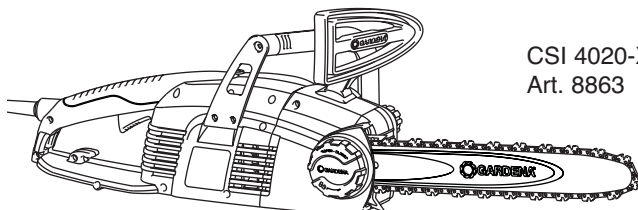


CST 3519-X Electric Chainsaw
Art. 8862



CSI 4020-X Electric Chainsaw
Art. 8863

D Betriebsanleitung
Elektro-Kettensäge

GB Operating Instructions
Electric Chainsaw

F Mode d'emploi
Tronçonneuse électrique

NL Instructies voor gebruik
Elektrische kettingzaag

S Bruksanvisning
Elektrisk motorsåg

DK Brugsanvisning
Elektrisk kædesav

N Bruksanvisning
Elektrisk kjedesag

FIN Käyttöohje
Sähkökäyttöinen moottorisaha

I Istruzioni per l'uso
Elettrosega

E Manual de instrucciones
Motosierra eléctrica

P Instruções de utilização
Motosserra eléctrica

PL Instrukcja obsługi
Piła łańcuchowa elektryczna

H Vevõtájékoztató
Elektromos láncfűrés

CZ Návod k obsluze
Elektrická řetězová pila

SK Návod na používanie
