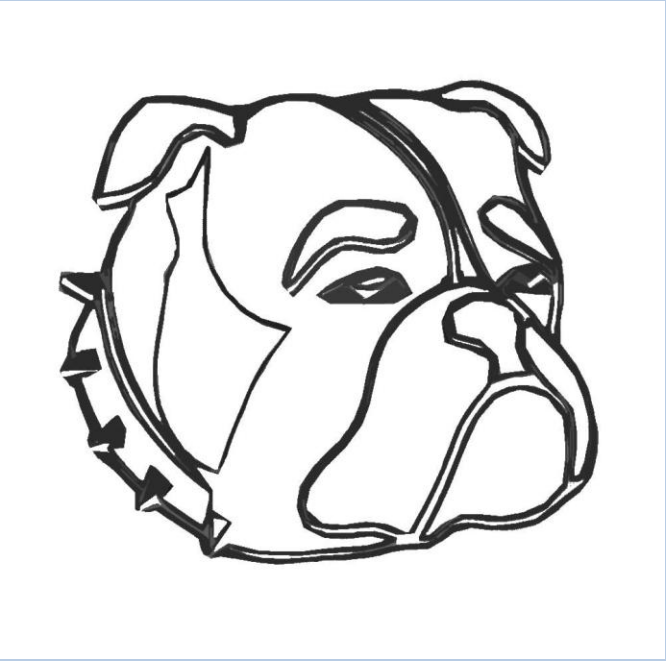
SPIKEbulldog



discussion on

retention springs

For telemark skiing- the equipment does make a huge difference. Unlike alpine skiing or snowboarding where you are fixed to the board, telemark has a wide range of motion, spring load, and skier characteristics that drastically change the character of the turn.

Gearheads, tweakers, and engineers all strive for the perfect combo that gives you the power to carve yet the freedom to move, hop, squat, stand, or just purely lean over into the hill.

That's where the science of telemark binding building and the art of tweaking comes into play.

This discussion focuses on the retention springs of the SPIKE bulldog binding.

The springs are encased in an aluminum tube under foot.

Either single or double springs can be installed.

We refer to this as the single or double barrel heel attachment.

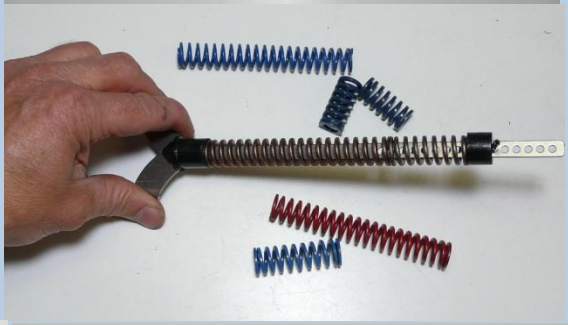
Most of our bindings are single barrel. This is lighter, less costly, and for most skiers, a great ride.

The double barrel was developed to accommodate heavier skiers and larger boot sizes. But, it adds approximately 1 extra pound per pair of bindings.

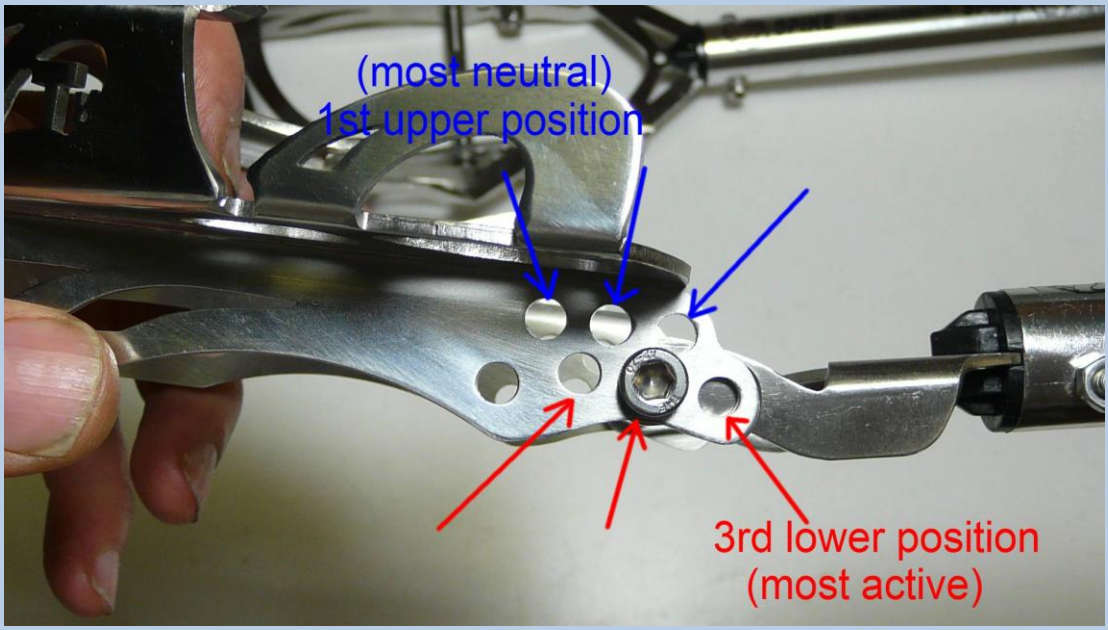
The retention springs are stock die springs, 5/8 inch diameter, that come in different length and weights: blue (medium), red (heavy), and gold (extra heavy).

