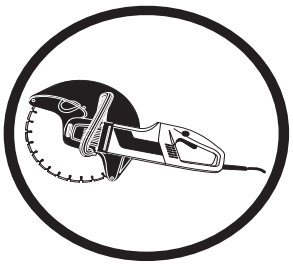
Operator's manual

K3000 EL
K3000 SPRAY



Please read the operator's manual carefully and make sure you understand the instructions before using the machine.

English

Key to symbols

WARNING! The machine can be a dangerous tool if used incorrectly or carelessly, which can cause serious or fatal injury to the operator or others.

Please read the operator's manual carefully and make sure you understand the instructions before using the machine.

Always wear:

- Approved protective helmet
- Approved hearing protection
- Protective goggles or a visor

This product is in accordance with applicable EC directives.

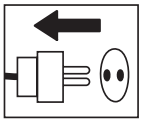
WARNING! Dust forms when cutting, which can cause injuries if inhaled. Use an approved breathing mask. Always provide for good ventilation.

WARNING! Sparks from the cutting blade can cause fire in combustible materials such as: petrol (gas), wood, dry grass etc.

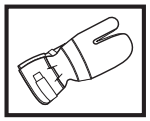
Noise emission to the environment according to the European Community's Directive. The machine's emission is specified in chapter Technical data and on label.

Other symbols/decals on the machine refer to special certification requirements for certain markets.

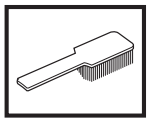
Inspection and/or maintenance should be carried out with the motor switched off and the plug disconnected.



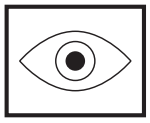
Always wear approved protective gloves.



Regular cleaning is required.



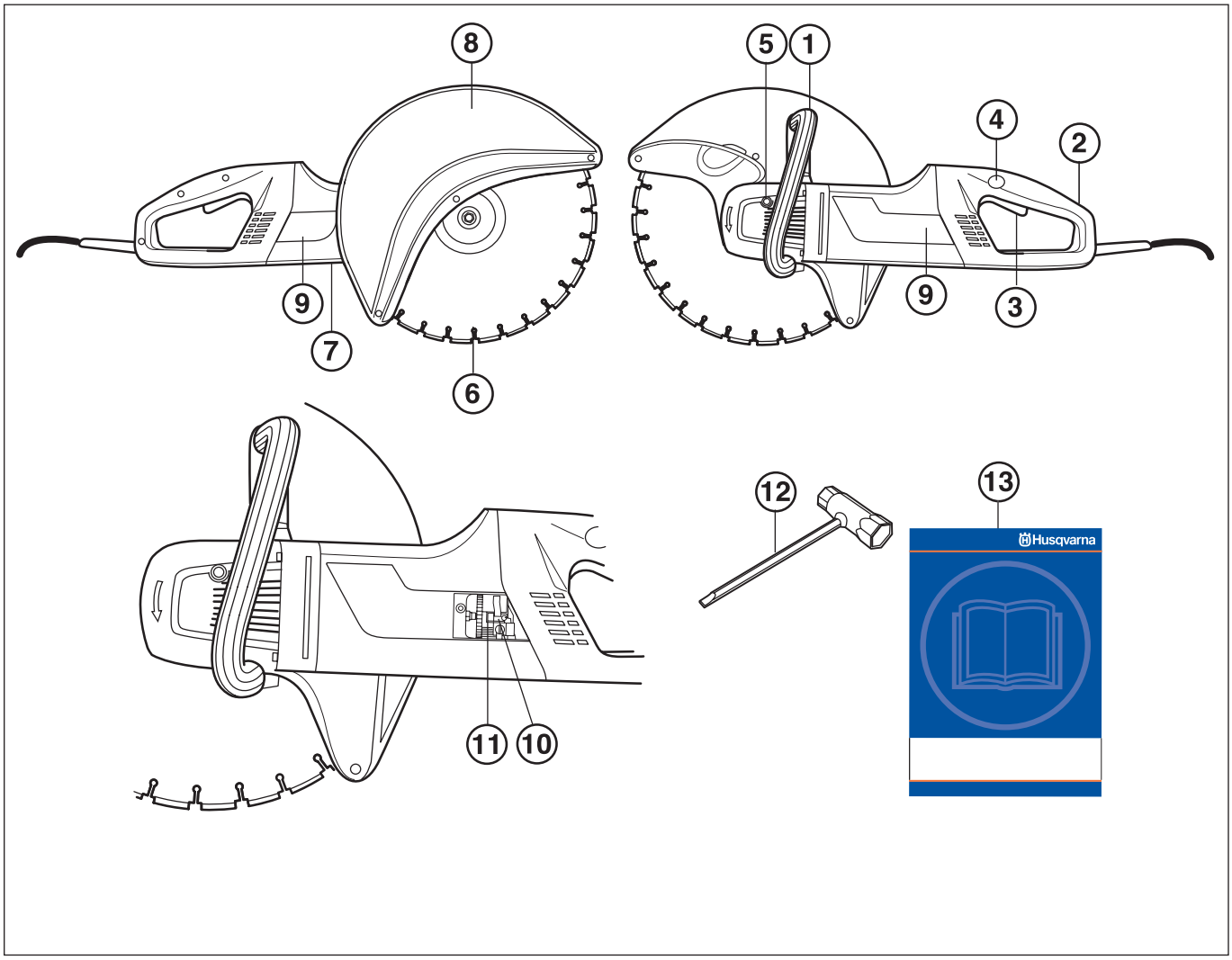
Visual check.



Protective goggles or a visor must be worn.

