± 24 mm	NX RACE ± 32 mm
Brake	Power Brake ² Race Pro 16-85[A]	Power Brake ² Race Pro 16-85[A]	Power Brake ² Race Pro 17-85[A]	Power Brake ² Race Pro 17-85[A]	Power Brake ² LD 85 [D]	Power Brake ² Race Pro 17-85[A]
Standheight	16mm	16mm	17mm	17mm	21mm	17mm
Ramp	3,5 used only for X Bindings in combination with milled race boots to prevent wobbling and for optimal clamping force	3,5 used only for X Bindings in combination with milled race boots to prevent wobbling and for optimal clamping force	4,5 Covers all standard boots	4,5 Covers all standard boots	4,0	6,0
HEEL MATERIAL						
Lug	Aluminum diecasted	Glass fiber reinforced Polyamide	Glass fiber reinforced Polyamide	Glass fiber reinforced Polyamide	Glass fiber reinforced Polyamide	Glass fiber reinforced Polyamide
Slider	Aluminum diecasted	Glass fiber reinforced Polyamide	Glass fiber reinforced Polyamide	Glass fiber reinforced Polyamide	Glass fiber reinforced Polyamide	Glass fiber reinforced Polyamide
Release Cam	Zinc alloy diecasted	POM	POM	POM	POM	POM

ON WHICH DIN SETTING SHOULD I SKI A RACE BINDING?

The release values of the toe and heel should in general be determined by standard (ISO/ASTM) method.

!Attention! RACING (X) bindings do not fulfill ISO or ASTM standards! From the 20.21 season on the DIN settings for the RACING (X) bindings start at a value of 10.5! Exception is the new Freeflex ST 14 X binding that starts on DIN 7.

1.) Release settings considerable above international standard recommendations are available on all the RACING (X) models. Settings above standard recommendations may cause serious injury.

2.) These RACING (X) bindings are only intended for the use by specified individuals (extremely high performance skiers). They should not be resold or passed on. Resale may result in legal implications in case of injuries sustained by the purchaser (user).

WHAT IS THE REASON FOR THE INTRODUCTION OF THE FREEFLEX ST 14 X?

Problem on the market

Difference between release values on higher DINs (>10 not standardized) of regular models (FF ST 16 & 14) vs. competition models (FF ST 16 X RD).

SOLUTION

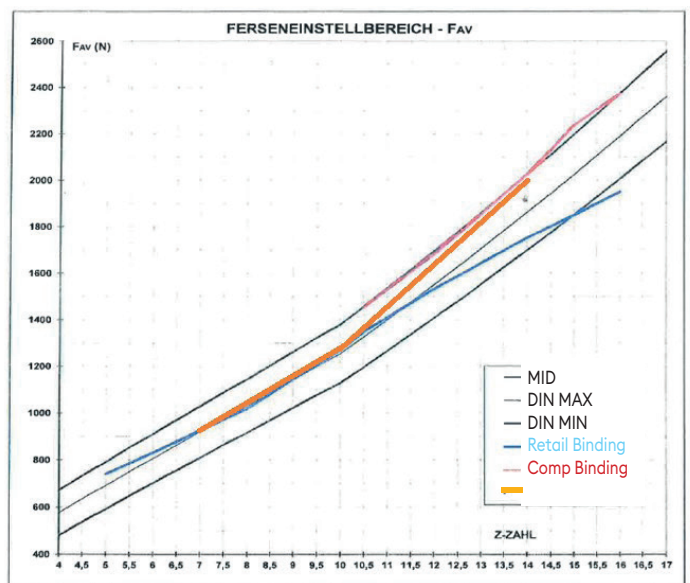
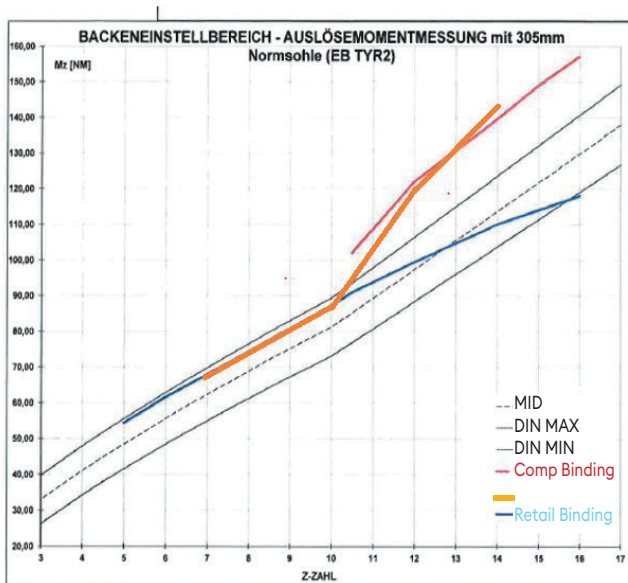
Introducing a specific junior racing model – Freeflex ST 14 X

