

Equipment selection and care.

Well the snow is finally here in a big way! For those of you who haven't been up yet, the conditions are great and it's time to dust off those boards. You should have put on a coat of glide wax on your skis to protect it during the summer months and it's time to scrape off and brush them out and go skiing. Before putting the skis away for the season, those wanting to prolong the life of their carefully chosen skis, would have inspected the skis and made any repairs necessary, especially to the running surface. For high end waxable classic skis I like to put on a thick coat of softer (purple or red) grip wax on the grip zone, then put on a softer (-3 to -6 or so) glide wax (hopefully this is the same wax that you would be using at the start of the season) over the whole running surface of the skis to protect it from oxidation over the off season. The kick wax over the kick zone is to prevent the glide wax from getting onto the kick zone so when I go to scrape the off season wax off the skis the kick zone will be free of glide wax and I don't have to do so much to make sure that there is not any glide wax contaminating my kick zone and preventing my grip wax from gripping (ps kick wax = grip wax and kick zone = grip zone). So now all I have to do is plastic scrape my tips and tails (the glide wax from the glide zone), brush the tips and tails out, using the appropriate brushes - more on that a bit later. Then, on the grips zone, I would use a metal scraper to scrape both the glide wax and the underlying grip wax off (make sure you scrape from the grip zone in towards the middle of the skis so you don't end up metal scraping the glide zones). A quick cleaning with a heat gun and lint and fibre clean paper and you are ready to ski on them after applying the grip wax of the day.

For high end skate skis, at the end of the season I would inspect the skis and repair any damage, then make a guess as to what the early season glide wax would be and hotwax the whole running surface, tip to tail before storing away. Now all I have to do is to plastic scrape the glide wax away then brush the skis out and I'm good to go.

After the correct selection of the skis, proper care and brushing out and structuring of the skis is the next biggest factor on how fast a ski will go. If correct selection of the appropriate ski for your individual body weight is worth, say 60% of a skis speed, then proper preparation of the running surface (making sure the surface is flat and true, the pores are open to accepting wax and free from knicks and gouges) putting on the appropriate structure to the running surface for the snow conditions is probably worth 25 to 30% with the actual wax used, match to the snow conditions, being worth only 10 to 15% of the equation!

So at the end of last season, instead of throwing your skis in the back of the basement, closet or garage, you metal scrape off all the old wax, any oxidized base material, fill in the knicks and gouges etc., then waxing them for protection, then almost a third of your battle and quest for speed is met. OR you can take it to a ski shop and they will do a stone grind for you before waxing it. Stone grinding can take away a lot of the base (base = running surface) so you have to be judicious in it's use. More on stone grinding and different structures that they impart on a future article. For those of you who like to do things the old fashion way - with your hands, base preparation, structuring and waxing can almost be a meditative thing - paying homage to ski and snow gods before and during the ski season!

So what is proper structure if it's so darn important? When you glide on your skis, you are gliding on a microscopic film of water. That's why good snow and ice tire technology takes so much pain in removing water from the tire surface (so they won't slip and slide). When the snow is dry and cold and the snow flakes are sharp and pointy say below minus 12 C, you want to keep whatever water that the pressure of your skis generate under your running base so that you can glide and not feel like you are skiing on sandpaper. That means a perfectly smooth, flat running surface. You can get this by scraping off you hard glide wax with a sharp plastic scraper, brushing out the remaining with a stiff nylon brush then buffing your glide wax. Leave the skis out in the cold to cool off and as the wax pores contract, brush the skis out again with a stiff nylon brush to remove the expelled wax then brush with a horsehair brush to remove static electricity. As there is more water available you want more structure. So when it's about minus 6 to minus 12 linear structure to remove some of the water molecules can be put onto the skis using a soft brass brush, follow by stiff nylon brushing then horse hair brushing to remove static. At around minus 3 to minus 6 more structure can be put into the snow by using a harder brass brush then hard nylon brush, a horse hair brushing is optional as there is not much static electricity build up

between the skis that can attract the oppositely charged snow to slow you down (unless the humidity is low). You'll need a structuring tool made by the various waxing companies for further structuring in warmer temperatures. I like the structurelite made by tolko as they put on a non-continuous structure onto the skis and have both a fine and a coarse brass rilling roller, but other brands are good as well as long as they put a structure on the base so that excess water can be removed. If you've ever had two panes of glass with a bit of water in between and seen how the panes of glass stuck together, you'll know how important to not have smooth surfaces and to remove the excess water in order to achieve glide. I've used a file at a ski race in desperation in wet sloppy conditions with no proper structuring tools in sight. These structuring tools put in a temporary pattern on your skis (you can hot wax and scrape it out) that help remove excess water from the running surface. So for around 0 to minus 3 I would apply a fine structure to the skis after I've scraped it, then do the brass, nylon brushing. For conditions with more free water in the snow I would put on the coarse structure followed by the usual brushing and for really sloppy wet conditions I would put on both fine and coarse structuring. Try structuring and see how much faster your skis can go!