Elektrická reťazová píla

GR Οδηγίες χρήσεως
Ηλεκτρικό αλυσοπίονο

RUS Инструкция по эксплуатации
Электрическая цепная пила

SLO Navodila za uporabo
Električna verižna žaga

HR Uputstva za upotrebu
Električna lančana pila

UA Інструкція з експлуатації
Електрична ручна ланцюгова пила

RO Instrucțiuni de utilizare
Ferăstrău electric cu lanț

TR Kullanma Talimatı
Elektrikli Testere

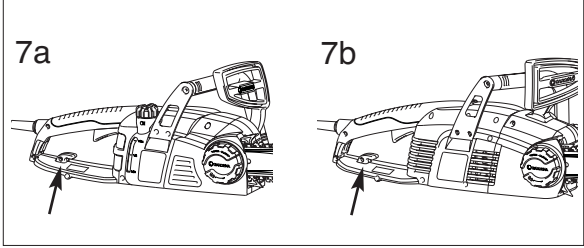
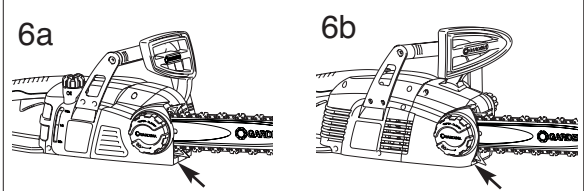
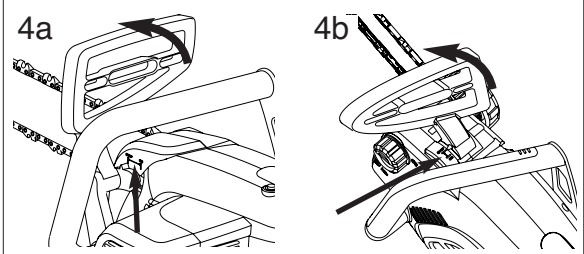
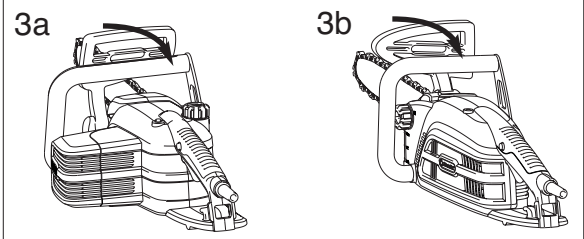
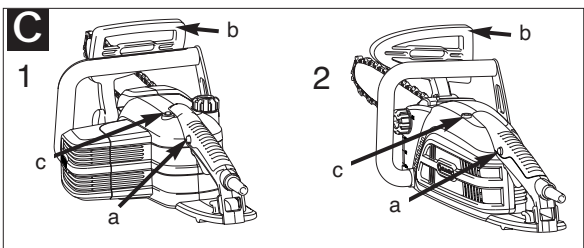
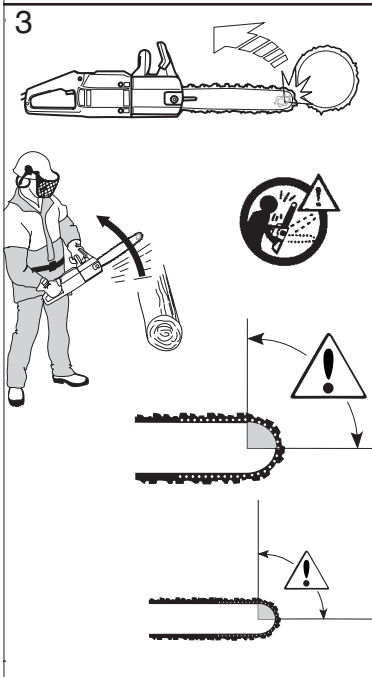
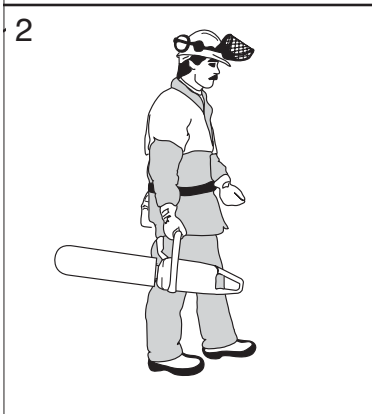
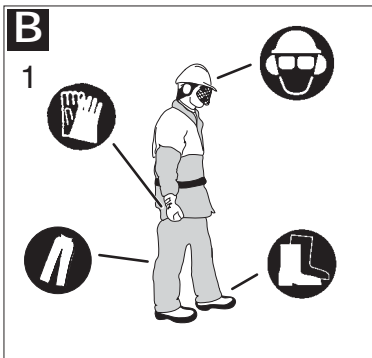
BG Инструкция за експлоатация
Електрическа моторна резачка