The Freeflex ST 14 X will get the ST toe and the metal re-enforced Race Pro Heel with the spindle used in the RD and RS bindings using the 16-85 [A] Brake.

- Lower DIN range: 7-14 instead of 4-14 and higher DINs equal to FF ST 16 X RD
- RACE PRO Heel (metal re-enforcement) with plastic sole lug instead of NX heel
- New release springs
- Forward pressure spring of DIN 16 X
- Spindle instead of adjustment lock to be in line with other X models

Problem on the market

- › Difference between release values on higher DINs (>10 not standardized) of regular models (FF ST 16 & 14) vs. competition models (FF ST 16 X RD)



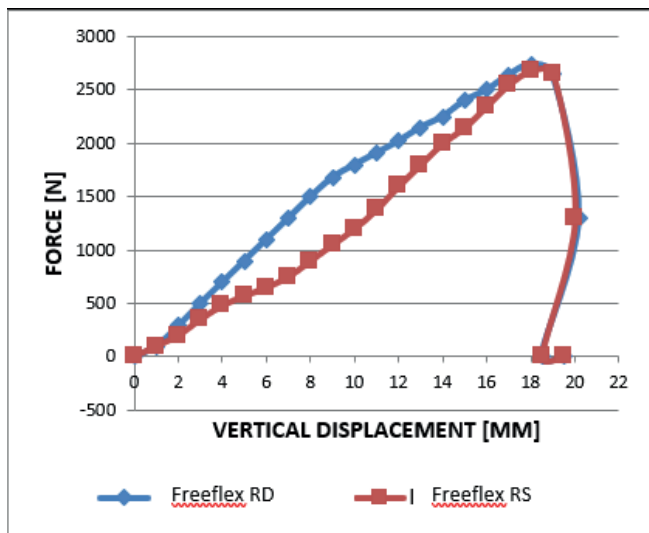
We recommend racers to use following models to have comparable release values all the time:

- FF 11 RACE
- FF ST 14 X
- FF ST 16 X RD
- FF ST 20 X RD, FF ST 20 X RS

WHICH BINDING TO USE FOR THE DIFFERENT DISCIPLINES - DH, SG, GS, SL?

For technical disciplines SL and GS we recommend Freeflex ST 20 X RD or 16 X RD, for speed disciplines DH and SG use Freeflex ST 20 X RS. The setting further depends on snow conditions, personal preferences and individual style.

DIFFERENCE BETWEEN 20 RD AND 20 RS?



RD...Race Direct	standard clamping force (vertical)	for technical disciplines (SL,GS)
RS...Race Soft/Speed	less standard clamping force (vertical)	for speed disciplines (SG,DH)

The main difference lies within the vertical clamping force of the heel. The RD heel produces a higher vertical force and is therefore better suited for technical disciplines such as Slalom and Giant Slalom while the RS heel produces less clamping force, which is beneficial in speed disciplines such as Super G and Downhill.

WHAT ABOUT THE LIFTERS?

Lifters are available for heel and toe in different heights. Lifters can be combined to find the ideal, individual stand height and ramp angle for the skier. HEAD/TYROLIA offers the Tuning Kit ST (Art. No.: 163127) for a variety of options to adapt the Freeflex bindings. Also available are specified lifter sets with included screws:

FREEFLEX ST 20 X RD and RS FREEFLEX ST 16 X RD FREEFLEX ST 14 X FREEFLEX ST 16 FREEFLEX ST 14 FREEFLEX 11 RACE	FREEFLEX 14 GW FREEFLEX 11 GW
162905 RDX LIFTER SET 3MM (1 SET) 162906 RDX LIFTER SET 5MM (1 SET) 162933 RDX LIFTER SET 3/5MM (HEEL/TOE) (1 SET) 162934 RDX LIFTER SET 4/6MM (HEEL/TOE) (1 SET) 163075 RDX LIFTER SET 2/3MM (HEEL/TOE) (1 SET) 163076 LIFTER 5/8MM (HEEL/TOE) (1 SET) 163187 LIFTER SET 5/6MM (HEEL/TOE) (1 SET)	163077 TOE LIFTER SET FF 4MM (1 SET)

Please always consider the FIS regulation for stand height – max. 50 mm for ski + plate + lifters + binding.

