

# Nordic Ultratune Update

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Mid Winter Edition, January 2006

Volume 8, Number 4

## Nordic Ultratune News & Notes

### Better Late Than Never

I was hoping to get a newsletter together before Christmas. It didn't happen.

I also hoped to get a nice long descriptive article about my experiences at the world cup races at Sovereign Lake, while it was all still fresh in my mind, so that you could possibly get a sense of my excitement and enthusiasm. Didn't happen.

I promised myself that I'd lose ten pounds between Thanksgiving and the New Year, so that I could keep up with my age-group buddies at the local races. You don't need to be a rocket surgeon to guess that this didn't happen, either.

And I was planning, with the best of intentions, to get out on my skis every morning before opening the shop. Nyet.

Yet a newsletter is coming together; better late than never. And a short photo essay from the world cup races from Sovereign Lake was posted on our web site, not too terribly late. And though I'm not super fit, or super trim, I'm having fun skiing the local events, though perhaps a little later crossing the finish line than in past years – again, better late than never.

Finally, though I'm not getting out the door to ski every single morning, I'm finding time at the other end of the day – with headlamp – to get on the snow. Better late than never.

-Mark Waechter



### Schedule Notes

I'm happy to report that Nordic Ultratune is staying on schedule with weekly grind batches, though there have been a few late nights and a few pizza dinners in the shop. There's still plenty of time to get skis ready for the February and March marathon races...

### Congratulations!

A special note of congratulations to two local skiers!

- Brian Gregg is on the U23 World's Team.
- Sadie Bjornsen is on the Junior World's Team.

Sadie and Brian are going fast because of talent, dedicated training, and support. They're both Methow Valley Nordic Club skiers. Good Luck Sadie and Brian!

## World Cup Support for Slovenia

Nordic Ultratune provided ski service for the Slovenian team at the World Cup races at Sovereign Lake in B.C. in mid-December. The World Cup service arrangements came together at the last minute, but the experience was fabulous.

Working with the Slovenian team was exceptional. The athletes and coaches were all terrific to work with.

Along with four athletes, the Slovenian crew had two coaches (with Marko Gracer as head-coach), a full time wax tech (Andrej), and the "Ultratune-guy" (me, Mark Waechter).

There are no secrets and no shortcuts to World Cup ski prep. There are a lot of skis - 50 to 60 pairs for a team of four, if you include all the test skis. Ski prep at the World Cup level can be described as doing everything exactly correctly, as quickly as possible.



*In the wax tent*

With a small traveling crew, the Slovenian team used their resources wherever needed. The waxers became coaches on the course, and coaches became waxers and testers in the final hours before the pursuit race. Whatever needed to be done was done by whoever was available.



*Ski testing never stops... (Photo: Terry Buchanan)*

What can be said about the Canadian world cup races that you haven't already read? The venue was great. Conditions were great. The racing was fantastic. The European skiers were very impressed with the organization, the trails, the grooming, and the hospitality.

The Sovereign Lake World Cup weekend consisted of a Pursuit, and Sprint races. The events were exciting and well attended. The venue at Sovereign Lake Nordic Center is a fabulous place to watch the fast skiers skiing fast. Hopefully the World Cup will return soon!



*Leaders leaving the stadium area in the classic leg of the Women's Pursuit at Sovereign Lake*

**NIS Bindings – Mid-Winter Review**

The NIS binding system was one of the “hot new things” for the '05-06 winter.

I've been using the NIS bindings on both skate and classic skis this season, and here are a few comments after 50 days on snow.

The NIS bindings allow you to adjust the location fore and aft, with a total movement range of 2 cm. This range seems pretty small, but it is very noticeable! Adjustment increments are 5mm. The adjustment is made with a little metal tool that is provided with the bindings, and which is about the size of a car key. The tool fits on your key-ring, and easily identifies you as a Nordic Uber-geek. My only gripe with the tool is that they missed an opportunity to incorporate other essential tools – notably absent is a bottle opener!

On skate skis, in soft conditions, moving the binding back one click from “normal” will provide a bit extra tip float. In hard-pack and icy conditions, moving the bindings forward a little from “normal” provides a little bit extra tip pressure and edge control in front. Taking advantage of this adjustability makes a single pair of skate skis feel like 3 pairs!



*The NIS binding, shown with the little chrome adjustment tool.*

With the classic skis, I'm finding that I'm not fiddling with the NIS adjustment at all – except when the skis were brand new. With new skis, I tweaked the binding fore/aft a little bit to find the spot that made the kick feel best for me. Again, the adjustments are small, but are surprisingly noticeable. On my classic skis it took about 10 minutes to find the “sweet spot” and the bindings have stayed in the same spot ever since. But without the adjustment... ..will your skis be “great” or just “okay”?

