

Tuning Tools

Entry level skiers/riders do not need World Cup tuning technique, but coaches at this level should be aware of the role that tuned equipment can play in skill development.

It is important for all coaches to be familiar with:

- what materials are used in contemporary ski/board construction
- how children's skis/boards are constructed
- how skis/boards for children differ from ski/boards intended for adults

Tools for Ski/board Tuning

Like any craftsman, using the proper tools will get a quality job done. Ski/board tuning is no different. Use the proper tuning tools.

Tools for ski/board tuning:

- Ski/board vices
- Flat block
- Ski brake retainers or sturdy elastic bands
- Fiber-tex pads
- Horsehair brush
- Brass brush
- P-tex candles
- Silicon paper (#100,#150,#200)
- Emery cloth
- Metal and plastic scrapers
- File cleaner
- Body file
- Chrome files (single cut)
- True bar or straight edge tool (to check base flatness)
- File guide (2 degree)
- Masking tape (½ inch / 2 cm.)
- Diamond stone
- Finishing and soft stone
- Iron or waxer
- Wax
- Plastic wraps
- Ski straps

Tuning Steps

There are seven simple steps to basic tuning.

- Step 1 – Ski/board inspection
- Step 2 - Base repairs
- Step 3 - Checking base flatness
- Step 4 - Bevelling base edges
- Step 5 - Sharpening and detuning side edges
- Step 6 - Waxing
- Step 7 - Scraping and texturing the base

Step 1 – Ski/board inspection

Conduct an overall inspection of the skis/board.

- Check the sidewalls, top sheet, top edges and base edges for marks and/or burrs

- Use a file, silicon paper or emery cloth to smooth out any rough surfaces
- Use a lighter grit of silicon paper or emery cloth (#150 - #200) for light repair work
- Use a heavier grit (#80 - #100) for serious damage then finish with lighter paper

Step 2 – Base Repair

Prepare the skis/board for repair work.

- Secure the ski brakes and placing the skis in vices
- Check the base for damage such as gouges, lines or edge burn
- Use burning P-tex material to repair deep base gouges
- Try to keep the P-tex burning with a blue flame to avoid carbon build up
- Drip excess carbon onto a metal scraper
- Let the repair work cool
- Scrape the repaired surface with a metal scraper or body file until level

Step 3 – Checking base flatness

When the base repair is completed, the base should be checked for flatness.

- Slide a straight edge tool or true bar along the width of the base from tip to tail
- Check for variations in the amount of light that appears between the true bar and the ski base
- Wrap #100 - #150 silicon paper around the flat block and sand the base with even strokes
- Check the base with the true bar or straight edge again
- When the base is flat, brush with a brass brush to remove excess base fibers
- Repeat the cleaning process by brushing the running surface with the brass brush and the fiber - tex pad (wrapped around the flat block)

Step 4 – Bevelling base edges

Bevelling the base edges helps to:

- make the ski/board easier to steer or turn and stop it catching on jibs
- stop the skis/board from running straight

Bevelling the base edges:

- Place the skis in vices with the base up
- Wrap the file with ½ inch masking tape (on the top third of the file)
- Use about 4 wraps of tape which equals about 1 degree of bevel
- Mark the edges with a black marker every 15 centimeters from tip to tail to see how much edge is removed
- Place the top of the file in the middle of the base with the rest over one edge
- Work on one edge at a time
- Work from tip to tail or tail to tip (depending on whether right or left handed)
- Check the work with a straight edge or true bar

Step 5 – Sharpening and detuning side edges

Side edge sharpening and detuning.

- Secure the skis/board in vices on their side with the base facing away
- Wet a diamond stone and work the stone from one end of the edge to the other to smooth over burred and tempered areas of the edges
- Mark the edges with black marker every 15 – 20 centimeters from tip to tail
- Place a chrome file in the file guide and pull the guide along the edges with short strokes
- Use a body file after the diamond stone if more than 1 degree of side filing is necessary then finish with the chrome file
- Use a polishing stone to smooth the edge and remove burrs left from the sharpening process

The amount of detuning necessary depends on:

- snow conditions
- type of skis/board
- ability of the skier/rider

Detuning the skis/board:

- Rub a soft stone or a piece of emery cloth over the edge
- Start with 10 to 15 centimetres from the shovel area
- Detune 10 to 15 centimetres from the tail
- Make sure the tail protector and the ski tip is clean and smooth as well

Step 6 - Waxing

Waxing skis/boards

- Protect the base
- Make the skis/board slide straight ahead and turn easily

Waxing the skis/boards:

- Place the skis/board in vices with the bases up
- Keep the vices loose to allow the skis/board to expand when the base is heated
- Use a base cleaner to remove filings and dirt
- Choose the type of wax that suits the conditions
- Use an iron or ski waxer to heat the wax and the base
- The wax should appear liquid on the base when heated
- Keep the waxer moving to avoid overheating the base and wax
- Test the top side of the ski (shovel) for warmth which will indicate that the base is warm enough to absorb wax
- Allow the skis/board to cool for 15 to 20 minutes

Step 7 – Scraping and texturing the base

Scraping and texturing the skis/boards:

- Make sure the edges of the plastic scraper are clean and sharp (90 degrees)
- Secure the skis/board in vices with bases up
- Use short strokes to scrap excess wax from the base (tip to tail)
- Clean the sidewalls and the edges of excess wax
- Texture the base by brushing with a brass or horse hair brush
- Repeat brushing until the bases are clean
- Place plastic on the base before strapping together for transport