IS THERE AN IDEAL RAMP ANGLE?

There is no ideal ramp angle - depends on discipline and individual style and preference.

HEEL INSERTS FOR FREEFLEX BINDINGS

After extensive use, the binding may develop excessive play in the track. On the RACE PRO heel, you can easily replace the heel glide inserts (Art.No.: 162803 Play Compensator Race Pro Heel).

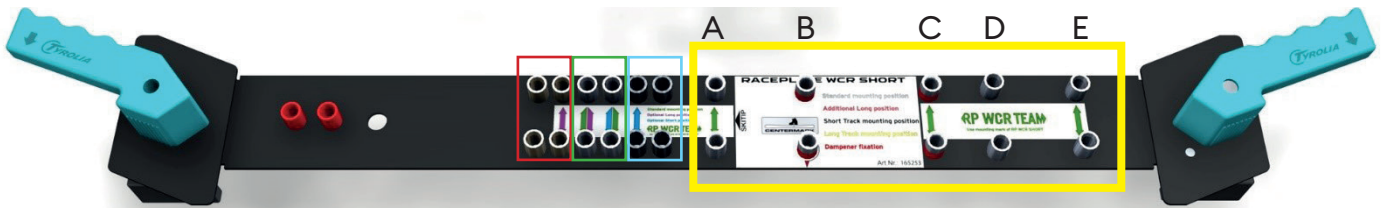
EVO 9 GW CA JUNIOR RACE BINDING

This binding is suitable for both adult (type A) and children (type C) boots as well as adult GripWalk and GripWalk Junior boots: the innovative mechanical GW Jr. Anti Friction Slider (AFS GW Jr.) automatically adjusts to the boot sole height, compensating A/C standards as well as height differences due to icing up, dirt or boot wear. If you want to increase the stability of your junior binding in combination with children (type C) boots, you can replace the standard AFS with a vertically blocked AFS (Art. No.: 163113), which is for children (type C) boots and GripWalk Junior boots ONLY. For 23.24 season the blocked AFS (Art.No. 163113) comes pre packed in the box.

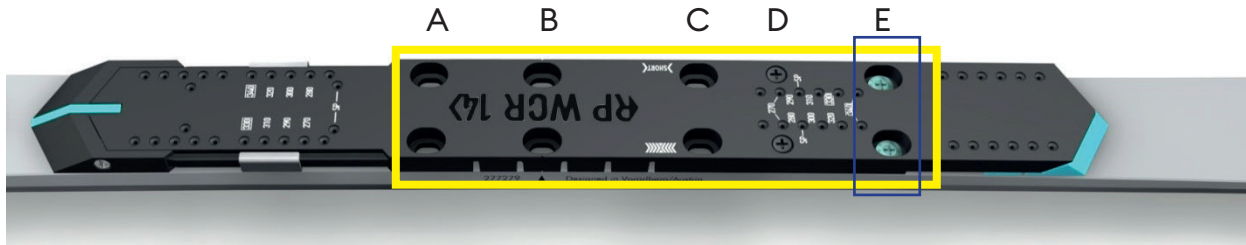
PLATES WITH PRE-DRILLED HOLES

Use only the pre-formed holes for installation – do not drill holes into the plate to mount bindings of other manufacturers.

OPTIONS: RACEPLATE WCR SHORT/TEAM



Template WCR Short/Team Art. No.: 165253



All HEAD Racing skis will be delivered with the Raceplate WCR short mounted.

TOE TRACK: (track required in one position)

- **Position 1:** front position: + 32mm
- **Position 2:** standard position: \pm 0mm
- **Position 3:** rear position (short mounting position): - 32mm

The position of the toe track is adaptable to ensure the optimal force transmission from the ski boot to the edge of the ski for all ski boot sizes and binding mounting points.

We recommend that you mount the toe track in a position that the AFD of the mounted binding is positioned directly above the toe track. If you mount the track further to the front of the ski, the flex of the ski will get stiffer and the initiation of the turn will happen earlier. If you mount it further back, the flex of the ski will be influenced less and the ski will be less aggressive.

