

Minneapolis Alpine Ski Team

A Simple Guide to Basic Ski Tuning

I. Preparation

- ❖ Wipe down skis—after every practice and before tuning.
- ❖ Let warm up 15 minutes minimum before tuning.
- ❖ Secure ski in specialty ski vise.

II. Edge Preparation

- A. Bases and base bevels should be prepared by a ski shop. In the “old days”, skiers wanted the bases to be perfectly flat. The edges would then be “squared” at a 90 degree angle by filing and stone work to create a sharp edge that would cut smoothly and hold an edge set on hard snow. Today, bases still need to be ground flat, except that now the skis turn more efficiently if the edges are “beveled” slightly –usually about .5 degrees along the base and 2 to 4 degrees on the side. It is best to have a ski shop professionally stone grind your bases at the correct bevel at the beginning of the season. The bases will, for the most part, hold their bevel through the season. All you will need to do during the season is maintain the side edge bevel using a file and a diamond stone. You might want to write your skis’ bevel numbers on the skis with a permanent marker after the initial bevels have been set by a shop.
- B. Prepare any damaged edges (case hardened from impact with rocks/dirt) with an alu-oxide stone or coarse diamond stone. Use an edge bevel guide on the side edges. Freehand on base edges. Draw stone from tip to tail on side edges and base edges.
- C. File side edges using side edge bevel guide (be sure to know the degree at which they were originally set, i.e. 2 degrees (92), 3 degree (93)) and 6” specialty file. You will need to use a file if your skis are dull and have not been tuned in awhile. The more frequently that you tune your edges, the less you will need to use a file. Be sure the file is positioned correctly in the file guide for cutting. File from tip to tail about 20cm at a time with overlapping strokes. Clean metal filings from file frequently with file brush. Wipe ski with soft cloth frequently. **KEEP FILE AND EDGES WET.**
- D. Stone side edges using diamond stone(s) and edge bevel guide. Stones come in varying gradations—extra coarse, coarse, medium, fine, extra fine. If you can afford two stone, have a coarse and a fine in your toolkit. If you can afford only one stone, get a medium. Always go from using the most coarse to least coarse stone. You should only need to make two or three passes with each stone for the work to get done—even less if you tune on a daily basis.
- E. Remove burrs with an Arkansas stone and a piece of wood. Lightly pull stone along base edge from tip to tail. One pass. Lightly pull a piece of wood along

side edge from tip to tail. One pass. This will remove any burrs that remain on the ski edge.

- F. To Clean Stones and File: Warm water and soap, 409 spray, nylon brush...be sure to dry. When storing, individually wrap stones to protect from contact with other hard objects and dirt.

III. Waxing

A. First, some precautions.

1. Not just any iron will do. Specialty ski irons are preferred, although you can use commercial irons provided they have a temperature control mechanism. Why? Temperatures over 150 degrees will damage the ski base. The softer waxes(for warmer weather conditions) only require a temperature of 110/120 degrees to melt the wax. Cold weather waxes are harder and require temperatures as high as 140 degrees, making them trickier to apply. It is strongly recommended that you stay away from applying cold temperature waxes(below 10 degrees F) until you gain a lot more experience. If your iron starts smoking, you are probably burning your wax and potentially burning your bases. To summarize, you need an iron that will allow you to CAREFULLY control the iron's temperature. You will need to match the iron's temperature to the waxes' melting point.
2. Always keep the iron moving on the ski. Tip to tail ironing is a good method.
3. Use enough wax to insure that the iron moves easily over the ski.
4. Your ski will change shape when heated so it is best not to clamp the middle vise when waxing.
5. You don't need expensive waxes. Many of the expensive waxes contain potentially dangerous chemicals that can HARM YOUR BODY if not handled properly. Personally, I recommend sticking with Swix brand waxes. This will make things a lot simpler for you. The Swix BP 88 and the CH line of waxes are best for the purpose of high school racing. Hint: the more you wax the faster your skis will run. One possible route to go is to wax BP 88 on a daily basis, no matter what temperature outside. Only wax to the temp of the day on race day. If you go this route, you will want to buy a "brick" of BP 88(red). If you want to wax for the temperature on race day, then buy a smaller quantity of CH 7 and CH 6. If you wax frequently with BP 88, your skis will be fast no matter what the temps.
6. Never use a chemical wax remover on your skis. Chemical wax removers will dry out your bases and render your skis LESS FAST. If you need to clean your bases, then "hot scrape" your skis (see below).

B. Hot Scrape. The bases of your skis can become embedded with dirt. On occasion it is useful to clean your bases. This is especially the case when temps rise over the freezing mark.

1. Brush your bases with a bronze/brass brush.

2. Wax your skis using a soft wax (CH8 or CH 10 warmer). Drip wax onto ski and iron in from tip to tail. Keep the iron moving. Wax should get a liquid look over the entire ski.
3. While wax is still wet, scrape with (sharp) acrylic scraper from tip to tail. This will pull up old wax and dirt. REMEMBER: you are applying a soft wax that requires a lower iron temperature. CAUTION: You do not need to hot scrape every day. Do this on an occasional basis (once a week, twice a month—depending on weather conditions and snow conditions).

C. Brush.

1. Using a bronze brush, brush the bases of ski from tip to tail. Use some force. You are pulling leftover wax out of the pores of the ski base.
2. Wipe base with Fiberlene cloth.

D. Apply Wax (Swix BP 88 is recommended for daily use and training settings).

1. Set iron temperature at 120 degrees.
2. Melt drops of wax onto ski base.
3. Run iron over ski base, uniformly covering the base with wax. Keep iron moving.
4. Let cool 10 minutes before scraping.
5. For races, you can apply BP 88 as a base wax. Scrape and brush well. Then apply a CH wax as the running wax. The running wax will bond to the base wax and last longer.
6. On race day, scrape and brush your skis just prior to race run. This will remove any dirt that has infiltrated your base's pores from skiing that day.

IV. Scraping and Brushing.

1. Using a (sharp) acrylic scraper, scrape wax off ski. Tip to tail motion.
2. Using bronze brush, brush ski base from tip to tail. First brush the front third of ski, then middle third, then back third of ski. Then brush front half of ski, back half of ski. Then brush whole ski.
3. You can continue the brushing process by following up with the nylon or horsehair brush. If you only have one brush, have a bronze brush or purchase a combination brass-nylon brush.
4. Remove wax from sidewall of ski.

V. Some Useful Websites

Jonsskituning.co.uk
The-raceplace.com
Tokous.com
Racewax.com
Harbskisystem.com
Ski-depot.com

Reliableracing.com
Swixsport.com
Swixschool.com
Svst.com
Artechski.com
Skibumunderground.com