

WHEN SKATE SHARPENING MATTERS

SSM PRODUKT AB

OFFICIAL CATALOG 2017



SSM Produkt AB has been a manufacturer of skate sharpening machines and skate riveting machines since 1979. The first model was created already back in 1968 by the founders of the company (then within another company). The company has always been located in Uppsala, Sweden.

Our high quality products come with a 2-year warranty. We always focus on quality, precision and ease of operation when we design our products. The machines are made to last for many years. Every now and then we get machines back for service that are still working after 40 years in use. Our product range has grown over the years; we now provide a complete solution for maintaining skates.

Every year something new happens in the skate sharpening area that we have to adjust to, whether it is a new skate model that arrives which is difficult to sharpen or a new technique which we have to consider. We always strive to make our machines the best ones available. So year after year we make minor modifications to our current product line to achieve near perfection.

A good thing to know is that we also make our new products and modifications compatible with older versions of our products. So if you need/want to replace a part on your machine, you can always install the latest version of that part. We also continue to update our product range with new products that are sought after. This is to maintain our position as one of the biggest brands worldwide in the market of skate sharpening machines.

OUR FACTORY IN SWEDEN



Our machines are currently being used world-wide by several national teams, a large number of professional and amateur teams as well as stores, ice rinks and portable ice rinks.

Outside Sweden, SSM is normally represented by agents and resellers.

Over the last ten years our machines have been sold to the countries and regions marked with a flag.

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The skate sharpening station SSM TT-3 has been under development for several years and is now finally released. Its predecessor was SSM-T26, an addition to the SSM-2 for sharpening figure skates. Thanks to the new design of the machine it will now manage all skates on the market (except Paramount SK8S and touring skates).

People who have been testing it really liked how easy it felt when sharpening skates. They also loved the smooth finish on the skating surface underneath the skate blade.

EASY SETTING

This machine has a newly developed system for centering the sharpening underneath the skate blade very accurately. We got the idea when we designed the SRK *PRO* for SSM-2.

You just have to measure the skate blade width and turn a scale to that measurement to get centering.

This device has an incredible precision!

FAST

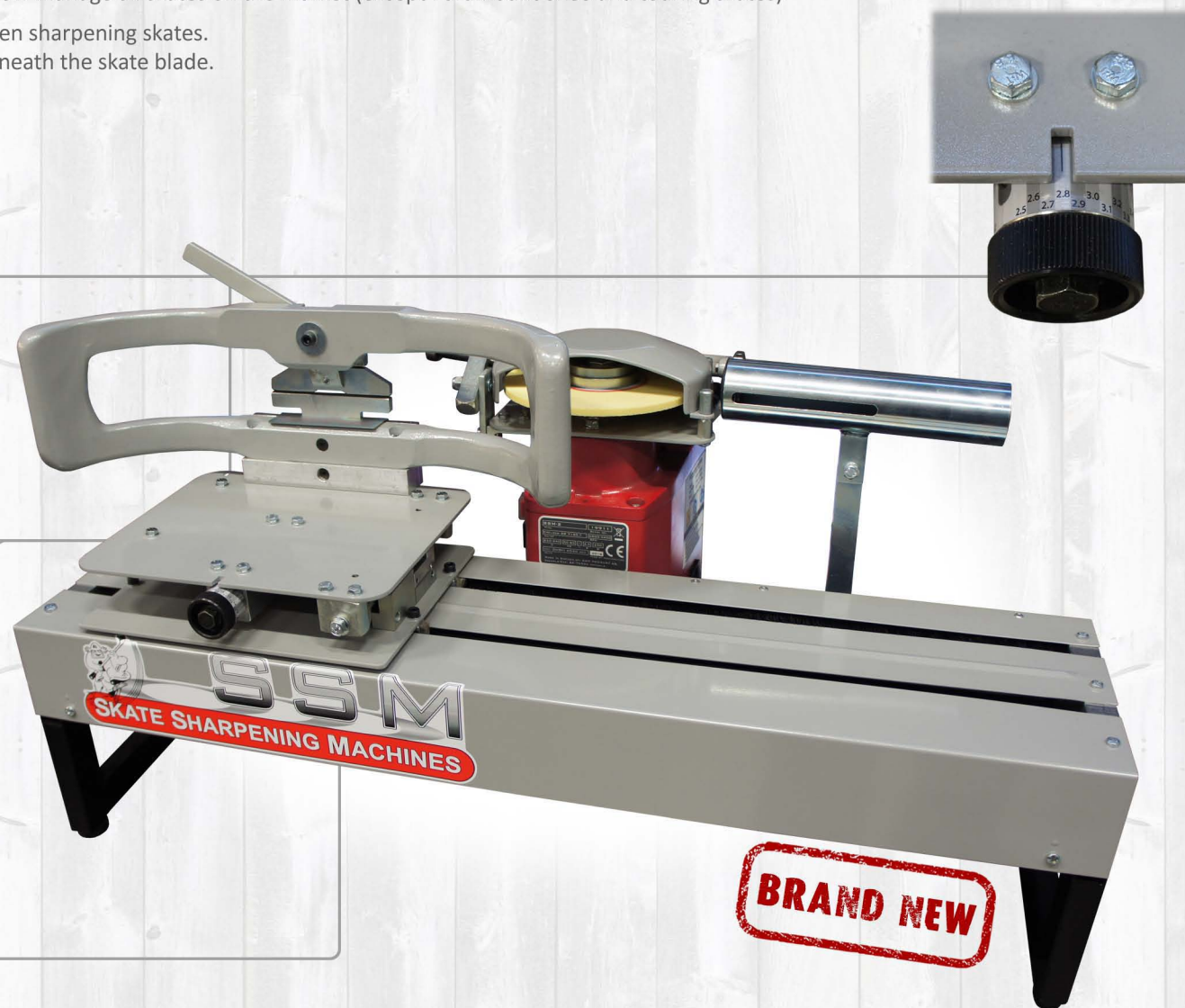
Just like the SSM-2 this machine will sharpen a skate in under a minute!

