

A new alpine ski

emerged in Austria from the development process of a short ski for extreme freeriding.

Easy-to-turn shorties beat other skis and snowboards in narrow couloirs but they wobble rather than track if the snow gets harder and the speed increases.

In January 2006 we happened to fix vertical metal fins on the ski tail, positioned above the gliding surface.

Raising ski tips should press the metal fins in the snow and make them carve.

The ski could then turn like a skate, a water ski or a surfboard, controlled by rear fins.

We were not sure, whether our prototype would turn at all.

It did, and its successors developed very efficient direction- and speed-control.

Both ski design and technique utilize a niche in the physics of skiing which remained undiscovered as it was useless for established ski fashion.





Fast Rax
Austria 2007
info@raxski.com

- designed for very high speed in soft snow up to 50 degrees
- slender tips shoot thru soft moguls, this ski does not wobble on bumps like fat skis
- Mt. Rax in eastern Alps is the birthplace of the invention

Ski technique

Parallel and carve turns are still possible with this ski (*), as its fins are positioned above the gliding surface. The new ski feeling appears when fins start carving in the snow. In powder snow, this happens automatically without any leaning back. The new ski is then riding like a surfboard over the waves, controlled just by rear fins.

On harder surfaces fins remain inefficient unless they were pressed in the snow by raising the ski tips and leaning back. The parallel turn can then be initiated by simple twisting the feet in the desired direction.

In very rough and steep terrain the abrupt powerful lifting of ski tips lets skis ride on rear fins for a second before both skis drop left or right and complete the turn.

Rear fins do not lose their grip during the whole turn, thus making the turn manageable. Let us call this new radical turn „The Parallel Turn on Ski Tails“.

- = except for models „Firn“ and „Extreme Firn“



La Fee Austria 2006 info@raxski.com

- the entry model
- less suitable for high speed, hard snow and steep slopes
- La Fee is a paradise high valley between Les 2 Alps and La Grave, our test area



--- the more you turn,
the more you need ---

Slalom Rax
Austria 2007
info@raxski.com

- no other ski can turn so fast and so easy on groomed slopes (2 or more linked parallel turns per second). This technique requires slightly lifted ski tips.
- ski is pivoting on its fins and therefore needs neither weight transfer nor edge angulation between two successive turns, just twisting the feet left or right.
- a torsional moment produced by pivoting skis must be compensated by some anti-rotation of arms and poles. The skier's body does not move.
- running on rear fins is like „skating“ down the hill



Rax Ski
Austria 2007
info@raxski.com

- the longest model (132 cm), for groomed slopes and not extremely steep off-piste



- ultimate short (96 cm) model for steep and narrow couloirs above 50°
- successor of all „Firngleiter“ models with tail measuring just 19 cm
- in the fall line it can ride on rear fins while keeping ski tips high above the ground
- large front fins support crossing very steep slopes of up to 75 degrees (in corn snow > 5 cm) and prevent the skier from a slide-down in horizontal stance
- the skier starts the turn by tilting backwards and slightly downhill, such forcing the skis to “ride on rear fins” before both skis drop down and complete the turn
- rear fins do not lose their grip during the whole turn, giving skier the possibility of a turn-correction or -interruption, e.g. on an unexpected ice spot

Model „Glacier Austria 2008“ is to appear in January 2008 (no picture yet)

- new idea for hard, extreme Steeps to make them skiable without skidding
- like „Extreme Firn“, but front fins are positioned above the gliding surface, such avoiding potential deadlock (wedge of front fins in hard pack snow)

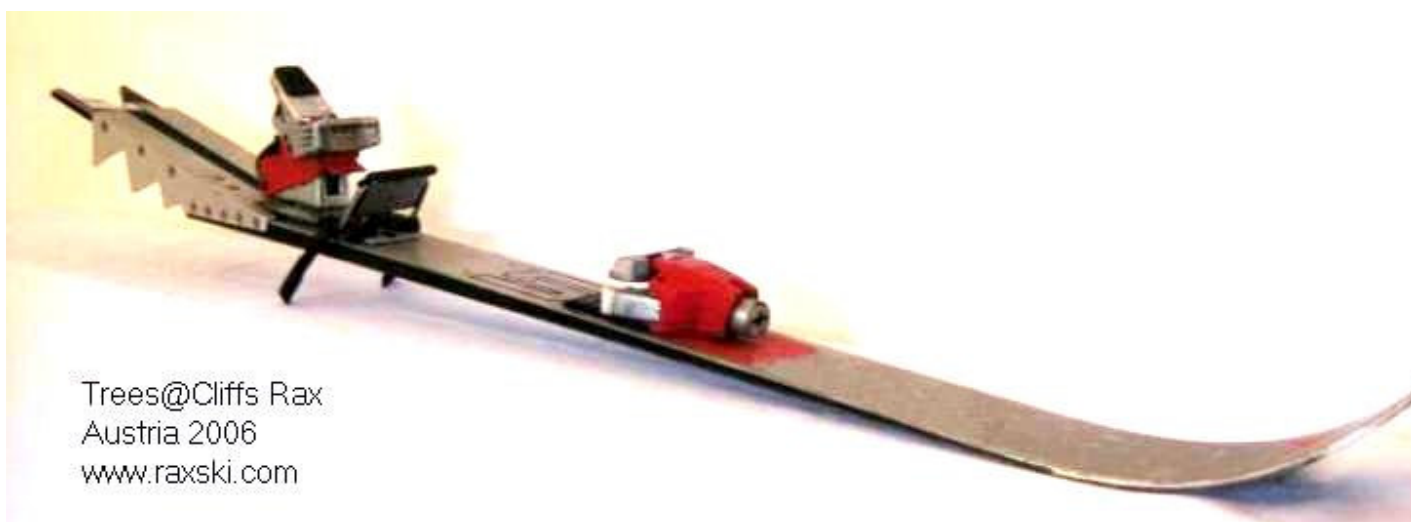




- constructed for fast surfing in soft snow (powder, soft moguls, heavy snow)
- long backward fins operate in powder snow like rear fins of a surfboard in water
- wide long tips produce hydrodynamic uplift needed for „surfing“ over the snow

Ski Security

Unlike shaped “carving” skis, the new ski offers no handle at the ski tip section to get skewed by bumpy terrain, provided that ski tips have been slightly lifted and rear fins are carving. The position of fins (center of dynamic friction) behind the ski boot (acceleration point) forces skis to automatically stabilize in the driving direction and therefore parallel to each other. The frequency of falls and accidents has been minimized by this feature of self-stabilization in driving direction.



- proved in steep trees with cliffs as well as on piste with suboptimal snow
- 3 pairs of fins provide exceptional high grip in changing snow conditions

This ski favors a new generation of fun pistes over flat groomed runs. Just imagine artificial or natural hills, crests, couloirs, lofty paths, stairs and full-pipes.

It can be manufactured from millions of recycled skis and bindings.

Firn
Austria 2007
www.raxski.com



- for steep corn snow („firn“), powder, trees and heavy, „sticky“ snow
- front fins carve permanently, as they are located below the gliding surface
- fins can wedge and the skis can get stuck in hard pack snow (yet not in ice)