In general you can say that the further the contact points of the plate to the ski are apart, the more it influences the flex profile of the ski, making it stiffer and more responsive. The closer the contact points are positioned together, the less influence it will have on the ski, making it more forgiving.

RACE PLATE:

4 pairs of oblong holes on the plate (A, B, C & E) and 1 pair of fixed holes (D).
Standard position: Positions A, D & E screwed in

Required:

- **At least one of A, B, C, D or E fixed**
- **E always with screws (fixed or floated)**

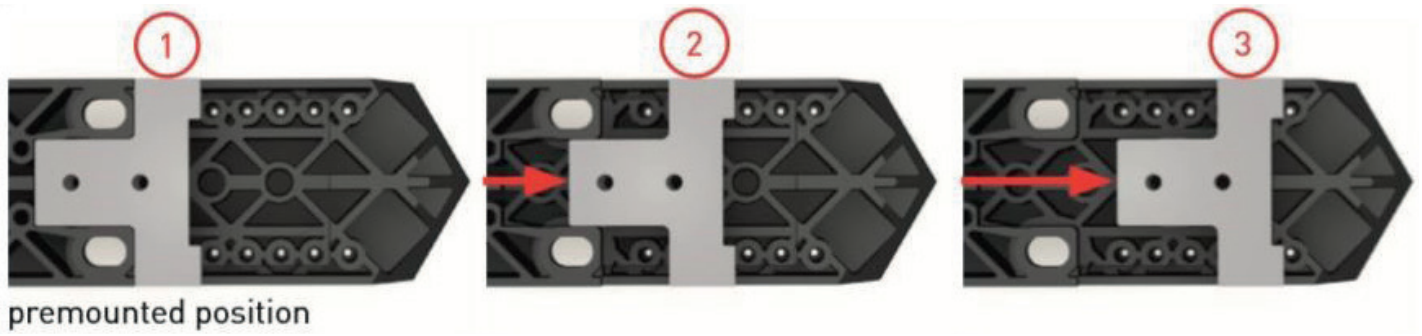
In order to use fixed screws with the oblong holes you can use Art. No.: 165251 - Flex blocker Raceplate WCR (1000 pcs.)

FORCE CONNECTOR:

T-pad to displace the contact point to the ski

Standard is the pre-mounted position (1)

Options: front (1), middle (2), rear position (3) or without force connector



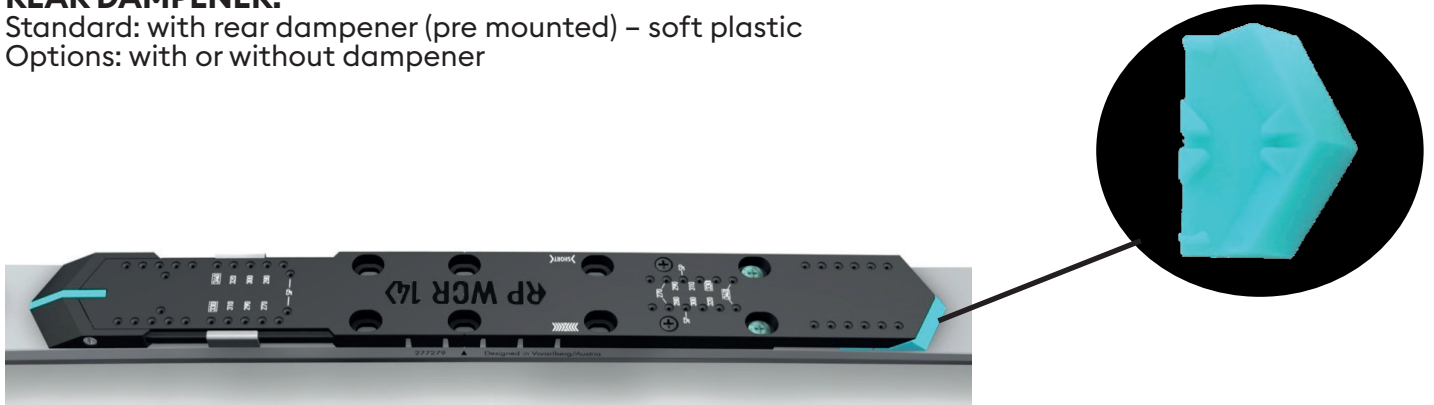
The position of the force connector determines the dominant contact point between the plate and the ski. The further back the force connector is positioned, the further back the pressure is applied to the edge of the ski.