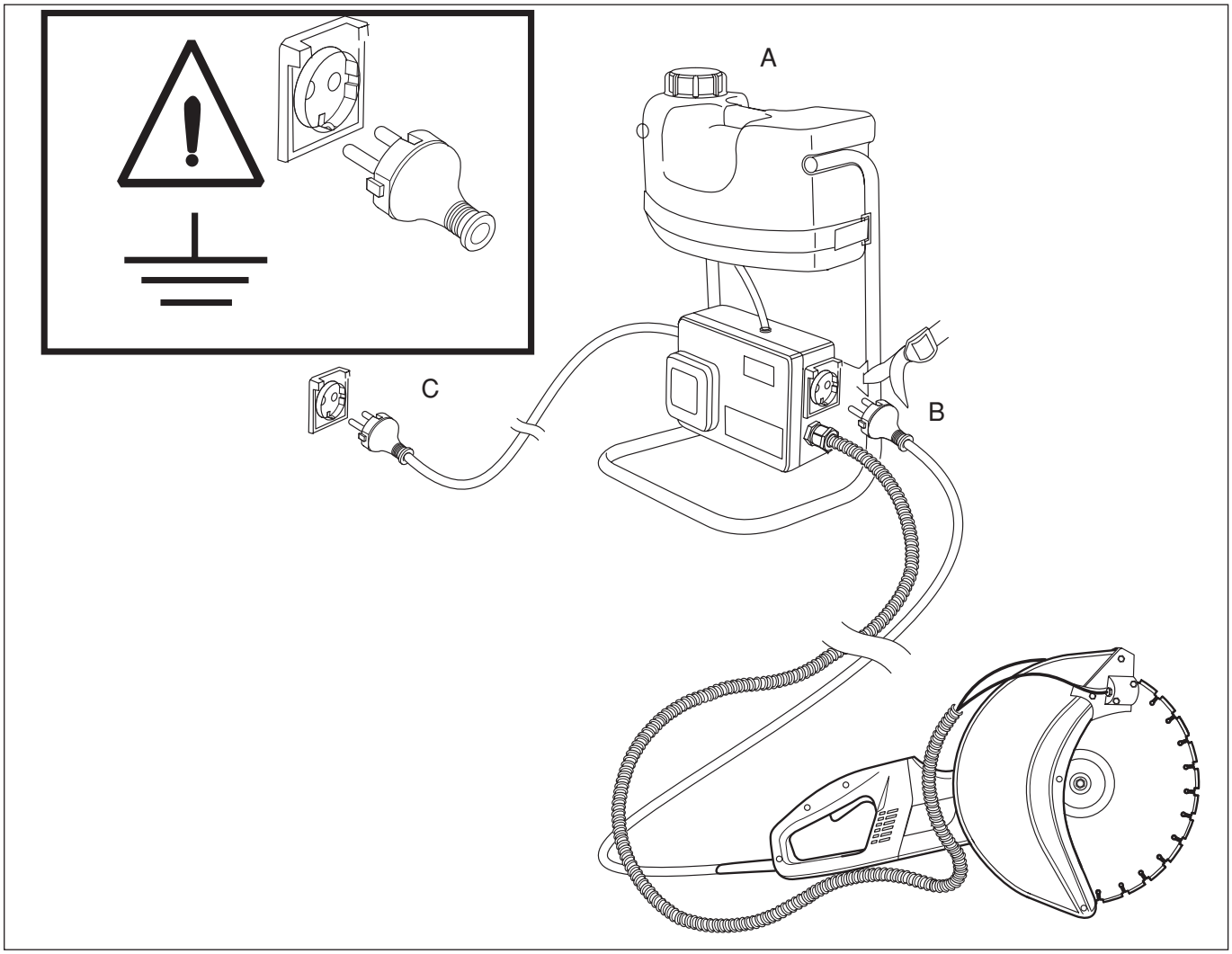
Contents

WHAT IS WHAT?



What is what on the power cutter?

1 Front handle
2 Rear handle
3 Switch
4 Power switch lock
5 Locking the axle
6 Cutting blade
7 Rating plate
8 Guard for the blade
9 Inspection covers
10 Carbon brushes
11 Brush retainer
12 Combination spanner
13 Operator's manual



A. Fill the water tank with clean water and tighten the tank cap. If there is a risk of the water freezing, mix windscreen washer fluid in the water tank.

B. Connect the machine's plug in the electronics box on the harness.

C. Connect the plug on the electronics box to an earthed socket.

WARNING! The plug on the power cutter should be connected to the distribution box on the harness and never directly into a live wall socket or extension cable.

The cable from the electronic box on the harness should be plugged into an earthed, electrical outlet socket, never do this with wet hands.

WARNING! Always make sure that there is water in the water tank. The pump must not be run without water as this will destroy it. If you want to cut dry connect K3000 El directly to the wall socket.

Steps before using a new power cutter.

- Please read the operator's manual carefully.
- Check the cutting blade's mounting, see the chapter "Assembly".
- Check that the cord and extension cord are intact and in good condition.
- Do not use a rolled up extension cord

Let your Husqvarna dealer regularly check the power cutter and make essential adjustments and repairs.

WARNING! Under no circumstances may the design of the machine be modified without the permission of the manufacturer. Always use genuine accessories. Non-authorized modifications and/or accessories can result in serious personal injury or the death of the operator or others.

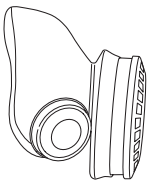
WARNING! Use of products which cut, grind, drill, sand or shape material can generate dust and vapors which may contain harmful chemicals. Know the nature of the material being worked on and wear appropriate dust mask or respirator protection.

