

Modin #33

PROSHARP[™]
LEADING PERFORMANCE

Hockey Skating and Sharpening



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Maximize your performance

Skating is the most important factor for improving overall skills in ice hockey. The potential of skate sharpening has been widely overlooked. By eliminating sharpening errors, players can make significant progress in their skating performance.

ProSharp skate sharpening machines and approach improves your skills to a whole new level. With the new emphasis on speed, agility and skills, ProSharp gives you perfectly sharpened skates - a key tool to help you compete and succeed. ProSharp technology allows you to profile and sharpen your skates so players can maximize control, acceleration and speed.

Welcome to ProSharp



ProSharp for leading performance

- ➔ Get the optimal blade profile
- ➔ Keep your blade profile and the skates sharp every time

Results

- More powerful strides and better glide.
- Better edge control, agility and balance.
- Quicker turns and greater acceleration.
- Overall improved confidence and enjoyment in your skating

Benefits

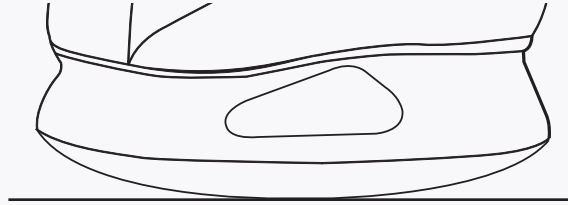
- Higher speed, less fatigue, and improved two-way play.
- More flexible skating maneuvers and moves. Improved shooting. Better crossover skating.
- More chances to break aways.

This is possible with leading world class blade profiles.
Automated, precise and cool wheel pressure for an ideal sharpening.

The Banana Blade

This results in poor body balance and skating ability suffers

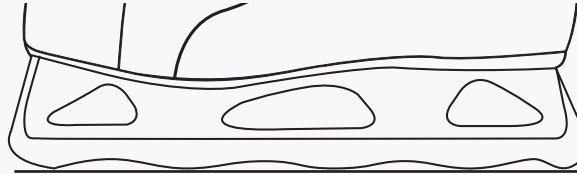
Fig 1.



The Wave Blade

This results in poor body balance and skating ability suffers

Fig 2.



Problems with skate sharpening

The ProSharp skate sharpening system assist hockey players in avoiding the following sharpening inaccuracies:

1. Levelness, unlevelled inside and outside edges give an unbalanced feeling to the ice, forcing the body to overcompensate. Unleveled edges are caused by the inaccurate procedures associated with manual sharpening machines.[Fig 12-14 p.13]

2. Overworked blades, too much steel is sharpened away from the heel and toe sections of the blade. Thus the skate is poorly balanced, which results in a lack of blade support

on the ice. Additionally, the steel blade will become heated to a less durable and less sharp edge.[Fig 1]

3. Inaccurate blade profile and hollow, causes decreased skating ability. By sharpening the blade with a too long or short profile, too deep or shallow hollow the skater finds they have insufficient control and undermined strides.[Fig 1, 2, 3]

Toe and Heel Profile



- 1 Yes *HIGH
- 2 Yes *MEDIUM
- 3 No * DEEP

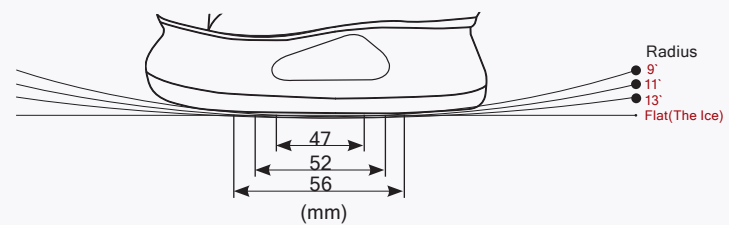
Note: Too deep toe profile cut shortens the blade length and reduces the active edge length.

- 1 Yes *HIGH
- 2 No *MEDIUM
- 3 No * DEEP

Note: ProSharp recommends keeping the heel profile radius at not less than provided by the skate manufacturer.

Fig 3.

Ice Contact



Feet	Ice contact
9'	47 mm
11'	52 mm
13'	56 mm

Fig 4.