In general you can say that the further the contact points of the plate to the ski are apart, the more it influences the flex profile of the ski, making it stiffer and more responsive. The closer the contact points are positioned together, the less influence it will have on the ski, making it more forgiving.

REAR DAMPENER:

Standard: with rear dampener (pre mounted) – soft plastic

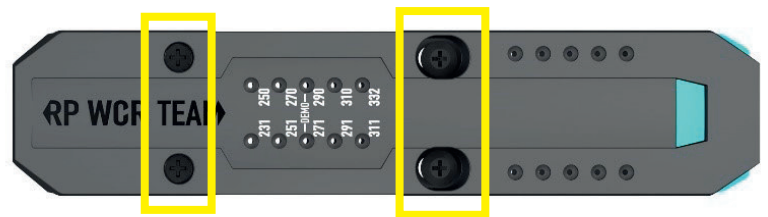
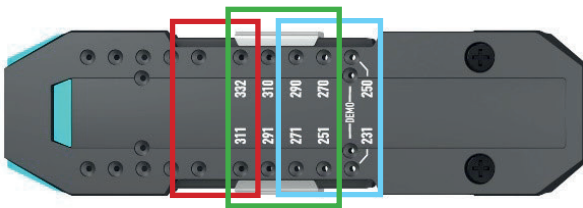
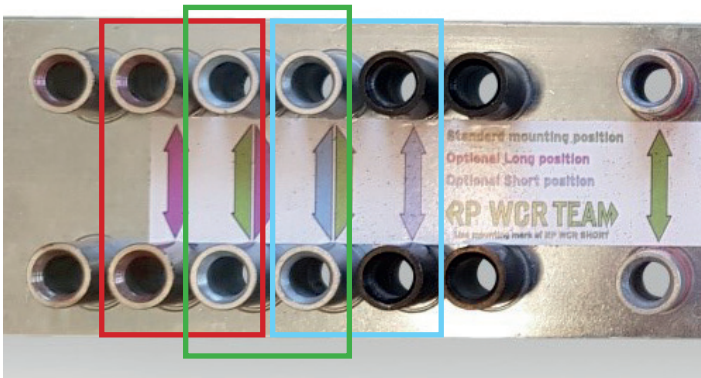
Options: with or without dampener



OPTIONS: RACEPLATE WCR TEAM



TEMPLATE WCR short Art.No: 165253



TOE TRACK: (track required in one position)

- **Position 1:** front position: + 16mm
- **Position 2:** standard position: \pm 0mm
- **Position 3:** rear position (short mounting position): - 16mm

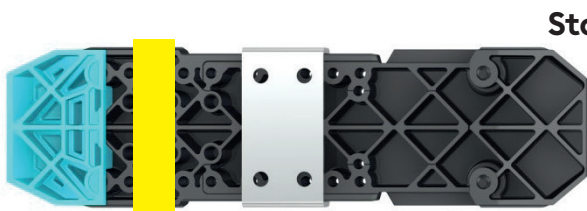
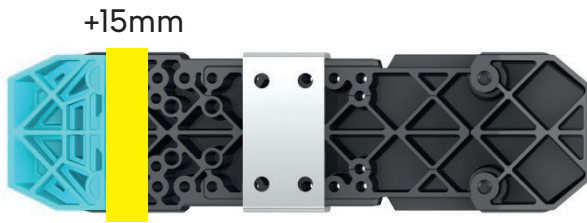
The position of the toe track is adaptable to ensure the optimal force transmission from the ski boot to the edge of the ski for all ski boot sizes and binding mounting points. For longer boot soles you can move the toe track 16mm to the front. For shorter boot soles move the toe track back 16mm in order to guarantee precise force transmission.

We recommend that you mount the toe track in a position that the AFD of the mounted binding is positioned directly above the toe track. If you mount the track further to the front of the ski, the flex of the ski will get stiffer and the initiation of the turn will happen earlier. If you mount it further back, the flex of the ski will be influenced less and the ski will be less aggressive.

FRONT AND REAR DAMPENER:

Removable front and rear dampener to modify ski flex (soft plastic).