Personal protective equipment

WARNING! You must use approved personal protective equipment whenever you use the machine. Personal protective equipment cannot eliminate the risk of injury but it will reduce the degree of injury if an accident does happen. Ask your dealer for help in choosing the right equipment.

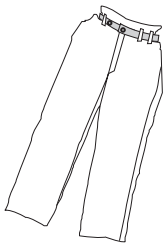
- Protective helmet
- Hearing protection
- Protective goggles or a visor

- Breathing mask



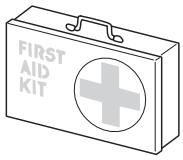
- Heavy-duty, firm grip gloves.

- Tight-fitting, heavy-duty and comfortable clothing that permits full freedom of movement.



- Use leg-guards recommended for the material to be cut.
- Boots with steel toe-caps and non-slip sole

- Always have a first aid kit nearby.



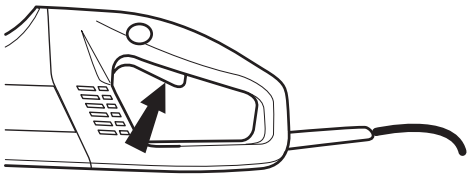
Machine's safety equipment

This section describes the machine's safety equipment, its purpose, and how checks and maintenance should be carried out to ensure that it operates correctly. See the "What is what?" section to locate where this equipment is positioned on your machine.

WARNING! Never use a machine that has faulty safety equipment! Carry out the inspection, maintenance and service routines listed in this section.

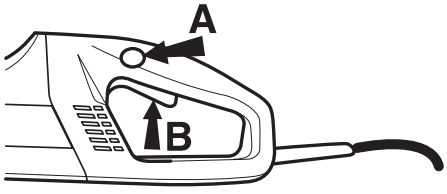
Switch

The power switch should be used to start and stop the machine.

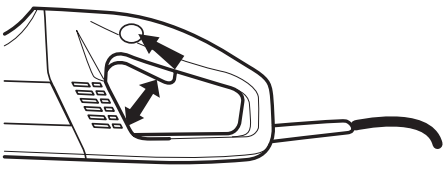


Power switch lock

The power switch lock is designed to prevent accidental operation of the switch. When the lock (A) is pressed in the power switch (B) is released.



The power switch lock remains depressed as long as the power switch is depressed. When the grip on the handle is released both the power switch and power switch lock are reset. This movement is controlled by two independent return springs. This position results in the machine stopping and the power switch being locked.



Gradual start and overload protection

The machine is equipped with electronically controlled gradual start and overload protection.

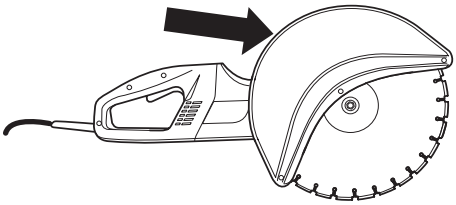
The engine starts to pulsate if the machine is loaded above a specific level. If the load is reduced the engine reverts to its normal state and cutting can resume.

The electronics will cut the current after a set time if the machine continues to be run with a pulsating engine. The higher load the faster the shutoff.

The electronics cut the current immediately if the blade jams.

Guard for the blade

This guard is fitted above the cutting blade and is designed to prevent parts of the blade or cutting fragments from being thrown towards the user.

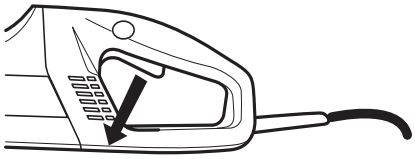


Checking, maintaining and servicing the machine's safety equipment

WARNING! All servicing and repair work on the machine requires special training. This is especially true of the machine's safety equipment. If your machine fails any of the checks described below you must contact your service agent. When you buy any of our products we guarantee the availability of professional repairs and service. If the retailer who sells your machine is not a servicing dealer, ask him for the address of your nearest service agent.

Checking the power switch

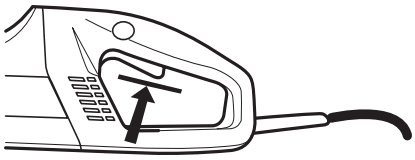
Start the machine, release the power switch and check that the engine and the cutting blade stop.



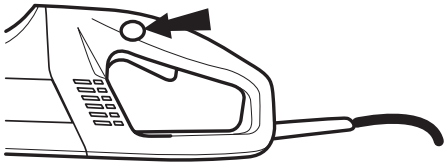
A defective power switch should be replaced by an authorized service workshop

Checking the power switch lock

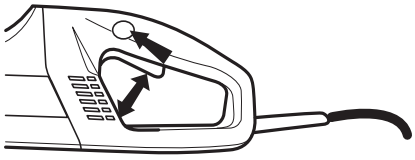
Make sure the power switch is locked when the power switch lock is in its original position.



Press in the power switch lock and make sure it returns to its original position when you release it.



Check that the power switch and power switch lock move freely and that the return springs work properly.



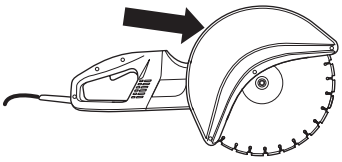
Start the machine, release the power switch and check that the engine and the cutting blade stop.

Checking the blade guard

WARNING! Always check that the guard is correctly fitted before starting the machine. See instructions under the heading Assembly.