FEELS AMAZING

The design with two tables moving on top of shafts (using bearings) gives a simply amazing feeling. No friction to talk about whatsoever!

SHARPEN ANY SKATE

The new skate holder will manage all skates on the market today (except Paramount SK8S and touring skates). There is no need to switch between holders.



SSM-2 is one of the most popular skate sharpening machines in the world. The sales record speaks for itself, an astonishing 20000 pcs. sold so far throughout the world. This portable high quality skate sharpener is intended to do the finishing sharpening (flat or hollow) on skates. The main advantage with SSM-2 is that it is very fast and easy to use while delivering great precision.

The SSM-2 is available in a CE-approved 220-240 V version and an ETL-approved 110-120 V version.

EASY SETTING

By using a guide arm holding the skate blade, and a blade support roller just in front of the grinding wheel, the SSM-2 models will position a hollow very precisely using only one height adjustment point. **This is so even if the blade is not completely straight (which it almost never is).** No other design can match this.

Furthermore there is no possibility that the hollow will be formed diagonally along the blade.

FAST

The design of the guide arm makes moving the skate very easy.

Sharpen a skate in under a minute!

PORTABLE AND DURABLE

SSM-2 has a strong and compact construction but is still relatively light weight; this makes it **ideal for transportation**. For such use we have the V-2 transport case available.

Specifications:

Length: 35 cm Width: 25 cm Height: 32 cm
Weight: 14.8 kg (31 lbs).



**WORLDWIDE
BEST-SELLER**

SSM-2 VERSUS SSM-2 PRO



These machines use different models of the blade support device.

The **SSM-2** uses an adjustment screw to adjust the height of blade support roller.

The **SSM-2 PRO** uses an exact scale which you can easily turn to correspond to the skate blade thickness (obtained from a separate measurement, or otherwise).

Both devices have an incredible precision but the **SRK PRO** is much more convenient to use.

SHARPEN ANY SKATE

There are several skate holders to choose from, to make it possible to **sharpen any kind of skate**.

Check the next page...

SKATE HOLDERS FOR SSM-2 AND SSM-2 PRO

There are a number of different skate holders to add to your SSM-2 or SSM-2 PRO.

