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## Waxing - For Kick

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### Why?

The Classic motion fundamentally differs from Skating primarily in the way in which we transfer drive from one side of the body to the other. Skating uses an edge to obtain "purchase" in the snow for the weight transfer. By comparison, since we move straight ahead in Classic skiing, to obtain "purchase" you must have something underneath the middle third of the ski that will "grab" or "stick" to the snow crystals just long enough to provide a launchpad to drive onto the other side. This "something" is either a synthetic "waxless" pattern permanently imbedded in the ski base OR it is some form of "kick wax". Kick wax is only applied to the middle third of a waxable ski known as the "wax pocket" or "kick zone".

A sensible question is "why not apply kick wax on the entire underside of the ski to get maximum kick"? The answer: kick wax applied outside the kick zone will only slow down a ski and will not aid in getting kick. With kick wax as in life, less is sometimes more.

Kick waxing can be frustrating if you totally miss the wax and it can also result in some of the best Classic skiing of your life if you "nail it". It pays to listen to folks that really know how to kick wax whenever a clinic or seminar is in your area. One harsh reality about kick waxing is that you will need to do it every time you go Classic skiing on waxable skis. All the more reason to learn to do it well!

### Waxless Ski "Waxing"

Careful here...the only type of "waxing" you ever want to do with the waxless surface of a waxless ski is actually just a form of de-icing. A number of companies make chemical-laden special pads specifically for waxless skis that will help the speed of the ski and help prevent ice crystals from building up on the waxless ridges. This can be particularly helpful in fresh snow conditions.

All you do is rub a pad (they look like the little handy-wipe cleaning packets) on the waxless ridges and make sure to let the liquid cool before setting the ski in the snow. **Never** put kick or glide wax on the grooves of a waxless ski! The only other type of waxing you might do with a waxless ski is glide wax the tips and tails which is covered in the Waxing For Glide section.

### Kick Wax: Two Types

#### Type #1.) Stick or Can Wax

Looks like - and is applied like - a stubby, wide crayon. Comes in a small, peel-able "can" in all sorts of color-coded temperature ranges. Typically in company lines, green and blue represent temperatures below freezing; violet just around freezing; and red and yellow above freezing. Stick wax is gently crayoned on and smoothed into the "wax pocket"--the middle third of the ski - with a wax cork. Kick wax is used primarily for fresh, cold, and semi-transformed snow conditions.

The colder the temperatures, the easier this type of kick wax is to apply...and also pick correctly for the conditions.

## Type #2.) Klister

Comes in small "toothpaste" tubes and is undoubtedly the messiest part of XC Skiing. Klister is applied in one **very thin** layer and smoothed to form a clear sheen across the wax pocket. It also comes in color-coded temperature ranges with several "universal combinations". You typically need klister in warm and older snow conditions as well as very icy conditions.

Note: If you are comfortable kick waxing, don't be scared off by klister's messy aspects. Once you understand how and when to apply it, you can substantially reduce the difficulty of using klister and you will also come up with a great way to enjoy previously "unskiable" conditions. When it is applied correctly, klister offers unbelievably good kick and yet very fast skis.

### How to Use Stick Wax

Grip the stick wax in one hand and support the ski with your other hand as well as your body. If you have a bench with vises it will be a bit easier but they are not essential. Gently crayon on enough wax to cover the entire wax pocket running surfaces--but not the groove. You will find colder waxes crayon on very quickly/easily and this is one of the big reasons why it is easier to use waxable skis in colder regions (i.e., North America's Midwest, Alaska, the Yukon). Warmer stick waxes and klisters tend to glob so be careful. Once you have applied a "layer" of the stick wax, you will need to use a waxing cork or the heel of your hand to gently smooth the wax into a clear layer. Don't work the wax too much. Just rub in smooth, firm strokes primarily in the direction of travel. It is important to try to get wax as smooth as possible in order to create a faster kick zone and better kick. If you have globs or rough spots the ski slows down and the high spots can actually lift a ski a micro-amount so that kick is compromised! When applying, try to leave a couple inches above the bottom of your wax pocket so that smoothed or "corked in" wax won't be spread past the wax pocket.

The best method of applying stick wax is to use several thin layers rather than one thick one. Occasionally you will need to apply a binder with stick wax. A binder is a harder stick wax put on first that will increase the durability of the wax of the day but not compromise speed. Binders are usually only used in particularly abrasive conditions.

Try to scrape out any wax that gets into the middle groove before skiing. Wax in the groove doesn't help kick and will slow glide. After a few times practicing you'll get a hang of the process and this can be a pretty quick operation.

### How to Use Klister

Start by running a pencil thin line of klister down each side of the wax pocket. Then use a klister paddle or your thumb to smooth the lines into a clear sheen. As with kick wax you do not want klister in the groove so clean up spillage. Likewise, you'll need to clean off extra klister on the sides. The most common error with beginners is putting on way too much klister to start with. Go with as little as possible to get a thin, tacky layer throughout the wax pocket.

