

Alpine Equipment Set-up and Maintenance Recommendations

BOOTS

Selection:

- Make your purchase based on best fit for your foot from among the established racing boot brands. Size properly. Boots that are too large compromise skill development.
- The softest flex that provides adequate support is superior to a boot that is even a little too stiff. Most racers are in boots that are too stiff and impede proper flexion of the ankles.

Set-up: Proper fitting and Alignment.

- Utilize the professional boot fitting offered at your race shop to insure the smallest shell size possible with grinding or punching as needed to ensure there are no hot spots.
- Custom insoles are not recommended except in special circumstances. At best, they are benign. At worst, they impede proper use of the foot and ankle inside the boot.
- Alignment (canting) allows proper use of the foot, ankle and knee to make fine edging adjustments – *The center of the knee mass should line up center to 1cm inside center for males and .5 to 1.5cm inside for females.* Ability athletes will be invited to several alignment check sessions with their coaches once new boots have been received and broken in.
- Final adjustments may be made based on coaches' observations on hard snow.
- Alignment for U14 and younger is generally not needed unless obvious issues are apparent to coaches on snow.
- For U14 and older, boots should be lifted to the maximum height allowed by the rules.

Maintenance:

- *Wear cat tracks to preserve alignment and reduce wear of boot soles*
- Once weekly inspection and tightening of all buckle, strap and shell screws and boot parts
- Replace damaged buckles and straps before they fail
- Use locktite if loosening problems are persistent

SKIS

Selection:

- Ensure compliance with FIS and USSA equipment regulations found here <https://usskiandsnowboard.org/sites/default/files/files-resources/files/2022/2023-Alpine-Equipment-Regulations.pdf>
- Take advantage of regulation allowances by age group. The shortest skis and turning radius allowed in each age group generally provide the greatest advantage. Skis that are too long or too stiff are an impediment to progression.
- U18 and older athletes are recommended to have two pairs of identical skis for SL and GS
- One pair each of DH and SG skis (club loaners or hand me downs when possible)
- "Rock skis" are recommended for free-skiing on groomers to preserve race/training skis
- Free-skiing skis are recommended for powder, off trail and variable conditions free-skiing

Set-up:

- SL: .5° Base Bevel / 3° Side Bevel
- GS: .7° Base Bevel / 3° Side Bevel
- SG/DH: 1° Base Bevel / 2° Side Bevel
- Most U14 and younger can have 1° Base Bevel / 2° Side Bevel on all their skis
- Initial ski prep including ripping sidewalls and setting bevels should be done by a reliable professional with state of the art equipment

whole athlete | whole team | whole community

Maintenance:

*It is **critical** that skis are in “race condition” for every training session. The athlete must have the same response from their equipment during training that they have on race day and vice/versa. Having the properly tuned equipment is critical to acquiring the proper skills and maximizing potential. Proper daily equipment preparation will make differences counted in seconds while waxing and overlays may gain hundredths or tenths.*

- Skis should be prepped daily to sharpest burr-free edge possible
- Machine tuning is recommended every 2-5 sessions depending on hardness of snow
- Use diamond stones with bevel tool daily to maintain sharpness and repair minor edge damage until next machine tune is required
- Junior athletes are unlikely to acquire the skills to properly use machine edge grinders or hand tools other than side bevel tools and diamond stones
- Multiple pairs of skis for a discipline should be rotated through training on a daily basis – If pairs are designated as “race” and “train” they will soon respond differently due to the amount of time breaking in the skis, as well as, the loss of edge material due to more regular tuning and grinding
- Proper equipment care will result in the athlete having two pairs of race quality skis at the end of the year.

Tools:

- Every Ability athlete should always carry the following tools: Sharp plastic scraper, Nylon Brush, Diamond stones: 200#, 400#, 600#, Side bevel guide and duct tape.

Waxing and overlays:

Much unnecessary angst and expense is wasted on waxing and grinding of structures. For 85% of Colorado conditions overlays have marginal if any significant benefit. For speed events, unusually wet and new snow conditions and for championship events, athletes should have some specialty waxes available. COACHES WILL HELP WITH WAXING DECISIONS BUT WILL NOT BE APPLYING OVERLAYS OR PROVIDING RACE WAXES FOR ATHLETES.

**Fluorinated waxes are not allowed and will be subject to testing at major international events.*

For the vast majority of training and racing conditions in Colorado a base wax such as Holmenkol Betamix Red or Swix PS7 is the perfect solution. Below are additional recommendations for waxes to have in your kit to cover additional circumstances.

- Skis are to be waxed for every training day, equipment will remain in better condition throughout the season and respond consistently
- Proper brushing of skis to expose the structure of the bases has more impact on the speed of the skis than the exact structure or wax used
- Repeated waxing and brushing improve the speed of skis with each waxing cycle
- Proper tuning and daily waxing with hydrocarbon waxes is more important than use of overlays and specialty waxes
- Remember that there is much more time to gain by making a good start, reaching further at the finish line, improved aerodynamics or tactics and learning to make a cleaner turn than you can buy with expensive waxes