

## TUNING CHEAT SHEET



### ***INSPECT – STONE – FILE – STONE – SCRAPE – BRUSH – SCRAPE – WAX – SCRAPE – BRUSH***

- Check the bases for any major scratches. Any significant damage should be repaired at a ski shop.
- Put room temperature skis in the vises with bases facing away from you. Use elastics to hold ski brakes out of the way. While sharpening the edges you can remove the middle vise to get it out of your way.
- Check the edge for any major burs that might require extra attention.
- Use a WET medium (blue; 200-300 grit) diamond stone in the file guide to clean up the side edge. Pass it along the side edge in arm length strokes. You can use the stone in both directions, so push and pull. Keep the stone wet, rinse it and wipe the edge with a rag occasionally. After, by freehand, lightly run the stone along the base edge holding it flat against the edge. Do not leave diamond stones in water over night, dry them when you're done – they will rust.
- File (tip-tail or tail-tip does not matter) with the tail of the file away from you, and so that the file is angled slightly towards you (and the top sheet of the ski). You should have 2 (TWO!) clamps on the file so it does not bend, otherwise your edge will not be consistently sharp. The file is only to be used in one direction, using 4-5 overlapping strokes to do the length of the edge. Check the edge using the back of your knuckles, do enough passes until sharp – compare against the edges you haven't done yet. *If there is plastic "dust" in the file the same color as the side of the ski, you need to remove the sidewall. If you cannot get it sharp, you need to remove the sidewall and/or second edge with a sidewall remover.* You will need to file lightly most times you tune the skis, just diamond stoning is rarely enough. Lots of small maintenance is better for the ski (and SKIER!) than a few major tunes with lots of edge material removed.
- Diamond Stone again with medium, then fine (red; 400-600 grit) if you have it. Same as two steps ago. After, run it flat freehand along the base edge.
- Make sure the entire length of both edges are sharp and smooth on the ski (or all skis) before waxing.
- Scrape the base of the ski using two or three full tip to tail passes, this is to get any metal edge shaving out of your base before you wax them in. NO METAL SCRAPERS – ever! Make sure the edge of your plastic scraper does not have any burs on it as this will scratch the base. Thick (5mm) scrapers are the best as they do not bend and remove base material making a non-flat concave base.
- Brush the base with an oval bronze or brass brush using only one direction, if you do not have one use a white nylon brush. Brush with two-three overlapping strokes per pass, at two-three passes minimum, followed by one pass full tip-tail. You don't need to press very hard, but make sure the brush has firm contact. Also, for metal brushed, make sure to put arrows on your brushes and only use them in one

direction as the bristles will point in one direction. Always put your brush down on the bench with bristles up!

- Scrape full tip-tail at 1-2 passes.
- (You should have plugged your iron in by now!) If the iron is smoking, it's too hot! Turn it down, give it a minute or two. If it's not spreading the wax it's not hot enough. Nearly all wax has a set wax temperature on the packaging. Drip the wax in an "S" pattern along the base, you will learn how much wax is right with practice. The first pass, move the iron back and forth in roughly 12" overlapping strokes working from tip to tail, so that the whole base is covered with wax. ALWAYS keep the iron moving, not too fast but steady. Then do two passes tip to tail, looking for the nice shiny even pool of liquid behind the iron, it should be across the entire width of the ski. If it is not covering the whole base, you may not have used enough wax – if there is lots of wax running off the side of the ski and you can still see your "S" drops, then you have too much. \*Never iron the ski when it is clamed with the middle vise, as you should not heat the ski when the camber is altered. For training – use any base prep, beta mix or non-fluoro bulk wax... and wax often to protect bases from burn damage which reduces the ski's basematerial.
- When the ski is room temp (or while you sharpen/wax the other ski) Scrape, brush, scrape – like the same 2 steps above. Also make sure to remove wax on the edges and sidewall. Do NOT use the long edge of the scraper to take the wax of your edges, you will create lots of knicks in it that will then scratch your base, use the short side of the scraper.
- If your bases were white-ish along the edge under the boot, **your skis needed waxing many runs or days ago**. This is called base burn and means that the base material is burnt from friction. This makes for a slow ski and the material lost means your ski is no longer flat and will not perform or turn as it should. It also reduces the base's structure/pattern which slows it down significantly.
- If your edges aren't sharp - your skis need tuning! If you sharpen your edges, you also have to wax your bases!
- NEVER ski on non-scraped skis. It's dangerous!
- Flat skis are a performing ski. Skis that have been used for one season should be ground to flatten them at the start of a new season (after/during xmas camp). This also restores the structure which makes a FAST ski, as this allows water to escape. A well structured base is faster than expensive wax EVERY time.
- Skis should ALWAYS have 3 (THREE) straps on while transporting skis. One at the tip, tail and one just above the toe-piece.
- Finally...Go SKIING!

Questions, Comments, Something to add?

Call Ryan 613-302-0689  
malmberg.ryan@gmail.com

## NEW SKI PREPARATION

### SIDE EDGE ANGLES

For U14 and down, side edges should be set at 88 degrees (or “2 degrees”)

For U16 and up, side edges should be set at 87 degrees (or 3 degrees)

A sharper angle means a sharper edge with more bite, but also means it dulls quicker and requires more maintenance.

### BASE EDGE ANGLES

These are recommended angles.

Slalom: 0.5-0.7'

GS: 0.7' to 1.0'

SG: 1.0'

PREPARING A NEW SKI REQUIRES A FEW EXTRA STEPS:

- **A NEW SKI SHOULD HAVE A MINIMUM OF 2 (THE MORE THE BETTER!) COATS OF WAX ON IT BEFORE IT IS SKIED ON.**  
Do NOT use fluoro or expensive wax, at this stage training wax (CH, Baseprep, Betamix etc) is far better for conditioning the base. This involves the whole process of waxing, let the ski cool, scraping, doing a really good job brushing out all the wax, then waxing again. If you don't do a good job scraping and brushing your next coat of wax won't fully penetrate the base.
- Before setting the edges of a new ski, the sidewall material (if it is a sandwich construction ski, which most U12 and up will have) and the second metal edge needs to be pulled back. Otherwise you will not be able to access the side edge, will not get the edge sharp and will not be able to set it to the desired angle. Doing the sidewall/second edge on a ski requires a sidewall removal (or “planer”). This is probably the most advanced part of tuning that requires experience to do it well! You should not do this your first time on your own as you can do permanent damage to the ski. *Ask Ryan for help, or depending on demand, I can offer to do it for you for a small fee.*
- When you're setting the angle on an edge for the first time, use a sharpie and color the edge so you can tell when the edge angle is achieved. As long as you can see some of the black marker, you know the edge angle is not set. Once it is all removed, you do not need to file anymore, proceed to diamond stoning using the steps above.
- For advanced tuning. The topsheet of the ski can lightly be pulled back and rounded using a panzar file and sandpaper.