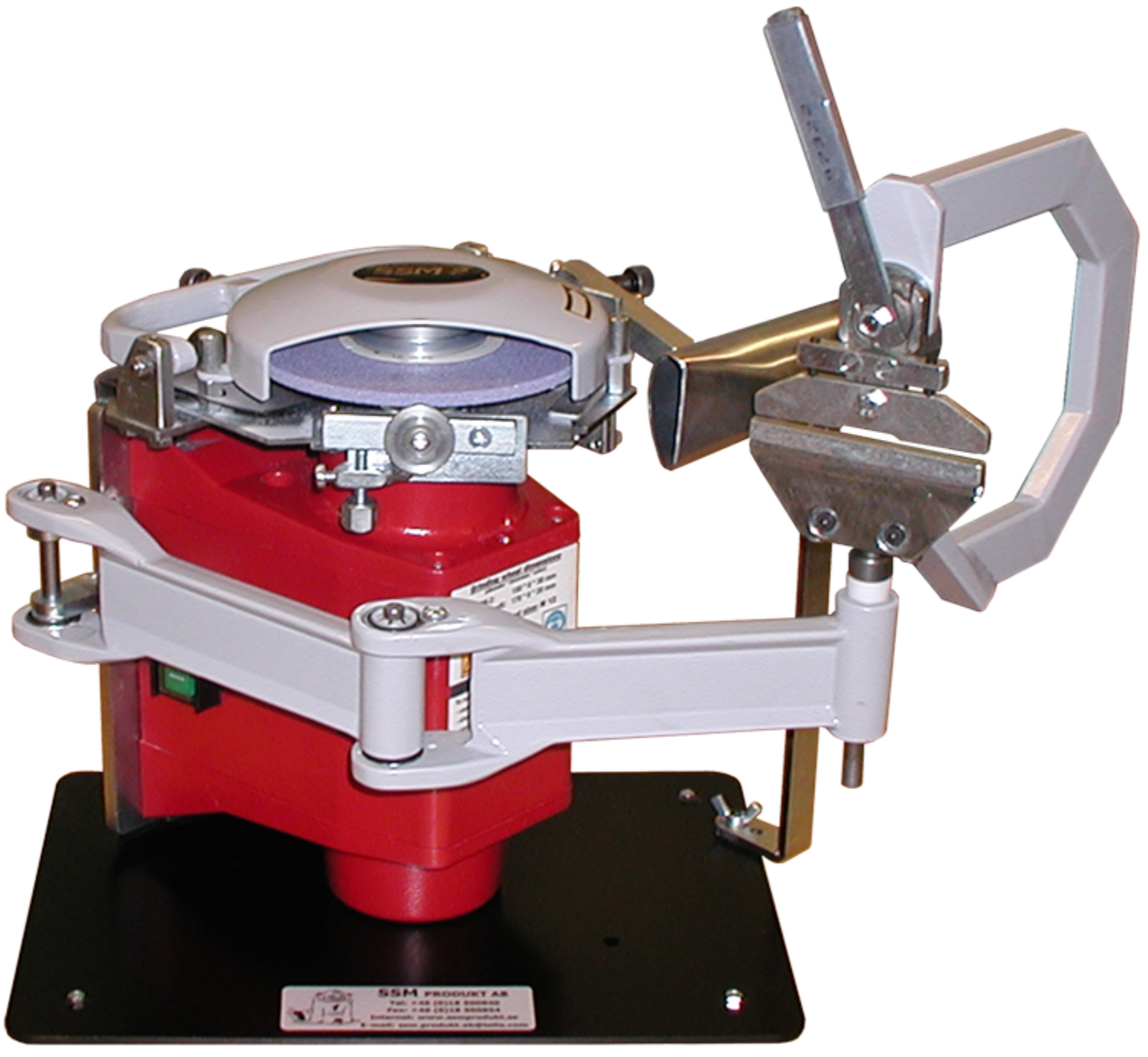
SSM-2

INSTRUCTION MANUAL

WARNING!

TO REDUCE THE RISK OF INJURY, USER MUST READ AND UNDERSTAND THIS INSTRUCTION MANUAL.



Serial # ..... Date of purchase: .....

SSM - High Quality - Skate Sharpening Machines - For Everyone

SSM-2 Skate Sharpening Machine

Congratulations on your purchase of a SSM-2 Skate Sharpening Machine.
We sincerely thank you for selecting a product from SSM Produkt AB.

To obtain an additional copy of this manual, please contact SSM at:

SSM PRODUKT AB
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SE-752 28 Uppsala, Sweden
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E-mail: ssm.produkt.ab@telia.com
Internet: www.ssmprodukt.com

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LIMITED WARRANTY

Scope of warranty
This warranty covers any defects in materials and workmanship under normal use in compliance with the instruction manual.

Period of coverage
This warranty runs for two (2) years from the date of purchase. Please save your receipt or invoice.

Limitations
Failures due to abuse, misuse, transport or an event or effect that cannot be reasonably anticipated or controlled (such as flood, earthquake, act of God etc.) are not covered by this warranty. Surface coating problems caused by excessive humidity, in-use scratches or abrasions, and direct exposure to the elements are also not covered.
Repair or replacement is the only option available under this warranty. SSM Produkt AB (SSM) is not responsible for damages of any kind, including incidental and consequential damages.
Incidental damages include but are not limited to such damages as loss of time and loss of use. Consequential damages include but are not limited to the cost of repairing or replacing property that was damaged if the product from SSM does not work properly.

Correction of details
If your product cannot be repaired, we will replace your product free of charge.

How to get service
Please return the defective product together with the purchase receipt or the invoice. You can obtain service by contacting a dealer of SSM products or SSM directly. At our discretion, the dealer or SSM will either repair or replace your product. The user is responsible for the cost of shipping and returning the product.

How country and state laws relates to the warranty
This warranty gives you specific legal rights. You may also have other rights that vary from country to country and from state to state.

SSM PRODUKT AB RESERVES THE RIGHT TO MAKE IMPROVEMENTS AND MODIFICATIONS TO DESIGN WITHOUT PRIOR NOTICE.

GENERAL SAFETY RULES

WARNING!

Read and understand all instructions. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury. The term “power tool” in all of the warnings listed below refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

SAVE THESE INSTRUCTIONS

Work area safety

Keep work area clean and well lit. *Cluttered or dark areas invite accidents.*

Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. *Power tools create sparks which may ignite the dust or fumes.*

Keep children and bystanders away while operating a power tool.
Distractions can cause you to lose control.

Electrical safety

Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools. *Unmodified plugs and matching outlets will reduce risk of electric shock.*

Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators.
There is an increased risk of electric shock if your body is earthed or grounded.

Do not expose power tools to rain or wet conditions.
Water entering a power tool will increase the risk of electric shock.

Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool.
Keep cord away from heat, oil, sharp edges or moving parts.
Damaged or entangled cords increase the risk of electric shock.

When operating a power tool outdoors, use an extension cord suitable for outdoor use.
Use of a cord suitable for outdoor use reduces the risk of electric shock.

Personal safety

Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.
A moment of inattention while operating power tools may result in serious personal injury.

Use safety equipment. Always wear eye protection.
Safety equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.

Avoid accidental starting. Ensure the switch is in the off-position before plugging in.
Carrying power tools with your finger on the switch or plugging in power tools that have the switch on invites accidents.

Remove any adjusting key or wrench before turning the power tool on.
A wrench or a key left attached to a rotating part of the power tool may result in personal injury.

Do not overreach. Keep proper footing and balance at all times.
This enables better control of the power tool in unexpected situations.

Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts. *Loose clothes, jewellery or long hair can be caught in moving parts.*

If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used. *Use of these devices can reduce dust-related hazards.*

GENERAL SAFETY RULES (continued)

Power tool use and care

Do not force the power tool. Use the correct power tool for your application.
The correct power tool will do the job better and safer at the rate for which it was designed.

Do not use the power tool if the switch does not turn it on and off.
Any power tool that cannot be controlled with the switch is dangerous and must be repaired.

Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.
Such preventive safety measures reduce the risk of starting the power tool accidentally.

Store idle power tools out of reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.
Power tools are dangerous in the hands of untrained users.

Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tools operation. If damaged, have the power tool repaired before use.
Many accidents are caused by poorly maintained power tools.

Keep cutting tools sharp and clean.
Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.

Use the power tool, accessories and tool bits etc., in accordance with these instructions and in the manner intended for the particular type of power tool, taking into account the working conditions and the work to be performed. *Use of the power tool for operations different from those intended could result in a hazardous situation.*

Service

Have your power tool serviced by a qualified repair person using only identical replacement parts.
This will ensure that the safety of the power tool is maintained.

