



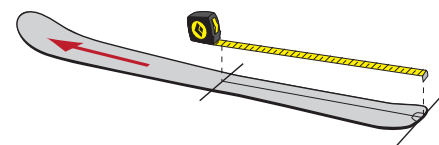
# **SKI MOUNTING SPECS**

**FALL 2017**



# FALL 2017 SKI MOUNTING SPECS

Measurements taken from tail, in millimeters.



<b>HELIO SERIES</b> NOT RECOMMENDED FOR TELEMARK BINDINGS		
MODEL	SIZE	ALPINE MID-BOOT (MM)*
<b>Helio 116</b>	186	839
	176	794
	166	749
<b>Helio 105</b>	185	839
	175	794
	165	748
<b>Helio 95</b>	183	824
	173	779
	163	734
<b>Helio 88</b>	178	789
	168	745
	158	701

<b>FREERIDE SERIES</b>		
MODEL	SIZE	ALPINE MID-BOOT (MM)*
<b>Boundary 115 and Boundary Pro 115</b>	195	895
	185	849
	175	803
	165	757
<b>Boundary 107 and Boundary Pro 107</b>	192	870
	184	834
	176	798
	168	761
	160	725
<b>Boundary 100</b>	188	846
	180	810
	172	774
	164	738

<b>TOURING SERIES</b>		
MODEL	SIZE	ALPINE MID-BOOT (MM)*
<b>Route 105</b>	185	839
	175	794
	165	748
<b>Route 95</b>	183	824
	173	779
	163	734
<b>Route 88</b>	178	789
	168	745
	158	701

Use 4.1 Ø x 9.5 mm drill bit for non-metal skis. Also cross reference with binding manufacturer's screw recommendation, if any. For alpine and AT, we recommend using white wood glue as a sealant. **For tele, for maximum screw retention, we recommend 1-hour epoxy.**

Please read and know proper telemark-mounting best practices. Among many guidelines, these include using a mandatory **8-10 Nm** screw torque with **1-hour epoxy**. Alpine binding screw mounting torques are not enough for telemark binding forces. Any less torque than 8-10 Nm does not create enough clamping force to overcome upward binding force. As a result, your screws can loosen, resulting in the binding ripping out.





# FALL 2017 TELEMARK BINDING MOUNTING SPECS

BOOT MONDO SIZE	BLACK DIAMOND TELE BOOT SOLE LENGTH (MM)	ALPINE MID-SOLE MARK TO PIN LINE MEASUREMENT (MM)	
		PROGRESSIVE MOUNT BOOT CENTER @ ALPINE MARK	CLASSIC MOUNT BOOT CENTER 25 MM BACK OF ALPINE LOCATION
23	269	128	103
24	280	133	108
25	294	140	115
26	305	146	121
27	315	151	126
28	325	156	131
29	335	161	136
30	346	166	141

**Progressive:** Modern, twin rockered skis paired with today's stiffer 3- and 4-buckle freeride telemark boots.

**Classic:** Traditional ski shapes and sidecuts paired with softer 2- and 3-buckle boot designs.

**NOTE:** The use of telemark bindings is not recommended on Heli skis, and will void the warranty.

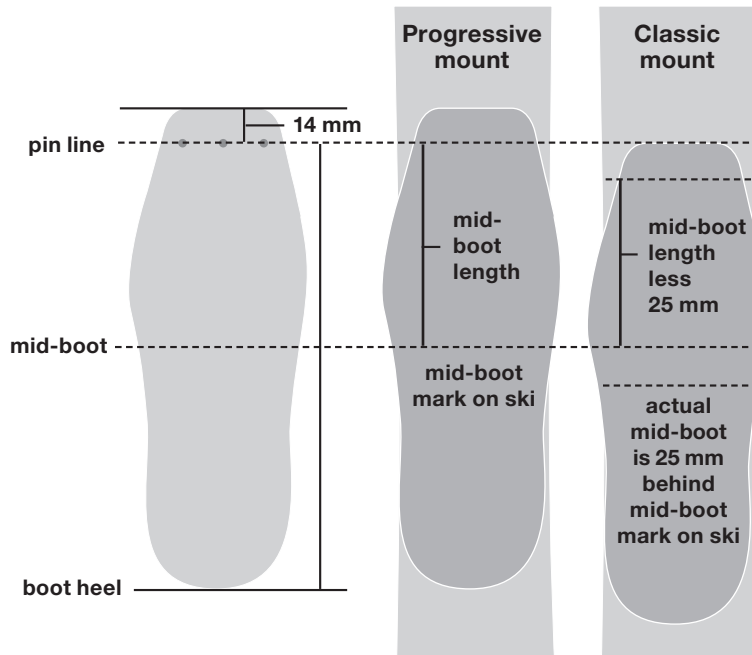
## FINDING BOOT CENTER FOR BOOTS WITHOUT A CENTER MARK

(Pin line is located 14 mm behind front of duckbill)

- 1) Make a mark 14 mm behind the tip of the duckbill on the outsole of the boot.
- 2) Measure from this line to the back of the heel and divide by 2.
- 3) This is your pin line to tele mid-boot measurement. Write it down!

**Progressive mount:** Locate the mounting template so that the pin line is positioned this same distance in front of the alpine boot center mark on the ski. Tele mid-boot mark will align with the alpine mid-boot mark.

**Classic mount:** Subtract 25 mm from this measurement, and locate the mounting template so that the pin line is positioned this distance in front of the alpine boot center mark on the ski. Tele mid-boot mark will align 25 mm behind the alpine mid-boot mark.