As a side note, the amount of change that can be felt by adjusting the bindings just a little bit makes me wonder how many people have “mediocre”

skis that could be winners if the binding position was tweaked a bit. But not many of us are willing to remove a screwed-down binding, drill another 5 holes in the ski, and re-mount the binding, just to see if things might be a little bit better.



*Rossignol NIS-C2 Classic Ski Ensemble*

Speaking for myself, I can't imagine owning another pair of skis that don't have this adjustability.

As of now, Rossignol and Madshus are offering the NIS plate on their skis. With the spring trade shows coming up in the next few weeks, maybe we'll hear if any of the other brands will be offering it.

The other question that begs asking is whether there will be an adjustable Salomon binding made to fit the NIS plate, or if there will be an adapter plate made so that existing Salomon (or older NNN) bindings can be adjustable.



*Winter in Washington's Methow Valley*



**Living in Snow Country**  
-  
**Feed Your Groomer**

Great grooming makes skate and classic skiing more enjoyable. Sometimes it makes the difference between a great ski experience and a mediocre ski day. Where we live, the groomer's job is huge. There are 200 km of trails, and every weather change brings down trees and turns the job of grooming into an epic event.



Our house is small, maybe tiny, but it's located with ski-out-the-door access to one of the further corners of the MVSTA's groomed trails. Several years ago, as a way of thanking the groomers, and as a lure to get them to come my way a bit more often, I installed a rural mailbox on a post at the end of the trail, labeled "MVSTA Groomer". In the mailbox I keep a supply of cookies and snacks for the groomer – a reward for his hard work. When I load the box with treats, I flip the red flag UP. When the groomer takes the snacks, he puts the flag back down. From the front door I can tell when to re-load the box!

Why not find a way to thank your local groomers for their hard work. It can be as simple as a "thank you!" when you meet, or maybe you'll carry an extra Snickers bar in your bottle pack and give it to a groomer you pass on the trail

(they usually slow down, and around our neighborhood they usually stop to say hello). In many areas, the grooming is done by volunteers – all the more reason to thank them for grooming when they'd probably rather be skiing!



*Dave Williams, MVSTA Groomer, posing with his ride, outside the Ultratune Research Center*



*The Suspension Bridge Near Mazama, WA.*



*photo credit to: Christian Haase*

## Talk About Grinds?

Starting in the spring of 2005, Ultratune began testing a variety of half-depth grinds. As a result, two new all-around grinds have been introduced that run fast in a broad range of conditions. They are a 0.02mm depth linear grind (**MVL**) and cross-grind (**MXV**). These are more free-running than traditional 0.04mm depth grinds, and run well on machine groomed and new snow in medium humidity.

The new **MXV** has quickly become Ultratune's most popular grind for skate skis. The prototype grind was introduced late in the fall of 2005, and had a small tweak as a result of further research and testing at the World Cup races at Sovereign Lake in December '05. This minor change resulted in a broader performance range for the commercially released version. On-going testing shows this versatile grind to be fast in a broad range of snow conditions. The MXV has a unique crossing structure cut at a shallow 0.02mm that provides smooth, free-running glide. The MXV is a great all-around skate grind.



*The Tazzari Grinder converts depleted ski bases into weapons grade p-tex!*

Ultratune's "half-depth" grinds are 0.02mm deep instead of the typical 0.04mm deep. The Tazzari grinding wheel preparation is tricky with the MVX grind; I often have to dress the stone 2 or 3 times before I'm satisfied with how the test skis look after they're run through the grinder. (Test skis are always run through the Tazzari, and examined with a loupe, for a consistency check after dressing the grinding wheel, before final structures is placed on client skis.)



*Photo credit: Kris Guttormsen*

The MXV structure is similar to the "CD021" grind used by the Swedes at the 2002 Olympic games, but our testing has shown that the MXV runs faster in a broad range of conditions, and was our test winner.

The new **MVL** grind is a fine linear structure that runs particularly well on classic skis. Tests show this grind to be fast in a broad range of snow conditions, but excelling as humidity increases (as compared to the XC02 benchmark). The MVL has 24 lines/cm (same as the benchmark XC02

(continued on next page)



**Talk About Grinds?** (continued from previous page)

grind), and cuts at 0.02mm depth, with no overgrind polishing stage.