Our universal holders will be able to grip most skates (with skate blade thickness 1.5-4.2 mm), but some skate models are designed in a way that requires you to use special skate holders.

H-10 UNIVERSAL

- Latest version of the universal holder
- Most common choice among users
- Strong grip
- Low weight
- Flexible

MOST POPULAR

- Will essentially manage all skates on the market today except blades that are not parallel.



H-8 UNIVERSAL

- Earlier version of the universal holder
- Very, very strong grip
- The bow is cast in aluminium
- Will essentially manage all skates on the market today except touring skates and blades that are not parallel.



H-5

- The classic holder
- Very strong grip
- Very low weight
- Small
- Can not grip small childrens skates, touring skates and blades that are not parallel.



H-10 S FIGURE

- Special holder made for figure skates
- Designed to grip on the stanchions
- For Matrix Blades and Paramount SK8S
- Will essentially manage all figure skates except blades that are not parallel.



H-10 P FIGURE

- Special holder made for figure skates
- For John Wilson and MK Blades
- Will manage Parabolic, tapered and side-honed (will now also manage the Revolution stanchions.)
- Will essentially manage all figure skates except Matrix Blades and Paramount SK8S.



H-7 GOALIE

- Special holder made for goalie skates
- Strong grip
- Very low weight
- Very small
- Will essentially manage all goalie skates on the market today.



If you want to be able to profile and sharpen skates at a low cost, then the SSM-2/SM-6 is the perfect solution for you. The SM-6 package is not as efficient as the SSM-2 together with the SSM PROFIL, but it still gets the job done. Four contour templates of your choice (from our list) are included.

You can also temporarily remove the SM-6 addition in case you want to use the machine as a portable SSM-2 machine.

COMBINATION SHARPENER

The SM-6 is designed in a way that makes contouring comfortable. You mark the skate and insert it in the holder like instructed.

Then you insert the contour template you want, the holder will be guided after the template and you can feed it inwards or outwards by turning a knob.

When grinding sparks are equal over the marked area (the contour area) you are finished.

H-10 HOLDER INCLUDED

The H-10 holder included can be used without use of the contouring subsystem.