Safety Warnings Common for Grinding:

This power tool is intended to function as a grinder. Read all safety warnings, instructions, illustrations and specifications provided with this power tool. *Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.*

Operations such as sanding, wire brushing, polishing or cutting-off are not recommended to be performed with this power tool. *Operations for which the power tool was not designed may create a hazard and cause personal injury.*

Do not use accessories which are not specifically designed and recommended by the tool manufacturer.
Just because the accessory can be attached to your power tool, it does not assure safe operation.

The rated speed of the accessory must be at least equal to the maximum speed marked on the power tool.
Accessories running faster than their RATED SPEED can break and fly apart.

The outside diameter and the thickness of your accessory must be within the capacity rating of your power tool.
Incorrectly sized accessories cannot be adequately guarded or controlled.

The arbour size of wheels, flanges, backing pad or any other accessory must properly fit the spindle of the power tool. *Accessories with arbour holes that do not match the mounting hardware of the power tool will run out of balance, vibrate excessively and may cause loss of control.*

Do not use a damaged accessory. Before each use inspect the accessory such as abrasive wheels for chips and cracks, backing pad for cracks, tear or excess wear, wire brush for loose or cracked wire. If power tool or accessory is dropped, inspect for damage or install an undamaged accessory. After inspecting and installing an accessory, position yourself and bystanders away from the plane of the rotating accessory and run the power tool at maximum no-load speed for one minute. *Damaged accessories will normally break apart during this test time.*

Wear personal protective equipment. Depending on application, use face shield, safety goggles or safety glasses. As appropriate, wear dust mask, hearing protectors, gloves and workshop apron capable of stopping small abrasive or workpiece fragments. The eye protection must be capable of stopping flying debris generated by various operations. *The eye protection must be capable of stopping flying debris generated by various operations. The dust mask or respirator must be capable of of filtrating particles generated by your operation. Prolonged exposure to high intensity noise may cause hearing loss.*

GENERAL SAFETY RULES (continued)

Keep bystanders a safe distance away from work area. Anyone entering the work area must wear personal protective equipment. *Fragments of workpiece or of a broken accessory may fly away and cause injury beyond immediate area of operation.*

Hold power tool by insulated gripping surfaces only, when performing an operastion where the cutting accessory may contact hidden wiring or its own cord. *Cutting accessory contacting a "live" wire may make exposed metal parts of the power tool "live" and shock the operator.*

Position the cord clear of the spinning accessory.
If you lose control, the cord may be cut or snagged and your hand or arm may be pulled into the spinning accessory.

Never lay the power tool down until the accessory has come to a complete stop.
The spinning accessory may grab the surface and pull the power tool out of your control.

Do not run the power tool while carrying it at your side.
Accidental contact with the spinning accessory could snag your clothing, pulling the accessory into your body.

Regularly clean the power tool´s air vent. *The motor´s fan will draw dust inside the housing and excessive accumulation of powdered metal may cause electrical hazards.*

Do not operate the power tool near flammable materials. *Sparks could ignite these materials.*

Do not use accessories that require liquid coolants.
Using water or other liquid coolants may result in electrocution or shock.

Kickback and Related Warnings

Kickback is a sudden reaction to a pinched or snagged rotating wheel, backing pad, brush or any other accessory. Pinching or snagging causes rapid stalling of the rotating accessory which in turn causes the uncontrolled power tool to be forced in the direction opposite of the accessory´s rotation at the point of the binding.

For example, if an abrasive wheel is snagged or pinched by the workpiece, the edge of the wheel that is entering into the pitch point can dig into the surface of the material causing the wheel to climb out or kick out. The wheel may either jump toward or away from the operator, depending on the direction of the wheel´s movement at the point of pinching. Abrasive wheels may also break under these conditions.

Kickback is result of power tool misuse and/or incorrect operating procedures or conditions and can be avoided by taking proper precautions as given below.

Maintain a firm grip on the power tool and position your body and arm to allow you to resist kickback forces. Always use auxiliary handle, if provided, for maximum control over kickback or torque reaction during start-up.
The operator can control torque reactions or kickback forces, if proper precautions are taken.

Never place your hand near the rotating accessory. *Accessory may kickback over your hand.*

Do not position your body in the area where power tool will move if kickback occurs.
Kickback will propel the tool in direction opposite to the wheel´s movement at the point of snagging.

Use special care when working corners, sharp edges etc. Avoid bouncing and snagging the accessory.
Corners, sharp edges or bouncing have a tendency to snag the rotating accessory and cause loss of control or kickback.

Do not attach a saw chain woodcarving blade or toothed saw blade.
Such blades create frequent kickback and loss of control.

SPECIFIC SAFETY RULES AND SYMBOLS

WARNING!

READ OPERATOR'S MANUAL BEFORE USING THE MACHINE

EYE AND HEARING PROTECTION REQUIRED

The machine must be used only for the purpose of grinding skate blades.

Always fasten the skate in the skate holder. NEVER hold skate being sharpened only by your hands.
It is important to support the work properly to get the best result possible, minimize body exposure and loss of control.

Check grinding wheel protective lid for proper fit before using the machine to minimize the risk of flying debris.
Keep hands and body away from the rotating grinding wheel.
Contact with a rotating grinding wheel or parts from an exploding grinding wheel can result in serious injury.

Only use grinding wheels approved by SSM Produkt AB. Use grinding wheels with correct size and shape.
Unauthorized grinding wheels may be dangerous!

Keep grinding wheel securely fastened.
When fastening grinding wheel, never use damaged or incorrect flange, flange washer or nut.
The flange and flange washer were specially designed for the machine, for optimum performance and safety of operation.

Safety Warnings Specific for Grinding:

Use only wheel types that are recommended for your power tool and the specific guard designed for the selected wheel. *Wheels for which the power tool was not designed cannot be adequately guarded and are unsafe.*

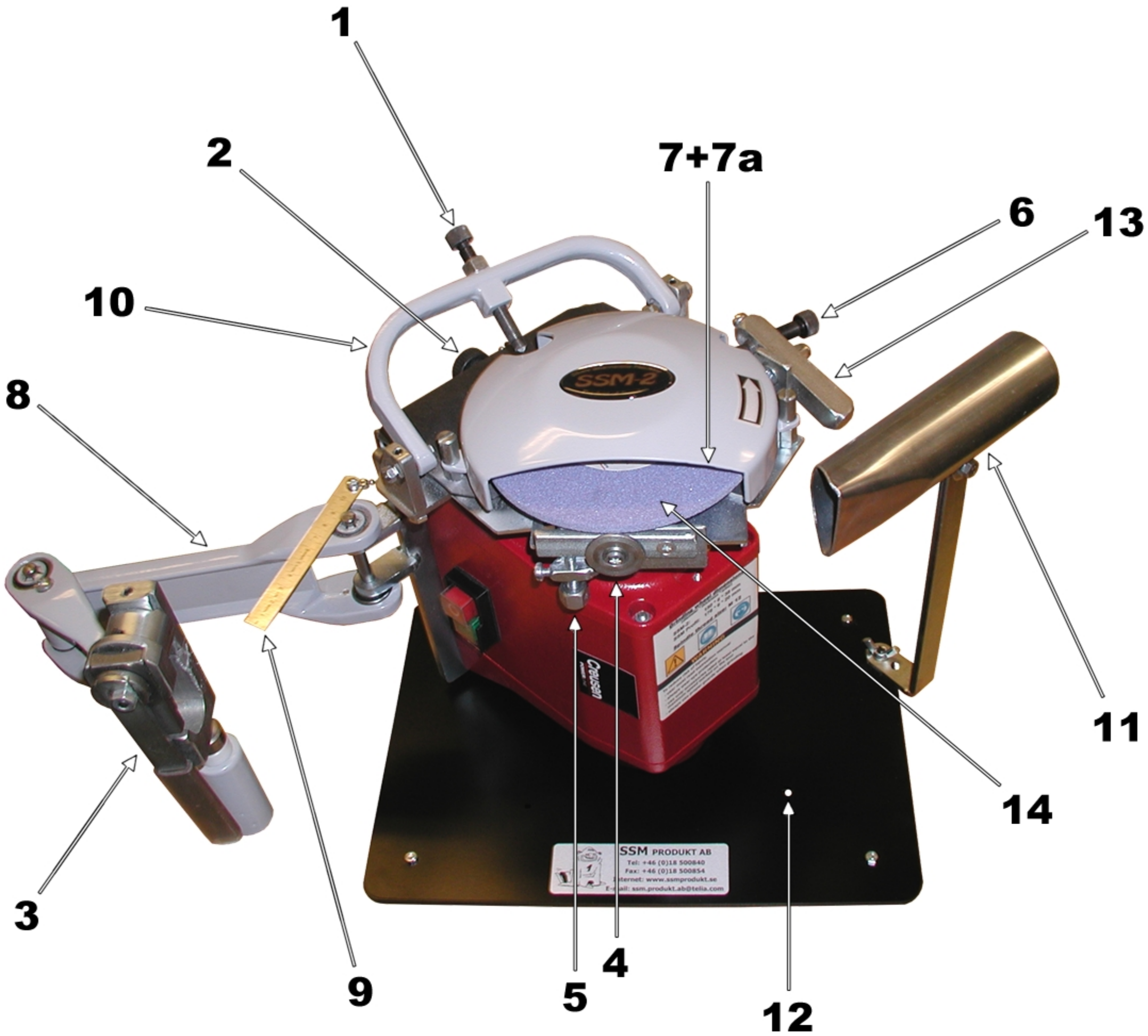
The guard must be securely attached to the power tool and positioned for maximum safety, so the least amount of wheel is exposed towards the operator.
The guard helps to protect operator from broken wheel fragments and accidental contact with wheel.

