

Cag Profiler Manual



Operating Instructions

Before operating this unit, please read this manual thoroughly, and retain it for future use.

Owners Record

The serial number is located on the rear of the machine besides the main power switch. Record this number in the space provided below and refer to it when calling your Cag dealer for service related issues.

Serial No. _____

Contact Info...

Cag One Skate Sharpeners Inc.
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Teflone Publications MMIX

Craig Forsythe

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Introduction

The premise of this manual is to provide the operator with a basic operational knowledge of the Cag Profiler as well giving the user an understanding of how we can elevate the power and stability of the players who use it.

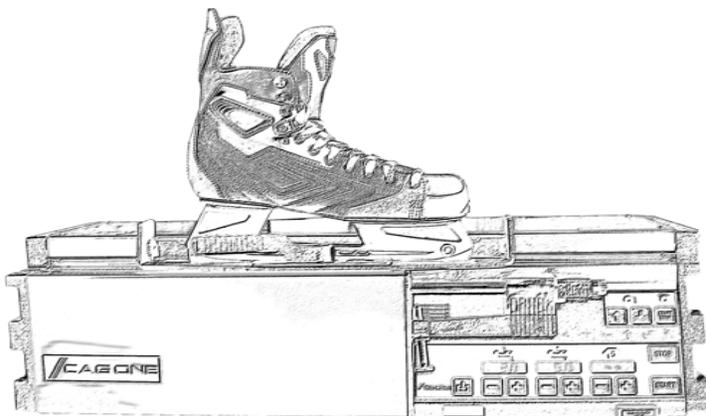
Please refer to this manual often so as to utilize all the benefits afforded to the operator. You can also receive online video instruction by visiting www.cagone.com and clicking on the video button.

Although this Swedish machine was introduced to the North American market back in 1987 the concept of grinding a measured flat on skate blades continues to be the gold standard for increased stride energy and improved glide characteristics. With extensive use in the National Hockey League as well as in many European leagues the Profiler enjoys an enviable respect by both equipment trainers and players alike.

As technology with regards to profiling and sharpening evolve, Cag One is committed to leading the way. It is the combination of precision, automation, simplicity and portability that give our machines its competitive edge.

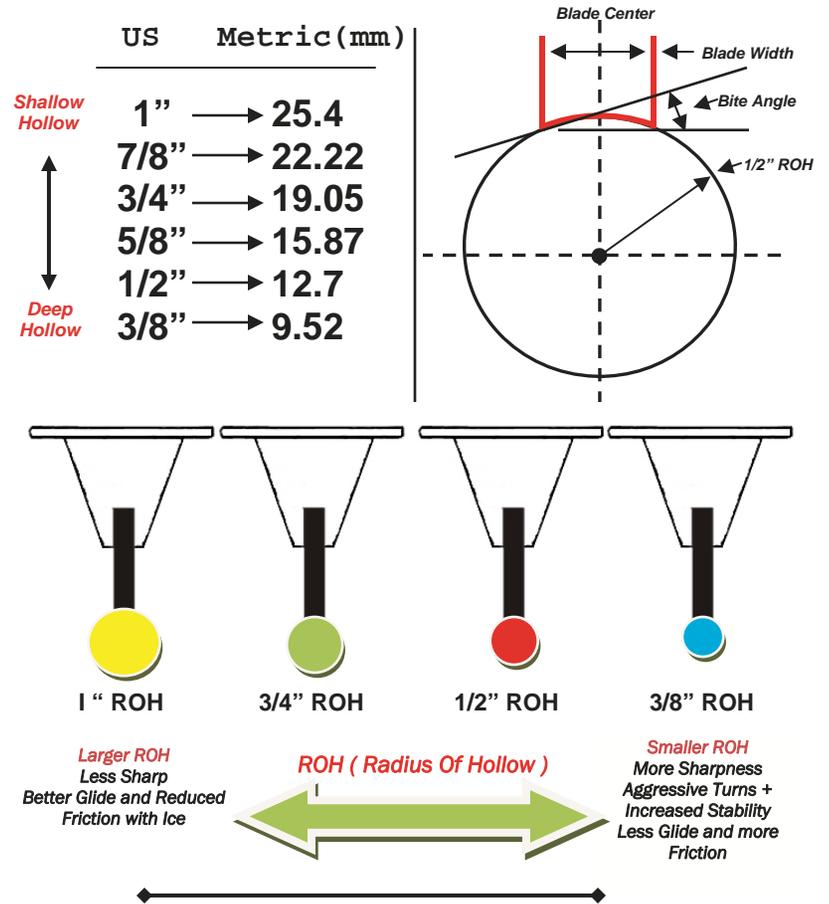
If you presently own a Cag Profiler and/or Cag Speed sharpening unit congratulations on your purchase. If you are considering purchasing a Cag unit I welcome you to contact us for a more in depth discussion on all the benefits obtained with or units and to also provide references to our valued customers.

We are also a full pro shop supply center with accessories and tools needed to turn your shop into an efficient and professional establishment. Simply contact us to acquire a brochure with prices on all your needs from riveters to honing stones and everything in-between. Supplies for other makes of sharpening machines are also stalked in-house.



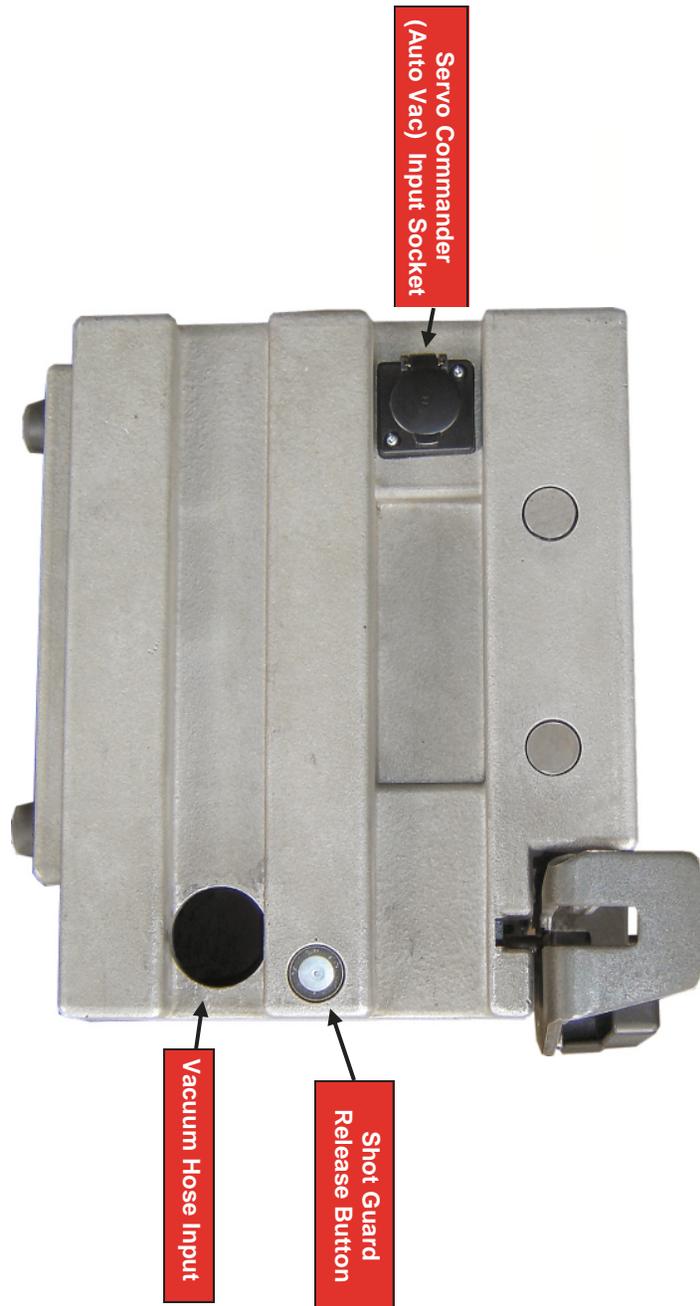
*This publication is dedicated to the memory of my Father
Clarke (Corky) Forsythe 1935-2009*

General Conversion table for various Radius of Hollow (ROH) measurements.