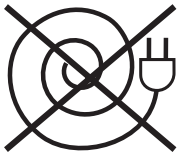
WARNING! Check that the cutting blade is fitted correctly and does not show signs of damage. A damaged cutting blade can cause personal injury. See instructions under the heading Assembly.

Check that the guard is complete and without any cracks or deformations.



General safety precautions

- A power cutter is designed to cut hard materials, such as masonry. Observe the increased risk of kickback when cutting soft materials. See instructions under the heading How to avoid kickback.
- Do not use the power cutter until you have read the entire contents of this Operator's Manual.
  All servicing, in addition to the points listed in the section "Control, maintenance and service of the power cutter's safety equipment", should be carried out by trained service specialists.
- Never use the machine if you are tired, if you have drunk alcohol, or if you are taking medication that could affect your vision, your judgement or your co-ordination.
- Wear personal protective equipment. See instructions under the heading Personal protective equipment.
- Never use a machine that has been modified in any way from its original specification.
- Do not use the machine in wet or humid surroundings, close to water, in the rain or snow.
- Be on your guard for electrical shocks. Avoid having body contact with lightning-conductors/metal in the ground.
- Never carry the machine by means of the cord and never pull out the plug by pulling the cord. Keep all cords and extension cords away from water, oil and sharp edges. Make sure the cord is not pinched in doors, fences or the like. Otherwise it can cause the object to become live.
- Check that the cord and extension cord are intact and in good condition. Never use the machine if the cord is damaged, hand it in to an authorized service workshop for repair.
- Do not use a rolled up extension cord



- The machine should be connected to an earthed outlet socket.
- Check that the mains voltage corresponds with that stated on the rating plate on the machine.
- Never use a machine that is faulty. Carry out the checks, maintenance and service instructions described in this manual. Some maintenance and service measures must be carried out by trained and qualified specialists. See instructions under the heading Maintenance.
- Never allow anyone else to use the machine without first ensuring that they have understood the contents of the operator's manual.

Transport and storage

Do not store or transport the power cutter with the cutting blade fitted.

Store the power cutter in a lockable area so that it is out of reach of children and unauthorised persons.

All blades should be removed from the cutter after use and stored carefully. Store cutting blades in dry, frost free conditions.

Special care should be taken with abrasive discs. Abrasive discs must be stored on a flat, level surface. If blades are supplied with a backing pad then a spacer should be used to keep them flat. If an abrasive disc is stored in humid conditions, this can cause imbalance and result in injury.

Inspect new blades for transport or storage damage.

General working instructions

WARNING! This section describes basic safety directions for using a power cutter. This information is never a substitute for professional skills and experience. If you get into a situation where you feel unsafe, stop and seek expert advice. Contact your dealer, service agent or an experienced power cutter user. Do not attempt any task that you feel unsure of!

Basic safety rules

- Look around you:

- To ensure that people, animals or other things cannot affect your control of the machine.

- To make sure that none of the above come into contact with the cutting blade.

- Do not use the machine in bad weather, such as dense fog, rain, strong wind, intense cold, etc. Working in bad weather is tiring and can lead to dangerous conditions, e.g. slippery surfaces.
- Never start to work with the power cutter before the working area is clear and you have a firm foothold. Look out for any obstacles with unexpected movement. Ensure

when cutting that no material can become loose and fall, causing operating injury.Take great care when working on sloping ground.

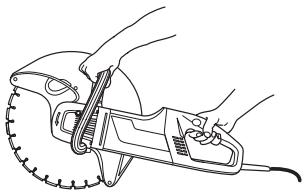
- Make sure clothing and parts of the body do not come into contact with the cutting blade when the engine is started.
- Maintain a safe distance from the cutting blade when the engine is running.
- The guard for the cutting equipment must always be on when the machine is running.
- Ensure that the working area is sufficiently illuminated to create a safe working environment.
- Do not move the machine when the cutting equipment is rotating.
- Always ensure you have a safe and stable working position.
- Make sure that no pipes or electrical cables are routed in the area to be cut.
- Ensure the cord is behind you when you start to use the machine so that the cord will not be damaged.
- The machine should be connected to an earthed outlet socket.

Cutting

WARNING! The safety distance for the power cutter is 15 metres. You are responsible to ensure that animals and onlookers are not within the working area. Do not start cutting until the working area is clear and you are standing firmly.

General

- Start cutting with the machine running at maximum speed.
- Always hold the machine in a firm grip with both hands. Hold it so that the thumbs and fingers grip round the handles.



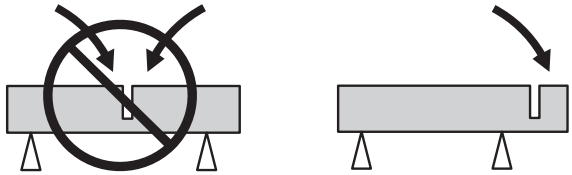
- Ensure that the cutting blade is fitted correctly.

WARNING! Overexposure to vibration can lead to circulatory damage or nerve damage in people who have impaired circulation. Contact your doctor if you experience symptoms of overexposure to vibration. These symptoms include numbness, loss of feeling, tingling, pricking, pain, loss of strength, changes in skin colour or condition. These symptoms normally appear in the fingers, hands or wrists.

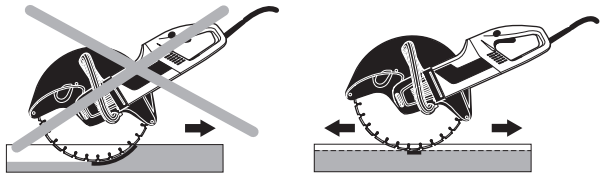
Cutting technique

The technique described below is of a general character. Check information for each blade regarding individual cutting characteristics (for example, diamond blades requires less feeding pressure than an abrasive discs).