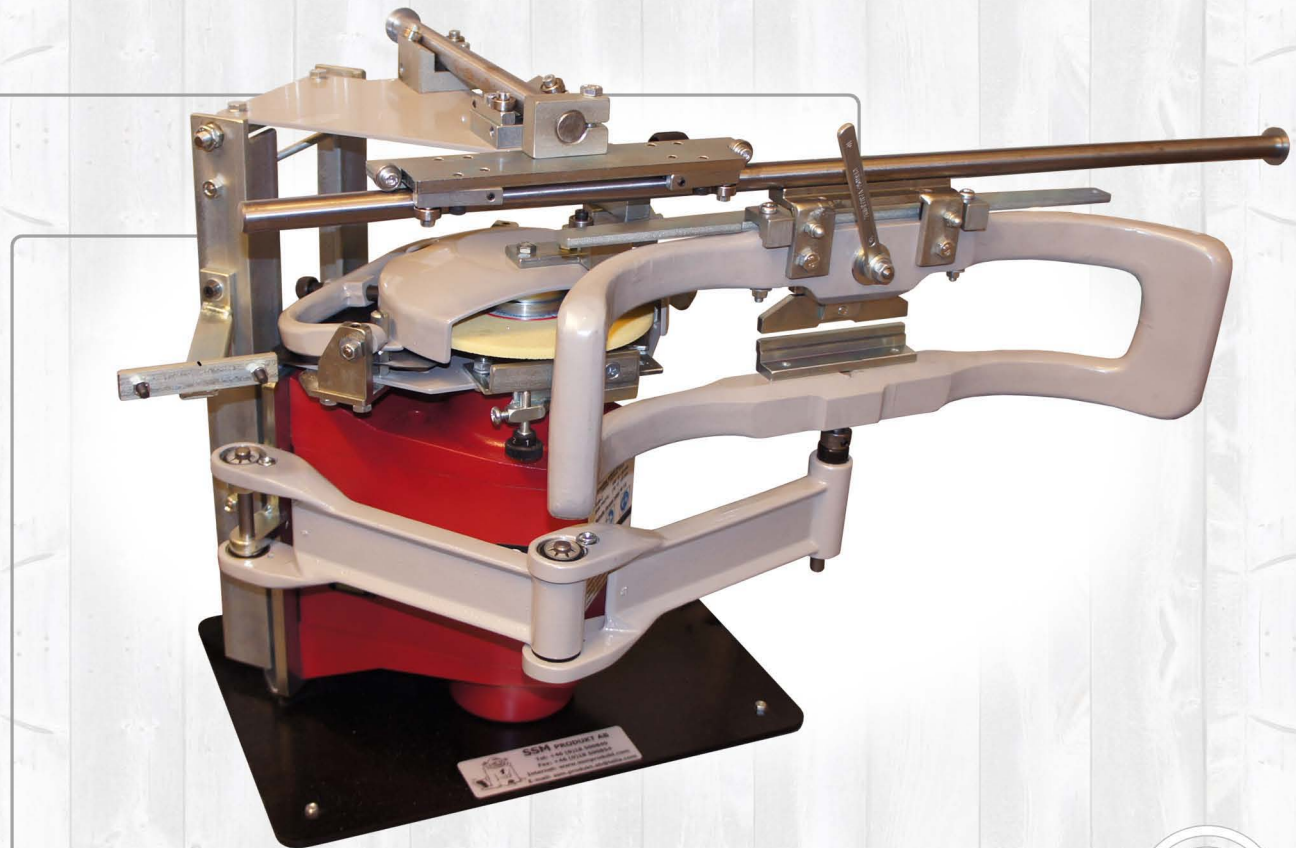
LOW-COST

You can not find a more price-worthy machine able to perform the same tasks.

BUY SM-6 SEPARATELY

You can buy this addition and attach it on your SSM-2 or SSM-2 PRO (if you have SSM-2 made before 1999 there will be compability issues).

Two contour templates are included when bought separately.



SSM PROFIL is a skate sharpening machine specialized in making blade profiles. The big difference compared to other machines is that it is using the grinding wheel in a vertical position. By doing so you will get a lot of benefits when contouring. But what is most important is that it will let you profile skates much faster and more accurately.

This machine uses contour templates when making shapes; four templates are included with the SSM PROFIL. You will need a SSM-2 or a SSM TT-3 afterwards to do the finishing sharpening (flat or hollow) on the skates. SSM PROFIL is available in a CE-approved 220-240 V version and an ETL-approved 110-120 V version.

From 2016 it is also possible to fully copy a skate blade shape directly onto another skate blade by using the old skate blade as a template! (If an optimal shape has been found.)

EFFECTIVE AND COOL GRINDING

By using a vertical grinding wheel you will get a very small contact surface between the skate blade and the grinding wheel.

This leads to faster removal of material and gives a cooler grind. You will be able to profile a skate in 1-5 minutes.

SUPER ACCURACY

The vertical grinding wheel will guarantee an exact transfer of the contour from the template compared to using a horizontal grinding wheel.

Not having full work-pressure leads to bumps and undesirable shape on the skate blade.

ELIMINATE ERRORS

This machine has a fine adjusting device that will help you align the skate blade perfectly after the template.

NEW PITCH/PIVOT SYSTEM

In 2016 we designed an easy system to shift the contour template to alter the pivot/pitch of profiles very accurately.



SHARPENING ACCESSORIES

Skate steel varies in quality and type. Therefore it is important to use a really good grinding wheel together with a good diamond dresser. Our products have been thoroughly tested to keep up with today's standards. We recommend teams and professionals to use a finer grinding wheel, while stores and ice rinks should use a more aggressive one. In general a finer grinding wheel will give a more shiny result and a coarser grinding wheel will work faster and be more effective.



