HOW TO TUNE YOUR SKIS

Equipment (listed in order of importance)

If you're new to tuning you will need at least the first 4 items. The different colors group items that should be purchased at the same time when moving onto the next group. The blue and purple items are for advanced tuning, except for the vises and waxing table.

1. Small towel
2. Diamond stone – coarse and/or fine
3. Brake bands or heavy duty rubber bands (1 or 2)
4. Rub-on universal wax (if not investing in hot waxes at first)
5. Edge sharpener – handheld kind
6. Permanent black marker
7. Blue diamond stone (only if you hit a lot of rocks)
8. Ski waxing iron
9. Swix Cera Nova CH series waxes (begin with universal wax – both warm and cold varieties)
10. Plastic scraper
11. Nylon and/or brass brush
12. Cork or Scotch brillo pad (easier to use than cork)
13. P-Tex stick and metal scraper (for base repair)
14. Mill bastard 8" base file (Do not use a file from a hardware store. Ski edges are made of harder steel than these files) Chrome files are best since they last longer
15. Vises and waxing table
16. Sidewall planer (to remove sidewall material for easier sharpening, and to prevent build-up of plastic in your sharpener)

Important miscellaneous information

Daily ski care

- Wipe down skis with a small towel to prevent edges from rusting
- Remove extra snow piled up in bindings
- If you're out on the slopes with wrong wax (skis will be slow/sticky) use cork or Scotch brillo pad to remove all wax

How often to tune skis

Beginner: every 10 days on the slopes
Intermediate: every 5-8 days
Advanced/Expert: every 3-5 days

Spring skiing & end of season care

- When equipment gets dirty from spring skiing, clean with wet towel, then dry
- Quick way to clean very dirty skis—place them inside shower and use paper towel to wipe off dirt. Thoroughly dry with towels, let air-dry for at least couple hours, then wipe off remaining water (especially on edges to prevent rusting)

- At end of season, apply layer of universal wax to prevent the bases from drying out over summer (leave on all summer). Remove wax at beginning of next season

Basic tuning tips

- Always work from tip to tail, doing one ski at a time
- Get ski brakes out of the way by using rubber band or brake band (put rubber band around one end of break, stretch band over top of binding, attach to other side of brake)
- During hot waxing, move waxing iron back and forth slowly and constantly doing a small section of one ski at a time. Maintain the overall tip to tail motion
- Do not use a household iron for hot waxing because it will burn your bases causing permanent damage. Swix waxing irons are very good
- Only use plastic scrapers to take off wax (never use metal)
- Rub-on waxes do not last very long and will not protect your bases from drying out. But, cold waxes are better than no wax at all
- Hot waxing the tops of your skis every once in a while will make snow fall off easier and prevent ice build-up. Applying a layer of universal wax to the tops 1-2 times per season will keep your skis shiny, looking new, and prevent some tiny scratches
- Diamond stones cut in every direction. Types of diamond stones: extra fine, fine, coarse, and extra coarse
  - ♦ Typically colors are: white/extra fine; red/fine; blue/coarse; black/extra coarse
  - ♦ Sometimes red will be coarse while blue is fine; check packaging for exact texture
  - ♦ Fine stones are for polishing; coarse stones should be used prior to sharpening for removing burrs that can dull sharpeners
- If you have new skis, do not use an edge sharpener for at least a year. New edges can be tuned with a diamond stone (preferably coarse and/or fine)
- Excessive sharpening will wear out edges faster
- To check if edges are sharp, scrape fingernail across edge, if part of nail is removed then edges are sharp
- Stone grinding bases should only be done when absolutely needed, and at a ski shop by professionals who can do it properly. It's very easy for inexperienced people to permanently damage bases; be careful when choosing ski shop for service
- Check out this website: http://www.alpineskituning.com/
  It's a different way to tune skis using unique tools. Most people prefer this new method over sharpening with traditional files. I've never used any of these new tools, so if you try any let me know how they work out

TUNING YOUR SKIS

Preparation

- Ensure skis are warm, dry, and clean
- Various ways to clean dirty bases:
  - ♦ Wipe with wet paper towel and dry thoroughly (can be used alone, or with other methods below)
  - ♦ Next, firmly run a Scotch brillo pad down the base to clean it and give it texture (so wax can penetrate the pores)
  - ♦ Use hot-scrape method by applying wax to the base and immediately scraping it off

♦ Never use base cleaner unless absolutely necessary (only if above two methods will not work). Best base cleaner is Swix's citrus cleaner (liquid form)