Background of the problems

In minor league hockey, parents search from pro-shop to pro-shop trying to find the perfect sharpener. Pro teams suffer from that coaches and equipment managers often not having time to implement a strategy for all aspects of skating, particularly skate sharpening. Many players, even Pro and AAA teams, use overworked blades or "banana blades" at the cost of speed. New blades have an approximate 6-11 foot radius rocker profile depending on the skate model and size. This correlates to 38-52mm of blade to ice contact[Fig 4], which is not enough in the new NHL, where the most important asset is speed. Another limit is that the factory profile is

intended to suit all players. Generally a factory profile works okay, but why not try a custom fit to achieve optimal advantage? In the same way a hockey player chooses their stick, they should also be able to try out skate blades. When children start skating at 4-6 years of age, the factory profile of 26-32 mm of blade to ice contact is too short. The young player's balance and agility is developing, and therefore it is difficult to learn to skate well. You can see that their effort is spent on trying to stand up instead of developing a good skating posture and stride. Contouring of a radius rocker of 12-13 ft, which gives more blade contact, 54-56 mm to the ice, will make "learn to skate" more effective and fun.



ProSharp Superior template

Modern top level sharpening

Skate sharpening tends to go toward a more european style of 5/8 - 1 inch hollow and 13 - 19 ft radius rocker which gives reduced friction and more effective skating. It is beneficial in the new type of intense two way play where all five players on the ice need to be involved and durable. Despite this the most common hollow in NHL is 1/ 2 inch and sometimes even 3/8 hollow. For hockey players over 200 pounds it means extra high friction on the ice and therefore fatigue sets in much quicker. To gain more speed ProSharp recommends a combination of different radius rocker 12 -19 ft, to be contoured in the mid section and approximately 3/2 of the blade. See pic template,

Its the opposite trend, however, for goalies who require very sharp skates with a deep hollow of 1/2 - 1/4 inch. To improve goalie skating the blade profile should be sharpened down to a 22 -40 ft radius rocker. Compare this with the classic style with a 80-120 mm flat glide surface and approximately 1

inch hollow. The butterfly style demands a good grip to quickly go side to side, up and down. For this purpose prosharp has invented a template for the double hollow. It means that the skate is sharp-end extremely sharp, for example 3/8 inch hollow on the toe and heel, and more shallow (5/8) in the middle, which allows for a smother slide motion.

Modern skating is fast and complex with lots of inside outside edge shifts, pivots, mohawks, forward and backward skating. ProSharp therefore empahsizes none or a very little difference between forward and defence sharpening settings. Defencemen should pay extra attention to not sharpen the toe down too aggressively due this part being crucial in the backward skating push. When its comes to setting the blade profile (contouring) for forwards the pivot point should be placed 17-22 mm backward of the blade mid point, and defence 10-20 mm back of the blade mid point.

Skating with the best

Leading hockey players combine excellent technique and strength with the right skates and blades. To skate like the best, it is important to put the focus on accurately sharpened blades and an athletic, low body posture. These factors are the most fundamental in getting the most out of your skates and your body. The sit posture is the ideal biomechanical skating behavior for maximum performance making it possible to have good balance and stability while you unload power to the ice during full extension. The best players have used this basic knowledge of skating and have refined their “sit position” compared to average skaters.

The new skating characteristics shows quick foot-speed and edge work with frequent shifts from inside to outside edge and vice versa. The best players master these qualities and use their edge work skills to break patterns and be deceptive which means that they become hard to read for the opponents.

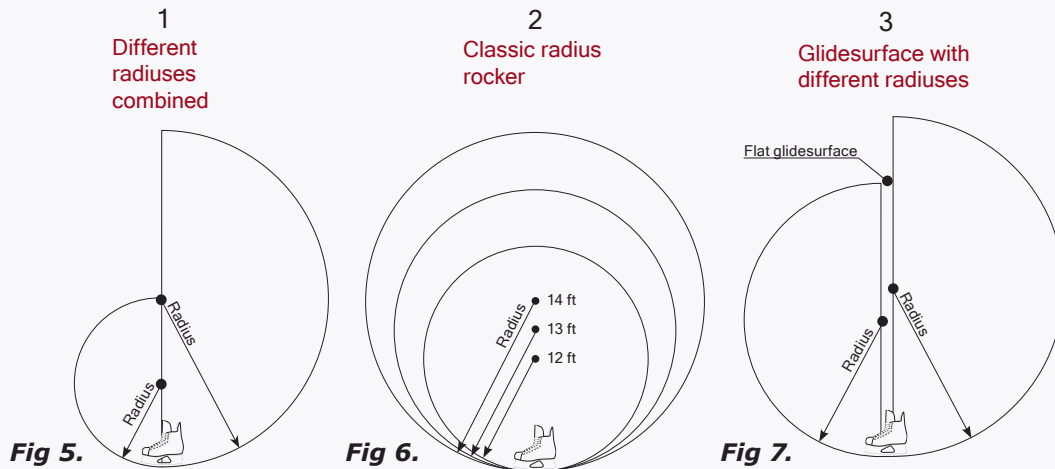
Further to pick up and gain speed instead of decrease speed when turning, the player needs the right blade profile and hollow. Regarding position-