S-2/HP70 "High Performance"

- Excellent surface finish
- Optimal profile retention
- Increased wheel life
- Quite aggressive cut
- Very popular



S-2/ME60 "Most Efficient"

- Aggressive cut
- Great surface finish
- Excellent profile retention
- Increased wheel life
- Cooler grinding



S-2/K80 "Super Finish"

- Masterly surface finish
- Excellent profile retention
- Increased wheel life
- Cooler grinding



S-2/60 "Standard"

- Aggressive cut
- Nice surface finish
- Cost efficient model
- *Mainly for carbon steel*



S-4/KB60 "178x6x20 mm"

- Aggressive cut
- Great surface finish
- For all types of skate blades
- For SSM PROFIL and SSM 900



D-80

- Diamond dresser
- Natural diamond
- Good quality



SD-80

- Diamond dresser
- Synthetic diamond rod
- Constantly the same sharpness



SD-50

- Diamond dresser
- Synthetic diamond rod
- Constantly the same sharpness
- *Only for the flat surface device (shorter version of SD-80)*



B-SSM

- Hand hone
- Fine grit
- Silicon carbide



BB-SSM

- Hand hone
- Fine grit
- Silicon carbide
- Wider version of B-SSM



CB-SSM

- Hand hone
- Combination grit
- Fine / Coarse
- Aluminum oxide



DB-SSM "Diamond hone"

- Extreme sharpness
- Diamond layer keeps the shape
- Lasts a long time
- Precision tool - handle with care!

DRESSING

As you sharpen, the grinding wheel needs to be dressed every now and then to make new grit available or to reshape it.

A poor finish and blade chatter is probably a sign that the diamond is dull and needs to be replaced.

HONING

When a skate has been sharpened to get sharp edges underneath, burrs will arise on each side of the skate blade. Use a hone to remove them by pulling it along the sides.

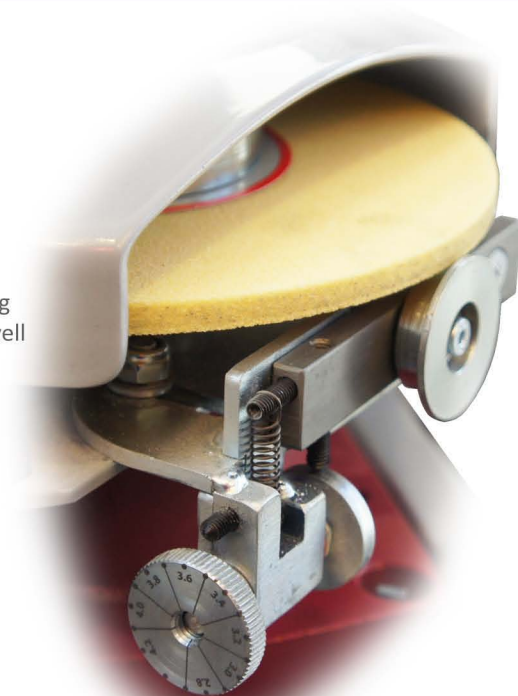
Now you will have perfect sharpness!

SHARPENING EQUIPMENT

SRK PRO

- Blade support device PRO
- Scale for skate blade width
- Scale range: 2.5 - 4.2 mm
- Extreme precision
- Perfectly centered sharpening
- Fits older SSM-2 models as well

BRAND NEW



BEC

- Blade edge checker
- Easy way to check the sharpening
- Helps to center the sharpening
- Very strong magnetic system
- Hardened layer



V-2

- Transport case for SSM-2
- Durable to thrusts
- Tool holder on the inside
- Dimensions: 430x340x350 mm
- Weight: 6.1 kg



SKR

- Blade straightener
- Easy to straighten skate blades



RM

- Radius gauge measurement tool
- Control hollowness on the skate blade
- Three different intervals:
RM1 = Radius 7.5 - 15 mm
RM2 = Radius 15.5 - 25 mm
RM3 = Radius 1-7 mm



The first version of NM-11 was released back in the seventies. Several thousands are by now used worldwide. A riveting machine is always a good investment. Often the skate blade is worn out before the skate boot. By having access to a skate riveter you can change the skate blade (or just replace damaged eyelets and rivets) instead of having to buy a completely new pair of skates.

This riveting machine is primarily used on skates but some functions can also be used on boots, ski boots, roller blades and prosthetics. Included with the NM-11 are tools sets N-21 and N-E; with those you can attach tube rivets, copper rivets, eyelets and remove tube rivets.