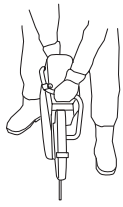
- Support the work piece in such a way that it is possible to predict what will happen, and so that the cut remains open while cutting.



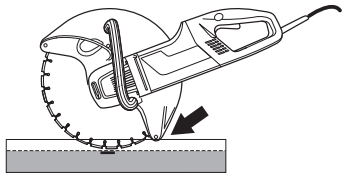
- Check that the blade is not in contact with anything when the machine is started
- Always cut at maximum speed.
- Start cutting smoothly, allowing the machine to work without forcing or pressing in the blade.
- Move the blade slowly forwards and backwards to achieve a small contact area between the blade and the material to be cut. This reduces the temperature of the blade and ensures effective cutting.



- Feed down the machine in line with the blade. Pressure from the side can damage the blade and is very dangerous.



- The guard for the cutting equipment should be adjusted so that the rear section is flush with the work piece. Spatter and sparks from the material being cut are then collected up by the guard and led away from the user.



WARNING! Under all circumstances avoid grinding using the side of the blade; it will almost certainly be damaged, break and can cause immense damage. Only use the cutting section.

Do not pull the power cutter to one side, this can cause the blade to jam or break resulting in injury to people.

Sharpening diamond blades

Diamond blades can become dull when the wrong feeding pressure is used or when cutting certain materials such as heavily reinforced concrete. Working with a blunt diamond blade causes overheating, which can result in the diamond segments coming loose.

Sharpen the blade by cutting in a soft material such as sandstone or brick.

Blade vibration

The blade can become out-of-round and vibrate if an excessive feed pressure is used.

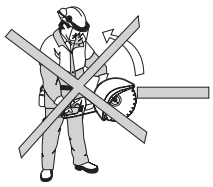
A lower feed pressure can stop the vibration. Otherwise replace the blade. The blade must be of the recommended type for the material to be cut.

How to avoid kickback

WARNING! Kickback can happen very suddenly and violently; kicking the power cutter and cutting blade back at the user. If this happens when the cutting blade is moving it can cause very serious, even fatal injuries. It is vital you understand what causes kickback and that you can avoid it by taking care and using the right working technique.

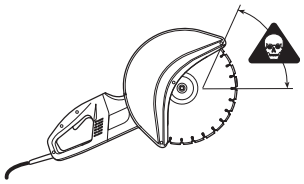
What is kickback?

The word kickback is used to describe the sudden reaction that causes the power cutter and cutting blade to be thrown from an object when the upper quadrant of the blade, known as the kickback zone, touches an object.

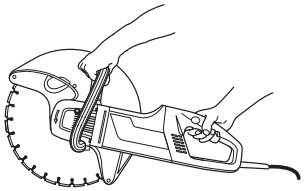


General rules

- Never start to cut with the upper quadrant of the blade as shown in the figure, also known as the kickback zone.



- Always hold the machine in a firm grip with both hands. Hold it so that the thumbs and fingers grip round the handles.



- Keep a good balance and a firm foothold.
- Always cut at maximum speed.
- Stand at a comfortable distance from the work piece.
- Take care when inserting the blade in an existing cut.
- Never cut above shoulder height.
- Be alert to movement of the work piece or anything else that can occur, which could cause the cut to close and pinch the blade.

Pull in

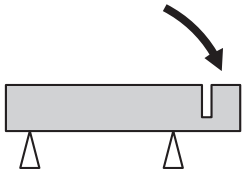
Pull in occurs when the disc's lower section suddenly stops or when the cut closes. (To avoid, see the heading "Basic rules" and "Jamming/rotation", here below.)

Pinching/rotation

If the cut is pressed together this can lead to jamming. The machine can be pulled down suddenly with a very powerful jerk.

How to avoid pinching

Support the work piece in such a way that the cut remains open during the cutting operation and when the cut is finished.



Cutting blades

WARNING! A cutting blade may burst and cause injury to the operator.

Never use a cutting blade at a lower speed rating than that of the power cutter.

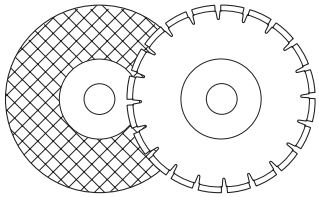
Never use a cutting blade for any other materials than that it was intended for.

WARNING! Cutting plastics with a diamond blade can cause kickback when the material melts due to the heat produced when cutting and sticks to the blade.

The machine must not be used with a rescue blade. The risk of kick-back is greater with this type of cutting blade, as the machine does not have a slipping clutch.

General

Cutting blades are available in two basic designs; abrasive discs and diamond blades.



Always remove the cutting blade when the machine is transported.

Make sure that the right bushing is used for the cutting blade to be fitted on the machine. See the instructions under the heading Assembling the cutting blade.

High-quality blades are often most economical. Lower quality blades often have inferior cutting capacity and a shorter service life, which results in a higher cost in relation to the quantity of material that is cut.

Power cutter and cutting blades		
Cutting blades	**K3000 EL**	**K3000 SPRAY**
Abrasive discs	Yes	No
Diamond blades for dry cutting	Yes	No
Diamond blades for wet cutting	No	Yes
Water cooling	No	Yes
Rescue blade	No	No

Water cooling

K3000 SPRAY

WARNING! Water cooling, which is used when cutting concrete, cools the blade and increases its service life while also reducing the formation of dust. Disadvantages include difficulties at very low temperatures, the risk of damaging floors and other structural elements, and the risk of slipping.