ing as the key to defend successfully, speed is needed to get into the position in time. The best defencemen do not wait for the opponents, they skate up the zones every offensive play, and at the same time they cut off time and space for the other team players.

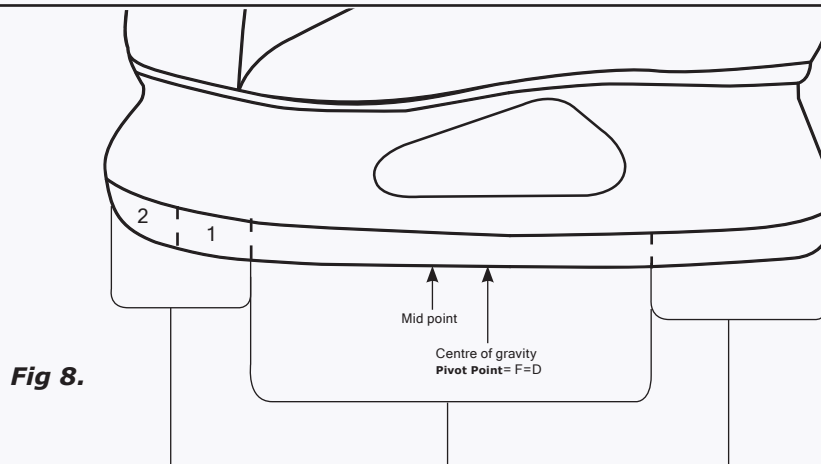
Skating instructors and coaches who translate skating drills into game situations will be rewarded with better understanding of hard work and repetitive training. The end goal is to build a repertoire of moves and skating skills that the player can use in a split second response time. Top hockey players have hundreds of skating hours year after year and still strive to become better and better. For learning it is crucial to have the same great feeling to the ice every practice and every game. Perfectly tuned edges and blade profile let your mind and muscle memory develop you to the next level of skating skills.

ProSharp therefore provides a consistent sharpening that keeps the blade profile intact the whole season.

Blade Profiles



Blade Sections



Front of the blade
Starts (0-1 sec)
Acceleration (1-3 sec) shifts The stride uses section 1 longer then section 2 which gets activated in the very last toe-snap. 20% of the blade.

Middle of the blade
Forward and backward strides
Gliding
stop

Mid point
Pivot point, Defense -5-15 mm pp forward -20 mm pp Centre of gravity (in an ideal skating position and stride) 60% of the blade.

Heel of the blade
Push and extension
backward & crossover skating
balance support
changes of direction
stops
20% of the blade.

Blade profile

The blade profile determines the contact surface between the blade and the ice[Fig 4 p.7]. Skate sharpening involves a balance between grip and low friction. While in motion, a skater wants to maximize and maintain the skating glide. The friction between the blade and the ice should therefore be minimized with an accurate blade profile. At the same time, we want excellent grip to transfer power to accelerate, shift and stop.