With the other available tool sets you can remove eyelets, attach shoe lace hooks and also stretch skates and shoes. We also have two new tool holders for ski boots and prosthetics.



VERY STRONG CONSTRUCTION

The body of the NM-11 is made in a way that it is really tough and stable. It will basically last forever if maintained correctly.

LIGHT WEIGHT

The latest design of the NM-11 makes it easier to transport, weighing only 15 kg (33 lbs).

POWERFUL

This machine will provide a force 23 times your own force when pressing down.

EASY TO USE

It is easy to switch tools in the machine to perform requested duties.

RIVETING ACCESSORIES

There are a number of different add-ons to put on your NM-11.



N-21 TOOL SET

- Remove tube rivets
- Attach tube rivets
- Attach copper rivets



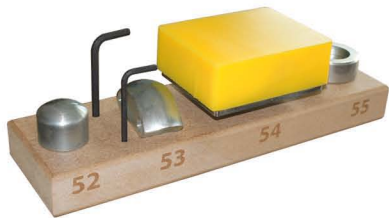
TUBE RIVETS

- Made of steel
- Length is: 8, 10, 12, 14, 16, 18, 20, 22 or 24 mm
- 100 or 1000 pcs. in a package



V 30 TOOL HOLDER

- For ski boots
- Attach belt buckles (N-21 tool set also required)
- Assemble large rivets (V 28 + V 29 tools also required)



N-41 TOOL SET

- Stretch a skate
- Stretch a boot



COPPER RIVETS

- Rivets and washers
- Length is 26 or 32 mm
- 100 pcs. in a package



V 28 AND V 29 TOOLS

- For V 30 tool holder
- Assemble joint rivets (Ø25 mm)



N-E TOOL SET

- Attach eyelets



EYELETS

- Professional model
- Black outside (height 7 mm), grey inside (height 7 mm)
- 100 pcs. in a package



N-RE TOOL SET

- Remove eyelets



SHOE LACE HOOKS

- Professional model
- White or black
- 100 pcs. in a package



V 24 TOOL

- Attach shoe lace hooks (N-21 tool set also required)



ORT100 TOOL HOLDER

- For orthotics



Together with Zandstra Sport (in the Netherlands) we have developed the RSM 4. This is the fourth generation of an automatic radius sharpening machine that has been present on the Olympic Games several times. It is intended for short track skates, long track skates and tour skates. Five radius templates of your choice are included.

Contact Zandstra sports or SSM for more information and availability.
RSM 4 is available in a CE approved 220-240 V version.

SUPER ACCURACY

The vertical grinding wheel that moves automatically from left to right will guarantee an exact copy of the contour of the template.

By using a fixed holder you get a proper shape in the blade.

WORK HORSE

If you are looking for a way to profile your short track blades, long track blades and tour skates, look no further.

This is an automatic sharpening station of the highest quality. It is heavy and very durable, made for working vibration-free all day long.

EFFECTIVE

Because of the accurate sharpening, removal of skate blade material and honing is kept to a minimum.

COMPLETION

After the profiling is complete you need to hone your skate using a very fine hand hone / whetstone mounted in an assembly like the Slijptafel from Zandstra Sport.



ZANDSTRA SPORT

EXHAUST SYSTEMS

When sharpening, you should always use a proper exhaust system attached to our machines to remove the discharges while keeping the sharpening area clean from dust. This is to avoid health issues and it also prolongs the lifetime of the skate sharpening machine. We recommend U-840 or NQS500. These dust extractors will fit all of our sharpening machines.

U-840

- Welding fume exhaust
- Made by **Nederman**
- Filtration efficiency is at 99.7%
- Portable
- High quality



U-324

- Replaceable filter for U-840
- Treated with flame retardant!
- For approximately 2000 pairs of skates
- Same vacuum strength until the filter is full!

NQS500

- Soot extraction system
- Made by Numatic
- Strong motor (High/Low)
- Very quiet
- Portable
- Red filter treated with flame retardant!
- Filter bag not needed!