Above is an example of four different sized radius's that we may use to dress the grinding wheel before sharpening. Note that the largest radius (circle) creates a flatter or shallower hollow between the two edges. As the circle radius becomes smaller the radius between the two edges becomes deeper creating a more aggressive bite angle. It is important to remember that if you *Profile* a long flat onto skate blades then you may want to sharpen using a larger ROH. A small ROH combined with a long flat would create a train track effect and reduce lateral movement due to sharp thin edges. A shallower hollow (Larger ROH) would still allow for sufficient grip because of a longer blade contact as well as giving the benefit of reduced drag and friction.

Contact Cag One for all your Pro Shop Supplies.



Left Casting

Contact Cag One for all your Pro Shop Supplies.

IMPORTANT SAFEGUARDS

- It is strongly recommended that you wear both safety glasses and mask/filter before sharpening.
- Tuck skate laces into skate boot before operating machine.
- Do not place any objects on top of the machine.
- Do not operate machine in damp areas.
- Do not operate machine in gaseous or explosive atmosphere.
- Do not allow anyone other than a trained operator to use this machine. Keep away from children.
- Emergency Stop (Dead Stop) is located on the front bottom right of machine. Push in when you need to shut off power quickly. Pull out to restore power but be certain to remove skate first!
- Always be sure that your vacuum is operating properly and change filters regularly. This will ensure a clean and healthy breathing environment.
- Turn Power **off** before changing grinding wheel or dresser diamond.
- Do not attempt to sharpen any other item other than a skate blade on this machine.
- Do not use any grinding wheel that appears to be chipped or damaged. This could result in serious injury.

Contact Cag One for all your Pro Shop Supplies.

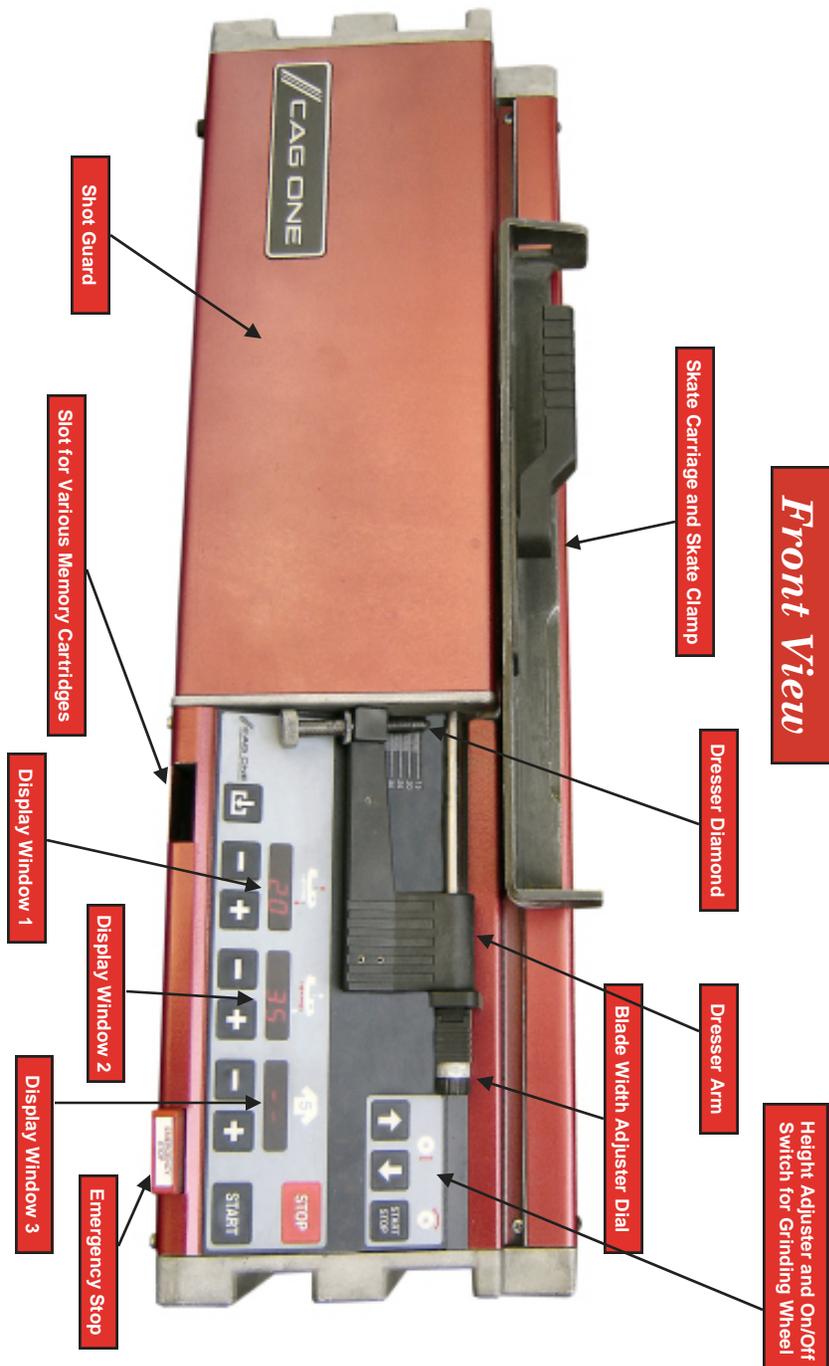
- **Never** turn machine on with skate in holder.
- Use only Cag recommended accessories. The use of improper consumables may cause injury or void warranty.
- Keep work area clean and free of clutter to help avoid accidents.
- Wear proper apparel. Do not wear necktie's or loose clothing and/or jewelry that may get caught in moving parts.
- Use only wheel hubs furnished with this sharpener.
- Internal machine service should **only** be provided by a certified Cag technician to retain warranty and prevent serious injury. Contact information is provided at the back of this manual.
- It is strongly recommended that you use a power bar with surge protection in case of a spike in current.
- Replace damaged or worn power cord to avoid potential injury. You may find one at any computer supply store. The power cord used on a PC (North America) is the same as used on the Pro-filer.
- Make sure switch is in the off position before plugging in.
- Turn power off while machine is not in use.
- Keep work area clean. Cluttered area's invite accidents.
- Do not reach over the machine during operation.
- All pro shops should contain a functioning fire extinguisher and a well stocked first-aid kit with eye rinse solution.

Safety Is No Accident!



Rear View

Do not operate with a damaged grinding wheel!



Included with the Profiler...



We stock a full line of Pro Shop accessory items and equipment. Check out our website and call us toll free for great prices and quick service.

