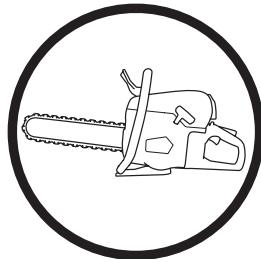


Operator's manual

K 970 Chain



English

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

KEY TO SYMBOLS

Symbols on the machine

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.

Wear personal protective equipment. See instructions under the heading "Personal protective equipment".

This product is in accordance with applicable EC directives.

WARNING! Dust forms when cutting, this can cause injuries if inhaled. Use an approved breathing mask. Avoid inhaling petrol fumes and exhaust fumes. Always provide for good ventilation.

WARNING! Kickbacks can be sudden, rapid and violent and can cause life threatening injuries. Read and understand the instructions in the manual before using the machine.

WARNING! Sparks may appear and start a fire when you work with the machine.

Choke.

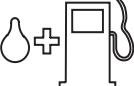
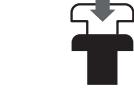
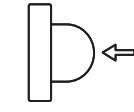
Air purge

Decompression valve

Refuelling, petrol/oil mix

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.



Explanation of warning levels

The warnings are graded in three levels.

WARNING!



WARNING! Used if there is a risk of serious injury or death for the operator or damage to the surroundings if the instructions in the manual are not followed.

CAUTION!



CAUTION! Used if there is a risk of injury to the operator or damage to the surroundings if the instructions in the manual are not followed.

NOTICE!



NOTICE! Used if there is a risk of damage to materials or the machine if the instructions in the manual are not followed.

CONTENTS

Contents

KEY TO SYMBOLS

Symbols on the machine	2
Explanation of warning levels	2

CONTENTS

Contents	3
----------------	---

PRESENTATION

Dear Customer,	4
Features	4

WHAT IS WHAT?

What is what on the diamond chain saw?	5
--	---

MACHINE'S SAFETY EQUIPMENT

General	6
---------------	---

DIAMOND CHAINS

General	8
Check the chain	8
Check the saw	8
Material	8
Glazing	8
Transport and storage	8

ASSEMBLY

How to tension the chain	9
How to change the chain and rim	9
Tightening the bar nut	10

FUEL HANDLING

General	12
Fuel	12
Fueling	12
Transport and storage	12

OPERATING

Protective equipment	13
General safety precautions	13
Transport and storage	17

STARTING AND STOPPING

Before starting	18
Starting	18
Stopping	19

MAINTENANCE

General	20
Maintenance schedule	20
Cleaning	21
Functional inspection	21

TECHNICAL DATA

Technical data	24
Cutting equipment	24
EC-declaration of conformity	25

PRESENTATION

Dear Customer,

Thank you for choosing a Husqvarna product!

It is our wish that you will be satisfied with your product and that it will be your companion for a long time. A purchase of one of our products gives you access to professional help with repairs and services. If the retailer who sells your machine is not one of our authorised dealers, ask him for the address of your nearest service workshop.

This operator's manual is a valuable document. Make sure it is always at hand at the work place. By following its content (using, service, maintenance etc) the life span and the second-hand value of the machine can be extended. If you will sell this machine, make sure that the buyer will get the operator's manual.

More than 300 years of innovation

Husqvarna AB is a Swedish company based on a tradition that dates back to 1689, when the Swedish King Charles XI ordered the construction of a factory for production of muskets. At that time, the foundation was already laid for the engineering skills behind the development of some of the world's leading products in areas such as hunting weapons, bicycles, motorcycles, domestic appliances, sewing machines and outdoor products.

Husqvarna is the global leader in outdoor power products for forestry, park maintenance and lawn and garden care, as well as cutting equipment and diamond tools for the construction and stone industries.

User responsibility

It is the owner's/employer's responsibility that the operator has sufficient knowledge about how to use the machine safely. Supervisors and operators must have read and understood the Operator's Manual. They must be aware of:

- The machine's safety instructions.
- The machine's range of applications and limitations.
- How the machine is to be used and maintained.

National legislation could regulate the use of this machine. Find out what legislation is applicable in the place where you work before you start using the machine.

The manufacturer's reservation

All information and all data in the Operator's Manual were applicable at the time the Operator's Manual was sent to print.

Husqvarna AB has a policy of continuous product development and therefore reserves the right to modify the design and appearance of products without prior notice.

Features

Values such as high performance, reliability, innovative technology, advanced technical solutions and environmental considerations distinguish Husqvarna's products.

Some of the unique features of your product are described below.

SmartCarb™

Built-in automatic filter compensation maintains high power and reduces fuel consumption.

Dura Starter™

Dust sealed starter unit, where the return spring and the pulley bearing are sealed which makes the starter virtually maintenance free and even more reliable.

X-Torq®

The X-Torq® engine provides a more accessible torque for a wider range of speeds which results in maximum cutting capacity. X-Torq® reduces the fuel consumption with up to 20% and the emissions with up to 60%.

EasyStart

The engine and starter are designed to ensure quick and easy starting of the machine. Reduces the pull resistance in the starter cord with up to 40%. (Reduces the compression during starting.)

Air purge

When you push the air purge diaphragm, fuel is pumped through to the carburettor. Fewer pulls are required for starting, meaning the machine becomes easier to start.