SHARPENING INFORMATION

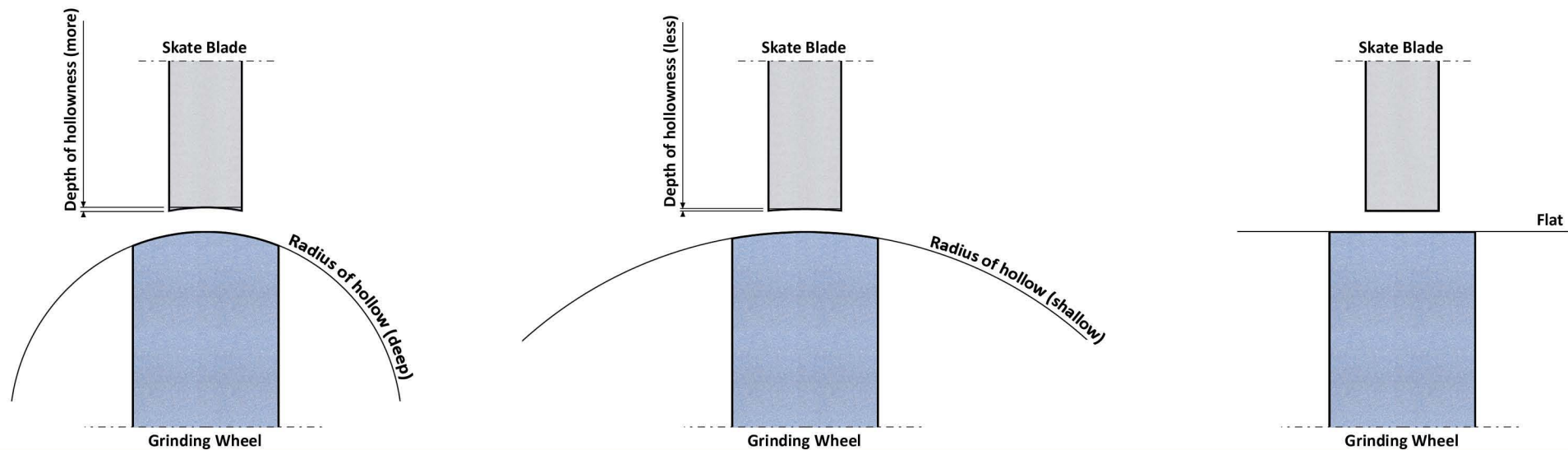
When skating, it is important to have skates that are well sharpened. This means that you should sharpen your skate blades every now and then to restore the edges and remove any light rust. Generally speaking you should resharpen after around 10 hours of skating on indoor ice unless damages on the skate blade occur. Outdoor ice is generally tougher on the skates. This means that you need to sharpen more often.

When a skate is pressed against the ice, its edges will dig into the ice. This is what gives you the grip and glide abilities. The grip depends on the angle of the outer edges, the glide depends on the shape of the skate blade underneath. Body weight, skating skill, the contour profile of the skate, and ice conditions (indoor or outside) also affect the grip/glide.

Hollow sharpening is the most common one. Hollowness (pictured below) is in the shape of a circle arc, which should be centered underneath the skate. There is also the possibility to sharpen the skate flat. It might be worth noticing that when you start out learning to skate, you should always have some kind of shallow hollowness underneath.

- | | | | | |
|-------------------|-----------------------|-----------------------------|-----------------------|-----------------------|
| Ice Hockey | Figure skating | Recreational skating | Bandy | Speed skating |
| - Use hollowness | - Use hollowness | - Use hollowness | - Use flat sharpening | - Use flat sharpening |

Finding a perfect hollowness will require a lot of testing. A general rule used in Europe to find a suitable radius of hollow (in mm) is to divide the body weight (in kg) with π (3.14). An example would be to take $85\text{kg}/3.14$ which gives 27 mm (then you can withdraw 2-3 mm if you want more bite). A deep hollowness will be more fragile and less durable than a shallow hollowness. This leads to more frequent sharpening being needed.