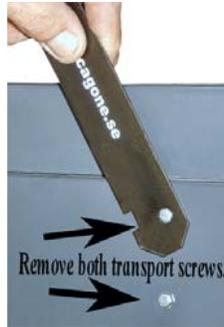
- (a) QSP Shop Vacuum for quiet efficient dust suction.
- (b) Skate Blade Width Measurement Tool
- (c) ROH (Radius of Hollow Measurement Ruler)
- (d) Two Diamond Dressers
- (e) Servo Commander (Automatically turns vacuum on and off)
- (f) Two Honing Stones (Use to remove burrs after sharpening)
- (g) Various cartridges for sharpening, memory storage etc.
- (h) Two 60 grit grinding wheels (Specially balanced wheels)
- (i) Ultra Glide liquid for use after sharpening to reduce blade friction.
- (j) Skate Plate
- (k) Main power cord (Refer to getting started page)
- (l) DVD Cag Sharpening tutorial or go online @ www.cagone.com
- (m) Safety Glasses for use during sharpening
- (n) One Year parts and Labour warranty.

www.cagone.com

Setting Up Your Profiler

- 1 Before setting up your Cag Profiler it is important to check the box for any signs of damage. All claims must be reported to the shipper. Save the box and packing material. If you run into any machine problems that cannot be fixed by contacting us over the phone we can arrange shipment to our facility. Keeping your packing material and transport screws will ensure your machines safe transport. Be sure that you have a **sturdy** level work bench or shelf to place the machine on. The shop vac will normally be placed under the table but can however be placed away from the machine if a longer hose and extension is used. Two 110/115 V outlets will be required or 1 power bar plugged into a grounded outlet.

2. **(IMPORTANT)** After carefully unpacking, place the Profiler onto the table and gently tilt the machine onto it's back so that you may remove the transport screws with the metal ruler provided. The ruler is Usually located in the skate clamp when shipped and must be removed before turning machine on. You may also use a 7mm nut driver for screw removal.



3. Once the transport screws have been removed place the machine back into it's regular upright position.



4. Check to be sure that both the grinding wheel and dresser diamond are installed on the machine. In most circumstances Profilers are shipped with both in place. If however either the wheel or diamond is not installed please read installation instructions in this manual before proceeding further.

Note: Check grinding wheel for any cracks or chips that may have occurred during shipping. Operating this machine with a damaged wheel may cause serious injury.

5. Once you are sure the wheel and diamond are in place the next step is to hook up the vacuum and plug in the AC. For this process you will require the Auto-Vac (Servo-Commander) / Power cord / and Vacuum.



Subsystems

Skate Holder: The holder has a groove and a clamping device to hold the skate blade. Blades that are bent are straightened by the holder within the area that is clamped. The holder is dimensioned for blade widths ranging from 2.8mm (0.11 in.) to 4.5mm (0.18 in). This range should easily accommodate all Hockey, Figure and Goal skate blade widths.



Dresser:

The dresser is made up of a folding arm with a diamond. At the rear of the dresser is a selector dial which is set according to the width of the blade.



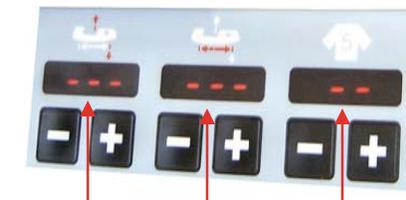
Shot Guard:

The shot guard keeps the grinding wheel out of reach for safety concerns. The guard also helps contain sharpening dust and direct it to the vacuum input. If the guard is removed during operation the power supply to the sharpener is shut off.



Keyboard:

These have separate function fields including...



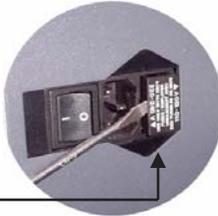
Window 1 Window 2 Window 3

- Countdown of grind passes for Profiling and Sharpening.
- Setting the gliding service
- Dressing the grind wheel
- Indication of warning symbols
- Indication of error codes

Maintenance and Shipping

Changing Fuses.

1. Disconnect the power cord.
2. Remove the fuse holder. Located on the left side of the power input socket on the rear of the machine.
3. Use a standard flathead screwdriver to loosen the spring lock as shown.
4. The inner clip holds 2 glass 3 amp fuse's. Replace the fuse or fuses as required.
5. Push in the fuse clip so that it locks into place.
6. Connect the power cord.



Cleaning.

Remember to always turn off power before cleaning machine.

- Always wipe the machine down with a soft cloth even after minimum use. Pay particular attention to the dresser shaft and holder to remove grinding dust.
- Empty the Profilers dust collector receptacle at the end of each day's sharpening. Shot guard must be removed to do this.
- Never use compressed air for cleaning. This may force dust into the machine and cause damage.



Shipping.



Transporting or Shipping the Machine.

- Disconnect Power and remove grinding wheel.
- After removing wheel gently push spindle hub all the way down.
- Replace shot guard.
- Gently lean Profiler on it's back and install transport screws.
- Clamp metal ROH ruler in skate holder with notched area down over the lip of casting. This will prevent skate holder from moving back and forth during transport.
- Place in shipping box with foam caps on each side and tape up.
- Contact Cag One for a Return Authorization number.

Continued...

BEFORE STARTING VACUUM...

Check to be sure both vacuum filters are properly installed before using. Although both are placed into vacuum, shipping may dislodge their positioning.



- Plug the vacuum's power cord into the Servo-commander

- Plug power cord from Servo-commander into A.C. Socket. It is always recommended to use a surge protected power bar.



- Insert final cord from Servo-commander into receptacle located on left casting of Profiler.

- Insert Vacuum hose into receptacle on left casting of Profiler. The hose will be cut before shipment to fit properly. If you are using your own vacuum however be sure the hose fits snugly into machine and does not extend more than 1 inch into casting. **Keep vacuum switch on the "ON" position when using Servo-Commander**



- Plug female end of power cord into rear of machine (besides main power switch) and prong end into 115 V.(North-America) surge protected power bar.

Do not operate with a damaged grinding wheel!!

Powering Up the Profiler

1. Turn on the main power switch located at the rear of the machine besides the power cord input and pull out the Emergency Stop cartridge at the front of the unit.



2. If the machine still does not respond after being switched on, check the following...

- Power cord is plugged into a live socket.
- The red emergency switch located on the front of the machine is pulled out.
- The shock guard has been correctly snapped into place.
- That the fuse is intact and not blown (located besides power cord input at rear of machine.) Turn power off before removing fuse. (See "Changing Fuses").

3. Once machine has been turned on, the Profiler will carry out automatic function checks and calibrations.

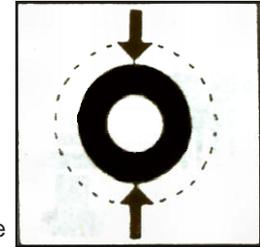
Never Touch Machine During Start Up Calibrations

4. When the grinding wheel has touched the skate holder several times and has returned to its lower position, the calibration procedure is complete. The machine is ready for the grinding wheel to be dressed according to the instructions provided in the section "Dressing the Grinding Wheel" on pages 11-14.

Always Remove skate from machine before turning Profiler on!

Installing and/or changing grinding wheel.

- Change grinding wheel when the **change wheel icon** is displayed on the front panel of your machine or when machine is shipped without wheel installed.



- Start by **turning off** machine either by pressing the Emergency Stop cartridge on the front bottom right of machine or by switching off the main power switch at the rear of the Profiler.

- Press shot guard release button on left casting of Profiler and remove Shot Guard. You should now see clearly the grinding wheel.



- Hold grinding wheel with one hand while turning plastic wheel lock counter clockwise until fully removed.

- Gently pull wheel off spindle and replace with new one. Be certain to check new wheel for any chips or cracks before installing. Do not install any wheel that appears to be damaged or serious injury may occur.



- Put plastic wheel lock back on spindle and turn clockwise until snug against the wheel. Do not over tighten wheel lock. A simple but firm hand snug should do the trick.