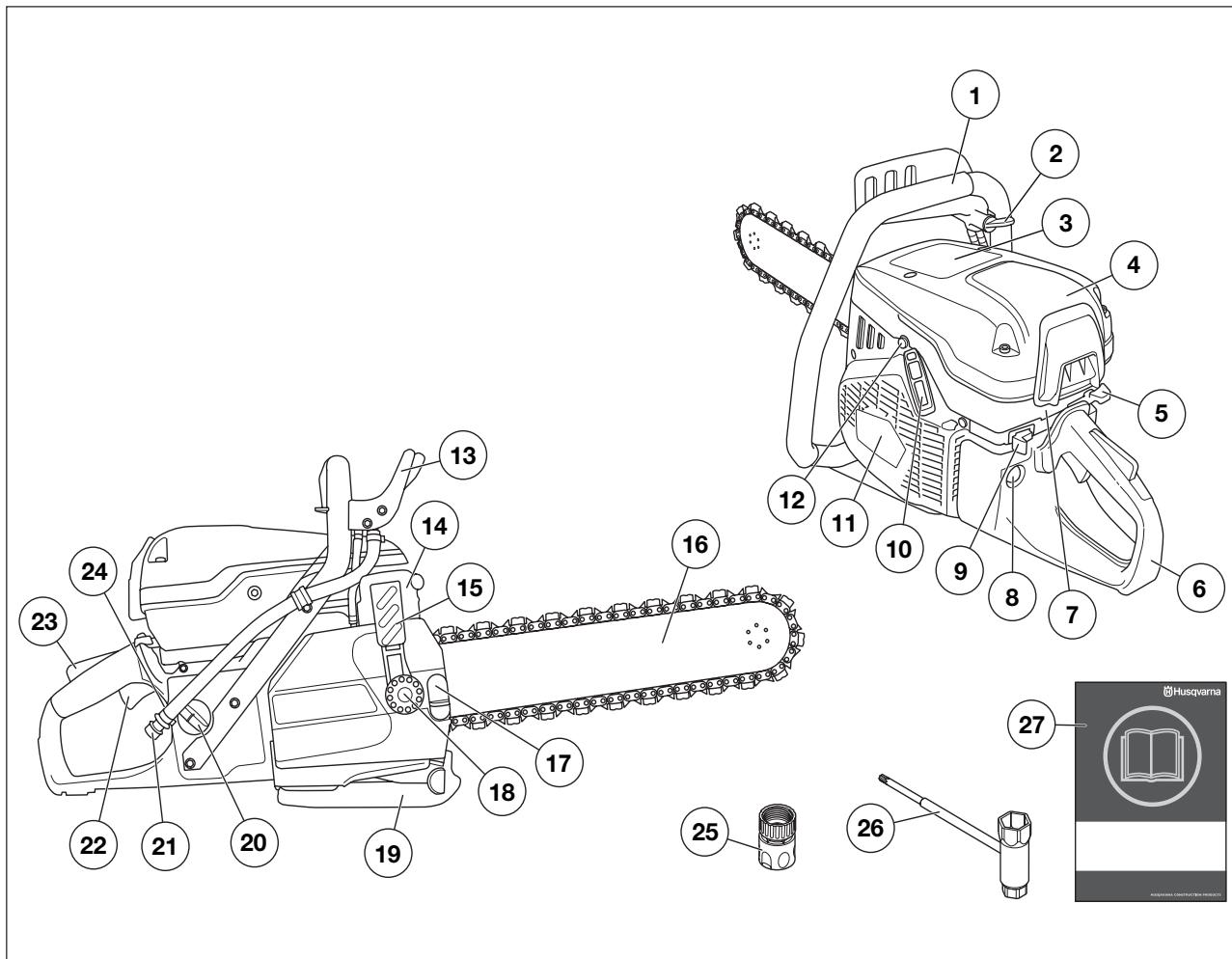
Efficient vibration damping system

Efficient vibration dampers spare arms and hands.

Large cutting depth

Gives a cutting depth of 390 mm (15"). Cuts can be made efficiently from a single direction. Small openings with dimensions of 11x11 cm (4x4") can be cut which is perfect for cutting openings with irregular shapes.

WHAT IS WHAT?



What is what on the diamond chain saw?

1 Front handle	15 Chain tensioner handle
2 Water tap	16 Bar and chain
3 Warning decal	17 Counter screw
4 Air filter cover	18 Bar nut
5 Choke.	19 Splash guard
6 Rear handle	20 Fuel cap
7 Cylinder cover	21 Water connection with filter
8 Air purge	22 Throttle trigger
9 Stop switch	23 Throttle lockout
10 Starter handle	24 Rating plate
11 Starter	25 Water connector, GARDENA®
12 Decompression valve	26 Combination spanner
13 Hand guard	27 Operator's manual
14 Muffler	

MACHINE'S SAFETY EQUIPMENT

General



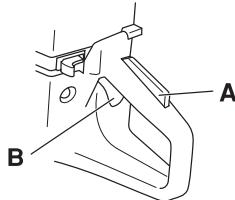
WARNING! Never use a machine that has faulty safety equipment! If your machine fails any of these checks contact your service agent to get it repaired.

The engine should be switched off, and the stop switch in STOP position.

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.

Throttle lockout

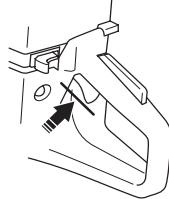
The throttle trigger lock is designed to prevent accidental operation of the throttle. When the lock (A) is pressed in this releases the throttle (B).



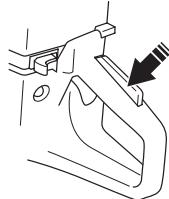
The trigger lock remains pressed in as long as the throttle is pressed. When the grip on the handle is released the throttle trigger and the throttle trigger lock both return to their original positions. This is controlled by two independent return spring systems. This means that the throttle trigger is automatically locked in the idle position.

Checking the throttle lockout

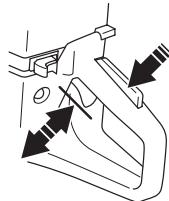
- Make sure the throttle control is locked at the idle setting when the throttle lockout is released.



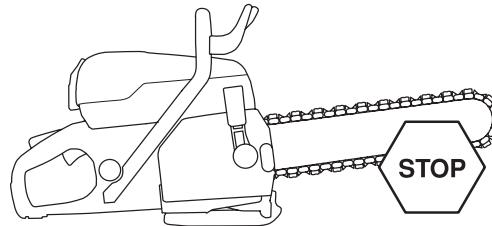
- Press the throttle lockout and make sure it returns to its original position when you release it.



- Check that the throttle trigger and throttle lockout move freely and that the return springs work properly.

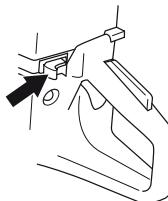


- Start the diamond chain saw and apply full throttle. Release the throttle control and check that the chain stops and remains stationary. If the chain rotates when the throttle control is in the "IDLE POSITION" you should check the carburettor's "IDLE ADJUSTMENT". See instructions in the section "Maintenance".



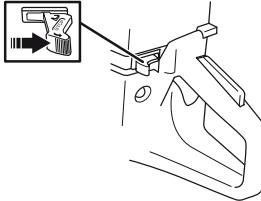
Stop switch

Use the stop switch to switch off the engine.



Checking the stop switch

- Start the engine and make sure the engine stops when you move the stop switch to the stop setting.

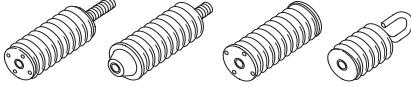


Vibration damping system



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. Such symptoms include numbness, loss of feeling, tingling, prickling, pain, loss of strength, changes in skin colour or condition. These symptoms normally appear in the fingers, hands or wrists. These symptoms may be increased in cold temperatures.

- Your machine is equipped with a vibration damping system that is designed to minimize vibration and make operation easier.
- The machine's vibration damping system reduces the transfer of vibration between the engine unit/cutting equipment and the machine's handle unit. The engine body, including the cutting equipment, is insulated from the handles by vibration damping units.



MACHINE'S SAFETY EQUIPMENT

Checking the vibration damping system



WARNING! The engine should be switched off, and the stop switch in STOP position.

- Check the vibration damping units regularly for cracks or deformation. Replace them if damaged.
- Check that the vibration damping element is securely attached between the engine unit and handle unit.

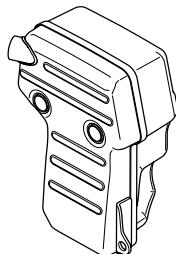
Muffler



WARNING! Never use a machine without a muffler, or with a faulty muffler. A damaged muffler may substantially increase the noise level and the fire hazard. Keep fire fighting equipment handy.

The muffler gets very hot during and after use. This also applies during idling. Be aware of the fire hazard, especially when working near flammable substances and/or vapours.

The muffler is designed to keep noise levels to a minimum and to direct exhaust fumes away from the user.



Inspecting the muffler

Check regularly that the muffler is complete and secured correctly.

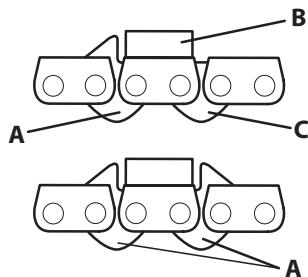
DIAMOND CHAINS

General



WARNING! Chain breakage can result in serious injury if the chain is thrown towards the operator.

There are two basic types of diamond chain available on the market.



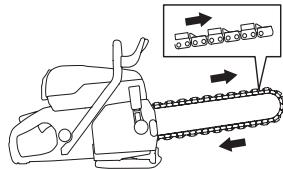
A) Drive link with raker

B) Cutting link with diamond segment

C - Drive link without washer

When using a chain with double rakers, the chain can be fitted either way round.

When using a chain with one raker, the chain should always be fitted the right way round. The raker should guide the segment at the right height in the cut.



Check the chain

- Check that the chain does not show signs of damage in the form of play on the links, broken raker or drive links or broken segments.
- If the chain has been exposed to hard jamming or other abnormal overloading, the chain should be dismantled from the bar for careful inspection.

