

MOUNTAIN SPRING Instructions for use

The MOUNTAIN SPRING is a removable tibia support that enables to ski with mountaineering boots. It's made of high tensile carbon fiber and it works like a spring to give a "flex" comparable to that of a good ski boot.

Content

- 2 carbon fiber springs with tibia foam, velcro strap, titanium insert, 2 non-slip pads, 2 threads.
- 2 ankle straps with a titanium ring and a titanium adjuster.
- 2 clamping systems for ankle strap with a lever articulated by a titanium axis + 2 secure rubber band.
- 2 front straps sewn on a titanium ring.
- 2 clamping systems for front strap with lever articulated by a titanium axis + 4 screws M4 x 10
- 4 strap adjusters
- 2 leashes (version with leash) including a composite plastic/fiberglass part to be fixed on the ski by 3 screws.

The total weight is 380 g (13 oz) per foot + leash 25 g (1 oz).

Size

The version serial is suitable for skiers of size ≥ 175 cm (1.9 yd) and for most mountaineering boots of size EU 41-46 (26.0-30.0, UK 7-11).

The version custom size S/M is suitable for skiers of size 160-175 cm (1.75-1.90 yd) and for most mountaineering boots of size EU 37-41 (23.0-26.0, UK 4-7).

The version custom expe is suitable for voluminous boots like LA SPORTIVA Spantik ≥ 43 and for expedition boots like MILLET Everest for example.

Choice of the mountaineering boots

With the MOUNTAIN SPRING, it is advised to use rigid or semi-rigid thermal mountaineering boots with an anti-swat reinforced front.

But you can opt for soft boots if you are first looking for efficiency while climbing and if you accept its limits while digging in the edges.

It is possible to use the MOUNTAIN SPRING upon boots with metal keepers on condition of changing pads when they are worn (see maintenance).

Choice of the bindings

To ski with mountaineering boots, we recommend using Silvretta 500 (1680 g) or older models like Silvretta 404 (2000 g), Nic Impex Evolution Light (1300 g) and Emery Chrono (1000 g).

Some boots are also compatible with Fritschi Diamir Eagle (1770 g), Silvretta Pure Performance (1340 g) and other bindings.

Allways make sure that the binding is compatible with your boot, test frontal and lateral release, set the binding very low for beginning and increase it gradually only if the release is too easy.

On the way up

Better remove the MOUNTAIN SPRING, knowing that a weight in the backpack make you loose about 5 times less energy that the same weight hung on the feet.

But for a short climbing, it is possible to remove only the velcro strap.

To ski downhill

Put the MOUNTAIN SPRING vertically on the kick, with the levers towards the outside not to rub against the other boot.

Tighten the ankle strap slightly around the boot.

For a dangerous run, put the safety rubber band into the notch of the lever.

Tighten the front strap around the boot.

Tighten the velcro strap slightly around the leg.

As the tibia is not a perfectly straight bone, it is not a problem if the MOUNTAIN SPRING looks a little crosswise, the important thing is to let the ankle works forward without being twisted sideways.



Leash

Besides its usual function (not to lose the skis in powder) the leash enables to copy the sensations of good ski boots, which have some flex forward and a rough stop backward.

It's also more comfortable when skiing backwards with soft boots.

To put on the leash :

- put the carabineer OBLIGATORY with the opening toward the front
- put the leash into the carabineer.
- set the binding into skiing position.

The axis must be located 250 mm before the end of the boot, but this distance can be reduced between 200 and 250 mm if it enables to fix the leash completely in the reinforced area of the ski.

Check that the ski is thick enough to drill 3 holes $\varnothing 3 \times 8.5$ mm in the ski (2 holes to the front, the 3rd rearward).

If the ski is reinforced at this point, the screws will be stuck with white glue (or wood glue). Otherwise better stick the part with some epoxy glue in addition to the 3 screws.

If don't want to use a leash, then prefer quite rigid boots and necessarily choose the version designed to be used without holes in the skis (photo beside).



Maintenance

Between 2 uses, the MOUNTAIN SPRING should be stored in a dry place and kept away from UV and heat sources (radiator, stove...).

Do not expose the MOUNTAIN SPRING to a shock against a hard material (tree, ice, rock), check the condition of parts and change them if they are distorted.

Before each use, check the tightening of screws. If they are too often loose, they can be stuck with white glue (or wood glue).

Avoid walking on straps (better let the MOUNTAIN SPRING in the backpack when walking).

NEVER force the spring toward the back without using a leash. Change the position of the leashes to delay their wear. Before each use check the condition of straps and leashes, change them if necessary.

Change the non-slip pads (with neoprene glue) when they are worn.

We have a service of refurbishment and customization.

Warranty

The main carbon fiber part have a 2 years warranty, subject to compliance with the maintenance instructions.