If you are really lucky and have been good, you might be getting new ski equipment this Christmas. The most important thing is how the skis are matched to you as an individual. We don't have the good fortune of the Swede and Norwegian National teams who gets to go to the ski factories to be personally matched to select skis to their individual weight and characteristics. So we have to go to the local ski shop and trust them to help us with our decision. Fortunately, Frank down at Peach City is a pretty knowledgeable guy and can likely fit you out with appropriate gear. So what are you looking for? Most of the higher end skis are pretty good nowadays. The skis do each have a slightly different feel to how they ski due to differing construction methods but all the higher end skis will have high molecular count sintered waxable bases (big open pores that can absorb wax).

For classic skis, the classic method of determining correct length of skis is to put your hand up and the ski tips should be about wrist length. Much more important, though is the camber of the skis. Modern classic skis have what is known as a double camber. That is if you put your weight equally on both skis on a perfectly flat surface, they go down to a certain point. This is the first camber and what is still not touching is the second camber or the wax pocket (which you should mark on your skis) where you put grip wax onto. When you put all your weight on one of the skis that ski should flatten out completely so the grip wax can grip. The wax pocket should extend from just before your heel to a foot or a foot and a half in front of your toes (bindings) and should be about a folded regular 20 bond paper in thickness (this thickness is called the expression) for a powder skii that we lucky folks regularly ski on at Nickel Plate. (I'll talk about the differences in powder, klister cold and warm skis in a future article.) It is critically important that you can fully flatten the secondary camber of the skis that you buy as this determines if you will get proper grip climbing hills after putting on 3 to 6 layers of the proper grip wax onto your grip zone. After getting the properly cambered skis for you, then look at how the skis flex. You don't want any areas of the skis to dig into the snow (hot or high, spiky pressure areas) when gliding. Those of you who have improperly flexing skis will know as those are the skis with an area or more where the glide wax wears off much quicker than the other areas. Modern ski shops have pressure plates that you can stand on with skis that can read the pressure of the whole ski surface when you put weight on it. Skating skis (like downhill or telemark skis) are single cambered. That is they get progressively harder to flatten as you put weight on it. A good powder skating skis should be slightly stiffer (5 to 10 kg) than your weight when you fully weigh the one ski. They should be about 15 cm shorter than your classic skis.

How about waxless skis? I own and use waxless skis. They are great when waxing conditions are tricky and they do make high end waxless skis as well. They come either with a pattern embossed on the skis or in the case of the 2010 Callahan Valley skis, stiff hairs in the grip zone. I fully recommend waxable skis for our conditions, as the the majority of our waxing conditions are really easy and waxable skis properly waxed are a joy to use, especially when going downhills and turning. You can adjust the wax and the wax pocket (grip zone) to fine tune for the conditions, this is not possible with waxless skis. With practice waxing is quick and mostly easy. To get good results in base preparation, structuring and waxing - process, procedure and technique is important. Come to a waxing session (beginner or advanced) to learn how to do it properly and increase you enjoyment of this sport and hobby!

Good boots and bindings are pretty common place nowadays. All of the major binding brands, Solomon, New Nordic Norm (NNN) are good. What is important is matching you boot to the binding and getting the properly fitting boots. You can get classic boots, skating boots (which are stiffer and have much more ankle support) or combination boots. Fit, fit, fit is all important so try a number of them on before you buy.

Pole length is important as well. For classic skiing the ski pole should just fit under your arm pits (from the ski basket to the pole straps) to just the boney part of your shoulder in length. I prefer the slightly longer pole as I can better poling going on the flats to uphill. For skating poles should be from just under the chin to just under the nose in length. Remember, you can always cut down the length of the pole (up to 10 cm or so depending on the pole) but you can't make it longer. So buy slightly long and try it out, then adjust if necessary (you might want feedback from a qualified instructor or coach before taking your hacksaw to your pole first though)! In the old days we actually prefer to cut down poles a bit as most even walled poles can be made stiffer if some of the smaller diameter shaft at the basket end was cut. Speaking of stiffness, in general, the stiffer pole can transmit your poling force more efficiently. Stiffness and lightness usually means extra bucks. Before springing big dollars think about how much give a typical groomed snow surface have every time you plant your pole.

Hope the above helps, give me a shout if you have further questions as this just scratches the surface of the fascinating world of ski equipment, care and waxing! See you skiing!