Check the saw

The saw is equipped with a number of safety features that protect the operator in the event of chain breakage. These safety features must be checked before work starts. Never use the saw if any of the following parts are damaged or missing:

- Cover over drive gear
- Damaged or missing hand guard
- Damaged chain

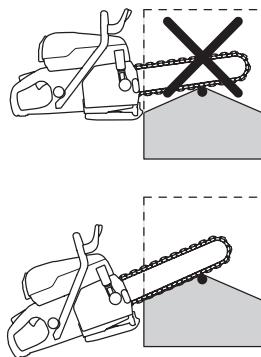
Material



WARNING! Under no circumstances may the diamond chain saw be converted to cut other materials than those it is intended for. It must never be equipped with a timber saw chain.

This machine is designed for and intended for sawing concrete, brick and different stone materials. All other use is improper.

The saw must never be used to cut pure metals. This will probably result in broken segments or chain breakage. The diamond segment can cut reinforced concrete. Try to cut the reinforcement together with as much concrete as possible, this will save the chain.



Glazing

After cutting extremely hard concrete or stone the diamond segment may lose some or all of its cutting capacity. This can also occur if you are forced to cut with a low partial pressure (the diamond chain runs against the workpiece along the entire length of the bar). The solution to the problem is to cut in a soft abrasive material such as sandstone or brick, for a short while.

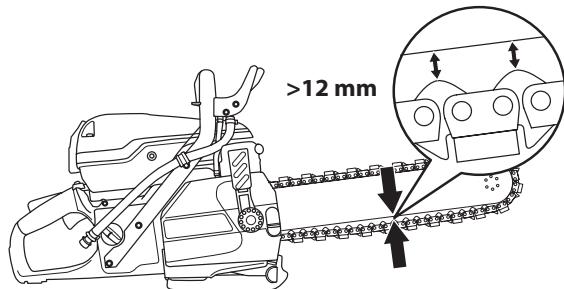
Transport and storage

- After completed work, the diamond chain saw shall be run with water pressure for at least 15 sec. to clean bar, chain and drive mechanism of particles. Rinse the machine with water. If the machine is not to be used for a while, we recommend oiling the chain and bar to prevent corrosion.
- Do not store or transport the power cutter with the diamond chain fitted. The cutting equipment should be removed from the cutter after use and stored carefully.
- Inspect new cutting equipment for transport and storage damage.

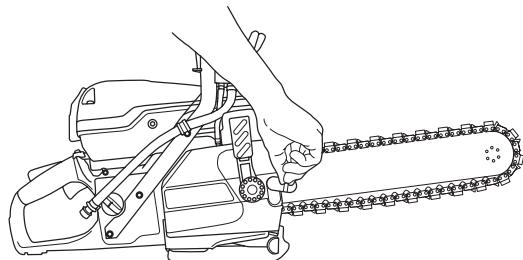
ASSEMBLY

How to tension the chain

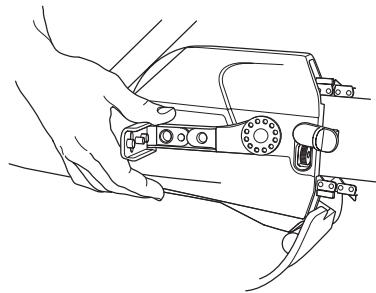
- If the play between drive link and bar is bigger than 12 mm, the chain is too loose and must be tightened.



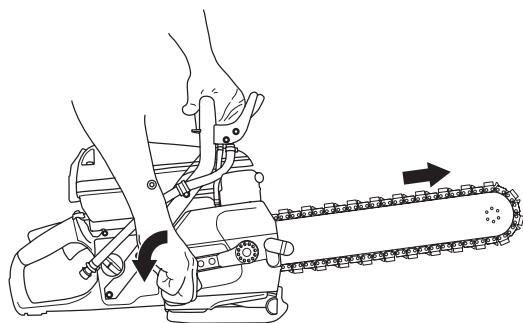
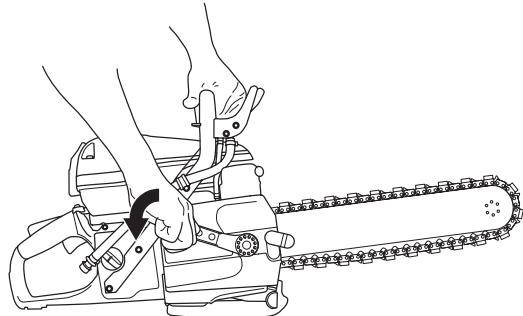
- Opening the adjust screw cover.



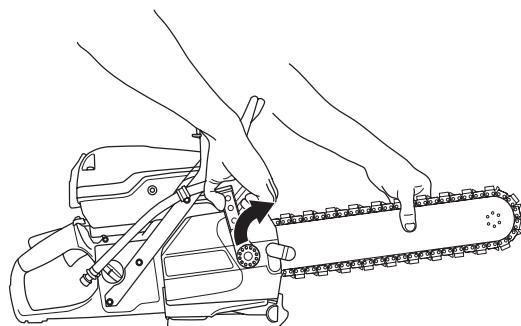
- Pull the handle backwards.



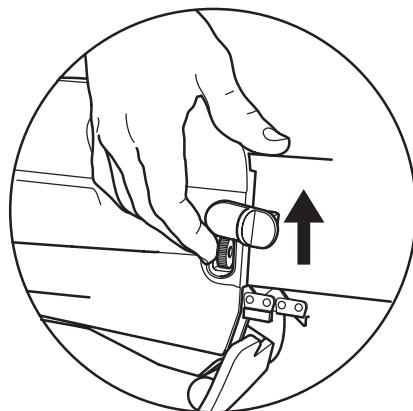
- Continue to move the handle down-wards until you start to tension the chain.



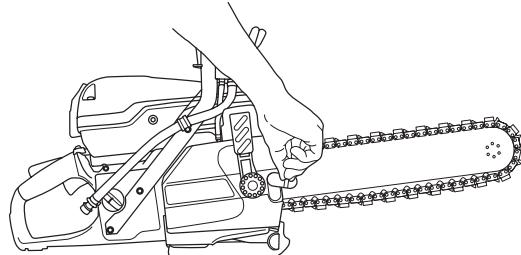
- Hold the bar upwards as you move the handle forward.



- Lock the chain tension by tightening the counter screw.



- Close the adjust screw cover.



A correctly tightened chain should be easy to pull around by hand.

How to change the chain and rim



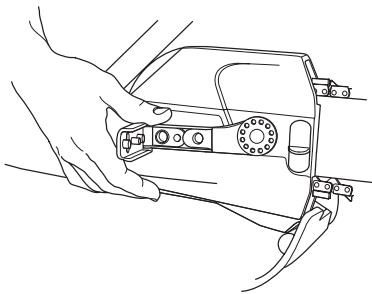
CAUTION! If the chain has been used and is refitted it must be fitted in the same working direction as earlier in order to reduce segment wear and to obtain full cutting capacity directly.

The chain must never be fitted the wrong way round. The raker should guide the segment at the right height in the cut.

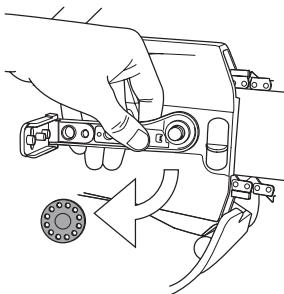
Turn the bar when replacing the chain for maximum bar life.

ASSEMBLY

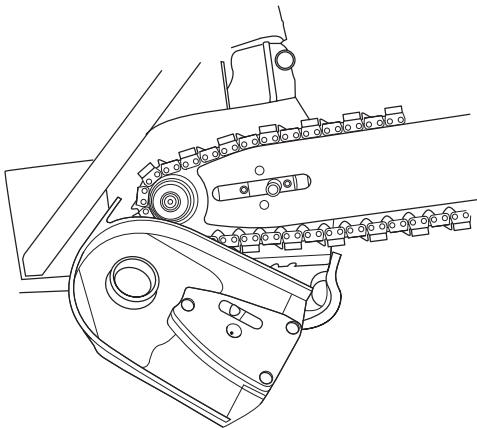
- Pull the handle backwards.