Wheels must be used only for recommended applications. For example: do not grind with the side of cut-off wheel. *Abrasive cut-off wheels are intended for peripheral grinding, side forces applied to these wheels may cause them to shatter.*

Always use undamaged wheel flanges that are of correct size and shape for your selected wheel.
Proper wheel flanges support the wheel thus reducing the possibility of wheel breakage. Flanges for cut-off wheels may be different from grinding wheel flanges.

Do not use worn down wheels from larger power tools.
Wheel intended for larger power tool is not suitable for the higher speed of a smaller tool and may burst.

FUNCTIONAL DESCRIPTION



1. Diamond for hollow shape
2. Adjusting screw
3. Holder
4. Blade support roller
5. Height adjustment screw
6. Diamond for plane shape
7. Protection lid

7a. Front edge of protection lid.

8. Leading arm
9. Ruler
10. Pivot device
11. Exhaust tube
12. Hole for mounting
13. Flat surface device
14. Grinding wheel

FUNCTIONAL DESCRIPTION (continued)

The machine is intended to do the finishing sharpening on skate blades (flat or hollow).
This is done by manually moving the skate blade (mounted in a holder) against a suitably dressed, rotating grinding wheel. The open construction of the machine allows for a constant and easy supervision of the sharpening process.

The machine is built around a modified electric grinding machine with a leading arm attached to it. The electric motor is attached to a bottom plate. It is intended that the bottom plate should be kept horizontal. The axle of the electric motor will then be vertical. On the axle the following items are mounted in this order: a flange, a grinding wheel, a flange washer, a balancing detail and a fastening nut. This is all partially covered by a protection lid.

1. The **Diamond for hollow shape** is used to dress the grinding wheel and is fitted into the pivot device (10).
2. The **Adjusting screw** is used to move the pivot device (10) inwards or outwards.
   This is done by screwing it clockwise (outwards) or counter clockwise (inwards).
3. The **Holder** is used to fasten the skate.
   Place the skate blade between the upper and lower jaw. Turn the handle and the upper jaw moves up or down.
4. The **Blade support roller** is used to get the hollowness on your skate centered by controlling the vertical position of the holder (3). When sharpening a skate hollow, put the skate blade on top of the roller.
5. The **Height adjustment screw** is used to move the blade support roller (4) upwards or downwards.
   This is done by screwing it clockwise (upwards) or counter clockwise (downwards).
   To move the roller downwards you must push down the arm on which it is mounted.
6. The **Diamond for plane shape** is used to dress the grinding wheel and is fitted into the flat surface device (13).
7. The **Protection lid** is a guard that protects if a grinding wheel would break. It also prevents sparks from spreading.
   The lid is fastened by three top nuts.
8. The **Leading arm** is a flexible, horizontal arm. You put the holder (3) in the plastic bushing on the front arm.
9. The **Ruler** (scale in mm.) is used when measuring on the pivot device (10). Measure from the head of the diamond to the pivot; the distance gives the hollowness obtained on your skate. See “ADJUSTMENTS”.
10. The **Pivot device** is used with a diamond to dress the grinding wheel. Use the nut to fasten the diamond.
    Use diamond D-80 or D-2000. This device is to be used when you want to sharpen the skate hollow.
11. The **Exhaust tube** is intended to collect sparks and other debris created when grinding and dressing.
    Fasten it onto the bottom plate with the wing nut in the angle you prefer; then attach a suitable dust extractor.
12. The **Hole for mounting** can be used to attach the machine to the surface where it’s placed. Use a screw to attach it.
13. The **Flat surface device** is used with a diamond to dress the grinding wheel.
    Use diamond D-50, D-80 or D-2000. This device is to be used when you want to sharpen your skate flat.
14. The **Grinding wheel** rotates counter clockwise and is used to sharpen the skate blade.
    Use grinding wheel S-2/60, S-2/80, S-2/KB or S-2/KB80.

ASSEMBLY

Your Skate Sharpening Machine SSM-2 is delivered complete and protected inside its delivery box. Remove all contents from the box and inspect to ensure no damage was incurred during shipping. Your SSM-2 package should also include the following:

DESCRIPTION	PART	#QTY
Instruction manual	SSM-2 Manual.etl.en	1
Exhaust tube	UT	1
Skate holder	H-5, H-8 or H-10	1
Allen screw driver	AS 2.5 mm	1
Allen screw driver	AS 4 mm	1
Double ended wrench	DEW 8,10 mm	1

Getting started:

CAUTION!

IF POSSIBLE, ALWAYS DISCONNECT THE SKATE SHARPENING MACHINE FROM THE POWER SOURCE BEFORE MAKING ADJUSTMENTS.

Place the machine on a stable, level surface.
You can fasten the machine with a screw through the hole (12) in the bottom plate.

The machine comes with a grinding wheel mounted and balanced.
Refer to MAINTENANCE: HOW TO CHANGE AND BALANCE THE GRINDING WHEEL (on page 13) if you want to replace or balance the grinding wheel.

The grinding wheel and the diamond are adjusted for a hollow radius of 20 mm when delivered from SSM Produkt AB. Refer to OPERATION: ADJUSTMENTS (on page 10) when you want to change the radius.

MAKE SURE THAT NO DIAMOND IS TOUCHING THE GRINDING WHEEL WHEN YOU START THE MACHINE. If necessary, reposition the diamonds outwards. For diamond (6), screw it directly. For diamond (1), screw on the adjusting screw (2).

MAKE SURE THAT THE BLADE SUPPORT ROLLER IS NOT TOUCHING THE GRINDING WHEEL WHEN YOU START THE MACHINE. Follow the instructions under OPERATION: ADJUSTMENTS (on page 10) to reposition the blade support roller if necessary.

Mount the exhaust tube (11) and attach a proper dust extractor. This will reduce the amount of sparks and debris. For more complete protection, wear a suitable face mask covering mouth and nose.

Make sure you wear protection glasses and hearing protection when you use the machine.

OPERATION

ADJUSTMENTS before sharpening

Balancing grinding wheel

If necessary, exchange the grinding wheel. Balance it if needed. (See MAINTENANCE: HOW TO CHANGE AND BALANCE THE GRINDING WHEEL.)

Adjusting location of the blade support roller

If necessary, adjust the position of the blade support roller (4). It should be as close to the grinding wheel as possible without touching it. Therefore, as the grinding wheel gets smaller with time after repeated dressing (or gets bigger through exchange to a new wheel) you have to reposition the roller. To do this, first loosen the nut (M) on the left side of the roller's holder. (Avoid the right-hand side screw through the flat spring.) You can now move the roller's holder by pushing or gently tapping on it. When in a good position, fasten the nut again. (Make sure that the roller doesn't touch the grinding wheel.)

Dressing the grinding wheel

To dress for hollowness, use diamond (1) in the pivot device (10). You adjust the hollowness by screwing the diamond in or out until you reach the correct position. You use the ruler (9) to measure from inside the head of the diamond screw (must be a D-80 or a D-2000) to the pivot device (see Fig. B). The usable limits are 8 to 38 mm. Secure the diamond in place by tightening the nut on the diamond screw.
As you dress the grinding wheel, it is consumed and gets smaller. Use the adjusting screw (2) to move the whole assembly with the pivot device. Move in small amounts, at the same time turning the pivot device up and down until a few times when dressing occurs. The dressing should be performed gently, so as not to damage diamond or grinding wheel.

To dress flat, use diamond (6). Screw the diamond inwards in small amounts, at the same time turning the flat surface device (13), so that its diamond moves up and down past the grinding wheel. The last few movements should give dressing. Dress gently.