Options: with or without front and rear dampener
Standard: both dampeners mounted



Standard position



FRONT AND REAR FORCE CONNECTOR:

Removable and movable front and rear force connector to displace and modify the contact point to the ski.

These pieces consist of a stiffer plastic than the front and rear dampener and aim at modifying the edge pressure of the ski due to different contact points (see edge pressure measurement).

Options: with or without front and rear force connector in various positions

Standard: both connectors mounted in standard position

In general you can say that the further the contact points of the plate to the ski are apart, the more it influences the flex profile of the ski, making it stiffer and more responsive. The closer the contact points are positioned together, the less influence it will have on the ski, making it more forgiving.

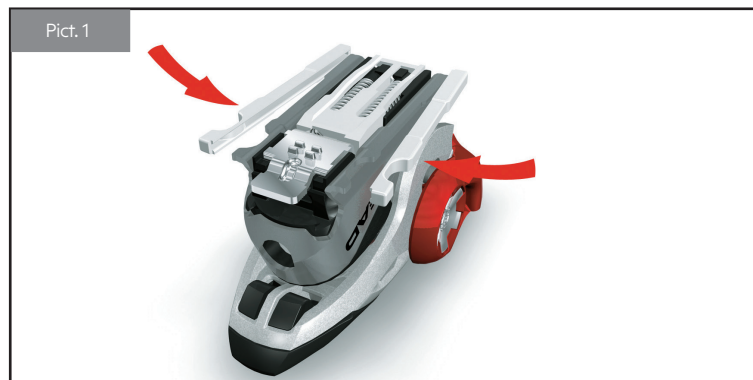
Maintenance of the binding

Ski bindings need regular maintenance. Proper function is no longer assured if this procedure is not followed periodically.

- Please use only HEAD/TYROLIA recommended lubrication:
160052 - TYROLIA grease
162779 - TYROLIA service-grease-spray
Both have the same content, but the grease tube is for more precise lubrication and the spray is suited for spots which are hard to reach with the tube.
- Clean the surfaces with a dry rag or warm water and mild soap.
- Avoid any contact with aggressive solvents or degreasers!
- Don't use cleansers!
- High pressure cleaning or the use of WD40 is not recommended. That could result into washing away the lubricating film.

HEEL INSERTS FOR RACE PRO HEEL

Open the heel-locking lever and pull off the heel backwards. Remove the inserts and mount the new ones - Art. No. 162803 (Pict. 1).



Lubricate the new inserts with HEAD/TYROLIA grease, clean the heel track, and slide the heel back into the track. Lock the locking lever into the same position it was before.

LUBRICATE

- the edge of the release cam under the heel lug
- both sides of the heel track (inside) over the entire length



- the guiding channel of the release setting adjustment screw.



After finishing the heel lubrication slide on the heel and lock it in its original position.

NOT TO BE LUBRICATED

The locking element and the corresponding holes in the heel track should be cleaned but not lubricated. This should prevent dirt accumulation in this area, which could interfere with the ease of handling.

RECOMMENDED MOUNTING LIST 23.24

On the following pages you will find a suggested mounting list, as used by our junior race department (HEAD AT/GER). On the left side you can see which ski is being used in the respective length and the plate used. The column “BINDING” shows the suggested binding for the length of the ski and after that the final ramp with the used lifters. On the right side you see the required screws resulting from these lifters. If no lifters are used to modify the stand height the screws are indicated by “ORIGINAL”.

The goal of this list was to find the best combination for every binding and to get to the 50mm stand height as close as possible.

Please note that you are free to use different combinations of lifters to achieve different ramp angles and stand heights as this is only a guideline and should be viewed as an example.

	lifter toe	lifter heel
1 mm	162727	162854
2 mm	1162728	162855
3 mm	162729	162858

Length Art.		Length Art.	
8mm head		10mm head	
11 mm	164471	15,5 mm	164472
12,2 mm	164467	16,9 mm	162426
13,6 mm	164468	18,5 mm	160018
15,5 mm	164470	19,4 mm	164462
21,5 mm	162383	20,5 mm	160031
23 mmm	162570	22,5 mm	164465
		23,4 mm	164473
25,5 mm	162425	24,5 mm	162429
27,5 mm	162418	26,5 mm	162417