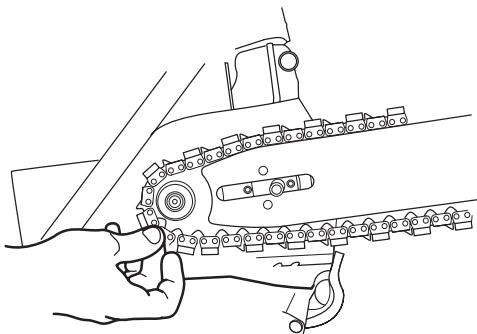
- Press the spring down on the chain tensioner handle. Unscrew the adjusting bar nut anti-clockwise.



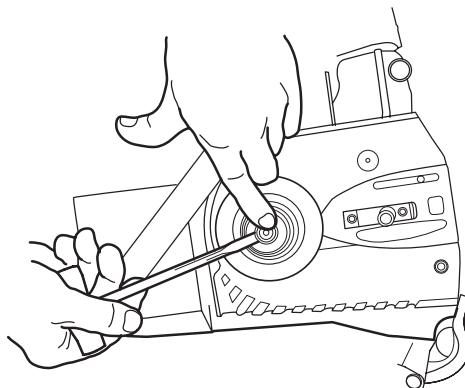
- Remove the cover.



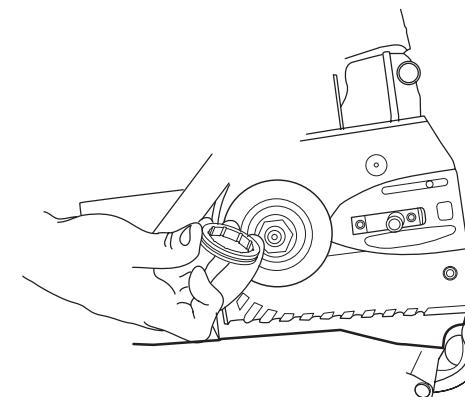
- Remove the bar and chain.



- Remove the spring holding the two "half-moons" using a screwdriver.



- Remove the "halfmoons", the cup guard, o-ring and the drive sprocket.



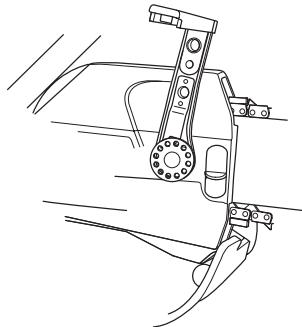
- Assemble the parts in the reverse order.

IMPORTANT! During all reassembling, make sure that the outer cover fits in to the inner cover, the covers may be damaged otherwise.

Make sure that the chain adjuster pin fits into the hole on the bar.

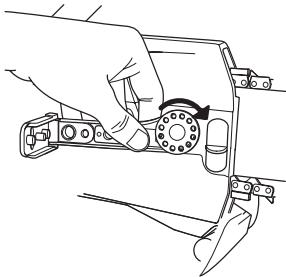
Tightening the bar nut

If the bar and chain tensioner handle feel loose, the bar nut must be tightened to achieve the correct tension moment in the nut. This so that the bar does not fit loosely.

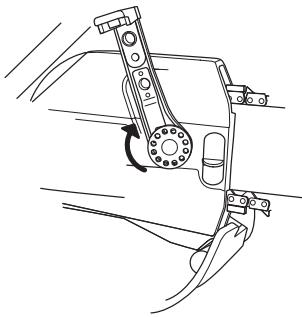


ASSEMBLY

- Move the lever to its rear, lower position. Push in the spring on the chain tensioner handle and turn the bar nut clockwise by hand.



- Release the spring. Hold the bar upwards as you move the handle forward. Note that the arm's mechanical stop shall not be reached. The stop prevents the arm from pointing forwards and prevents cutting.



FUEL HANDLING

General



WARNING! Running an engine in a confined or badly ventilated area can result in death due to asphyxiation or carbon monoxide poisoning. Use fans to ensure proper air circulation when working in trenches or ditches deeper than one meter.

Fuel and fuel fumes are highly inflammable and can cause serious injury when inhaled or allowed to come in contact with the skin. For this reason observe caution when handling fuel and make sure there is adequate ventilation.

The exhaust fumes from the engine are hot and may contain sparks which can start a fire. Never start the machine indoors or near combustible material!

Do not smoke and do not place any hot objects in the vicinity of fuel.

Fuel

NOTICE! The machine is equipped with a two-stroke engine and must always be run using a mixture of petrol and two-stroke oil. It is important to accurately measure the amount of oil to be mixed to ensure that the correct mixture is obtained. When mixing small amounts of fuel, even small inaccuracies can drastically affect the ratio of the mixture.

Petrol

- Use good quality unleaded or leaded petrol.
- The lowest octane recommended is 90 (RON). If you run the engine on a lower octane grade than 90 so-called knocking can occur. This gives rise to a high engine temperature, which can result in serious engine damage.
- When working at continuous high revs a higher octane rating is recommended.

Environment fuel

The use of environmental fuel (alkylate fuel), or environment fuel for four-stroke engines blended with two-stroke oil as set out below is recommended.

Ethanol blended fuel, E10 may be used (max 10% ethanol blend). Using ethanol blends higher than E10 will create lean running condition which can cause engine damage.

Two-stroke oil

- For best results and performance use HUSQVARNA two-stroke engine oil, which is specially formulated for our air-cooled two-stroke engines.
- Never use two-stroke oil intended for water-cooled engines, sometimes referred to as outboard oil (rated TCW).
- Never use oil intended for four-stroke engines.

Mixing

- Always mix the petrol and oil in a clean container intended for fuel.

- Always start by filling half the amount of the petrol to be used. Then add the entire amount of oil. Mix (shake) the fuel mixture. Add the remaining amount of petrol.
- Mix (shake) the fuel mixture thoroughly before filling the machine's fuel tank.
- Do not mix more than one month's supply of fuel at a time.

Mixing ratio

- 1:50 (2%) with HUSQVARNA two-stroke oil or equivalent.
- 1:33 (3%) with oils class JASO FB or ISO EGB formulated for air-cooled, two-stroke engines.

Petrol, litre	Two-stroke oil, litre	
	2% (1:50)	3% (1:33)
5	0,10	0,15
10	0,20	0,30
15	0,30	0,45
20	0,40	0,60

Fueling



WARNING! Always stop the engine and let it cool for a few minutes before refuelling. The engine should be switched off, and the stop switch in STOP position.

When refuelling, open the fuel cap slowly so that any excess pressure is released gently.

Clean the area around the fuel cap.

Tighten the fuel cap carefully after refuelling. Negligence may lead to the start of a fire.

Move the machine at least 3 m from the refuelling point before starting it.

Never start the machine:

- If you have spilt fuel or engine oil on the machine. Wipe off the spill and allow the remaining fuel to evaporate.
- If you have spilt fuel on yourself or your clothes, change your clothes. Wash any part of your body that has come in contact with fuel. Use soap and water.
- If the machine is leaking fuel. Check regularly for leaks from the fuel cap and fuel lines.

Transport and storage

- Store and transport the machine and fuel so that there is no risk of any leakage or fumes coming into contact with sparks or naked flames, for example, from electrical machinery, electric motors, electrical relays/switches or boilers.
- When storing and transporting fuel always use approved containers intended for this purpose.

Long-term storage

- When storing the machine for long periods the fuel tank must be emptied. Contact your local petrol station to find out where to dispose of excess fuel.

OPERATING

Protective equipment

General

- Do not use the machine unless you are able to call for help in the event of an accident.