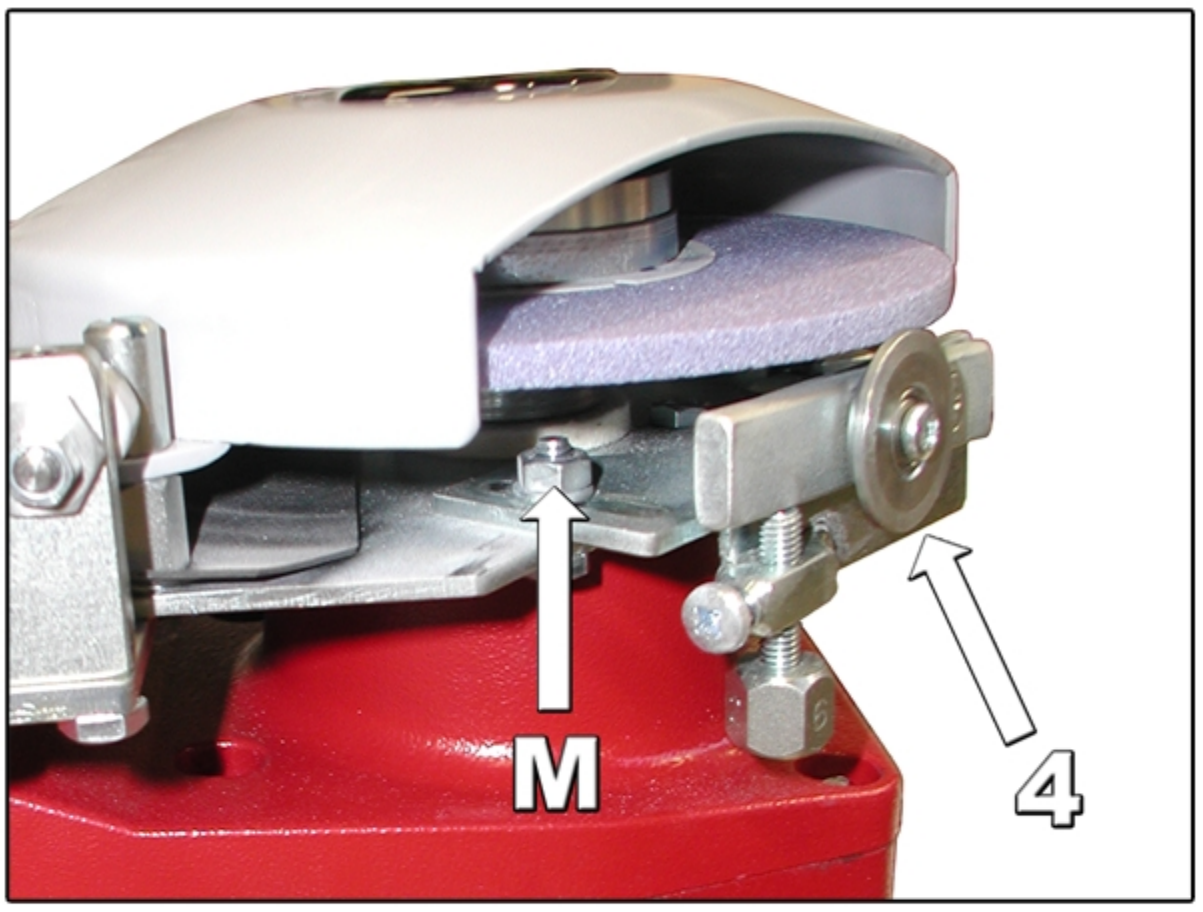
Adjusting the height of the blade support roller

When sharpening hollow, you must make sure that the hollowness will be centered in the skate blade. An adjustment will be necessary if the thickness of the skate blade has changed.
See CENTERING OF THE BLADE WHEN SHARPENING HOLLOW on next page.

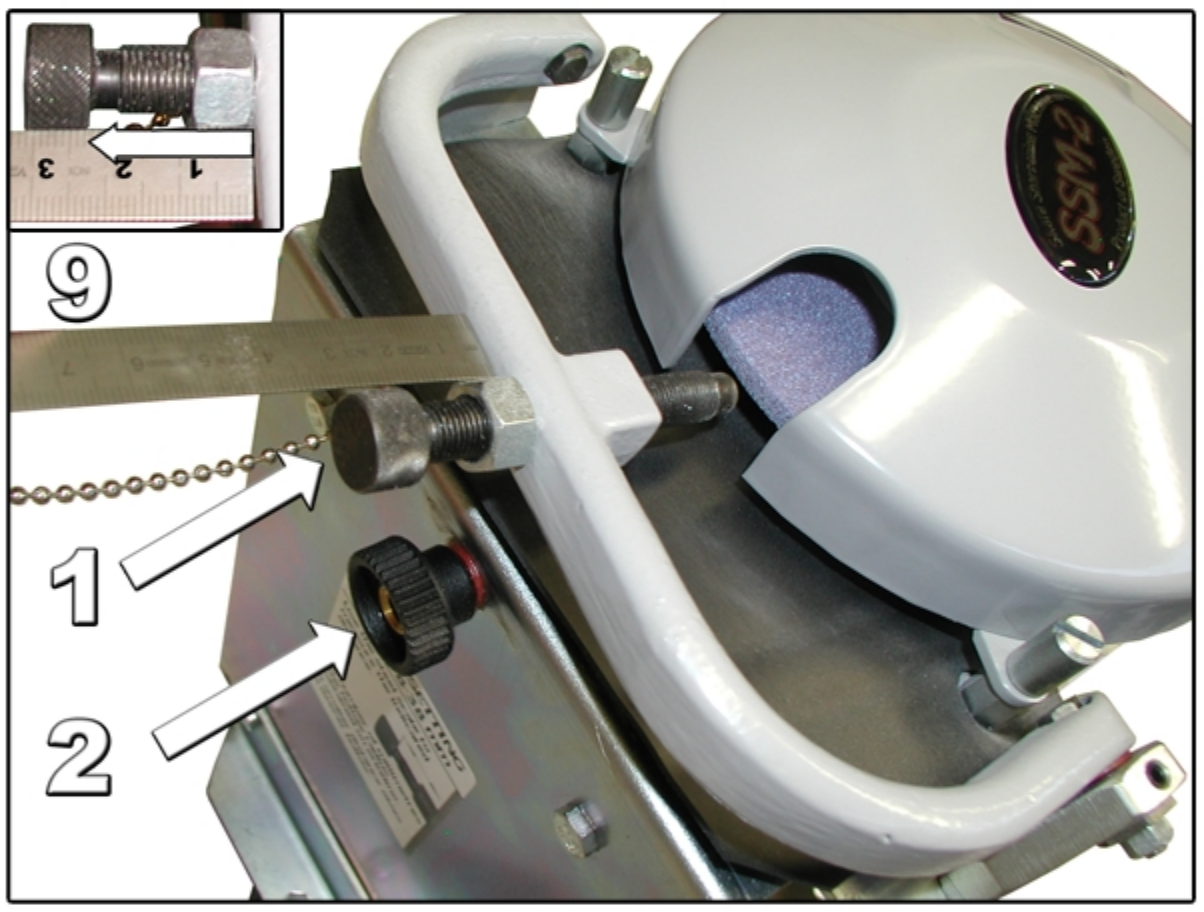
Adjusting the angle of the flat surface device

This should not normally be necessary. However, the procedure is described in the section ADJUSTING FLAT SURFACE DEVICE on next page.