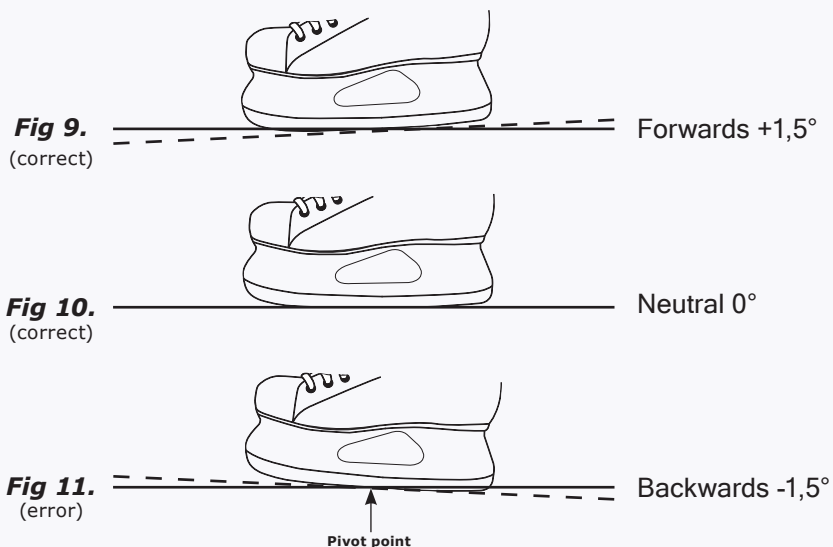
The blade profile should be selected based on your weight and skating preferences. The more you weigh, the more of your blade should be touching the ice in order to disperse your weight evenly. However, it is equally important that your muscles adapt to the new ProSharp profile in order to continue to improve your performance. So, instead of trying to correct bad skating with the blades we strongly promote good skating posture to make the best use of your blades and skates.

ProSharp recommends the radius profile or rocker[Fig 5-6], which is the most effective way of grinding or contouring your skates. Modern high level skating requires increased maneuverability, quicker starts and faster cross over skating, pivots etc. Note: another skate sharpening method uses a glide surface on the blade. This means 30-80 millimeters of the blade steel is sharpened flat to the ice surface[Fig 7].

A longer radius profile (where more of the blade is touching the ice) benefits the skater by providing better stability and balance, less friction and a higher top speed. On the other hand, it reduces the ability to make quick turns. A shorter radius blade profile results in more friction because it shrinks the amount of contact between the blade and the ice. This causes more pressure to be put on the blade, forcing it to cut deeper into the ice. The deformation of the ice causes higher friction for the skater. Skating with a shorter radius profile increases the maneuverability of short quick turns.

The blade has three sections[Fig 8], the heel (20% of the blade), the middle (60% of the blade) and the toe section (20% of the blade). The heel functions as balance, support and for turning, shifts, turns stops and crossover skating. The middle of the blade is where you mainly skate with a push in the stride and for glide on the front leg. Further start, stops shifts, pivots and turns. The toe section is used for starts and acceleration, toe snap and backward skating push. Note: There is a frequent transition between the blade sections.

Pitch



Pitch

The pitch is the angle in which the blades lean down to the ice. It affects the skater's body balance through the blade profile attack angle. ProSharp recommends, 0 - 1,5 mm Pitch or 0 - 1,5 degree angle. If the blade leans backwards you lose the ability to accelerate and accurate body balance position. Too much pitch on the blades tips you forward and you skate on your toes. Note: The pitch can be measured as the degree of angle or in the millimeter difference in blade height between the toe and the heel.

Apex/Pivot point

The pivot point refers to the centre of the glide surface, where pivots or shifts between forward and backward skating mostly take place. ProSharp recommends the pivot being placed 5 - 25 mm behind the centre of the blade. The shallowest segment of the blade profile should be placed there. The centre of gravity is mainly 5 to 25mm behind the middle of the blade when you skate or stand in the ideal skating position. Fig. Since ProSharp uses a combination of radius rocker the player still is able to have blade to ice contact during different skating motions.

Hollow

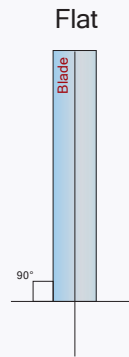


Fig 12.

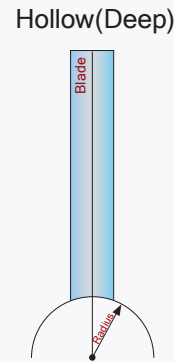


Fig 13.

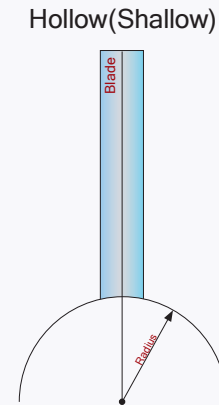


Fig 14.

