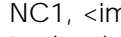


A Racer's Guide to Stone Grinding

By Dave Peszek

This is the sixth in a series of articles on ski and snowboard tuning that will appear this season in Ski Racing. Each issue, we'll tackle different topics that arise in the preparation and maintenance of alpine and nordic skis and snowboards. The author will attempt to answer any tech questions that you may have – Pez@holmenkol.us.

Last issue, we examined the base burn on your skis, how to prevent it, and how to repair it. However, even the most diligent at home technician will need to have the base of the ski re-surfaced in order to maintain a flat, consistent, base and maximum performance.

The "art" of stone grinding has advanced incredibly in the last decade, as top level grinding technicians have developed techniques to extract the most performance from their machines. As well, the technology the machines has caught up with the computer age – many top machines today can handle, grind, and finish your skis or board with a level of computer precision that even the factories cannot match. The Wintersteiger NC1,  with a value of close to \$100k, is an example of state of the art technology at work.

It would take a book to cover the how to's of stone grinding; instead, I will try to give you, the stone grinding consumer, a few helpful hints to guide you in the right direction.

According to Ryan Eittram of Wintersteiger, athletes should focus on a 2 grind program to get them through the season as a starting point. After that, factors such as base damage, extensive base burn repairs, and simple wear may conspire to increase the frequency of grinding. However, Ryan cautions to avoid the temptation of a "Friday night race grind" before a weekend of racing, which is a "huge mistake". And of course, if you have a fast pair of speed skis, the goal should be to never grind them, unless severe damage has occurred that requires it.

What should you look for in a grind technician? "record keeping is important" states Ryan. "Shops should be able to consistently duplicate 4 basic grind patterns that work in different snow conditions. These patterns have stood the test of time, and are known to be fast. Some shops may make "slight" modifications to these patterns, but only after extensive testing to be sure the adaptation is actually better for their region." Ryan goes on to say that you should expect: an explanation from the shop technician about what he/she did; that the structure should be visible and consistent across the entire width of the base; that there is no structure on the base edge; and that the base itself is flat.

Some top race centers take even greater steps to ensure a great stonegrind finish. For example, at Gravity Lab (Buck Hill, MN), skis are pre-ground on 1 machine, and finish grinding occurs on the only NC1 in the country. The shop has a policy of only grinding an athlete's race & training skis at the same time, ensuring consistency in racing & training for that athlete.

How important is the visible "look" or pattern of the grind to it's performance? According to Ryan, the visible appeal of a stonegrind pattern is important to the consumer and the shop alike, as it shows off the quality of the work; however, it is impossible to say that any

ski will be fast or slow based solely on any particular "look" to the grind; there are simply too many other factors involved.

No matter how expensive the machine may be, or how talented the technician, a few things need to be addressed after a stone grind. Picture the visible "cuts" in the base as being jagged V-shaped notches. Using a very sharp scraper, proceed to scrape the ski several times to "knock down" the sharp top peaks of the structure. After that, break out your steel brush, and spend some time working on the "bottom" of the structure to make it smooth, as well. Your brushing should be very aggressive and should readily change the feel of the ski. Next, use a scotchbrite pad to remove any micro-hairs that are leftover. Finally, you will need to check & set your base bevel again, as the stone grinding process has most likely changed the base edge bevel. And of course, the skis will need many coats of wax again before being skied.

Dave Peszek is the brand manager for Holmenkol USA, and a member of the Holmenkol World Racing Team. Dave also handles World Cup race service for Holmenkol and Uvex. "Pez" can be reached at Pez@Holmenkol.us and will try to answer all of your technical questions.