## FALL 2017 SKI MOUNTING SPECS

### Measure

It's important that you accurately determine your mounting location based on the recommended specifications (see chart on the Mounting Specs page) with personal preference adjustments, if applicable or known. Measure twice, drill once.

**Alpine:** For AT or alpine mid-boot, the ski is marked with our recommendation. We list in our specs what the exact location of this mark is on the ski, so be sure to double-check tolerances as it can shift by a few millimeters. We don't recommend moving the mount location backward from here, but it's personal preference if you want to mount select skis forward.

**Tele:** Things get complicated with tele. Traditionally, telemark mounts were based on chord-center (or some reference point along those lines.) However, different boot sole lengths will affect the mounting position and its relationship with sidecut and overall length. In the Tele Binding Mounting Specs chart, you'll see that we break the mounting guidelines into two styles: Classic and Progressive. Classic is where our chart traditionally has been locating telemark bindings. Progressive is more appropriate for today's modern ski shapes with twin rocker profiles like the Carbon Megawatt. We also break down the mounting location by boot sole length for BD boots. So, choose your boot size, then your ski style (Progressive or Classic). Now, find the distance in front of the alpine mid mark that you should locate the binding jig (or paper template) telemark pin line mark.

## MOUNTING TIPS

"Standard protocol" varies from shop to shop, so here, in detail, is what we feel makes for a solid binding mount.

### Precision

This is paramount for telemark bindings, which have much higher peak loads than an alpine or AT binding. What is often overlooked is that the ISO standard minimum for binding pull-out strength for alpine skis is 292 pounds per screw, which is fine for alpine binding systems but is not nearly enough for an active tele binding. Our pullout strength exceeds 440 pounds per screw, but that pullout strength is only achieved with a precision mount. For example, that strength drops 40% if the screw doesn't thread in straight. How many times have you chased a screw hole that wasn't completely in line with the binding and you just kind of forced it in, cocked over, until it snugged down straight? That's a major no-no.

### Torque specs

Most alpine specs have around 4-5 Nm per screw when you are using a TLD (torque limiting device). For an active tele binding you need upwards of 8-10 Nm. Some company's skis may not take this much, but for BD skis, feel free to crank it down this much (in fact you must on bindings such as the O1.) In addition, we recommend a 4.1 Ø drill bit to get the best thread retention based on the minor diameter of the screw. This tighter screw fit also mandates a higher torque to get the screw into the ski, so again, the traditional TLD setting probably would not seat the screw tightly enough.

### Cleanliness

Be sure to remove any dust or shards from the drilled hole. It is important to use clean screws, without any chunks of material embedded from a previous mount. A screw with smooth threads ensures proper thread cutting when you turn the screw in. It is also important to apply adequate downward pressure when starting the screw so the threads cut immediately and don't spin and grind away the first engagement. Tapping the hole first is never a bad practice regardless of metal or not. When mounting thinner skis that require the screws to be ground down shorter, be extra careful to grind a slight taper and to avoid leaving any sharp burrs which will not cut a smooth thread into the ski.

### Epoxy

We recommend using epoxy for all telemark mounts. Epoxy can increase your overall maximum pullout strength, but most importantly acts as a buffer to decrease screw-loosening possibilities. This in turn can lead to a degradation of the ski's core and increase peak shock loads that will eventually result in the binding ripping out of the ski. For alpine and alpine touring bindings, if you don't prefer epoxy, use simple wood glue to seal the hole and lubricate the screw as it is being twisted in to help achieve suitable clamping force for given torque values.

### Jigs

The BD Jig is a great tool for precision tele mounts and keeping the heel block in the prescribed location every time or if you don't have the actual boot to work with. (Sorry if you normally mount skis with the tips facing left. Perhaps you can stand on your head or mount behind your back, Jimi style.) Fully support the ski so that when applying drilling force you don't flex the ski; this is crucial because it ensures that the holes are perpendicular. Some skis can get quite thin, so make sure your drill bit and provided screws are not going to dimple the base, especially at the heel block areas. Be careful on the Fritschi jig in case you have to pull the clamp boots off for maximum width, as well as making sure you have all four arms with the boots facing the correct direction. We highly discourage any type of paper template mount as you will never achieve full strength and can also compromise the overall strength of your binding.

### Holes and screws

For Fritschi AT and BD tele bindings, 4.1 Ø x 9.5 mm is the recommended drill bit and depth for all of our skis. Each ski manufacturer has a recommended hole diameter and each binding screw design should have a specific hole diameter recommendation. Confused about which to use? Put down the drill and contact the manufacturer. If all else fails, use the binding recommendation and tap the hole.

As a rule of thumb, the more expected force on the system, the higher torque the screws are going to need to resist the resulting binding force acting against it. When that relationship is out of whack, the screws can begin to loosen and even a single loose thread will dramatically affect pullout strength. It can also slowly degrade core-retaining properties by slight movements of the screw over time, again reducing pullout strength.

Using torque limiting power drills is usually a bad idea unless you're skilled in the art. We recommend hand tightening each screw with a TLD-enabled hand posi-driver, making sure that each screw goes directly and perpendicularly in and then doing a final torque spec twist on each screw. If for some reason you don't have a TLD and are working on BD skis and bindings, hand tighten more than you think—pushing down with all your strength while turning the screw means that you're probably at around 10 Nm, which is fine for BD's O1 binding or skis. Use the binding manufacturer's recommended torque when mounting alpine or AT Bindings.