- Reattach shot guard by carefully aligning into position. Be sure that it is aligned properly before snapping into place.

Never force shot guard into position or you may damage machine!

What to do if...

When dressing the wheel there appears to be a harsh grinding sound.

Answer :

- You may dressing the wheel to harshly. Be sure to dress the grinding wheel very lightly so as not to wear both the wheel and diamond needlessly.
- Tighten nut on diamond shaft down against Dresser arm to prevent vibration during dressing of the wheel.
- If the grinding wheel is dressed to quickly the shaping of the wheel will not be smooth. (Always dress the wheel in very slow controlled passes for consistent results.)
- Replace the worn diamond with a new one and re-dress grinding wheel if problems still exists.



There is no power when the machine is turned on.

Answer :

- First check to be sure that both power switches are turned on. (main power switch in back of machine and emergency stop cartridge in front)
- Check the power source to the unit.
- If unit is still off then you may be required to change the main fuses on the back of the machine besides the power cord input.
- Be sure that the main power cord is unplugged from machine before starting.
- Using a small flat head screw driver pry open the fuse cover.
- There are two 3 amp standard glass fuses within this compartment to change.
- After replacing blown fuse or fuses insert fuse box back into machine being sure to line up the small white arrow on the fuse box with the power source you are using. (if your running a 110v power source be sure that the arrow lines up with 110v)
- Restart machine.
- If there is still no power call our Toll Free # for assistance.

SETTING THE RADIUS OF HOLLOW

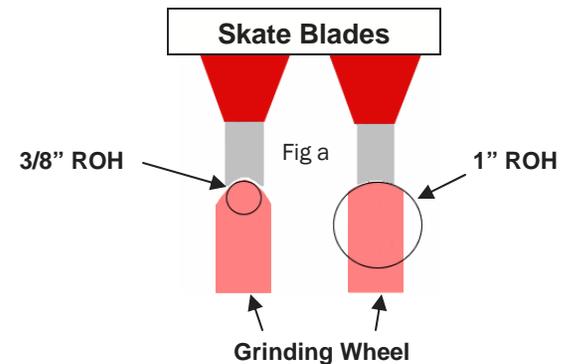


You will require your Cag ruler.



The desired radius for the hollow-grind is set by turning the dresser diamond clockwise to adjust for a deeper hollow or counter clockwise for a shallower hollow (or less sharp).

The ruler supplied with the sharpener expresses the radius of the hollow in millimetres or inch's. To check if the correct radius has been set, place the ruler along side the diamond (resting on the dresser arm as shown) and line up the tip of the diamond to your desired setting.



The average radius-hollow is...

5/8"-1/2" for Hockey skates
1"- 3/4" for Figure skates
1"- 3/4" for Goalie skate

THE DEPTH OF HOLLOW BETWEEN BOTH EDGES IS DETERMINED BY THE RADIUS OF A CIRCLE. THE SMALLER THE CIRCLE THE DEEPER THE HOLLOW

Note: Hollows may vary to suit players needs.

Deeper hollows create thinner and more fragile edges

Dressing the Grinding Wheel

Important! Always dress the grinding wheel before Sharpening or profiling skates.

In order to dress or shape the grinding wheel you must first measure the width of the skate blade using either a calliper or the measuring tool provided. The average blade width is 2.9 mm for hockey, 3.7 mm for figure and 4 mm for goalie.



Once this measurement is made we set the blade width dial located on the right side of the dresser arm's base to the width of the blade. If for instance the blade width is 2.9mm we turn the dial so that this setting is lined up with the arrow on the left side of the dial. (The measurement dial is calibrated in tenths of millimetres)

Your next step is to set the *ROH (Radius of Hollow)
*See setting radius of hollow

After adjusting the diamond to the desired ROH flip the *Dresser Arm* upwards slowly against the machine. As you move the dresser arm upwards the skate holder will automatically move all the way to the left side of the machine.



Hold the elbow area of the diamond dresser and push all the way along the bar to the far left or until dresser arm touches the casting.

Once the dresser arm is pushed all the way to the over the diamond should be directly over top the grinding wheel. At this point push the diamond dresser arm up against the back of machine so that the diamond is now not directly over the wheel.



Contact Cag One for all your Pro Shop Supplies.

Continued next page

ERROR CODES

E3

This code tells us that the grinding motor is overloaded and that the number of grinding wheel revolutions has fallen below a critical level. When this occurs the wheel does not grind the metal properly. The reason is that either the wheel is imbedded with metal fragments or that the wheel has lost its convex profile.

Solution: **Dress the grinding wheel.**

E5

This code tells us that the memory cartridge is defective.

Solution: **Replace the memory cartridge by ordering from your Cag One dealer.**

E7

Grinding has started *without* a skate in the holder. Or a skate may have been in the holder when the power was turned on.

Solution: **Either place a skate in the holder or turn off the machine and switch it on again without a skate in the holder.**

E8

Strong interference when the blade was being calibrated. This may be just temporary or could signal a more serious error in the machine.

Solution: **Remove skate, turn power off and then on again and try again. If the problem continues contact your Cag One dealer.**

E9

The grinding stone does not rotate, even though motor is on. This may be because the grinding wheel is stuck.

Solution: **Turn power off and then free the grinding wheel while also checking for any wheel flaws.**

Never turn on Profiler with skate already in holder!

DRESS GRINDING WHEEL



Warning : The grinding wheel is covered with skate blade debris and /or no longer has a convex shape required for proper Sharpening or Profiling.

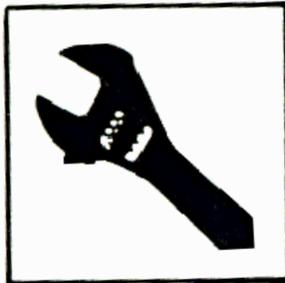
Solution : Dress the grinding wheel as per instructions on page 8 to 11.

DRESSER ARM RAISED



Warning : This warns that the dresser arm is in the raised position. When the dresser arm is raised, the skate holder and grinding wheel automatically moves to the starting position for dressing. When the arm is lowered, the machine returns to it's normal operating position.

SERVICE



Warning : The Profilers monitoring system has detected a serious error.

Solution : Switch power off of unit and remove skate. Power on again to see if wrench icon is still visible. If it is contact your Cag One dealer for immediate service. Contact information is located at back of manual.

Cag One Skate Sharpeners Inc.
Toll Free # 1-888-884-4787
or 705-778-5500

Keep a clean work environment...Change vacuum bags regularly!

Continued from page 11...

Important!...

If the grinding wheel is positioned to high up for the diamond to pass over top use the wheel down arrow to lower the wheel enough so that the diamond may pass over the wheel. If only a small change is needed in wheel height then press arrow button in repeated fashion till desired height is reached.(the wheel will move in small increments) If however you must adjust the wheel to a greater degree then a sustained push on the arrow button will move the wheel faster and in larger increments.



NOTE: The grinding wheel will always return to its last setting. If for instance your last profile or sharpening was dressed at a 1/2" hollow then the wheel will return to that same position.

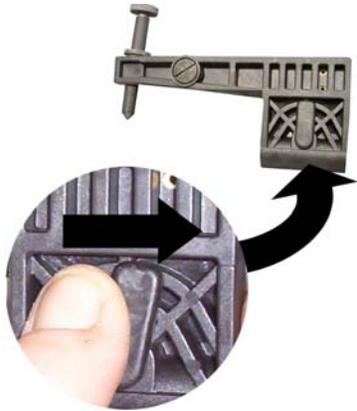


If the grinding wheel is not positioned high enough up to reach the diamond use the up arrow button. Be certain however that the diamond is not over top the wheel during this process so as to not inadvertently push the wheel into the diamond and cause damage.