Recommended mounting list 2023/24

		Plate	Binding	Ramp	front lifter	back lifter	Screw toe front	Screw toe back	Screw heel front	Screw heel back
SL TEAM	120	TEAM	EVO 9	-	0	0	Original	Original	Original	Original
	126	TEAM	EVO 9	-	0	0	Original	Original	Original	Original
	126	TEAM	FF 11 R	4	6	6	25,5	22,5	26,5	15,5
	132	TEAM	EVO 9	-	0	0	Original	Original	Original	Original
	132	TEAM	FF 11 R	3	6	6	25,5	22,5	26,5	15,5
	138	TEAM	FF 11 R	3	6	6	25,5	22,5	26,5	15,5
	144	TEAM	FF 11 R	3	6	6	25,5	22,5	26,5	15,5
	144	TEAM	FF ST 14X	3	5	7	24,5	20,5	26,5	15,5
	150	TEAM	FF 11 R	3	5	5	24,4	20,5	24,5	15,5
	150	TEAM	FF ST 14X	3	4	7	23,4	19,4	26,5	15,5
	156	TEAM	FF 11 R	4	4	4	23,4	19,4	24,5	13,5
GS Team	124	TEAM	EVO 9	-	0	0	Original	Original	Original	Original
	131	TEAM	EVO 9	-	0	0	Original	Original	Original	Original
	138	TEAM	EVO 9	-	0	0	Original	Original	Original	Original
	138	TEAM	FF 11 R	4	6	6	25,5	22,5	26,5	15,5
	145	TEAM	FF 11 R	4	6	6	25,5	22,5	26,5	15,5
	152	TEAM	FF 11 R	4	6	6	25,5	22,5	26,5	15,5
	159	TEAM	FF 11 R	4	5	5	24,5	20,5	24,5	15,5
	166	TEAM	FF 11 R	4	4	4	23,4	19,4	24,5	13,6
	166	TEAM	FF ST 14X	3	3	6	22,5	18,5	26,5	15,6
	173	TEAM	FF 11 R	4	3	3	22,5	18,5	23,4	13,6
	173	TEAM	FF ST 14X	3	2	4	20,5	16,9	24,5	13,6
SL RD	151	WCR 14	FF ST 14X	3	6	7	24,5	20,5	26,5	15,5
	156	WCR 14	FF ST 14X	3	5	6	24,5	20,5	26,5	15,5
	156	WCR 14	FF ST 16X	3	5	6	24,5	20,5	26,5	15,5
	158	WCR 14	FF ST 14X	3	6	6	24,5	20,5	26,5	15,5
	158	WCR 14	FF ST 16X	3	6	6	24,5	20,5	26,5	15,5
	165	WCR 14	FF ST 16X	3	3	4	22,5	18,5	24,5	13,5
	165	WCR 14	FF ST 16	3	3	3	22,5	18,5	23,4	12,2
	168	WCR 14	FF ST 16X	3	3	4	22,5	18,5	24,5	13,6
GS RD	176	WCR 14	FF ST 14X	3	4	5	23,4	19,4	24,5	15,5
	176	WCR 14	FF ST 16X	3	4	5	24,5	20,5	24,5	13,6
	181	WCR 14	FF ST 14X	3	3	4	22,5	18,5	24,5	13,6
	181	WCR 14	FF ST 16X	3	2	4	20,5	16,9	24,5	13,6
	183/	WCR 14	FF ST 16X	3	2	3	20,5	16,9	23,4	13,6
	186	WCR 14	FF ST 14X	3	3	3	22,5	18,5	23,4	13,6
	188	WCR 14	FF ST 14X	3	2	3	20,5	16,9	23,4	13,6
	188	WCR 14	FF ST 16X	3	2	3	20,5	16,9	23,4	13,6
	188/	WCR 14	FF ST 16X	3	2	3	20,5	16,9	23,4	11
	193/	WCR 14	FF ST 16X	3	0	1	19,4	15,5	20,5	11
	193/	WCR 14	FF ST 20X	3	0	1	19,4	15,5	20,5	15,5
PRO	177	WCR 14	FF ST 14X	3	4	5	23,4	19,4	24,5	13,6
	183	WCR 14	FF ST 14X	3	2	3	20,5	16,9	23,4	13,6
	183	WCR 14	FF ST 16X	3	2	3	20,5	16,9	23,4	13,6
	189	WCR 14	FF ST 16X	3	2	3	20,5	16,9	23,4	13,6
	191	WCR 14	FF ST 16X	3	2	3	20,5	16,9	23,4	13,6