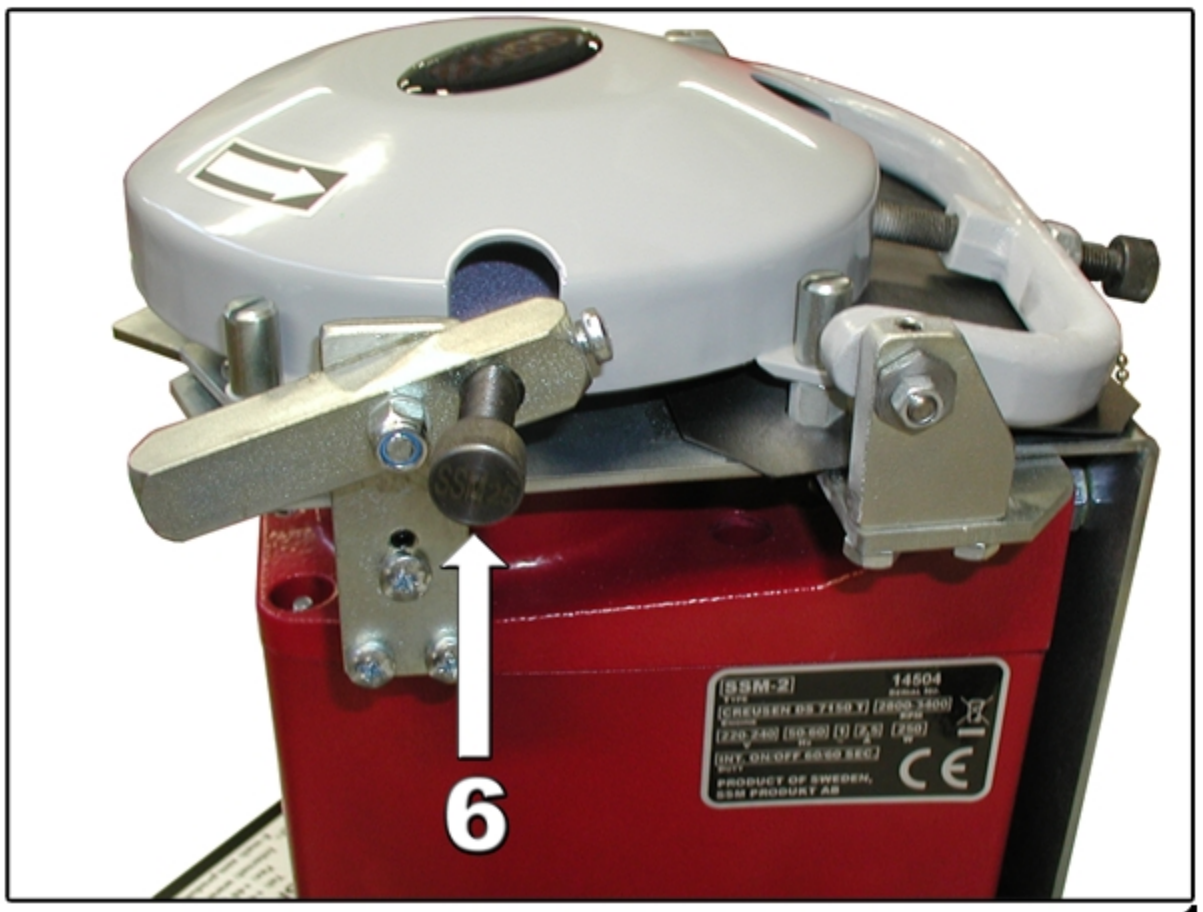
A



B



C



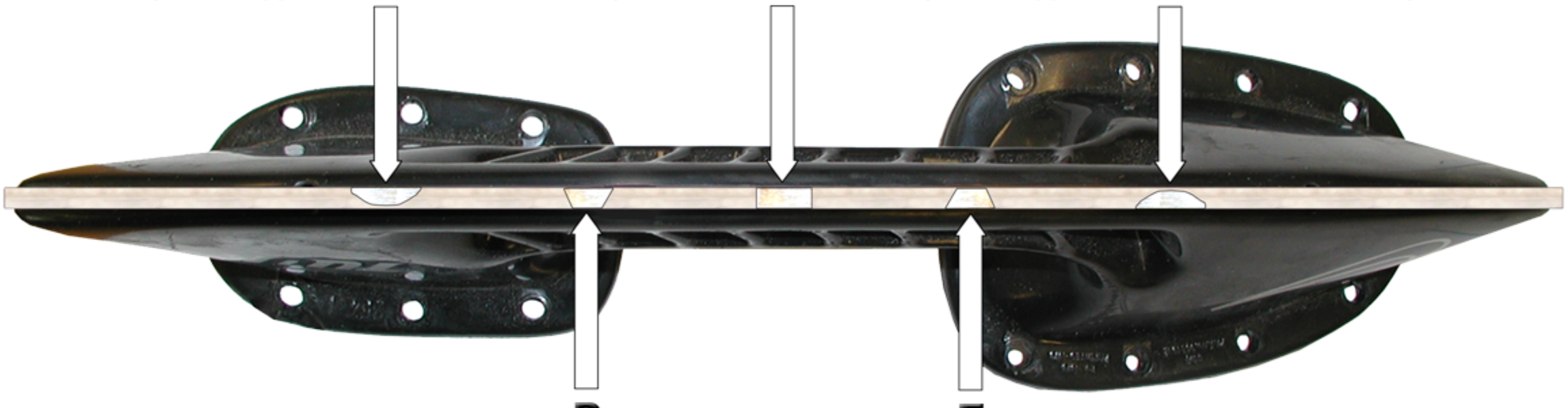
CENTERING OF THE BLADE WHEN SHARPENING HOLLOW

It is important that you get the hollowness centered on the blade.
When you have dressed the grinding wheel properly, then put the skate in the holder with e.g. the front part to the left.
Move the blade a few times forwards and backwards in contact with the rotating grinding wheel.
Remove the skate and put it back in the holder with the front part to the right. (The blade is now upside down.)
Slightly let the blade touch the grinding wheel to get a small grinding mark. If the mark fits into the hollow (mark A), then the supporting roller is correctly adjusted. If the mark covers the lower part of the blade (mark C or E), the supporting roller is too high. Adjust the roller downwards. If the mark covers the upper part (mark B or D), then adjust upwards.
The reason you might have to do this adjustment every now and then is that some skate blades differ in thickness.

B
WRONG
(blade support roller should be raised)

A
PERFECT!

C
WRONG
(blade support roller should be lowered)



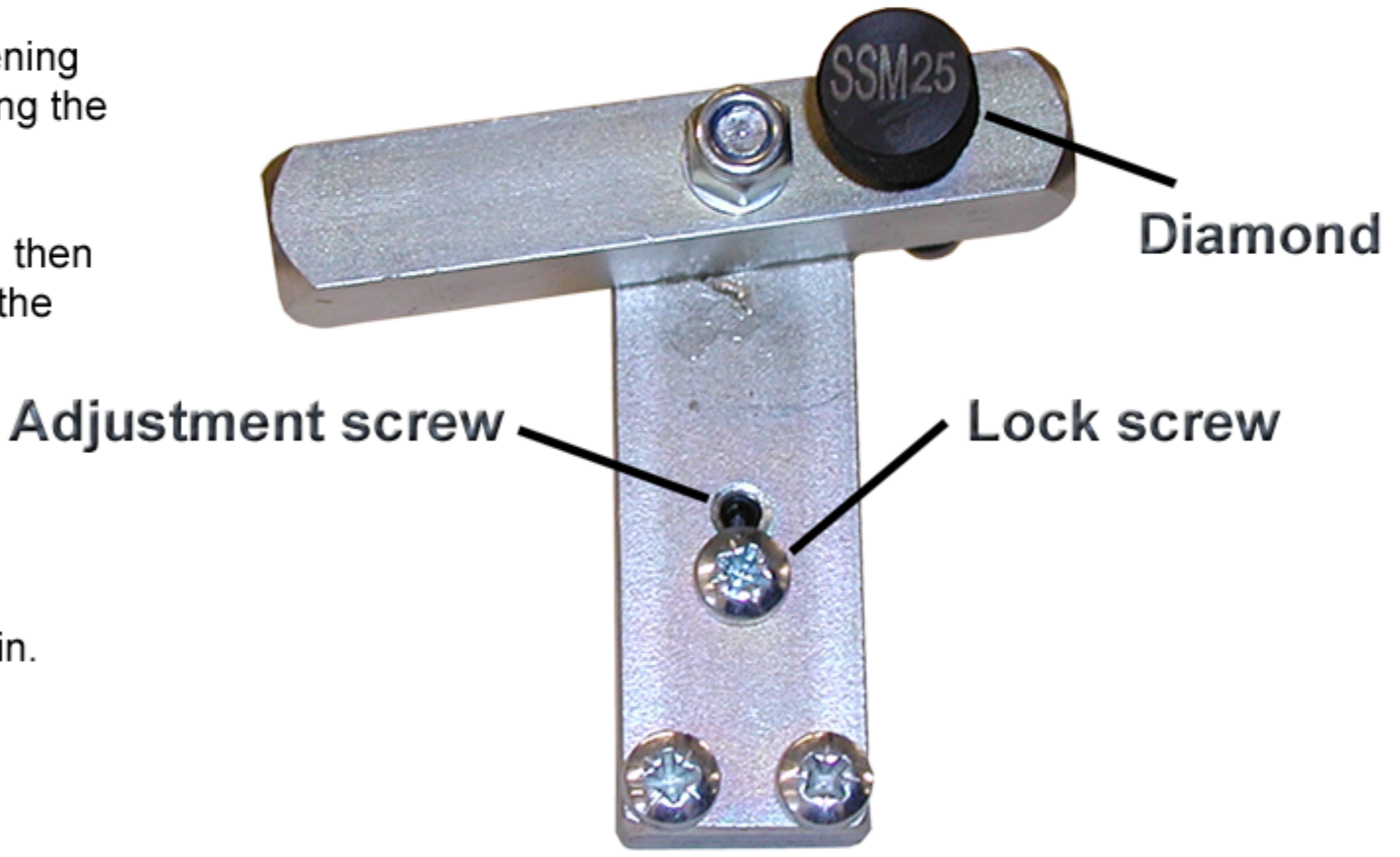
D
ACCEPTABLE
(blade support roller may be raised)