The diamond when positioned over the grinding wheel should just **very lightly** touch the highest point of the wheel. Move the diamond **slowly** back and forth over top the wheel to be certain there is freedom of motion. If the diamond touches to hard on any part of the wheel simply press the wheel down arrow and repeat process. When this has been achieved simply rest the diamond dresser against the back of the machine so the diamond is no longer over top the wheel.



Dressing the Grinding Wheel (continued)



In order to minimize vibration during the dressing of the grinding wheel you should push either to the left or right the dresser arm lock. There is no need to over tighten this

Always be sure when adjusting the grinding wheel up or down that the dresser diamond is not directly over top the wheel. You may inadvertently push the wheel into the tip of the diamond if this information is not heeded.



Press the **START/STOP** button located on the top right facing of the machine. This will turn on both the grinding wheel and vacuum. The grinding will now be ready for dressing.

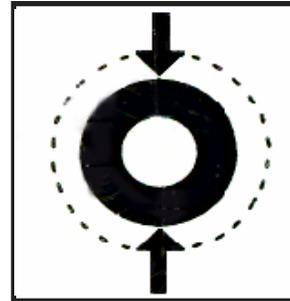


Contact Cag One for all your Pro Shop Supplies.

Warning Symbols



SMALL WHEEL DIAMETER

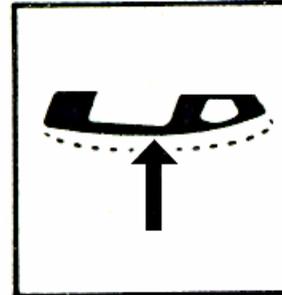


Warning : The grinding wheel has worn down to such a degree as to affect the proper operation of the Profiler.

Solution : Turn off machine and prepare to replace grinding wheel as per instructions on page 10.

** Use only Cag approved balanced wheels!*

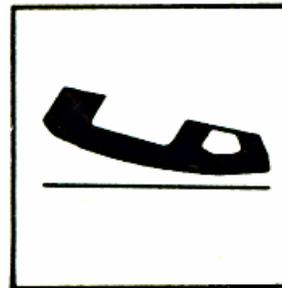
WORN SKATE BLADE



Warning : The skate blade is worn down to such a degree as to needing replacement.
Important Note : When using the Skate Plate this symbol may appear but not mean blades should be replaced. When placing skate in holder *without* using the plate this symbol becomes valid.

Solution: If blades are found to be very worn down to repeated sharpening they should be replaced.

IMPROPER BLADE ALIGNMENT

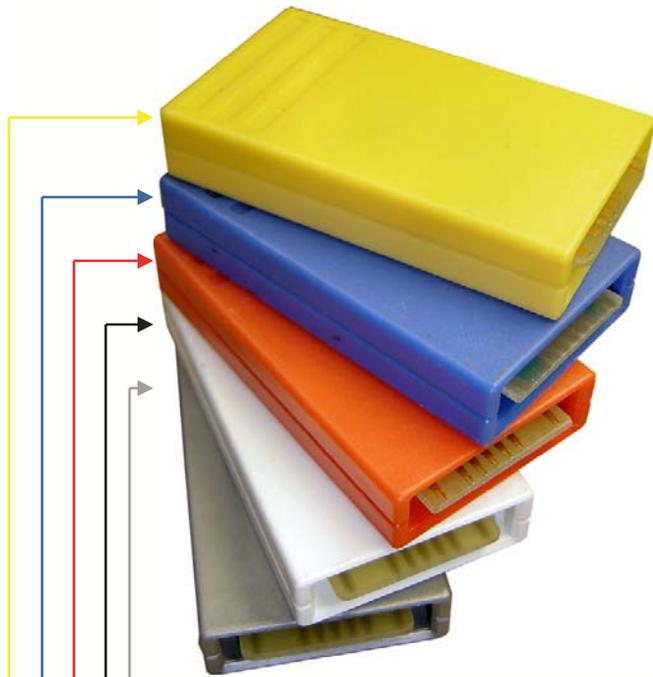


Warning : The skate blade is not properly aligned in the skate holder.

Solution : Loosen skate clamp and reposition blade before tightening clamp again. For optimum results use the skate plate under blade before clamping into position.

Do not operate with a damaged grinding wheel!

Memory Cartridge Applications



Yellow Cartridge : Required for *Sharpening* hockey skates. Be certain to dress grinding wheel before inserting

Blue Cartridge : Profile cartridge for goal skates. You can however program your profile numbers manually by keying in your desired settings as outlined in this manual. (see Profiling Goal Skates).

Red Cartridge: Counter. Insert to determine how many *individual* skates have been sharpened or profiled. Resets to 0 once removed.

White Cartridge: Insert before sharpening figure skates. Dress grinding wheel *before* inserting. See (Sharpening Figure Skates)

Grey Cartridge: Stores profile numbers for up to 99 players.

Continued...

For the dressing process of the wheel you will use both hands. Place your right hand on the elbow of the dresser arm (as pictured) while gently pushing the arm to your left. Using your left hand place the head of the diamond between your thumb and index finger. It is very important to not put any downward pressure on the diamond but simply use your left hand as a guide to bring diamond back and forth over the wheel. Slowly and without stopping bring the diamond all the way across the grinding wheel. This and all subsequent strokes should take approx. 4 to 5 seconds each.. Slow back and forth strokes will ensure accurate shaping of the wheel.



On the first back and forth stroke you will probably feel only part of the wheel has been contacted by the diamond. A spark will appear on the area of the wheel that is being shaped. With the diamond pushed back against the machine use the up arrow to bring the wheel up slightly higher. Repeat process of bringing diamond slowly over wheel until entire wheel has been shaped. Once you have shaped the entire wheel from front to back return the dresser arm to the back of the machine and press the **START/STOP** button to shut down the grinding wheel motor.

You now return the dresser arm across the bar to your right



Never pull on the diamond!

Fold dresser arm down against the machine. The skate carriage will now return to the center position and the grinding wheel will gently move upwards touching the skate clamp twice. The process of dressing the grinding wheel is now complete.



Do not operate with a damaged grinding wheel!

Profiling Hockey Skates

Be sure to dress grinding wheel first before Profiling

Why Profile?

1. Sharpening skates over time will create two different shaped blades, even in the same pair. This is due to the fact that every sharpener has various pressures and techniques when grinding metal. The result of this may mean one blade may have less contact with the ice than the other. Other problems may be a flat spot or dip in the metal on one and not the other. When we use the Cag Profiler we are creating a symmetry between both blades. This is a very important feature and can provide more stability and confidence that both blades will perform equally.
2. When we Profile Skates using the Cag we create a flat point of blade or Gliding surface. This flat area can be lengthened or shortened according to our style of skating or our body position. This gliding surface allows us to push off with more thrust and attain more stability when turning aggressively.
3. By Profiling more **flat** blade contact with the ice we are able to distribute our body weight more evenly over a longer surface as well as reducing downward pressure into the ice. This means that friction between blade and ice is being reduced as we sit more on top of the ice and sink less into it. This allows you to glide further between strides as well as generating increased energy. It is important to remember however that the more blade contact you Profile the shallower the hollow (ROH) one should be sharpening their skates with. A shallow hollow (Larger ROH) will allow easier turning ability and better gliding characteristics. We sink less into the ice with a flatter hollow, yet because we Profiled more blade contact on the ice we still are able to maintain maximum control and thrust. An example of a shallower hollow would be a 3/4". A *Profiled* skate with a deep hollow would create drag and be detrimental to quick turns as well as creating stress on the knees and ligaments.
4. The biggest improvement a player can attain from his/her equipment is quite possibly a properly profiled and sharpened pair of skates.