Personal protective equipment

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.



WARNING! The use of products such as cutters, grinders, drills, that sand or form material can generate dust and vapours which may contain hazardous chemicals. Check the nature of the material you intend to process and use an appropriate breathing mask.

Long-term exposure to noise can result in permanent hearing impairment. So always use approved hearing protection. Listen out for warning signals or shouts when you are wearing hearing protection. Always remove your hearing protection as soon as the engine stops.

Always wear:

- Approved protective helmet
- Hearing protection
- Approved eye protection. If you use a face shield then you must also wear approved protective goggles. Approved protective goggles must comply with standard ANSI Z87.1 in the USA or EN 166 in EU countries. Visors must comply with standard EN 1731.
- Breathing mask
- Heavy-duty, firm grip gloves.
- Tight-fitting, heavy-duty and comfortable clothing that permits full freedom of movement.
- Boots with steel toe-caps and non-slip sole.

Other protective equipment



CAUTION! Sparks may appear and start a fire when you work with the machine. Always keep fire fighting equipment handy.

- Fire Extinguisher
- Always have a first aid kit nearby.

General safety precautions

This section describes basic safety directions for using the machine. This information is never a substitute for professional skills and experience.

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

- Keep in mind that it is you, the operator that is responsible for not exposing people or their property to accidents or hazards.
- The machine must be kept clean. Signs and stickers must be fully legible.

Always use common sense

It is not possible to cover every conceivable situation you can face. Always exercise care and use your common sense. If you get into a situation where you feel unsafe, stop and seek expert advice. Contact your dealer, service agent or an experienced user. Do not attempt any task that you feel unsure of!



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.

Never allow children or other persons not trained in the use of the machine to use or service it.

Never allow anyone else to use the machine without first ensuring that they have understood the contents of the operator's manual.

Never use the machine if you are fatigued, while under the influence of alcohol or drugs, medication or anything that could affect your vision, alertness, coordination or judgement.



WARNING! Unauthorized modifications and/or accessories may lead to serious injury or death to the user or others. Under no circumstances may the design of the machine be modified without the permission of the manufacturer.

Do not modify this product or use it if it appears to have been modified by others.

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.

Always use genuine accessories.



WARNING! This machine produces an electromagnetic field during operation. This field may under some circumstances interfere with active or passive medical implants. To reduce the risk of serious or fatal injury, we recommend persons with medical implants to consult their physician and the medical implant manufacturer before operating this machine.

OPERATING

Work area safety



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.

- Observe your surroundings to ensure that nothing can affect your control of the machine.
- Observe your surroundings and make sure that there is no risk of people or animals coming into contact with the cutting equipment.
- Do not use the machine in bad weather, such as dense fog, heavy 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.
- Ensure that the working area is sufficiently illuminated to create a safe working environment.
- Make sure that no pipes or electrical cables are routed in the working area or in the material to be cut.

Water cooling

Water cooling must always be used. Dry cutting causes immediate overheating and bar and chain failure with a risk of personal injury.

In addition to cooling the bar and chain, the flow of water pushes particles away from the bar and the drive links. As a result it is important with a high water pressure. The water pressure should be at least 2.5 bar and a maximum of 11 bar. The recommended pressure is approx. 5 bar.

Basic working techniques

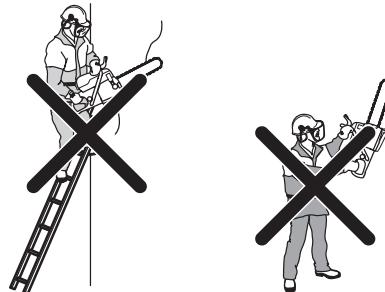


WARNING! Do not lean the saw to the side, this can cause the chain to jam or break with personal injury as a consequence.

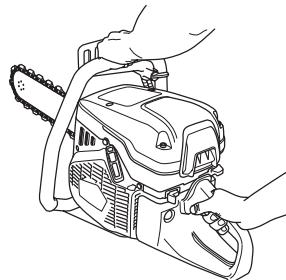
Under all circumstances avoid cutting using the side of the chain; it will almost certainly be damaged, break and can cause immense damage. Only use the cutting section.

- This machine is designed for and intended for sawing concrete, brick and different stone materials. All other use is improper.
- Maintain a safe distance from the cutting chain when the engine is running.
- Do not move the machine when the cutting equipment is rotating.
- Take care when using your saw and make sure the kickback zone of the bar never touches any object. See instructions under the heading "Kickback".

- Keep a good balance and a firm foothold.
- Never cut above shoulder height. Never cut from a ladder. Use a platform or scaffold when working at high altitude.



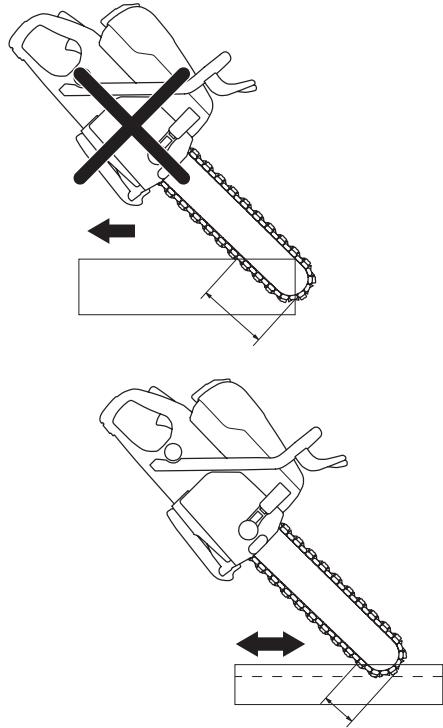
- Always hold the machine in a firm grip with both hands. Hold it so that the thumbs and fingers grip round the handles.



- Stand at a comfortable distance from the work piece.
- Check that the cutting equipment is not in contact with anything when the machine is started.
- Apply the chain gently with high rotating speed (full throttle) Maintain full speed until cutting is complete.
- Let the machine work without forcing or pressing the chain.
- Use the saw the right way up. For reasons of safety the saw must never be used upside down. Parts worn loose from the cut object or damaged chain parts can be thrown towards the operator.

OPERATING

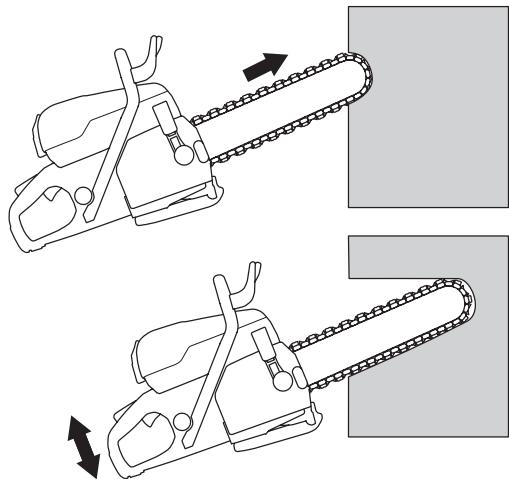
- Move the saw slowly backwards and forwards. Generally you should attempt to get the chain to cut over distances that are as small as possible. The partial pressure will then be higher and the cutting process will be faster.



In principle there are two ways to start the process of entering a thick object to be cut.

Plunge-cut method

- Start by making a 10 centimetre deep cut in the wall using the lower part of the tip of the bar. Straighten up the saw at the same time as the tip of the bar is inserted in the slot. Raising and lowering the saw at the same time as it is pressed into the wall provides an effective method of cutting to the full depth.



Pilot method



WARNING! Never use a power cutter with a standard cutting blade for pilot cutting. The cutting blade produces a pilot slot that is too thin and continued cutting with the diamond chain saw results infallibly in dangerous kickback and jamming in the slot.