E
ACCEPTABLE
(blade support roller may be lowered)

ADJUSTING FLAT SURFACE DEVICE

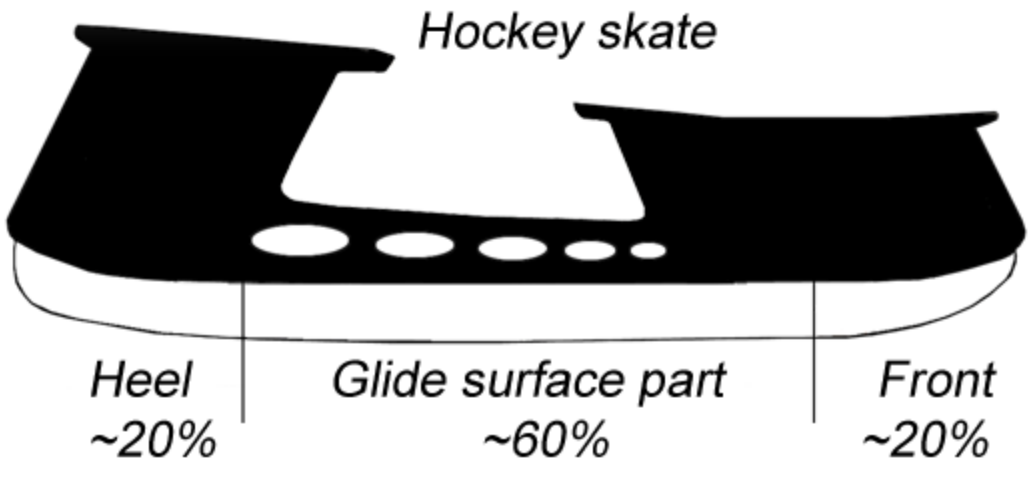
The flat surface device is adjusted by loosening the lock screw and correcting the angle using the adjustment screw (Allen screw).
You obtain the correct angle as follows:
Dress the grinding wheel. Sharpen a skate, then turn it in the holder and let the blade touch the grinding wheel to make a small mark.

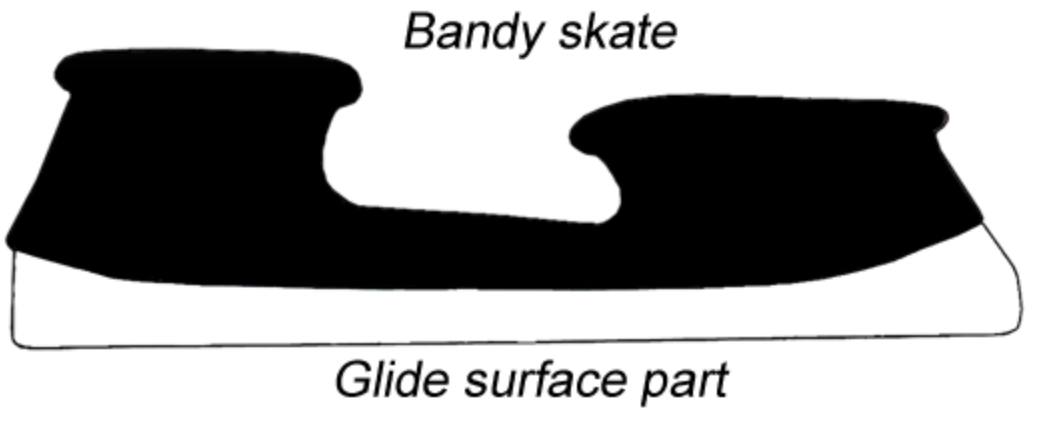
Compare to CENTERING OF THE BLADE WHEN SHARPENING HOLLOW above.
If you get a mark similar to mark B or C, then the angle is wrong. Adjust and try again.



SKATE BLADE INFORMATION

The skate can be divided into approximate areas as shown below.





SHARPENING THE SKATE (advice)

Dress grinding wheel

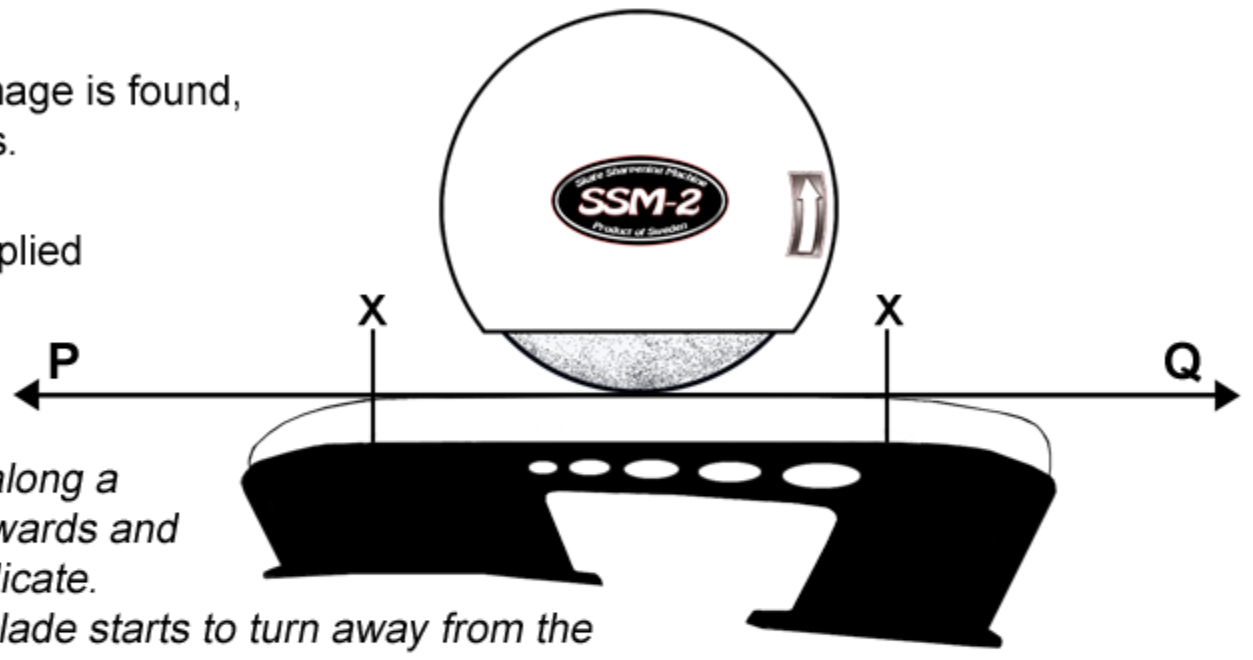
Connect the machine to the power source and start it. Use the diamond (1 or 6) to dress the grinding wheel so that it will give the desired shape to the blade (flat or with desired hollowness).
If the grinding wheel feels blunt, you should dress it even if the shape does not have to be changed.

Hollow: Ice hockey skates and Figure skates. *Flat: Bandy skates and Touring skates*

Correct any damage on the skate blade

Check the skate blade for damage. If massive damage is found, use a whetstone to get the blade even on the sides.

Then fasten the skate in the holder (3).
Sharpen it at least twice with constant pressure applied against the grinding wheel, see figure:

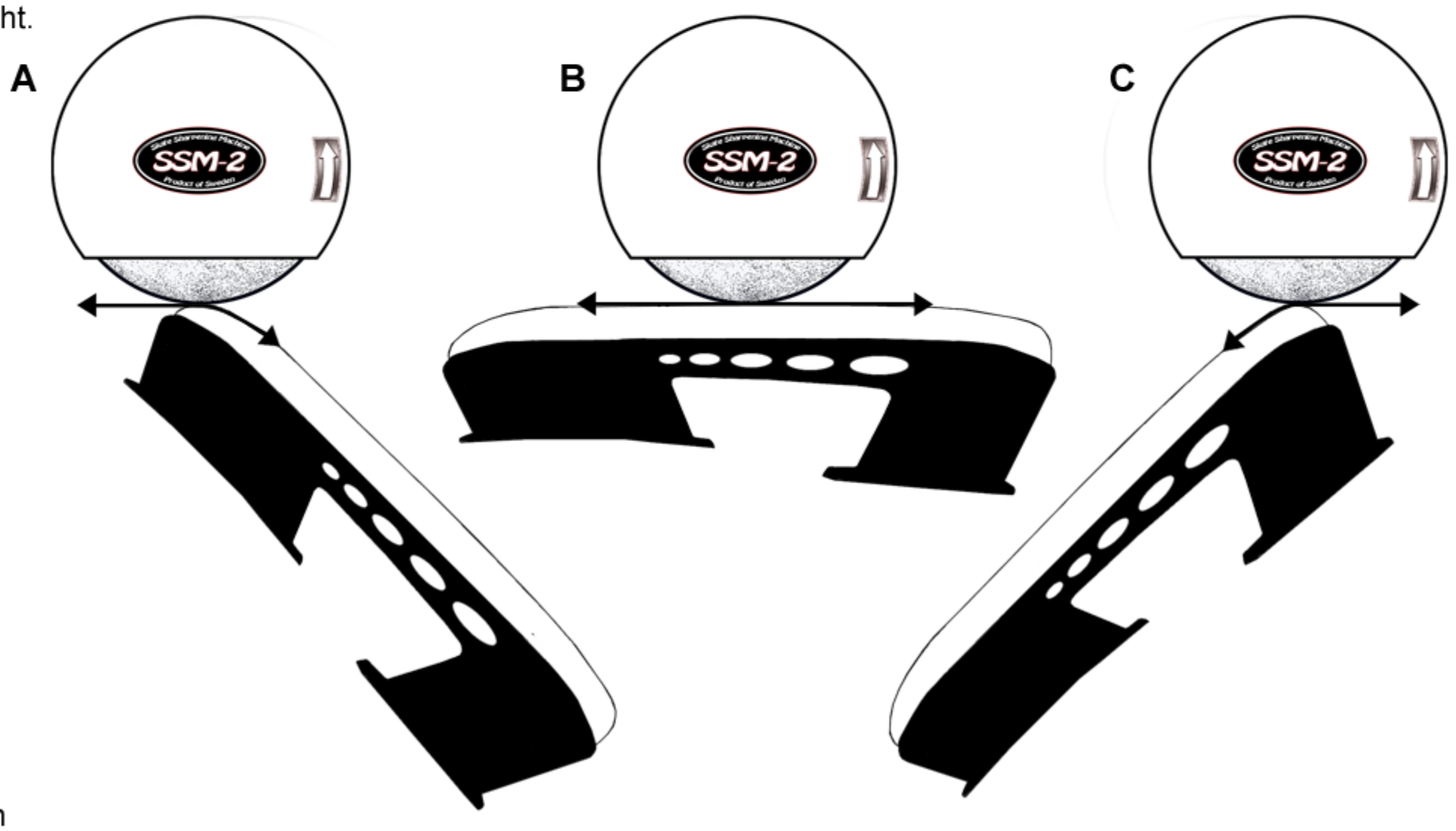


When sharpening, keep the skate blade directed along a straight line (PQ in the figure). Move the blade forwards and backwards in the same direction as the arrows indicate.
The two "X" points in the figure marks where the blade starts to turn away from the grinding wheel. Start the sharpening movement "in the air" outside an X-point. Then make a smooth contact with the grinding wheel. At the other X-point the skate will turn away from the grinding wheel. Continue the movement a bit without having contact with the grinding wheel but the skate blade still on the support roller, before turning back and doing the movement in the other direction.

Check for any remaining damage. If damage is found, repeat the sharpening until all damage or wear is gone.

Final sharpening

When no damage remains on the skate blade, sharpen the whole blade including the round ends slowly and smoothly. Use light pressure to get a better micro finish and to avoid removing too much material from the round edges. Perform the movement as shown below in one continuous sequence A+B+C or C+B+A. Remember to keep the B movement straight.



Finish

Use a flat whetstone approximately twice on each side of the blade to remove any abrasive wounds.

ATTENTION!

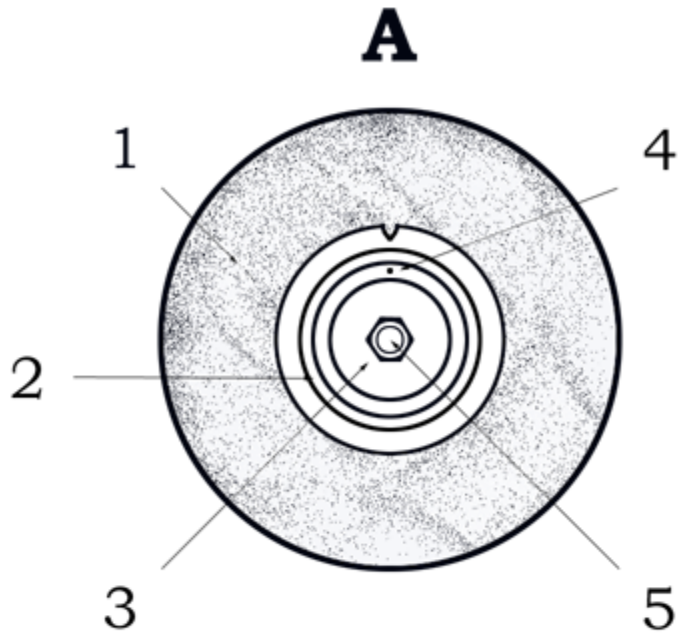
When sharpening hollow, make sure that the skate blade always has contact with the blade support roller (4).

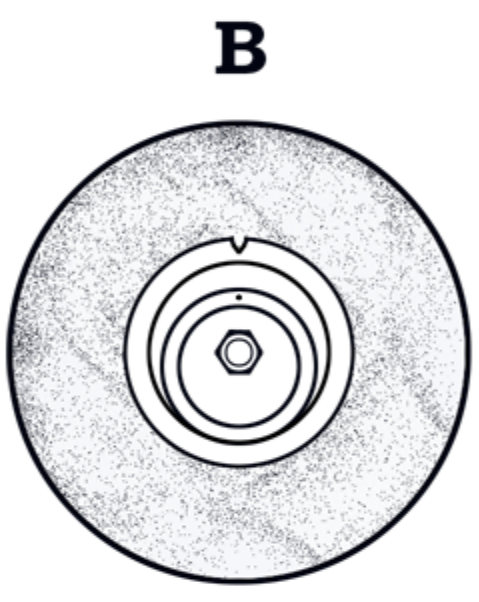
Do not move the skate too slowly against the grinding wheel and do not apply too much pressure against it. The skate blade may be "burnt" because too much heat is generated locally!

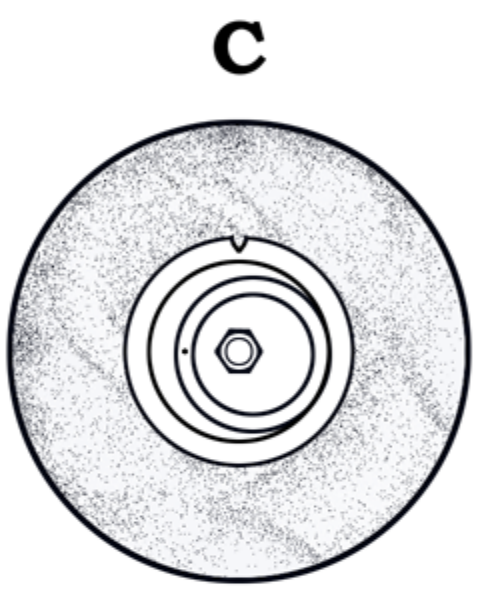
When sharpening, keep your hands on the skate and not on the holder.
Do not let the holder carry any weight of your hands. Otherwise the skate blade will tilt from the horizontal plane.

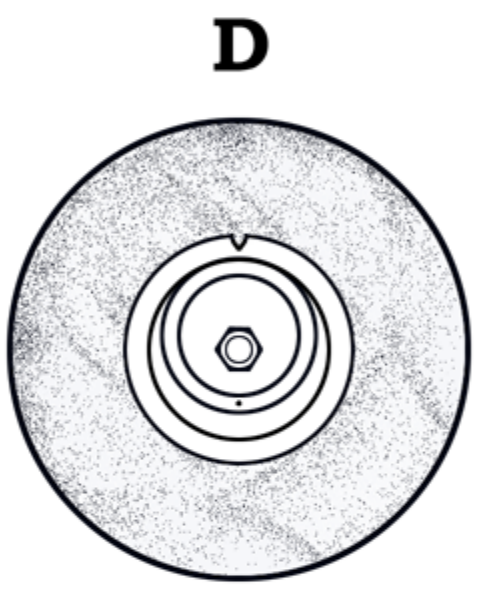
MAINTENANCE

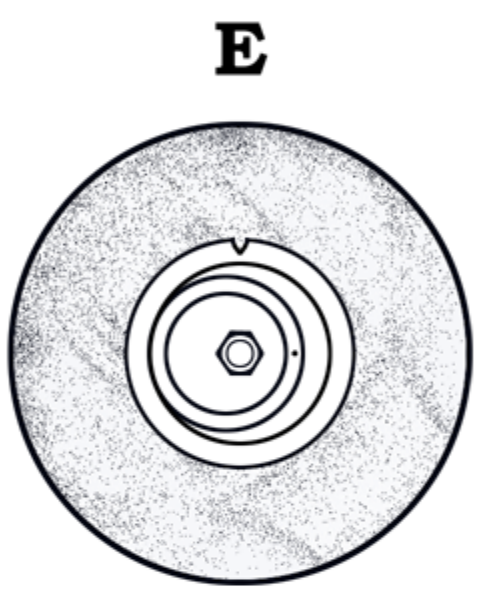
HOW TO CHANGE AND BALANCE THE GRINDING WHEEL