Do not operate with a damaged grinding wheel!!

Figure Skate Sharpening



- Check blades for rust on bottom of blade and use emery paper with penetrating oil to remove if necessary.
- Install toe pick guard to protect the bottom pick from being ground down. Be certain that the metal guard comes down only far enough to cover bottom pick. (fig a)
- Insert white memory cartridge. (fig b)
- Insert skate plate between shot guard and skate holder. (fig c)
- Open skate clamp handle and place figure skate toe forward into holder so that it is sitting upon the skate plate.
- Snug clamp handle and remove skate plate. (Do not over tighten clamp)
- Press **START** button.
- After the grinding wheel has calibrated the blade a numeric value of 4 will appear in the 3rd window. This default setting cannot be altered. If after the 4 cycles more sharpening is needed simply press START again.
- Finish by using a honing stone to remove the burrs and bring up the edges.

Contact Cag One for all your Pro Shop Supplies.

Sharpening Figure Skates

Supplies Required...



Skate Plate



Figure Skate Pick Protector



Honing Stone



Figure Skate Cartridge



Blade Width Measurer or Vernier Calipers



Before You Begin Sharpening Figure Skates ...

You must first dress the grinding wheel according to the desired ROH (Radius of Hollow). Please refer to "Dressing the Grinding Wheel" on pages 11-14 for complete details.

It is important to note that you can only dress the grinding wheel in the **Profiling** mode. If you have any cartridge inserted simply remove and then press the red STOP button above the START button to allow you to begin this process.

Once the grinding wheel has been dressed you are now ready to insert the White sharpening cartridge into the memory slot as shown in (fig d) on next page.

Do not place any objects on top of Profiler unit!

Choosing your Profile Setting.

Before we start to Profile a customers skates there are just a couple of questions we should ask.

- What position does the player play?
- Does the skater have a more straight up style of skating (Neutral) or is he/she more of a lean forward skater?
- Check the size of the skate.

After you have gathered this information it is time to check the Profile chart affixed to the top of the machine.

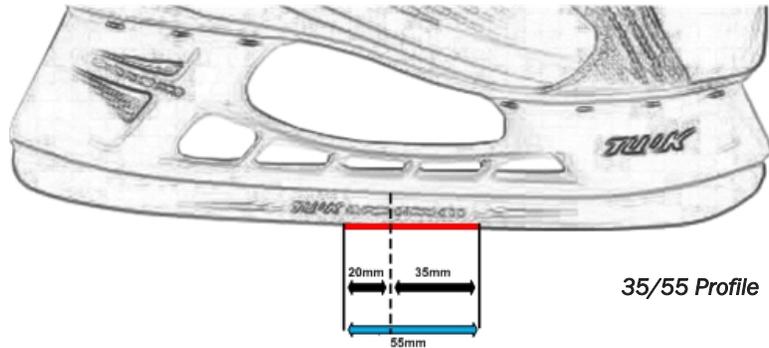
| <i>Blade Size</i> | <i>Players Position</i> | <i>Profile Setting</i> |
|-------------------|-------------------------|------------------------|
| 10-13 | Forward | 15-25 |
| 10-13 | Defence | 15-30 |
| 1-3 | Forward | 15-25 |
| 1-3 | Defence | 15-30 |
| 4-6 | Forward | 20-35 |
| 4-6 | Defence | 20-40 |
| 4-6 | <i>Leaning Forward</i> | 25-35 |
| 4-6 | <i>Leaning Defence</i> | 25-40 |
| 7-8 | Forward | 25-40 |
| 7-8 | Defence | 25-45 |
| 7-8 | <i>Leaning Forward</i> | 30-40 |
| 7-8 | <i>Leaning Defence</i> | 30-45 |
| 9-10 | Forward | 25-45 |
| 9-10 | Defence | 25-50 |
| 9-10 | <i>Leaning Forward</i> | 35-50 |
| 9-10 | <i>Leaning Defence</i> | 30-50 |
| 11-12 | Forward | 30-50 |
| 11-12 | Defence | 30-60 |
| 11-12 | <i>Leaning Forward</i> | 40-60 |
| 11-12 | <i>Leaning Defence</i> | 35-60 |

Example: If a customer with a size 7 skates indicates to you that he/she plays forward and has a forward lean style of skating.

- Check left column to match up skate size.
- Match up style of skating in middle column (leaning forward)
- Right column will give you Profile number to key into machine.

Forward Lean Position

Notice that the blade is ground flat more forward of blade center to reflect a skater that utilizes a more forward lean style. This would indicate the region of blade that is most used for push-off and gliding. If the blade flat sits to far forward the player will not be able to transition off of the flat during the toe extension cycle of the stride.



35/55 Profile

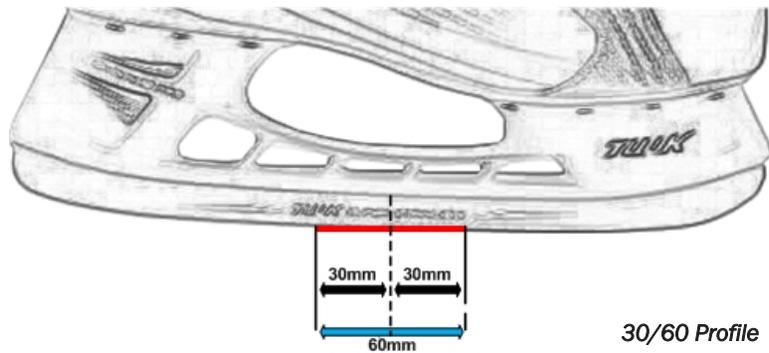
Blade section that has been ground flat

Skate blade center

Measurement of total flat

When grinding a longer gliding surface onto a blade you should try sharpening using a shallower hollow. This will allow for better turns and reduce drag and friction.

Neutral Position



30/60 Profile

Notice that the blade is ground flat in equal measurements in front of and back of blade center to reflect a skater that utilizes a more upright skating style. This would indicate the region of blade that is most used for push-off and gliding as being directly under the arch of the skater.

In order to check whether skates still have retained there flat profile after repeated sharpening's simply role the skate blade on a flat hard surface from the heel to toe. We should feel the flat of the blade on the flat surface. If there is just a continuous blade roll then it is time to re-profile.

Keep your work area clean by changing vacuum bag filter often.

Sharpening Goal Skates...continued



1a

1b

1c

- Insert Skate plate and open clamp. (1a)
- Place goal skate into clamp with toe facing to the right.
- Snug clamp handle and remove skate plate. (Do not over tighten)
- Determine how many sharpening passes are required and key in. (1c)
- Press Start button
- After sharpening is complete loosen clamp and remove skate.
- Repeat process for second skate.
- Check blade to be sure nicks and gouges have been ground out.
- If there are still nicks present then you may need to sharpen further.
- Be certain to hone blades using honing stone to finish the process.



Due to the wider width of a goal skate blade, extra grinding passes may be required to rid the blade of nicks and to attain desired edges.

Goal Skate Sharpening

Supplies you will need...



Before You Begin Sharpening Goal Skates ...

You must first dress the grinding wheel according to the desired ROH (Radius of Hollow). Please refer to “Dressing the Grinding Wheel” on pages 11-14 for complete details.



It is important to note that you can only dress the grinding wheel in the Profiling mode. If you have a cartridge inserted simply remove and then press the red STOP button above the START button to allow you to begin this process.