The single barrel accommodates up to 7.5 inches of spring length, and the double barrel up to 8 inches of spring length. The longest stock die springs available are 4 inches long, therefore, in most instances, two springs are installed end to end to get adequate length.



Which springs to install varies widely depending on the weight of the skier, length of their boot sole, and how they ski. The stiffness of the ski boot and the pivot point of the heel attachment also effects the performance of the binding.



Burnt Mtn specializes in custom binding assemblies.

Based on these variables, we install the spring most closely suited for the skier.

There are a few guiding principles in choosing the right springs.

In general, the springs should provide plenty of 'travel' through to the deepest part of the tele turn so that they do not 'bottom out'. This requires spring that are long enough to accommodate for boot sizes and pivot point. The further back the pivot point and the larger the boot; the more spring travel is needed for a comfortable ride. A heavier weight spring provides less travel for the same length since the coils are fatter. A shorter spring provides more active force than a longer spring of the same weight (e.g blue).

Examples: size 12 boot (mondo 30) in the most rearward pivot point will require 3 inches of spring travel (longer springs to accommodate this). On the other hand size 7 boot (mondo 24) in a forward pivot point will only require approximately 1 inches of travel to make a deep telemark turn.

Here is a sample spring length and weight for different boot sizes for a moderate-heavy spring load:

Mondo 25- five inch blue spring in first lower position

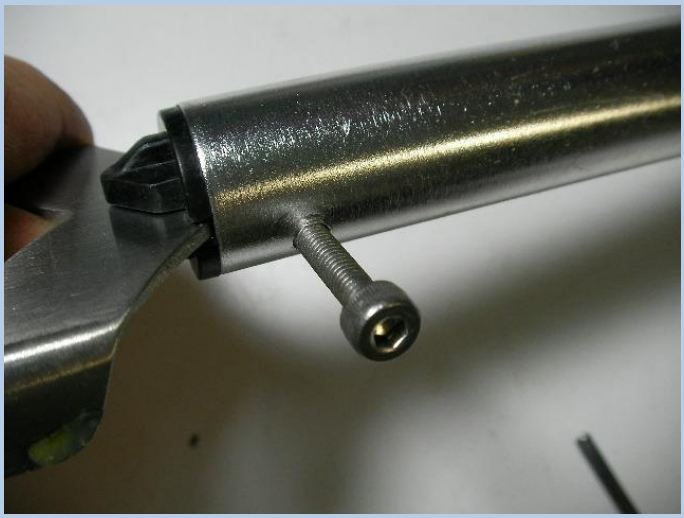
Mondo 27- six inch blue/red combination spring in second lower position

Mondo 29 - single barrel 7.5 inch red in 3rd lower position

Mondo 31- double barrel with 8 inch double blue springs in 3rd lower position

The springs are relatively easy to install, change, or adjust.

Changing the retention springs requires the removal of a single bolt across the forward end of the spring housing (below left).



The springs are then changed by removing the cross pin while compressing the springs (above right). You can add or lessen preload (make the binding more or less active) by compressing the spring and placing the cross pin in different holes along the spring bar. Be sure you remember which hole you place the pin so you make both sides the same.

You will notice that we wrap the springs with Teflon tape to prevent friction when sliding inside the aluminum casing. They work fine without the Teflon wrap but sometimes squeak a little...

Above are sample springs (from the left): 4 inch blue, 6 inch red, 7.5 inch red/blue combo, 7 inch gold.

The retention springs work and play hard, and should be replaced when their performance wanes (every 2 years for the average skier).

Extra springs are nice to have around to tweak the bindings. I hope this discussion is helpful. Enjoy the ride.

cheers

Louis

FYI, we buy the spring in lots of 100 to save on cost but they are still relatively expensive. We mark these up very little...