The MVL is a bit more aggressive than the XC02 and is a good "all-around" choice for classic skis; it works well into humid conditions. The MVL falls between the XC02 and LJ03. Our data shows that it typically runs better than the LJ03 up until things are moist. The XC02 grind is still the weapon of choice for dryer snow conditions on classic skis.

The intent of Ultratune's half-depth grind project was to develop structures that minimize drag caused by water boundary-layer growth while reducing mechanical interlock friction created by aggressive structure. As a result, these two new versatile grinds - **MXV & MVL** - were introduced

Due to the shallow depth of the MXV and MVL grinds it is recommended that you avoid using a steel scraper on skis with these finish structures.

Right now, the MXV and MVL are both priced at \$58 – so they're economical. The MXV, however, may see a price increase at some point due to the tricky set-up, which is proving to take a lot of extra time, and eats up a lot of grinding wheel material.

**Make It Simple...**

**Recommended Grinds:**

- LJ03: Lowest cost, general-purpose, all-around grind
- MVL: Fine linear structure racing grind for colder, "east slope" conditions – great for classic skis.
- MXV: All-around cross structure for skate skis, for colder "east slope" conditions
- XC02: Racing grind for cold, dry snow
- R2.3: Racing grind for moist snow

**Recommended Waxing Service:**

- Hotbox Basic: Saturate your skis with this 90 minute hotbox treatment
- Hotbox Deluxe: Anti-static wax plus warm paraffin, with 3 hour super-saturating hotbox

**"Grind Over the Weekend" Schedule**

In addition to the new grinds, Ultratune has a revised grind schedule to minimize the turn-around time for ski service. Skis that arrive by

Thursday will be shipped the following Monday (4 days later) by FedEx, which assures the customer will receive their skis before the following weekend. With Ultratune's "grind over the weekend" schedule, skiers can ship their skis for stone grinding and miss only one weekend of skiing on their race skis. *There's still enough time to make your skis fast for the February and March marathon races!*

**XC02 & R2.3 Continue to Perform**

The tried and true **XC02** grind continues to be very reliably fast for classic and skate skis in dry snow conditions. During the '03-'04 and '04-'05 seasons, testing showed this grind to be extremely free-running in all sharp, dryer snows, as high as -2 C. The XC02 has a polishing overgrind step that smoothes the "peaks" on the structure and results in very smooth glide.

When conditions warm up considerably, and coarse grained and moist conditions appear, the **R2.3** grind stands out. The R2.3 grind is a 3-stage grind, with a linear structure in the tip, a cross structure in the mid and tail, and a linear overgrind on the tail section. The aggressive structure requires large crystals and moisture to excel, and is a specialty grind for wet transformed conditions.

**Hotbox Services at Nordic Ultratune**

I routinely get emails asking for clarification of our Hotbox services. Here's what we offer:

**Hotbox Basic** - In our basic Hotbox process, skis are waxed with a warm paraffin and placed in the Hotbox for 90 minutes for thorough wax penetration.

**Hotbox Deluxe** - With the Hotbox Deluxe process, the skis receive an antistatic treatment using a special process, followed by a warm paraffin, then Hotboxed for 3 hours, providing super-saturation. The Hotbox Deluxe is highly recommended for all stone-ground skis.





*A somewhat depleted line-up of skis in the shop.*

### Ultratune's Hand-Picked Rossignol Skis

If you've seen our past few newsletters, you already know that this season we've been offering hand-picked Rossignol Xium NIS skate and classic skis for sale. The skis are selected by flex test and picked to meet the customer's needs, and are stone ground with your choice of finish structure. The flex testing and stone grind are included at no extra charge – you get "race ready skis".

The reception to this program has been better than expected, and we ordered additional skis a few times. By Jan 10<sup>th</sup> we've picked more than 60 pairs of Xiums for customers. The reports back from customers have been really positive – that's the best part of the job!

From the line-up of Xium skis, we're really having good luck picking great fits with this year's Xium NIS-1 & NIS-2 skate skis. In classic skis, we've found that both the C1 and C2 classic skis are easy to fit for people and ski beautifully.

Recently, Rossignol's main man for Nordic, Robert Lazzaroni visited Ultratune to see what's happening. We discussed our ski testing and selection processes and our plans for the coming season (next year! 06-07). Lazzaroni and Rossignol are excited about this season's success and are committed to helping us get great skis for our customers.

As of mid-January, the supply of skis is dwindling a bit, but we still have some very nice pairs remaining. If we don't have a pair to fit, we'll let you know that – we won't sell a poorly fit pair just to clear inventory! If you need a good pair, let us know.