Once the grinding wheel has been dressed you are now ready to insert the Yellow sharpening cartridge into the memory slot as shown in (fig 1a) on next page.

Do not operate with a damaged grinding wheel!

Steps To Profiling Skates

What you require.



Blade width Measurer
(Supplied)

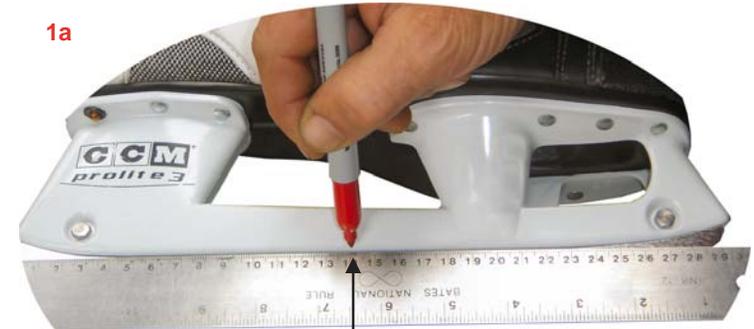


Skate Plate
(Supplied)

Metal Ruler
(Not Supplied)



1a



Marking Blade Center

1. After dressing the grinding wheel in preparation for a Profile, the next step is to mark the center of the skate blade. To do this you will require a basic metal ruler*. Be sure that the toe is facing forward.

* If your Profiler has a ruler decal already fastened to the skate holder then you may not require a separate ruler for a blade centre measurement. It is however easier for future Profiles when the blade holder is already marked at the centre as shown in picture 1a.

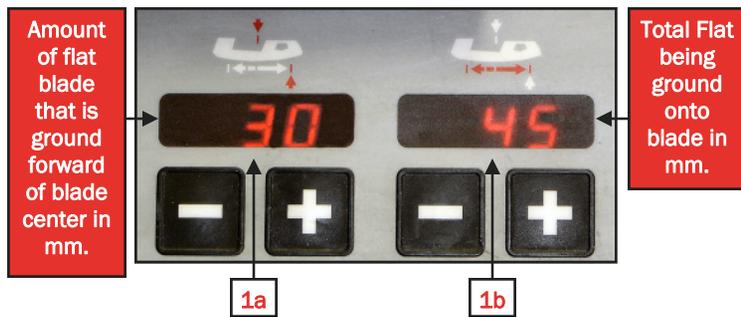
Do not operate with a damaged grinding wheel!

Keying In your Profile Setting

Remember to Sharpen skates after Profiling is completed

Once we have determined the numeric value of the profile for the customer we must key these numbers into the Profiler machine. The numeric keypad are calibrated into 5mm increments. Each press of the keypad will either increase (+) your numeric value or decrease (-) it.

The second number of the Profile (**1b**) represents the exact amount of flat blade the Profiler will be grinding unto the skate blade. This numeric value is expressed in mm. For instance if we wanted to profile a skate at a 30-45 the 45 would represent a 45mm flat that would be ground onto the skate blade.



The first number (**1a**) of the Profile represents the amount of flat blade being ground from the center of the blade forward. If for instance we were doing a 30-45 profile the 30 would mean that 30mm of the 45mm would be ground forward of blade center. Therefore 15mm of flat blade would be ground back of center. This would indicate a lean forward profile due to the fact that most of the flat is forward of blade center.

A player who naturally has a forward lean when skating would benefit from this type of Profile. (Pushes off and glides in the area at the forward region of the arch)

Although much thought and testing has gone into the Profiling chart there will of course at times need to be some alteration based on the wishes of the skater. I have found that the best way to ascertain the best profile point (Neutral or Forward lean) is to have the customer think about the area of their foot that is most used to power their stride and provide there gliding area next time they skate. If this is under the arch then a neutral profile should be incorporated. If it is more toward the frontal area of the arch then a forward lean Profile is best incorporated. Mark down any changes you make to the skates Profile and/or Sharpening for future reference. (Cag stickers are provided)

Continued...

You may now press the start button to begin the process. After the calibration process is complete the third window will display a number indicating the total amount of passes required. Once the profile is complete be certain to sharpen according to the desired ROH.

Why Profile Goal Skates?

Goal Skates before Profile

After Profiling



Fig a

Fig b

Over time and multiple sharpening it is fairly common for the goal skates flat profile to change shape. One way to determine if a goal skate blade requires profiling is to place both blades together and look up at a light source. If traces of light are seen between the blades this indicates the blades are not completely flat and contain dips. (see figure a) This creates an uneven profile with only parts of the blade contacting the ice and other area's not. After Profiling both blades should be completely flat within the Profiled area.



Place the SKATE PLATE between the skate holder and shot guard. Position the goal skate into holder toe forward and resting on the plate. Be sure the blade center is lined up with the skate holder center. Snug skate holder with handle and remove skate plate.



Insert the Blue goal cartridge into the slot. In window number one and two you will see numeric digits of 60-120 or an equivalent number. It is because a goaltenders skates has generally much more flat blade that these numbers are higher than with players. It should be noted that you can manually program your profile number without use of the blue cartridge by simply pressing the + or - solenoids above the first and second windows till the desired values have been reached. The number in the 3rd window is not relevant to this procedure.



Look at the chart to determine the profile numbers according to the size of the skate. These numbers are only a general guide and may be changed to suit the individual desire of the goaltender.

KEEPER PROFILES

| SKATE SIZE | PROFILE |
|------------|-----------|
| 1 - 2 | 50 - 100 |
| 3 - 4 | 60 - 120 |
| 5 - 6 | 70 - 140 |
| 7 - 8 | 80 - 160 |
| 9 - 10 | 90 - 180 |
| 11- 12 | 100 - 200 |

2. Insert skate plate under skate holder as shown.



3. Place skate into clamp toe forward and so that the blade is resting on skate plate. Be sure that the blade center is lined up with the center of the skate clamp. The skate clamp center is marked with a white line. Now tighten the blade into the clamp by pushing the handle to your left until snug.

4. Remove skate plate from skate holder.



Profiling Hockey Skates

Continued...

Now you are ready to press the START button located on the bottom right side of machine. Once this is done the Profiler will begin a process of calibrating the blade. The skate holder will move incrementally forward approx every 5mm at which point the grinding wheel will lift and touch the blade. When the back half of the blade has been calibrated the skate holder shifts to blade centre and the same process is initiated for the front half of the blade. This process of calibration allows the Machine to know the present profile of the blade and decide how many passes will be required to grind in the Profile keyed in by the user. A number will now appear in the third LED window to indicate how many passes the Profiler will do and the process of grinding will begin. Once the Profiler has finished loosen skate holder and remove blade. Insert second skate as per instructions and press Start button.

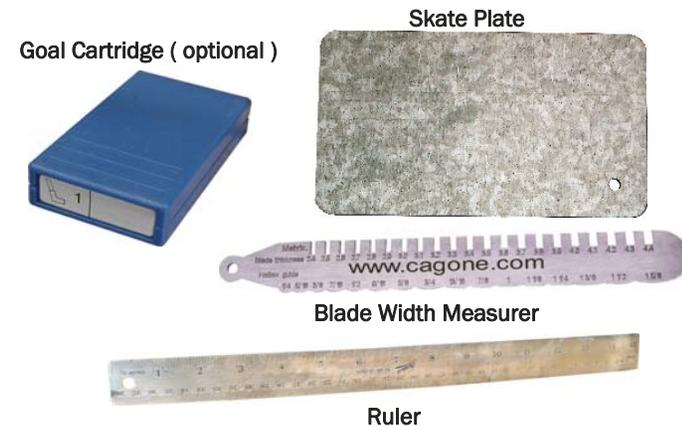
Be certain to sharpen skates after Profiling.