After using an abrasive disc with water cooling, run the disc dry for about half a minute. If an abrasive disc is stored in humid conditions, this can cause imbalance and result in injury.

Hand-held, high-speed machines

Our cutting blades are manufactured for high-speed, portable power cutters. If blades from other manufacturers are used, ensure that the blades conform to all regulations and demands that concern this type of power cutter.

Special blades

Some cutting blades are designed for stationary equipment and for use with attachments.Such cutting blades must not be used on portable power cutters.

Always contact local authorities and make sure you are following applicable directives.

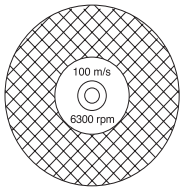
Abrasive discs

The cutting material on abrasive discs consists of grit bonded using an organic binder. ”Reinforced blades” are made up of a fabric or fibre base that prevents total breakage at maximum working speed if the blade should be cracked or damaged.

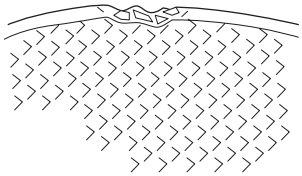
A cutting blade’s performance is determined by the type and size of abrasive corn, and the type and hardness of the bonding agent.

Abrasive discs, types and use			
	Use		
Disc type	**Material**	**Water cooling K3000 SPRAY**	
Concrete	Concrete, asphalt, stone masonry, cast iron, aluminium, copper, brass, cables, rubber, plastic, etc.	Can be used to reduce dust. Run the disc dry for about a half minute after using an abrasive disc with water cooling.	
Metal	Steel, steel alloys and other hard metals.	NOT recommended	

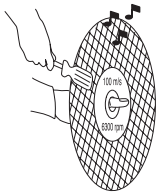
Check that the blade is approved for the same or higher speed according to the aproval plate of the engine. Never use a cutting blade with a lower speed rating than that of the power cutter.



Ensure the blade it not cracked or damaged in any other way.



Test the abrasive disc by hanging it on your finger and tapping it lightly with a screwdriver or the like. If the disc does not produce a resonant, ringing sound it is damaged.

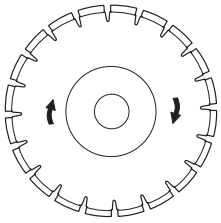


Diamond blades

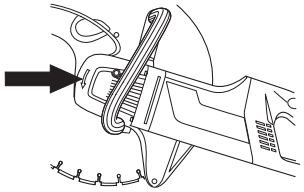
Diamond blades consist of a steel body provided with segments that contain industrial diamonds.

Diamond blades ensure lower costs per cutting operation, fewer blade changes and a constant cutting depth.

When using diamond blades make sure that it rotates in the direction indicated by the arrow on the blade.



There is an arrow on the rear of the machine that indicates the axles direction of rotation that the disc is mounted on.



Always use a sharp diamond blade. Sharpen the blade by cutting in a soft material such as sandstone or brick.

Diamond blades are available in several hardness classes. A "soft" diamond blade has a relatively short service life and large cutting capacity. It is used for hard materials such as granite and hard concrete. A "hard" diamond blade has a longer service life and reduced cutting capacity, and should be used for soft materials such as brick and asphalt.

Material

Diamond blades are ideal for masonry, reinforced concrete and other composite materials. Diamond blades are not recommended for cutting metal.

Diamond blades for wet cutting

K3000 SPRAY

WARNING! Cool diamond blades for wet cutting continuously with water to prevent overheating, which can cause the blade to break up and eject pieces that can cause injury.

Diamond blades for wet cutting should have water poured over them during the cutting to cool the blade and bond the dust.

Diamond blades for dry cutting

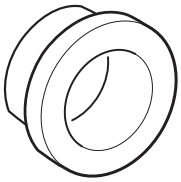
Diamond blades for dry cutting are a new generation of blades that do not require water cooling. However, the blades will still be damaged by excessive heat. It is most economical to allow the blade to cool by simply lifting it out from the cut every 30–60 seconds and letting it rotate in the air for 10 seconds.

Assembly

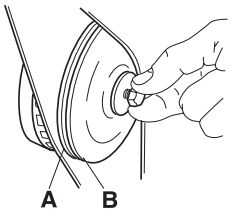
WARNING! Always pull out the plug from the outlet socket before cleaning, maintenance or assembly.

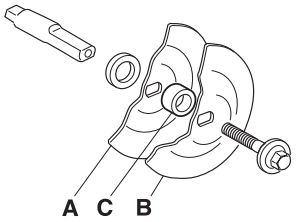
Fitting the cutting blade

Husqvarna's blades are approved for hand-held power cutters. Blades are manufactured with three different diameters of centre holes: 20 mm (0.787"), 22.2 mm (7/8") and 25.4 mm (1"). Bushings can be fitted on the machine axle to adjust the machine to the centre hole of the blade. Use a bushing with the correct diameter! The blades are marked with the diameter of the centre hole.



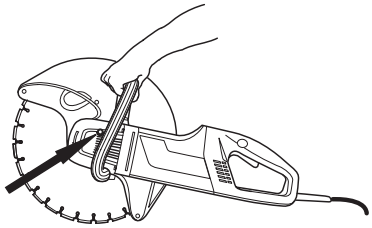
The blade is placed on the bushing (C) between the inner flange washer (A) and the flange washer (B). The flange washer is turned so that it fits on the axle.