*Ski Testing at the Sovereign Lake World Cup*



*Always busy at Ultratune.*



*photo credit to: Christian Haas*

**Healthy Ski Base = Fast Skis**  
**Choose Your Fluorocarbons Carefully**  
*By Eric Redrup*

*Note: Eric Redrup is a Toko Tech who lives in Leavenworth, WA.*

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When it comes to choosing a pure fluorocarbon product consider not just the short term benefit, but also the long term health of your ski base and what that will do to your subsequent pursuits of speed. Pure fluorocarbon powders, once the standard for top performance, may now be the least desirable of the available choices for masters and age-group competitive skiers. This is based on cost per application, ease of application, performance and potential for base damage during application. Keeping things simple is often the most effective approach, so rather than producing a book on the subject, these are probably the big details to consider.

Toko HelX – This spray application product provides convenience without performance compromise. HelX performance can be unparalleled, providing 50 km durability in many conditions, it's a little less costly per application than powders and has the HUGE benefit of a heatless application. HelX is a very potent fluorocarbon product that covers 100% of the base, including the bottom and side surfaces of your structure.



100% Fluorocarbon Blocs – Provide extremely economical performance at something around \$2-\$3 per application for a pair of skis. Blocs also provide very base friendly application options. For shorter distances when durability isn't a concern, very light layers can be crayoned on and polished in with polishing pads. The trick to a good application is very light layers that polish in easily without creating smudges. Typically 2 layers provide a very fast finish. Roto corking is another option that can produce a more durable finish. Roto-corking is also safe for your base, however, improper use of a roto-cork can certainly develop enough heat to damage a ski base. Also, roto-corking does require some technique and experience for best results.



100% Fluorocarbon Powders – The most expensive per application of our three discussed products. But it's the likelihood of damaging your P-tex base that makes this product that least attractive to use for masters and age-group competitive skiers. In general, only in a 50km event with icy/abrasive conditions do powder products weigh in with some advantages. Even then, the advantages might not be significant enough to risk damaging your P-tex ski base and then living with a less healthy ski until you visit the stone grinder. Most ski service people believe that even properly applied, your bases will need to visit the stone grinder more regularly with powder usage.

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## When to Stone Grind Skis

Skis are subject to damage every time you ski on them or wax them, or just leave them sitting around! Abrasive skiing conditions, heat from wax irons, and exposure to air all cause degradation to your ski bases. The performance of your skis is greatly affected by the condition of the P-Text and the surface condition of your skis.

If your skis have base damage, they can be improved with a fresh grind. Any of these symptoms can be remedied with a new base finish from Nordic Ultratune:

- *Surface scratches*
- *Over-heated, oxidized, dried out*
- *Skis won't hold wax*
- *No longer flat – convex or concave*
- *No structure remaining*
- *Skis just aren't fast as they used to be...*

In addition, you can choose the base structure that you need – whether it's an all-around structure for your one-and-only pair of skis, or a special purpose grind for specific snow conditions.



*Please clean your skis - don't send them looking like this!*

## Why Grind New Skis?

The bases of new skis are better than they've ever been in the past. However, your new skis have probably been sitting in a warehouse for the better part of a year. Often new skis have dried-out, oxidized base material. It's also common for new skis to have a very aggressive structure on the base which is slow for all but wet or icy conditions. Sometimes new skis have scratches and often brand-new skis aren't perfectly flat.



## Next Issue's Topics

The next issue of the Ultratune Update:

- Hardwax over klister
- Late-season notes

## Thank You!

A special thanks to all the Nordic Ultratune customers who have made this season so much fun!



## Notes from our Customers

----- Original Message -----

**From:** Brian Gregg  
**To:** [xcgrind@ultratune.net](mailto:xcgrind@ultratune.net)  
**Sent:** Monday, December 05, 2005 12:55 PM  
**Subject:** LJ03 Grind

Hello Mark,

I hope you are getting lot of time on snow. I liked the last newsletter and forwarded it on to the rest of the UAA team and some of the community members in Anchorage who train with us. I just wanted to let you know that I am really happy with my skis. I skied on a pair with an LJ03 in the classic race at West Yellowstone. New Cold Snow and Mild Humidity. I was one of the luckier people who waxed warmer (so did winner Justin Freeman) and had kick as well as fast skis when it stopped snowing seconds before the start of the seeded group. I tested my skis with some of the other guys after the race and it was obvious who had the fastest skis even with warmer kick.