Important Points to Remember...

- Always remove rust from bottom of skate blade's before Profiling or Sharpening. If this is not done the rust will coat the grinding wheel and not allow the grit to grind the steel.
- New skates may require you to Profile each blade twice to properly grind the glide surface unto the blade. This is because new blades are coated in silicone to protect them from rusting during storage.
- Always dress the grinding wheel before Profiling or Sharpening to insure optimum results.
- Dresser diamonds should be replaced approx. after every two wheels. Do not dress grinding wheel harshly for this will dull the diamond prematurely.
- You should re-profile skates once the flat glide surface has been rounded out through repeat sharpening. To check this simply place the skate on a flat hard surface and gently roll the blade from the heel to the toe. If you do not detect a flat point during this test then a re-profile is in order.
- Always mark on the bottom of the skate the number in which you Profiled the skates. Example: 30/45. On this same sticker you may also want to include information such as ROH. Example: 5/8 ROH.
- Keep Profiler clean and never place items on top of machine! Brush off dust periodically and or vacuum using a soft brush at end of hose. Never use forced air to blow dust off unit as this may blow dust into the Profiler.

Profiling Goal Skates

What you require...



After dressing the grinding wheel in preparation for a Profile (page 11 to 14), the next step is to mark the center of the goal skate blade. (1a) To do this you will require a basic metal ruler*. Be sure that the toe is facing *forward*. Use a permanent marker so that you will have a reference point to use for future Profiles.



*** If your profiler has a ruler decal fastened to the skate holder then you may not require a separate ruler for a blade centre measurement. It is however easier for future Profiles when the blade is already marked at the centre as shown in picture 1a.**

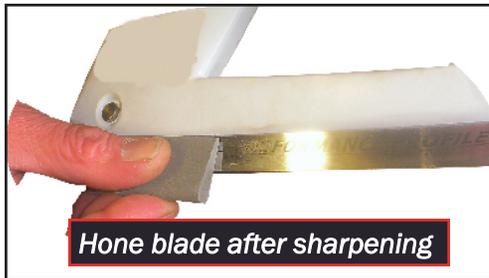
SHARPENING HOCKEY SKATES *continued...*



Once the START button has been pressed the Profiler will begin the process of calibrating the shape of the blade. The skate holder will move incrementally forward as the grinding wheel gently lifts up and touches the skate blade approx every 5mm until reaching the heel. The skate holder will then return to the blade center and begin this same process towards the front portion of the blade until reaching the toe. This allows the Profiler to know the actual shape of the skate blade and thus the grinding wheel can now follow this exact shape while sharpening. During this calibration process it is important that the machine is not touched or that there is no external vibration to insure a proper reading. Once the Profiler finishes sharpening you may open the skate clamp and remove skate. After removal of skate check blade check that all nicks have been ground out before honing the blade. If you determine that the blade still has a nick or nicks that may effect the skater you should continue to sharpen some more until satisfactory.

IMPORTANT!

Be certain to hone blades after sharpening to remove burr and bring edges up.



Points to Remember...

- You can only dress grinding wheel when sharpening cartridge is removed and the stop button pressed.
- Be certain skate blade sits fully within the skate clamp. If there is not quite enough blade on the skate to sit in clamp, place in clamp without using the Skate Plate.
- Do not touch or create vibration to the Profiler during the calibration process. It is also important to remember not to place any object on top of the machine.
- Always check condition of blade before sharpening and remove rust on bottom of blade using a sand block or cross grinder.
- Where safety gear such as protective glasses and filter while operating Profiler.

Contact Cag One for all your Pro Shop Supplies.

Storing Gliding Surface Settings On Memory Cartridge.

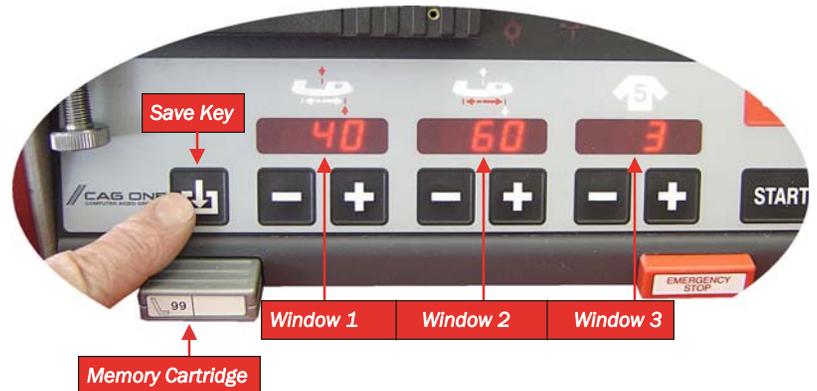
Memory cartridge is supplied with machine.



1. Insert Grey coloured memory cartridge.
2. In the third display window key in the players number who's gliding service is being stored.
3. Key in the gliding surface using the first and second window. (Please refer to "Choosing Your Profile Setting" for more information.)
4. Once you have keyed in the players number and Profile setting you may now press the save key as pictured below.
5. Repeat this process for each players number.
6. To use this cartridge after downloading the teams Profile numbers, simply insert into Profiler and in the third window key in the players number. The players Profile numbers will automatically display.



Although the memory cartridge stores Profile settings it does not however store ROH (Radius of Hollow) settings. Keep a written log on each players specific ROH requests.



Skate Sharpening

Supplies Required...



Blade width measurer or vernier caliper



Skate Plate



Sharpening Cartridge



Honing Stone



Before You Begin Sharpening Hockey or Goal Skates ...

You must first dress the grinding wheel according to the desired ROH (Radius of Hollow). Please refer to “Dressing the Grinding Wheel” on pages 11-14 for complete details.

It is important to note that you can only dress the grinding wheel in the **Profiling** mode. If you have any cartridge inserted simply remove and then press the red STOP button above the START button to allow you to begin this process.

Once the grinding wheel has been dressed you are now ready to insert the yellow sharpening cartridge into the memory slot as shown in (fig a)



Contact Cag One for all your Pro Shop Supplies.

Skate Sharpening Continued...



A default number of 4 will appear in the 3rd display window and indicates the number of passes that the skate will pass over the grinding wheel for sharpening. This number is however to few passes for the average skate to be properly sharpened. My experience indicates that a higher numeric value should be keyed into this window. The average pair of skates that have been skated on 5-6 times need approx. 8-12 passes to adequately grind pass all the nicks and chips on the blades and give solid smooth edges. There is on occasion a need to increase even further

the number of passes for very poorly maintained skates with deep gouges and/or rounded edges. To increase the numeric value simply press the + until the desired number is achieved. If you have keyed in to many passes simply press the — button until your desired number appears on the screen. (Numbers are counted in increments of two).



IMPORTANT! Before placing skate into skate clamp be certain to check condition of blade to determine how many passes you think may be required to sharpen skate properly. Remove rust from bottom of blades first by using a foam sanding block with oil or emery paper.

After keying in the number of passes it is time to insert the Skate Plate under the skate clamp. (Place under the middle of the clamp). Open skate clamp holder so that the skate can fit in easily onto the skate plate (Be certain the toe of skate is facing to the right). Gently pull the skate clamp handle to your left so that the skate is securely in place. Now remove the Skate Plate from the skate holder. You are now ready to press the red **START** button



Continued on page →

Do not operate with a damaged grinding wheel!