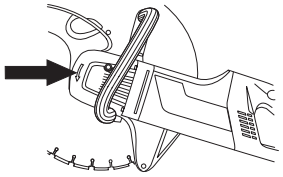
Tightening torque for the bolt holding the blade is: 15-25 Nm (130-215 in.lb).

The cutting blade/axle can be locked by holding in the locking button on the rear of the machine. The button is spring-loaded and is reset when button is released.



When a diamond blade is mounted on the power cutter make sure that the diamond blade will rotate in the direction indicated by the arrow on the blade.

There is an arrow on the rear of the machine that indicates the axles direction of rotation that the disc is mounted on.

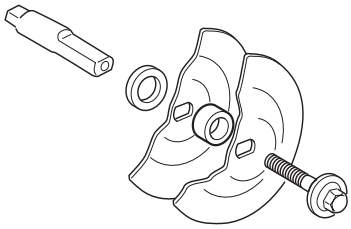


When the blade is replaced with a new one, check the flange washers and the drive axle. See instructions under the heading Checking the drive axle and flange washers.

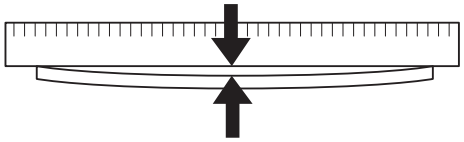
Checking the drive axle and flange washers

Check that the threads on the drive shaft are undamaged.

Check that the contact surfaces on the blade and the flange washers are undamaged, of the correct dimension, clean, and that they run properly on the drive axle.



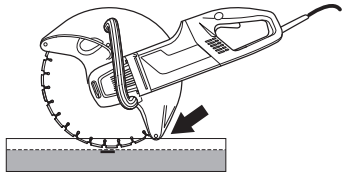
Do not use warped, notched, indented or dirty flange washers. Do not use different dimensions of flange washers.



Guard for the blade

The guard must always be fitted on the machine.

The guard for the cutting equipment should be adjusted so that the rear section is flush with the work piece. Spatter and sparks from the material being cut are then collected up by the guard and led away from the user.



Starting and stopping

WARNING! Note the following before starting:

The machine should be connected to an earthed outlet socket.

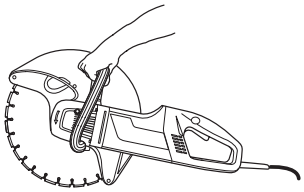
Check that the mains voltage corresponds with that stated on the rating plate on the machine.

Make sure you have a secure footing and that the cutting blade cannot touch anything.

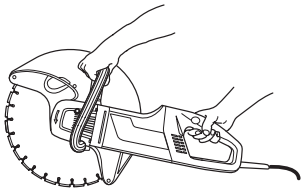
Keep people and animals well away from the working area.

Starting

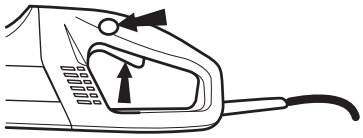
- Grip the front handle with the left hand.



- Grip the rear handle with your right hand.



- Press in the power switch lock with your right-hand thumb and press in the power switch.

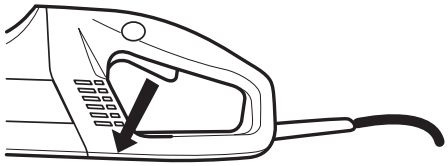


- Run the machine unloaded and in a safe manner for at least 30 seconds.

Stopping

WARNING! The cutting blade continues to rotate for some time after the motor has stopped.

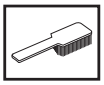
Stop the motor by releasing the power switch



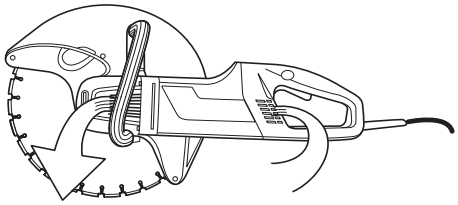
Maintenance

WARNING! Inspection and/or maintenance should be carried out with the motor switched off and the plug disconnected.

Cooling system



The machine is equipped with an efficient fan to cool the motor. Cooling air which is drawn in through the grille by the machines rear handle passes over the stator and rotor and out through the front of the motor housing.



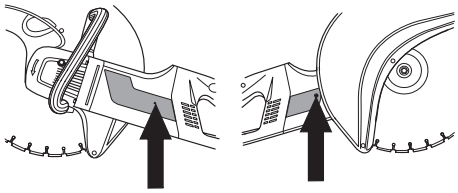
In order for the machine to always be cooled sufficiently the cooling air openings must be kept clear and clean. Blow down the machine regularly with compressed air.

Replacing the carbon brushes

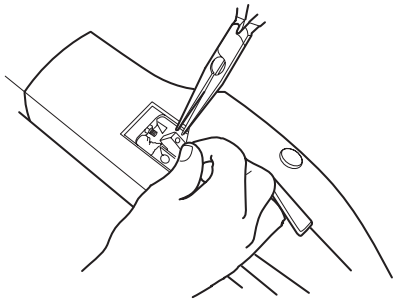
Check the carbon brushes at least once a month. The carbon brushes should be replaced with new brushes if they are worn, cracked or in any other way deformed.

All carbon brushes must be replaced when the brushes are replaced.

- Remove both inspection covers by loosening both screws.



- Unscrew the cable holding the carbon brush. Now lift up the spring and then lift out the carbon brush from the brush retainer.



- Clean the brush retainers with a dry brush.
- Carefully blow away the dust.
- Fit the new carbon brushes and, at the same time, check that they slide easily in the brush retainers.
- Fold down the springs and tighten the cable.
- New carbon brushes must be run in for approximately 40 minutes while idling.