Base Repair – how to fix scratches in bases

- Use P-Tex stick that is same color of base (most places only sell black or clear)
- Ensure base area is clean, warm, and dry
- Only work in well-ventilated area. Use blue part of a flame, held against a metal scraper (so flame stays blue and carbon-free) to slowly melt and drip P-Tex into and over scratched area (P-Tex should be overflowing damaged spot when done)
- Let dry overnight
- Very carefully use metal scraper to level down P-Tex material so it's flat with surrounding base
- Hot wax at least over repaired section before heading back to slopes
- For large and/or deep scratches, base will need a P-Tex patch. It's best to have a ski shop repair this kind of damage. Filling large and/or deep spots with only P-Tex stick will not last (material will fall out quickly)

Edge Repair

If edge is damaged from hitting rocks, use diamond stone (extra coarse or coarse) to smooth out burrs prior to sharpening. For major damage, visit a ski shop (may not be repairable)

Side Edge Sharpening

- Use a black permanent marker to darken edges of your skis (start about 2 inches below tip and stop about 2 inches before tail). This is the area you will sharpen using the handheld sharpener (tip and tail should always be dull to prevent skis from catching in snow)
- Hold sharpener against side of ski at 90° angle, move sharpener along edge without stopping. You are done sharpening when the blackened edges are gone
- Don't deburr using gummi stone. Polishing with diamond stone (fine or extra fine) while using gentle pressure is good enough. Gummi stones can dull edges fast
- If sharpener collects too much plastic, then you need sidewall planer tool to remove sidewall material before sharpening edges (this is an advanced tuning skill)

Base Edge Sharpening

Same technique as sharpening side edges, but use Mill bastard 8" base file (instead of handheld side edge sharpener). When done use diamond stone (fine or extra fine) to polish

Tip and Tail Tuning

These areas need to be tuned differently to prevent hooking and grabbing. Technique is same for both side and base edges of tip and tail. The first two inches at tip (more or less depending on shovel width—use point of snow contact as guide to determine exact length) along with last two inches at tail need to be rounded off. Use coarse or fine diamond stone held at 45° angle. Apply gentle pressure; edges here should feel smooth, have no burrs, and be dull

Hot Waxing

- Fumes from hot waxing are harmful to inhale, always hot wax in a well-ventilated area (open a window or wax inside warm garage with door open)
- First, check forecast to determine temperature range when you'll be out on the slopes. Next, find a wax for that temperature range. If temps will be within a wide range mix

two waxes. If in doubt, always go with colder wax. If you're new to waxing, start out with warm or cold universal wax (use CH10 setting on waxing iron)

- Heat ski waxing iron to proper iron temp. A guide should have been included with the purchase of your waxing iron. If not, here is a guide for Swix waxing irons (other brands may have different settings):

Swix waxes	*Snow temps for each wax in °F*	*Swix waxing iron setting*	*Approx. temp of waxing iron in °F*
HF10, LF10, CH10	32 to 50	5+	220
HF8, LF8, CH8	34 to 25	6/5	235
HF7, LF7, CH7	28 to 18	6	265
HF6, LF6, CH6	21 to 10	7/6	275
HF4, LF4, CH4	14 to 26	7	290
Cera F, CH3	Varies	7+	300

- Prepare waxing area. Always work in warm environment so waxes can melt properly. Use vices and waxing table, or cover flat surface with old newspaper
- Once iron has reached proper temperature, begin to melt edge of wax brick against iron. Drip enough wax onto base so when melted will cover entire base area without risk of burning bases (wax is visible with wet appearance)
- Melt wax evenly onto base by moving iron slowly and consistently. Method I prefer is to drip wax onto small section then melt right away into base. Continue moving down to wax next few inches of base until entire ski is waxed
- Move waxing iron back and forth, but keep with overall tip to tail motion
- Once you have waxed entire ski, go back over it again to ensure all wax is evenly distributed. This also helps wax penetrate deeper into base
- Allow wax to dry for at least 20 minutes
- Use plastic scraper to take excess wax off
- Finally use nylon or brass brush to polish

Binding Care

- Check bindings often for loose or protruding screws, missing parts, worn or damaged anti-friction device. Be sure brake arms operate without interference
- Before stepping into bindings, clean both boots and bindings of ice, snow and dirt (also do this after each day of skiing)
- Do not transport bindings on car-top carriers without protection from road salt, grime and other contaminates (use pieces of old clothes/cloths to wrap them up)
- Use silicon binding lubricant spray on bindings at least several times a season. Also do this on boots at all points that contact the bindings. Wipe off excess with clean towel
- Know your DIN—The DIN scale gives numeric value to a ski binding's release tension. A binding set to DIN number 1 will release easily. A binding set to DIN number 15 (race setting) will NOT release unless there is extraordinary force present. Your binding's DIN setting should be determined and set only by a qualified ski shop technician. Age, gender, body weight, skiing ability and previous injuries are all factored into a proper setting