NHL

DEEP HOLLOWNESS

- Increases the "bite"
- More stability & balance
- Increased friction
- Decreases speed
- Best cornering
- Best acceleration
- Quick stops more difficult

NA Beginner:
16-19 mm
NHL most common:
13 mm
NHL more common:
16 mm
NHL common:
19 mm
NA Goalie:
19 mm

EUROPE

SHALLOW HOLLOWNESS

- Decreases the "bite"
- Less stability & balance
- Reduced friction
- Improves speed
- Better cornering
- Better acceleration

We recommend the following:

Beginner:
20-25 mm
Youth:
18-25 mm
Elite:
18-27 mm
Goalie:
10-18 mm
Figure skates:
13-16 mm

FLAT SHARPENING

- Least "bite"
- Least stability & balance
- Least friction
- Best speed
- Quick turning is harder
- Acceleration is harder

CONTOURING / PROFILING

To improve your skating abilities it is important to find a shape/profile that suits your skating style. Things to consider when speaking in terms of profiling are acceleration, speed, maneuverability, stability and energy consumption. In general one can say that:

A larger radius gives more ice contact. This gives higher top speed and better balance, and is more energy efficient. However, the acceleration and maneuverability will be decreased. A smaller radius leads to increased friction (more weight on a small area). This will increase maneuverability and acceleration at the cost of top speed, balance and energy consumption.

The following single radius shapes are commonly used:

Ice Hockey

- Regular skates range between 6-13'.
- Goalie skates range between 22-30'.

Figure skating

- Regular skates range between 7-8'.
- Expensive ones combine 2-3 radii.

Bandy

- Regular skates range between 4-8 m.
- Goalie skates around 6 m.

Speed skating

- Short track range between 4-15 m
- Long track range between 17-27 m
- Long distance skates range between 30-40 m

We have many different templates to choose from (see our price list for all available):

SINGLE RADIUS TEMPLATES

- Same attribute regardless of gravity point
- Can be pitched to alter the performance

DUAL RADIUS TEMPLATES

- Contains two radii
- Better acceleration
- Better speed
- Better balance
- Can be pitched to alter the performance

TRIPLE RADIUS TEMPLATES

- Contains three radii
- Even better speed
- Even better balance
- Can be pitched to alter the performance

ADDING A FLAT PART

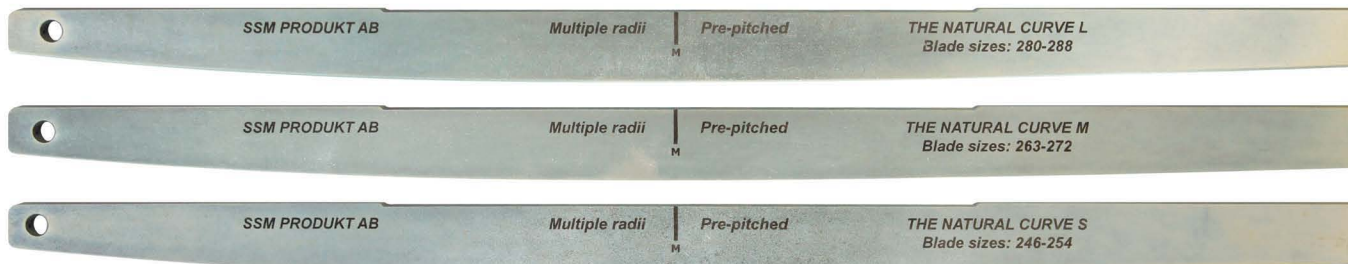
- Great for kids learning to skate
- Not as tiresome
- Better speed and balance at the correct angle against the ice
- Not as common for professionals today
- Can be pitched to alter the performance

THE NATURAL CURVE

- Developed with Sweden Hockey Institute
- Pre-pitched
- Multiple radii combined to a specific pitch
- Optimize your performance

BRAND NEW

These templates use a completely new way of thinking!



PIVOT

PITCH

The lowest point on the skate when you are standing on the ice is called the *“pivot point”* or *“balance point”*.

This point is normally in the middle of the skate blade but can be moved forward or backwards to change your *“pitch” (or angle)* against the ice.

These angles are called *forward lie, neutral lie or backward lie* where forward and neutral are most popular.

Leaning forward is more tiresome but will increase acceleration.

Moving a *radius* towards the rear on the skate blade will give you a forward lean.

Moving a *flat part* towards the front of the skate blade will give you a forward lean.