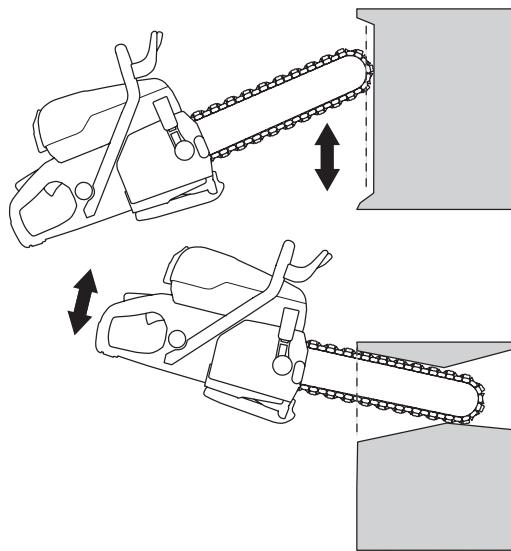
This method is recommended when attempting to cut absolutely straight and square.

For best cutting economy, pre-cut with a power cutter equipped with Husqvarna's special pre-cutting blade intended for further cutting with diamond chain saw.

- Start by securing a board where the cut is to be made. This serves as a guide for the cut. Cut to a depth of a few centimetres along the entire line, using the lower section of the tip of the bar. Go back and cut another few centimetres. Repeat until a depth of between 5–10 centimetres is reached, depending on precision demands and the thickness of the object. The pilot cut guides the bar straight during continued cutting, which takes place according to the plunge-cut method until full depth is reached, use a rubber block as a break point/stop.

Pendulum technique

- The cut is made using a pendulum motion and the saw is only held straight at the ends of the cut.



Cutting holes

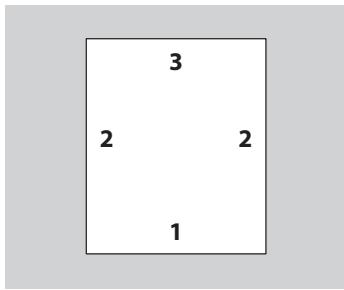
NOTICE! If the upper horizontal cut is made before the lower horizontal cut, the work piece will fall on the cutting equipment and jam it.

As it is usually a question of large and heavy pieces that are cut when using the diamond chain saw the forces are so great that jamming can result in irreparable damage to both the bar and chain.

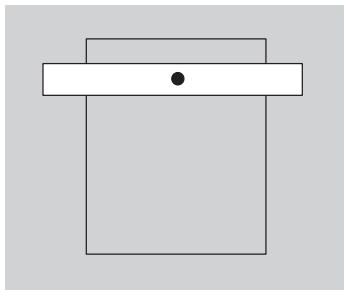
Plan the work so that you do not get crushed by the bar when the pieces fall apart. Planning is also extremely important for your own safety!

OPERATING

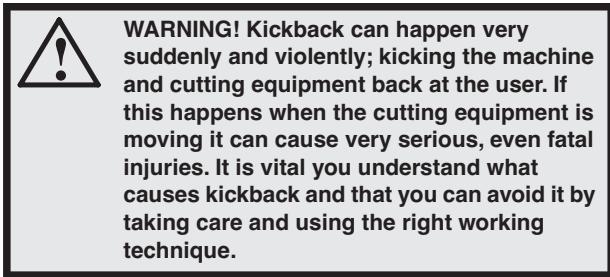
- First make the lower horizontal cut. Now make the two vertical cuts. Finish with the upper horizontal cut. The risk of jamming is then avoided.



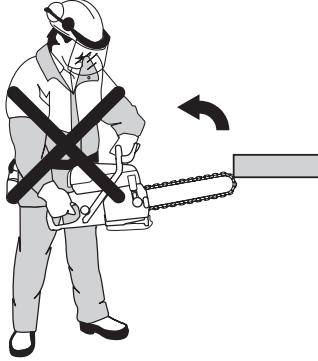
- When cutting out large holes it is important that the piece to be cut out is braced so that it cannot fall against the operator.



Kickback

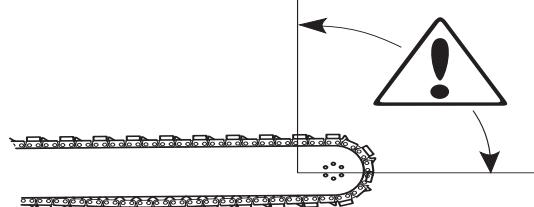


The word kickback is used to describe the sudden reaction that causes the machine and cutting equipment to be thrown from an object when the upper quadrant of the bar, known as the kickback zone, touches an object.



General rules

- Kickback only occurs if the kickback zone of the bar touches an object. Take care when using your saw and make sure the kickback zone of the bar never touches any object.



- Keep a good balance and a firm foothold. Stand at a comfortable distance from the work piece.
- Always cut at maximum speed.
- Take care when inserting the blade in an existing cut. Never cut in a narrower pre-cut 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 cutting equipment.

Pinching kickback

Pinching is when the cut closes and pinches the cutting equipment. If the cutting equipment is pinched or stalled the reactive force will be strong and you might not be able to control the machine.

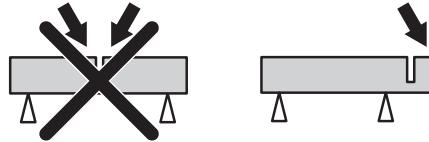


If the cutting equipment is pinched or stalled in the kickback zone, the reactive force will push the machine up and back towards the user in a rotating motion causing serious or even fatal injury.

How to avoid kickback

Avoiding kickback is simple.

- The work piece must always be supported so that the cut stays open when cutting through. When the cut opens there is no kickback. If the cut closes and pinches the cutting equipment there is always a risk of kickback.



- Take care when inserting the blade in an existing cut.
- Be alert to movement of the work piece or anything else that can occur, which could cause the cut to close and pinch the cutting equipment.

Transport and storage

- Secure the equipment during transportation in order to avoid transport damage and accidents.
- Store the equipment in a lockable area so that it is out of reach of children and unauthorized persons.
- For transport and storage of diamond chains, see the section "Diamond chains".
- For transport and storage of fuel, see the section "Fuel handling".

STARTING AND STOPPING

Before starting



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

Wear personal protective equipment. See instructions under the heading "Personal protective equipment".

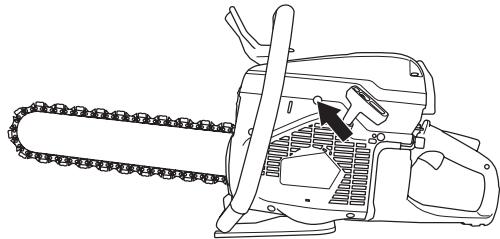
Make sure no unauthorised persons are in the working area, otherwise there is a risk of serious personal injury.

Check that the fuel cap is properly secured, and that there is no fuel leakage. Risk of fire.

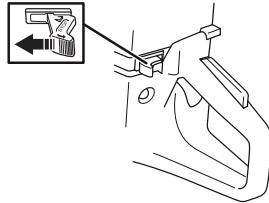
- Perform daily maintenance. See instructions in the section "Maintenance".

Starting

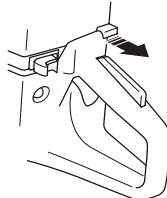
- **Decompression valve:** Press in the valve to reduce the pressure in the cylinder, this is to assist starting the power cutter. The decompression valve should always be used when starting. The valve automatically returns to its initial position when the machine starts.



- **Stop switch:** Make sure that the stop switch (STOP) is in the left position.



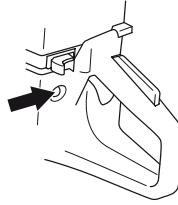
- **Start throttle position - cold engine:** Start throttle position and choke is obtained by pulling out the choke completely.