Hollow

The hollow is the concave grinding of the blade's bottom surface. The function of the hollow is to increase the grip on the ice surface. A short hollow radius means better grip, but at the cost of increased friction. A shallower hollow radius gives fewer grips, at the same time, as there is less friction between the ice and the blade. Less friction allows for more glide. An accurate grip is necessary for acceleration, starts and stops.

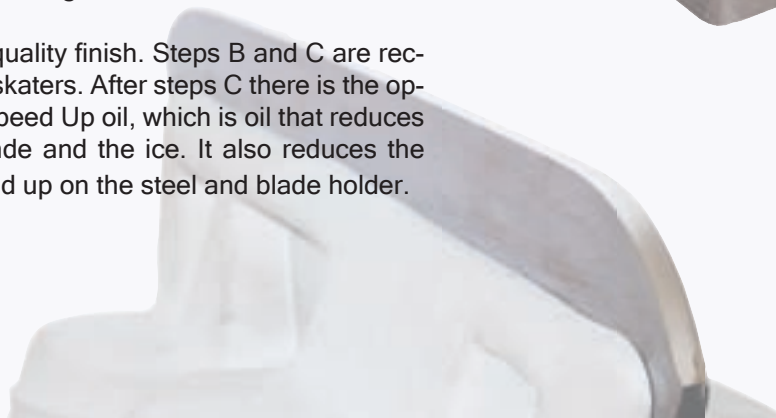


HONING A, B, C

After the sharpening is done, the blades should be honed to achieve a sharp and durable edge.

- A.** Deburr the blade with a diamond hone.
- B.** Remove sharpening micro particles, with a ProSharp polish hone. This will remove any excess blade waste.
- C.** Tune and tip the edge angle a few degrees (5-8°) with a ProSharp hard stone hone with a light pressure. This gives the blade an extra good bite and a more durable edge.

Note: Step A gives a good quality finish. Steps B and C are recommended for competitive skaters. After steps C there is the option of applying ProSharp Speed Up oil, which is oil that reduces the friction between the blade and the ice. It also reduces the amount of snow and ice build up on the steel and blade holder.



SUMMARY

- The correct blade Profile and Hollow are fundamental for your skating speed, agility and skills development
- The blade Profile and the Hollow are mainly decided by balancing friction and grip to suit the players weight and skating preferences.
- The blade profile and the pitch determine accurate skating balance.
- Honing the blade is important for all skates.
- ProSharp recommends less sharpening, more often. Your blades should always be perfect, for practice and games.
- Eliminate sharpening errors and guess work, use ProSharp skate sharpening machines and set your performance in focus.

PROSHARP SKATE SHARPENING MACHINES

ADVANTAGES

- ProSharp makes it easy to get the optimal blade profile and eliminate the common sharpening errors.
- ProSharp sharpening retains the important blade profile over the season
- Even edges
- Excellent micro finish
- ProSharp sharpening machines are gentle on the steel, no heating or overworked blades.
- Low maintenance and high reliability



Skate sharpened with the new aluminum/diamond grinding wheel



Skate sharpened with the old, manual method



SkatePal – Instant Competitive

ProSharp SkatePal is our latest portable sharpening machine, weighing just 22 pounds. Clamp the skate in place, and the grinding wheel automatically follows the existing profile to precision, with no variation. And because SkatePal goes where you go nothing could be more convenient. Perfect for clubs, teams and families.



ProSharp AS 1001 Portable – No Compromises

The AS 1001 portable brings the trust to your skates. Perfect skates wherever you are. Adjustable hollow setting, entirely flat to 1/4 inch hollow (6 mm) Adjustable wheel pressure and feed speed. The machine is delivered in a durable transport box.

ProSharp AS 2001 Allpro – Easy, fast and perfect

The AS 2001 is highly liked among thousands of teams, pro-shops and sport-shops all over the world. Skates are perfectly sharpened to the chesen hollow in less than one minute. There is a broad range of templates available including the popular and unique prosharp "combi templates". ProSharp AS 2001 Allpro are easy to operate. The machines are designed for low maintenance and year after year operation. The machine is delivered in a durable transport box equipped with wheels.





Kiprusoff #31

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