Quite often klister is used in very hard snow or ice conditions which means you'll need a binder to increase durability. A binder simply means a colder, harder klister laid as a base for a softer, warmer klister. The binder helps to prevent softer klister from being rubbed off the ski in the first couple kilometers. Blue or green klister is the most common binder in most brands. Application of binders is exactly the same as regular klister however, due the hardness of the wax you probably will need to warm a binder before and during application. The easiest way to warm a binder is to warm up your klister tubes inside before you wax. If you are away from a building you will need either a heat gun or a small propane torch. Once the tube is warm enough so that the klister easily comes out, you'll want to apply and spread using heat to break down any clumps that develop. If you use a heat gun or a propane torch, make sure that you are very careful not to apply direct heat for anything but a few seconds at a time--and **NEVER** to an exposed base (one without any wax on it). It is very easy to melt a very expensive ski!!!

Pre-warming klister tubes is probably a better and safer method than direct heat for beginners. However you end up applying the binder, you must completely cool the ski before you apply the next layer. Otherwise you will end up mixing the waxes and you'll likely lose all your wax on the first icy turn!

## Tips for Selecting Kick Wax

### Option "A" Is What You Want

When you kick wax you can have three outcomes:

- A. good kick and glide
- B. too slick of a ski
- C. a ski that sticks or develops ice and snow clumps on the bottom

To make matters worse, a ski that is slick ("B") is often the result of tiny ice crystals forming in the wax (called "icing") because the wax was a bit too warm--the same problem that results in "C". Yikes!!!

Here's a few general rules to follow to avoid "B" and "C"...

- Never assume conditions will be the same everywhere in the ski location of the day. Always carry waxes with you for above and below your temperature choice so that you can change wax while skiing.
- When in doubt, go with the colder wax. It is easier to put on a layer of warmer wax over colder wax than vice versa...and you also avoid the icing problem.
- Remember that kick waxing is always going to be hardest when temperature ranges change dramatically or when snow crystals are in their most volatile state--just around freezing. If you get frustrated easily you may want to skate or use waxless skis in these conditions.
- Avoid putting on too much wax and be sure to smooth the wax into the base after application. Even the "right" wax for the day can stick or slip if too much is applied.

### Color Ranges

Get a wax chart or guide from one ski wax brand that has temperature, ski conditions, and a list of different waxes side by side. These charts can be very useful for beginners but make sure to use primarily the brand of wax on the chart. Why? Color ranges can be different among brands and discover

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Realize that "fine tuning" waxes are available from nearly every company. Regular "wax" would be concentrated on the colder end of the blue range just above "extra green". These third or half-step waxes really allow a seasoned waxer to get just the right combination of glide and kick.

Minor differences between waxes matter more to performance skiers and at commercial areas. For a beginner going for a tour on skied-in tracks minor differences may not be a factor at all. Don't be intimidated by ski shops with 500 different types of wax and techno-babble slang. Some of the best wax jobs I ever had (including those for World Cup races!) were last minute, very simple hunches! High tech combinations and high tech waxes may be great for some but most skiers can get away with a half dozen kick waxes.

Keeping all the above in mind, sometimes combinations will do the trick when a plain purple or universal klistor is slick or sticking. Be open-minded about trying just a little bit of this or that. Often kick waxing is like painting or cooking where little changes can make a big difference.

## Tips for Cleaning Up

1. When applying klistor, use only one thumb to help spread the original application. I've seen folks with cobwebs of klistors covering both hands, their car, their kids, private parts (no kidding) etc.. A good idea is to always put the klistor tube cap back on immediately after applying the klistor. You will be amazed how fast a big glob can ooze out of the tube leaving you with a nifty mess. Klistor is a fantastic wax when used properly, but treat it with respect!

2. To clean off any wax job your best tool is a 60 cent plastic paint spatula or a good clean klistor paddle. Metal paint spatulas will work better but make sure you get some guidance from a professional before you ever touch a base with anything metal. Even

so, be careful with plastic as well! Just scraping off everything you can will often be enough with kick waxes and will leave klister skis ready to transport. *NEVER* leave kick wax cleanings on tables or walls or even the edge of unbagged garbage cans. Kick wax, particularly klister, is ten times worse than gum to try to clean off and you won't make friends by being a slob. Always use a rag or something you can throw away to clean your cleaning tools.

3. To do a real good job cleaning skis you'll want to pick up a citrus-based or gel cleaner available at all ski shops and even some bike shops. These cleaners are much easier on ski bases and your lungs than the old "gasoline"-type cleaners. Regardless, always use cleaning fluids sparingly. Use only with good fiberlene paper or paper towels and use only enough to clean a ski. Too much will give you a headache and possibly damage a base.

4. To clean your hands after applying klister or cleaning skis the best thing I've found is the automotive hand cleaners available at auto supply stores. Wax companies also sell good hand cleaners. Just soap and water won't work with klister. You'll also find that putting your hands inside your gloves with the fingers slightly tacky from klister is a neat trick since the friction while skiing will scrape the skin clean and simply work the residue into the glove fibers.

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