I have also had the chance to try out the XCO2 since it has been pretty cold in both Anchorage and Fairbanks. It is hard for me to tell how fast they are because I am not real use to skiing in such slow snow and I have acquired a fair amount of scratches and dings due to the limited snow cover, but they seem pretty good relative to other skiers, but I don't know what was on their skis.

I just wanted to give you an update on the skis and how pleased I am with them. I look forward to seeing you over the winter break.

Take Care,  
Brian Gregg

----- Original Message -----

**From:** [Brian Gregg](mailto:Brian Gregg)  
**To:** [Mark Waechter](mailto:Mark Waechter)  
**Sent:** Wednesday, January 11, 2006 8:56 PM  
**Subject:** RE: another good one!

Mark & Margaret,

I really appreciate your support. I had very fast skis all week. I certainly have gained a favor towards the XCO2 grind. I suspect it will be my fastest running pair this weekend in Bozeman's dry snow too. I will let you know how it goes. I hope you both are doing well. Take Care, Brian

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**From:** JH  
**To:** [Nordic Ultratune](mailto:Nordic Ultratune)  
**Sent:** Tuesday, January 10, 2006 9:37 AM  
**Subject:** Re: Rossignol Skis

Mark,

I just wanted say the new skis are AWESOME! I have about 200km on them, but I finally tried them on some cold hard packed snow yesterday (Colorado has been getting pounded so snow has been soft and slow). These are, without a doubt, the best skis I've ever skied on - Thanks.

James Howe

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**From:** David Knoop  
**To:** [<xcgrind@ultratune.net>](mailto:xcgrind@ultratune.net)  
**Sent:** Monday, December 05, 2005 12:07 PM  
**Subject:** xco2 grind

> Mark,  
>  
> I was in Sun Valley this weekend, very cold/  
> single digits, new dry snow,  
> track was soft, used Solda HPO5 & skis glided  
> really well  
> !!!!!!!!!!!!!!!!!!!!!!! Hope business is good!!!!  
>  
> DK



*Wondering what to do on a rest day?*



# NORDIC ULTRATUNE

## 2005-06 WORK ORDER FORM & PRICE LIST

(Please attach one copy of this form to each pair of skis)

### INSTRUCTIONS:

- Please: we must have a *fully completed* order form to begin work on your skis!
- A personal check, money order, or charge card info (Visa/Mastercard) **must** accompany your skis. We will not begin work until payment is received.
- Remove all wax from skis - there will be a \$5.00 surcharge for removing wax from skis.
- Tie skis together with rubber bands or tape - ski ties will not be returned.
- Fold this form and tape it to your skis. One work order form per pair.
- No styrofoam "peanuts"!

### SHIP SKIS TO:

**NORDIC  
ULTRATUNE**  
177 Riverside Ave  
Winthrop, WA 98862

### Grinds (all grinds include travel wax):

	<u>Prices in US\$</u>
LJ03 - general purpose "all around" grind	\$ 58.00
MVX - general purpose cross-structure for skate skis in colder "east slope" conditions	\$ 58.00
MVL - general purpose linear grind for classic skis in colder "east slope" conditions	\$ 58.00
XC02 - for cold & dry snow	\$ 72.00
R2.3, R3.3 - for coarse, transformed snow, high humidity	\$ 88.00

### Waxing (add to the above price):

Hot Box Basic - paraffin wax with 90 minute hotbox soak	\$ 15.00
Hot Box Deluxe - anti-static treatment followed by paraffin wax & 3 hour hotbox soak	\$ 25.00

### Additional Services (add to the above price):

Binding Installation (specify boot size _____)	\$ 12.00
Ultratune Flex Analysis	\$ 15.00
Rush order and overnight shipping (please call in advance)	\$ 35.00

**Subtotal:** \$ \_\_\_\_\_

Washington residents add 7.6% sales tax: \$ \_\_\_\_\_

**Packaging, Shipping & Insurance: \$20.00 first pair, \$10.00 subsequent pairs** \$ \_\_\_\_\_

**Total:** \$ \_\_\_\_\_

### SHIPPING ADDRESS

### SKI INFO

NAME			
ADDRESS			
APT / SUITE			
CITY			
STATE		ZIP	

BRAND			
LAST 4 DIGITS OF SERIAL NUMBER			
SKATE		CLASSIC	

### SKIER INFO FOR FLEX ANALYSIS

SKIER HEIGHT		WEIGHT	
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### NOTES

### CHARGE CARD PAYMENT INFORMATION

NAME ON CARD			
VISA / M.C.		EXP	
SIGNATURE			