Bevel gear

The grease in the gear housing should be changed every 4 months. Use high quality gear grease

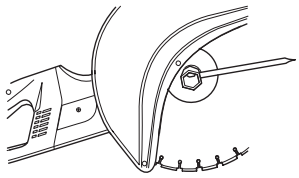
The gear housing must not be filled completely with grease. The grease expands as the machine heats up during operation. If the gear housing was completely filled with grease it could damage the seals and lead to leakage of grease.

The gear housing should contain 90 g of grease in total.

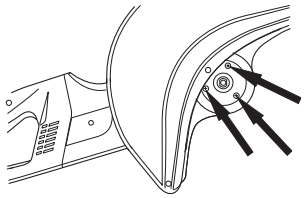
Changing the grease

The following parts must be dismantled to change the grease in the gear housing:

1 Flange washers holding the cutting blade

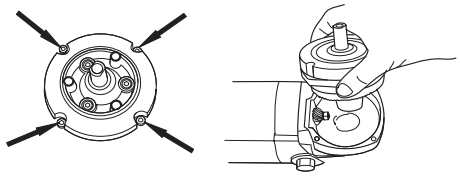


2 Support flange for the guard



3 Guard for the blade

4 The four screws holding the shield. Lift the shield together with the drive wheel unit out of the gear housing.

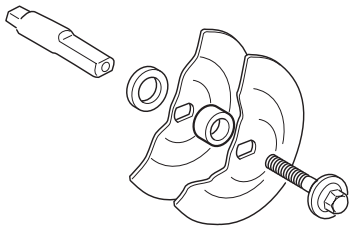


5 Wipe out the grease and fill with new, good quality gear grease. The gear housing should contain 90 g of grease in total.

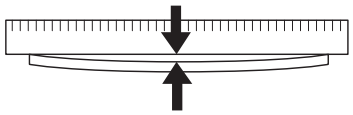
CAUTION! Exercise care when dismantling so as not to damage the gaskets. These are used both as seals and spacers for the gear setting.

Checking the drive axle and flange washers

Check that the threads on the drive shaft are undamaged. Check that the contact surfaces on the blade and the flange washers are undamaged, of the correct dimension, clean, and that they run properly on the drive axle.

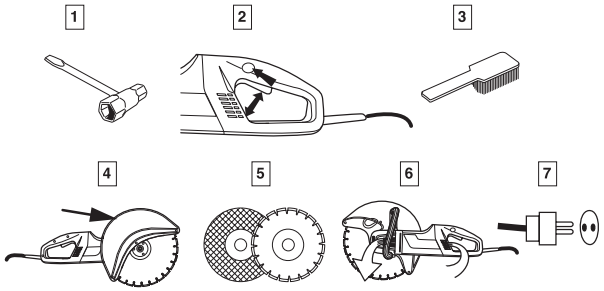


Do not use warped, notched, indented or dirty flange washers. Do not use different dimensions of flange washers.



Below you will find some general maintenance instructions.

Daily maintenance



1 Check that nuts and screws are tight.

2 Check that the power switch unit works smoothly.

3 Clean the outside of the machine.

4 Checking the blade guard

5 Check the condition of the cutting blade.

6 Check and clean the cooling air openings

7 Check that the cord and extension cord are intact and in good condition.

TECHNICAL DATA

Technical data	K3000 EL	K3000 SPRAY
Engine		
Insulation	Class 1 (The machine is not double insulated - must be grounded)	Class 1 (The machine is not double insulated - must be grounded)
Max. speed of output shaft, rpm	4500	4500
Rated voltage, V		
Europe	230	230
Great Britain	110	110
USA / Canada / Japan	100-120	100-120
Rated output, W		
Europe	2700/12 A	2700/12 A
Great Britain	2200/20 A	2200/20 A
USA / Canada / Japan	15 A, 50-60 Hz	15 A, 50-60 Hz
Weight		
Power cutter without cutting blade, kg	8,8	8,8
Spray backpack, kg		4,6
Spray water tank, litre		4,0
Sound levels		
Noise pressure level at the operators ear, max speed, measured according to ISO/DIS 11201, dB (A)	95	95
Noise power level, max. speed, measured according to ISO 3744, dB (A)	108	108
Vibration levels		
(see note 1)		
Front handle, m/s^2	1,7	1,7
Rear handle, m/s^2	3,8	3,8
Water cooling	No	Yes

Note 1: Handle vibrations are measured according to ISO/CD 8662-4

Cutting equipment

Cutting blade	Max. peripheral speed, m/s
12” (300 mm)	80
14” (350 mm)	100

EC-declaration of conformity

(Applies to Europe only)

Husqvarna Construction Products, SE-433 81 Partille, Sweden, tel: +46-31-949000, declares under sole responsibility that the power cutter **Husqvarna K3000 EL, K3000 SPRAY** dating from 2006 serial numbers and onwards (the year is clearly stated on the rating plate, followed by the serial number), complies with the requirements of the COUNCILíS DIRECTIVE:

- of June 22, 1998 ”relating to machinery” **98/37/EC**, annex IIA.
- of May 3, 1989 ”relating to electromagnetic compatibility” **89/336/EEC**, and applicable supplements.
- of February 19, 1973 ”relating to electrical equipment” 72/23/EEC

The following standards have been applied: EN 292-2, EN50144-1, EN50144-2-3, EN55014-1, EN55014-2, EN61000-3-2, EN61000-3-3.

The supplied power cutter conforms to the example that underwent EC type examination.

Partille 10 may 2006

Ove Donnerdal, Development Manager

1150295-26

2006-12-08