- **Start throttle position - warm engine:** The correct choke/start throttle setting is obtained by pulling the choke control to the choke position and then pushing it in again. This only engages the start throttle setting without any choke.



- **Air purge:** Press the air purge diaphragm repeatedly until fuel fills the diaphragm (at least 6 times). The diaphragm need not be completely filled.



Start the engine



WARNING! The chain rotates when the engine starts. Make sure it can rotate freely.

- Grip the front handle with your left hand. Put your right foot on the lower section of the rear handle pressing the machine against the ground. **Never twist the starter cord around your hand.**



- Grip the starter handle, slowly pull out the cord with your right hand until you feel some resistance (the starter pawls grip), now quickly and powerfully pull the cord.

NOTICE! Do not pull the starter cord all the way out and do not let go of the starter handle when the cord is fully extended. This can damage the machine.

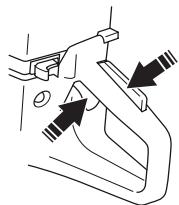
- **With a cold engine:** The machine stops when the engine fires because the choke control is pulled out.

Press the choke control and the decompression valve.

Pull the starter handle until the engine starts.

STARTING AND STOPPING

- When the engine starts, quickly apply full throttle to automatically disengage fast idle.

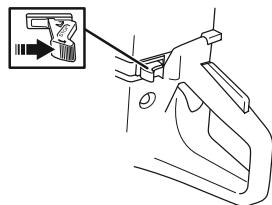


Stopping



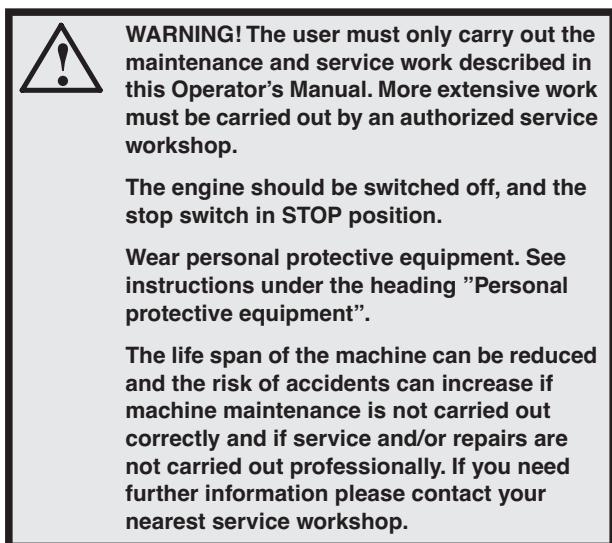
CAUTION! The chain continues to rotate up to a minute after the motor has stopped. (Chain coasting.) Make sure that the chain can rotate freely until it is completely stopped. Carelessness can result in serious personal injury.

- Stop the engine by moving the stop switch (STOP) to the right.



MAINTENANCE

General



- Let your Husqvarna dealer regularly check the machine and make essential adjustments and repairs.

Maintenance schedule

In the maintenance schedule you can see which parts of your machine that require maintenance, and with which intervals it should take place. The intervals are calculated based on daily use of the machine, and may differ depending on the rate of usage.

Daily maintenance	Weekly maintenance	Monthly maintenance
Cleaning	Cleaning	Cleaning
External cleaning		Spark plug
Cooling air intake		Fuel tank
Functional inspection	Functional inspection	Functional inspection
General inspection	Vibration damping system*	Fuel system
Throttle lockout*	Muffler*	Air filter
Stop switch*	Carburettor	Drive gear, clutch
Bar and diamond chain**	Starter	

*See instructions in the section "Machine's safety equipment".

** See instructions in the section "Diamond chains" and "Assembly and settings".

MAINTENANCE

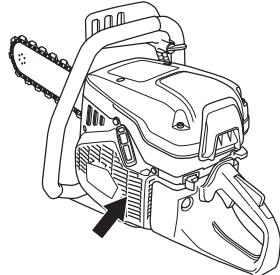
Cleaning

External cleaning

- Clean the machine daily by rinsing it with clean water after the work is finished.

Cooling air intake

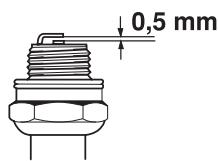
- Clean the cooling air intake when needed.



NOTICE! A dirty or blocked air intake results in the machine overheating which causes damage to the piston and cylinder.

Spark plug

- If the machine is low on power, difficult to start or runs poorly at idle speed: always check the spark plug first before taking other steps.
- Ensure that the spark plug cap and ignition lead are undamaged to avoid the risk of electric shock.
- If the spark plug is dirty, clean it and at the same time check that the electrode gap is 0.5 mm. Replace if necessary.



NOTICE! Always use the recommended spark plug type! Use of the wrong spark plug can damage the piston/cylinder.

These factors cause deposits on the spark plug electrodes, which may result in operating problems and starting difficulties.

- An incorrect fuel mixture (too much or incorrect type of oil).
- A dirty air filter.

Functional inspection

General inspection

- Check that nuts and screws are tight.

Carburettor

The carburettor is equipped with fixed needles to ensure the machine always receives the correct mixture of fuel and air. When the engine lacks power or accelerates poorly, do the following:

- Check the air filter and replace if necessary. When this does not help, contact an authorised service workshop.

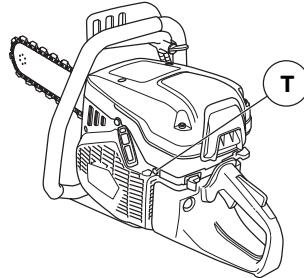
Adjusting the idle speed



CAUTION! If the idle speed cannot be adjusted so that the cutting attachment stops, contact your dealer/service workshop. Do not use the machine until it has been correctly adjusted or repaired.

Start the engine and check the idling setting. If the carburettor setting is correct, the diamond chain shall stand still at idle speed.

- Adjust the idle speed using the T screw. Turn the idle speed screw clockwise until the chain starts to rotate. Now turn the screw anti-clockwise until the chain stops rotating. A correctly adjusted idle speed is set when the engine accelerates without hesitation.



Rec. idle speed: 2700 rpm

Starter

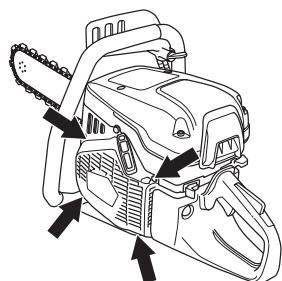


WARNING! When the recoil spring is wound up in the starter housing it is under tension and can, if handled carelessly, pop out and cause personal injury.

Always be careful when changing the recoil spring or the starter cord. Always wear protective goggles.

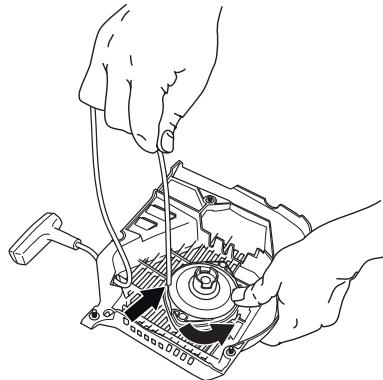
Checking the starter cord

- Loosen the screws that hold the starter against the crankcase and remove the starter.



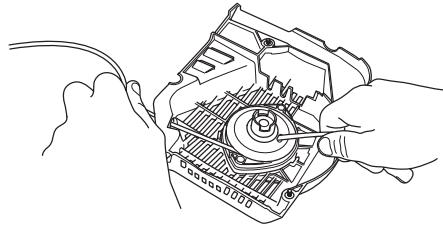
MAINTENANCE

- Pull the cord out about 30 cm and lift it into the cut-out in the periphery of the starter pulley. When the cord is intact: Release the spring tension by letting the pulley rotate slowly backwards.