(1) First test the grinding wheel for cracks. Hold the wheel on a finger (through the center hole) and gently tap on it. By listening to the sound you can check whether the wheel contains cracks.
Remove the protection lid, the nut, the balancing detail, the flange washer and the old grinding wheel.
(To avoid wobbling of the grinding wheel, remember to thoroughly clean flange, flange washer and grinding wheel mounting surface before mounting.)
Then put the new grinding wheel on top of the flange. Put the flange washer and then the balancing detail on top (in the neutral position, i.e. centered with the mark point in the 12 o'clock direction).
Fasten the nut with the grinding wheel having some selected mark (selected by you) in the 12 o'clock direction.
Start the engine and dress the grinding wheel with one of the diamonds.
Don't forget to have the protection lid on! If the grinding wheel vibrates, adjust using the following scheme.
(The grinding wheel will impart vibrations to the whole machine. They are most easily felt at the end of the leading arm at the skate holder.)

(2) Stop the engine and direct the grinding wheel in the 12 o'clock direction. Loosen the nut and move the balancing detail somewhat in the 6 o'clock direction (i.e. an eccentric position).
Fasten the nut and restart the engine. Remember how much the grinding wheel vibrates (Fig. B).

(3) Do as in step (2), but with the mark point in the 9 o'clock, 6 o'clock and 3 o'clock directions.
The amount of eccentricity of the balancing detail should be kept the same (Figs. C, D, E).

(4) If there are fewer vibrations in some direction, turn the balancing detail so that its mark point has that direction.
If two directions give fewer vibrations than the others, put the mark point direction between the two.
Then fasten the grinding wheel with the balancing detail adjusted. Start the engine and dress the grinding wheel.
If the grinding wheel still vibrates, make a precision adjustment.

(5) If a precision adjustment is needed, move the balancing detail in small amounts to be more centered or more eccentric or change the direction of its mark point slightly. Start the engine,
dress the grinding wheel and test if the vibrations lessen. This is an iterative procedure.
It should be possible to adjust until the vibrations practically disappear.

MAINTENANCE (continued)

SERVICE

If the machine is used correctly and only for sharpening skates then service is seldom needed. However, the grinding wheel and diamonds should regularly be replaced. The grinding wheel should be replaced when the distance between its outer diameter and the edge (7a) of the protection lid has decreased to approximately 10 mm. (When the diameter of the grinding wheel goes below 120 mm, the grinding wheel should be replaced to give a good result.)
To retain the capacity of the machine and to continue to get a good result, always keep the machine clean.
Clean the outside. Remove dust with a soft brush if needed.

WARNING! A complete service should always be performed by a qualified technician. When performing maintenance yourself (e.g. replacing grinding wheel or diamonds) ensure that the electric plug is disconnected. To avoid danger, work on electrical parts should always be done by a qualified technician.

For power tools with type Y attachment: if the replacement of the supply cord is necessary, this has to be done by the manufacturer or his agent in order to avoid a safety hazard.

TECHNICAL SPECIFICATIONS AND DIMENSIONS

HEIGHT (without holder and exhaust tube):	**320 mm (12.6 inch)**
WIDTH (without holder and exhaust tube):	**250 mm (9.9 inch)**
LENGTH (without holder and exhaust tube):	**350 mm (13.8 inch)**
WEIGHT (without holder and exhaust tube):	**14.8 kg (32.6 lbs)**
POWER:	**250 W**
VOLTAGE:	**110-120 V**
FREQUENCY:	**a.c. (1-phase) 50-60 Hz**
MAXIMUM RPM:	**2800-3400 RPM**
GRINDING WHEEL TYPE:	**Type S-2 from SSM**
GRINDING WHEEL DIMENSIONS:	**150 * 6 * 38 mm**
(Diameter * Thickness * Arbor)	**5.906 * 0.2363 * 1.497 inch**
DIAMOND:	**For flat sharpening: D-50, D-80 or D-2000.** **For hollow sharpening: D-80 or D-2000.**

THE MACHINE IS INTENDED FOR INTERMITTENT USAGE (on 60s / off 60s).
It is also available in a CE approved 220-240 V version.

Your SSM Produkt AB distributor:

SSM of North America LLC
Scott Corwin
960 Carrs Pond Road
East Greenwich, RI 02818, USA
Telephone: USA code + 401 885-8530
E-mail: corwins@cox.net

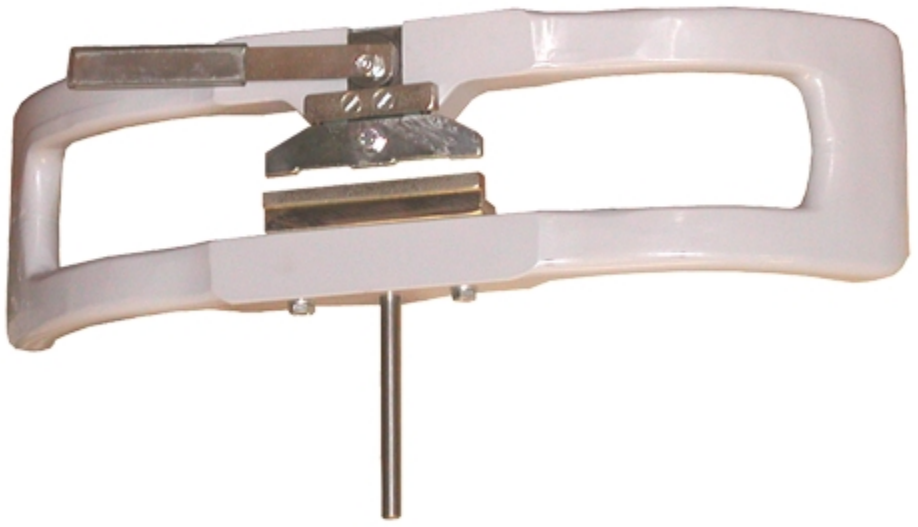
ACCESSORIES

HOLDERS

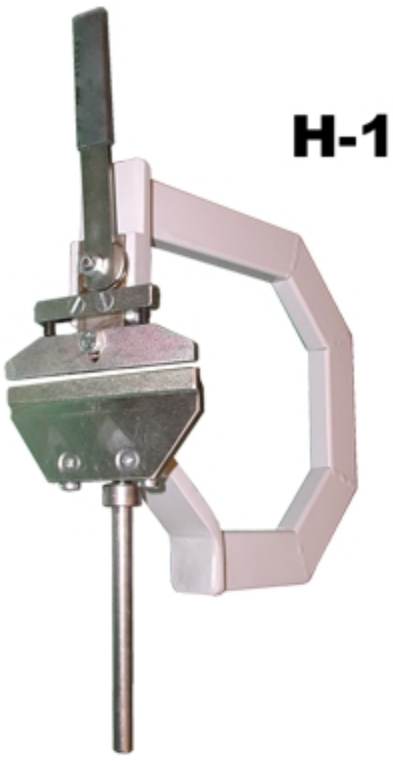
The machine can be provided with different skate holders, H-5, H-8 and H-10. H-5 is small and flexible but can not take as many different types of skates as the all-round holder H-8 and the universal holder H-10. H-10 is the newest holder from SSM Produkt AB and has the same abilities as H-8, but it can also take touring skates.

H-5

H-8



H-10



GRINDING WHEELS

S-2/60

Pink
Grit size 60, standard
For carbon steel.

S-2/80

White
Grit size 80, standard
For carbon steel.

S-2/KB

Blue/purple
Grit size 60, ceramic
For carbon steel, stainless steel.

S-2/KB80

Light blue
Grit size 80, ceramic
For carbon steel, stainless steel.

DIAMONDS & WHETSTONES

D-2000

Synthetic diamond
For:
Pivot device
Flat surface device

D-80

Natural diamond
For:
Pivot device
Flat surface device

D-50

Natural diamond
For:
Flat surface device

DB-SSM

Diamond whetstone
Grit size 800.

B-SSM

Ceramic whetstone
Grit size 320.

TRANSPORT CASE AND DUST EXTRACTOR

V-2

Transport case for SSM-2.
L: 420 mm, W: 330 mm, H: 360 mm

U-840

Fume eliminator U-840 with exchangeable filter U-324.
(Contact your local dealer for North America)