Wearing parts (straps, leash, neoprene, foam) have no warranty.

The other parts have a 1 year warranty.

Safety instructions

The saving of time on the way up with mountaineering boots is a security factor, however do not overestimate it and take time to gradually get used to your new equipment.

On the way up, be notably careful to flexible boots which do not hold backward.

Take care that digging in the edges can be less efficient with the softer mountaineering boots.

As any skier and any equipment can't be infallible, basic precautions for ski-mountaineering remain valid:

In any section exposed to risk (steep slope, ice or hard snow, over a rocky bar or a crack for example), it is advised to remove the skis, and to cross the section as an alpinist, if necessary with ice axe, crampons and rope.

For these difficult sections, mountaineering boots will be an additional safety factor compared to ski boots.

USA and Canada

The MOUNTAIN SPRING is designed to fit to European standards and is not yet qualified nor insured for use on the North American territory.

The Canadian or American citizens who would buy a pair abroad (eg via internet) can use it abroad, but waive any claim against **AlpControl** if they use it on the North American territory.

In case of contesting, the only competent courts are European ones.

Customization

The tibia foam is made of closed cells that does not soak up water and therefore the foam won't be iced and will remain flexible and very light (4 grams).

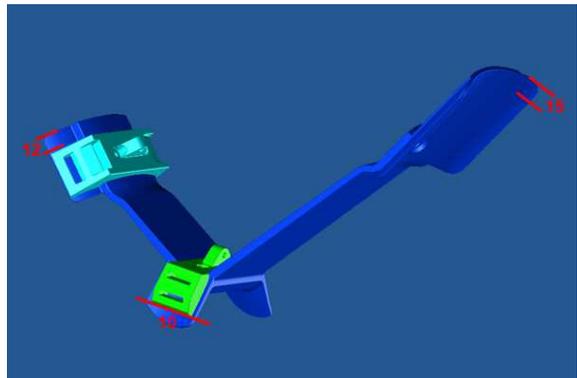
We have chosen this foam for a ski touring use (2000 m descent per day) but for other uses (slopes, free ride...) we sell more comfortable - but heavier - foams.

Stick it with neoprene glue and then cut the contour.

The MOUNTAIN SPRING fits without modification to many skiers and many boots. Otherwise, without forfeiting the warranty, you can:

- Shorten the ankle support of 10 mm max (3/8 in) like the custom version for voluminous expedition boots.
- Shorten the main part of 12 mm length max (1/2 in) the custom version size S/M is shortened of 16 mm (5/8 in).
- Shorten the main part of 15 mm height max (5/8 in) the custom version size S/M is shortened of 30 mm (1"1/4).

You can use a cutting disk followed by a finishing sandpaper. Wear protective devices (glasses, dust mask).



The front / rear tilt can change slightly depending on the form and the size of the boot, but it generally fits to ski touring. To get the exact desired angle, it is advised to choose your boots together with the MOUNTAIN SPRING. Otherwise you can also :

- Tighten the leash and slightly loosen the ankle strap (tilt forward)
- Add neoprene pads under the ankle support (tilt forward)
- Add neoprene pads under the front support (tilt backward)

The pads are sold at retail. Stick it with neoprene glue and then cut the contour.

Usually the strap can't slide forward because of the spikes of the boot.

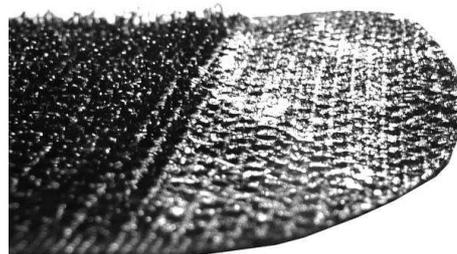
Otherwise it is possible to make a notch in the sole of the boot.



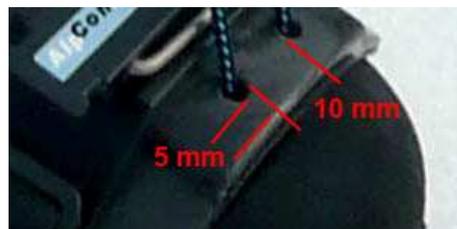
For expedition use, it can be useful to melt the hooks of the velcro strap on the latest 20 mm, so you can use it with gloves at very high altitudes.

Hooks can be melted with a heated blade.

This modification is made by default on the custom version for expedition boots.



The version without leash (see paragraph leash) can easily be obtained by drilling 2 holes \varnothing 4.5 mm (3/16 in) at 5 mm from the edge (3/16 in) and spaced 10 mm (3/8 in).



MOUNTAIN SPRING - Instructions for use on 2010 December 1st
This document evolves to incorporate feedback from our customers
You can view the latest update on <http://www.alpcontrol.com/instruction.html>
We listen to our customers, please let us know your suggestions mail@alpcontrol.com