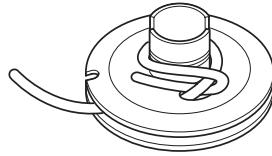


Changing a broken or worn starter cord

- Remove any remnants of the old starter cord and check that the return spring works. Insert the new starter cord through the hole in the starter housing and in the cord pulley.

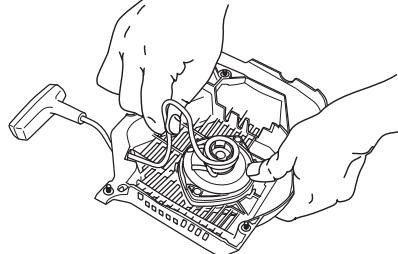


- Secure the starter cord around the cord pulley as illustrated. Tighten the fastening well and ensure that the free end is as short as possible. Secure the end of the starter cord in the starter handle.



Tensioning the recoil spring

- Guide the cord through the cut-out in the periphery of the pulley and wind the cord 3 times clockwise around the centre of the starter pulley.

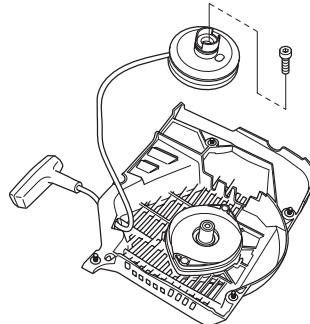


- Now pull the starter handle and in doing so tension the spring. Repeat the procedure once more, but this time with four turns.
- Note that the starter handle is drawn to its correct home position after tensioning the spring.

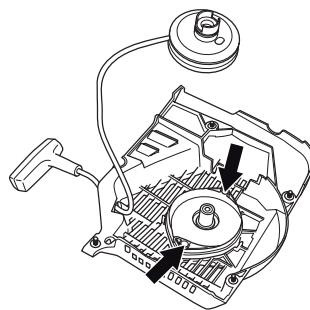
- Check that the spring is not drawn to its end position by pulling out the starter line fully. Slow the starter pulley with your thumb and check that you can turn the pulley at least a further half turn.

Changing a broken recoil spring

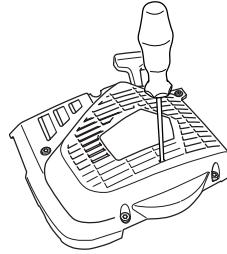
- Undo the bolt in the centre of the pulley and remove the pulley.



- Bear in mind that the return spring lies tensioned in the starter housing.
- Loosen the bolts holding the spring cassette.



- Remove the recoil spring by turning the starter over and loosen the hooks, with the help of a screwdriver. The hooks hold the return spring assembly on the starter.

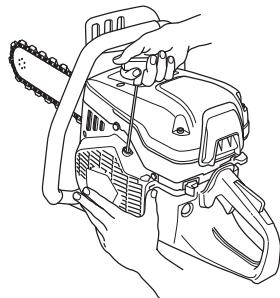


- Lubricate the recoil spring with light oil. Fit the pulley and tension the recoil spring.

MAINTENANCE

Fitting the starter

- To fit the starter, first pull out the starter cord and place the starter in position against the crankcase. Then slowly release the starter cord so that the pulley engages with the pawls.



- Tighten the screws.

Fuel system

General

- Check that the fuel cap and its seal are not damaged.
- Check the fuel hose. Replace when damaged.

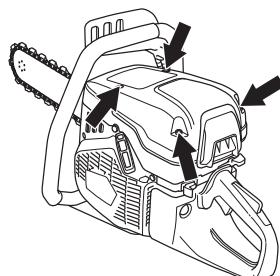
Fuel filter

- The fuel filter sits inside the fuel tank.
- The fuel tank must be protected from contamination when filling. This reduces the risk of operating disturbances caused by blockage of the fuel filter located inside the tank.
- The filter cannot be cleaned but must be replaced with a new filter when it is clogged. **The filter should be changed at least once per year.**

Air filter

The air filter only needs to be checked if the engine drops in power.

- Loosen the screws. Remove the air filter cover.

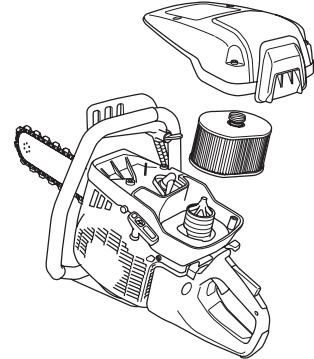


- Check the air filter and replace if necessary.

Replacing the air filter

NOTICE! The air filter must not be cleaned or blown clean with compressed air. This will damage the filter.

- Loosen the screws. Remove the cover.



- Replace the air filter.

Drive gear, clutch

Check the clutch centre, drive gear and clutch spring for wear.

TECHNICAL DATA

Technical data

Engine

	K 970 Chain
Cylinder displacement, cm ³	93,6
Cylinder bore, mm	56
Stroke, mm	38
Idle speed, rpm	2700
Recommended max. speed, rpm	9300 (+/- 150)
Power, kW/ rpm	4,8/9000

Ignition system

Manufacturer of ignition system	SEM
Type of ignition system	CD
Spark plug	Champion RCJ 6Y/ NGK BPMR 7A
Electrode gap, mm	0,5

Fuel and lubrication system

Manufacturer of carburettor	Walbro
Carburettor type	RWJ5
Fuel tank capacity, litre	1,0

Weight

Weight without fuel and cutting attachment, kg	9,5
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Noise emissions (see note 1)

Sound power level, measured dB(A)	114
Sound power level, guaranteed L _{WA} dB(A)	116

Sound levels (see note 2)

Equivalent sound pressure level at the operator's ear, dB(A)	103
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Equivalent vibration levels, a_{hveq} (see note 3)

Front handle, m/s ²	3,6
Rear handle, m/s ²	2,3

Note 1: Noise emissions in the environment measured as sound power (L_{WA}) in conformity with EC directive 2000/14/EC. The difference between guaranteed and measured sound power is that the guaranteed sound power also includes dispersion in the measurement result and the variations between different machines of the same model according to Directive 2000/14/EC.

Note 2: Equivalent sound pressure level, according to EN ISO 19432, is calculated as the time-weighted energy total for different sound pressure levels under various working conditions. Reported data for equivalent sound pressure level for the machine has a typical statistical dispersion (standard deviation) of 1 dB (A).

Note 3: Equivalent vibration level, according to EN ISO 19432, is calculated as the time-weighted energy total for vibration levels under various working conditions. Reported data for equivalent vibration level has a typical statistical dispersion (standard deviation) of 1 m/s².

Cutting equipment

Bar and diamond chain

14" (350 mm)	28
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Chain speed at max. power, m/sec

TECHNICAL DATA

EC-declaration of conformity

(Applies to Europe only)

Husqvarna AB, SE-561 82 Huskvarna, Sweden, tel +46-36-146500, declares under sole responsibility that the power cutters **Husqvarna K 970 Chain** from 2011's serial numbers and onwards (the year is clearly stated in plain text on the rating plate with subsequent serial number), complies with the requirements of the COUNCIL'S DIRECTIVES:

- of May 17, 2006 "relating to machinery" **2006/42/EC**
- of December 15, 2004 "relating to electromagnetic compatibility" **2004/108/EC**.
- of May 8, 2000 "relating to the noise emissions in the environment" **2000/14/EC**. Conformity assessment according to Annex V.

For information relating to noise emissions, see the chapter Technical data.

The following standards have been applied: **EN ISO 12100:2010, CISPR 12:2007, EN ISO 19432:2008**.

Gothenburg February 2, 2011



Henric Andersson

Vice President, Head of Power Cutters and Construction Equipment

Husqvarna AB

(Authorized representative for Husqvarna AB and responsible for technical documentation.)

Original instructions

1152682-26



2012-01-18 rev. 2