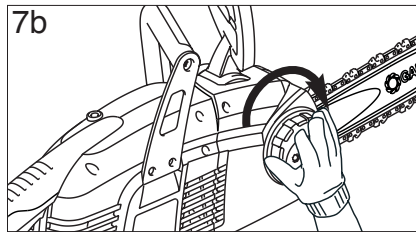
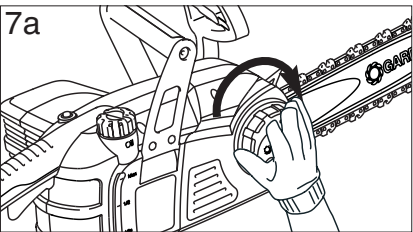
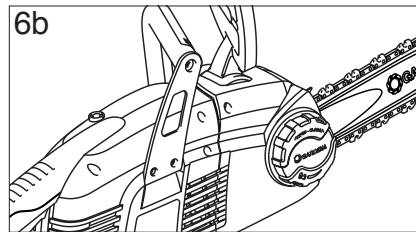
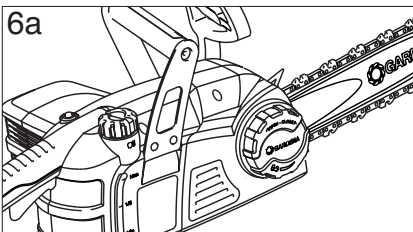
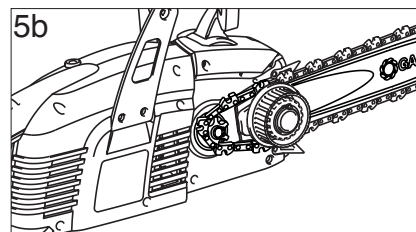
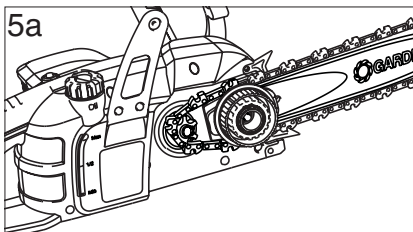
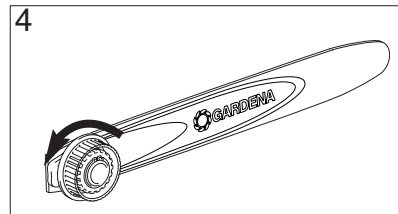
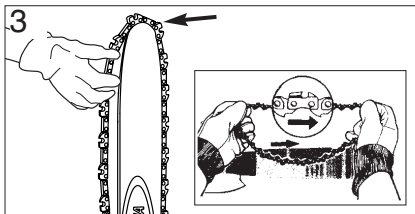
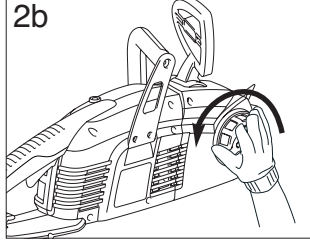
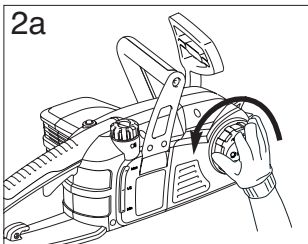
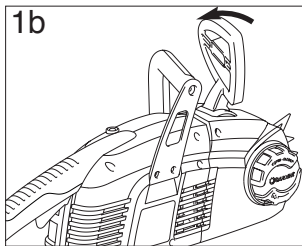
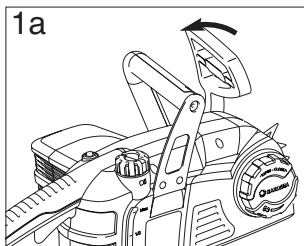
EST Kasutusjuhend
Elektriline kettsaag

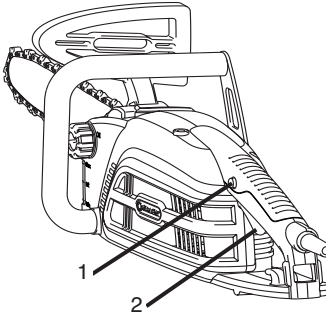
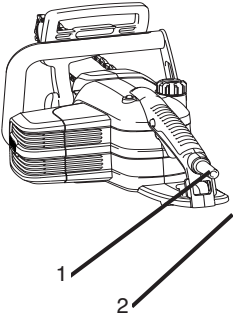
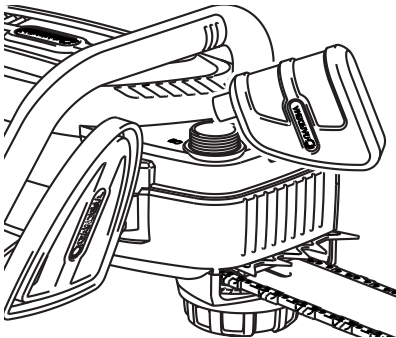
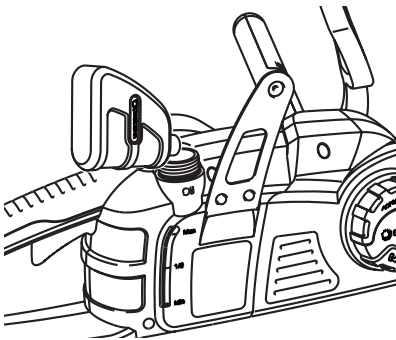
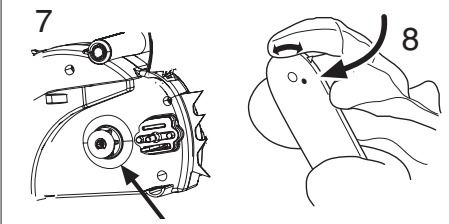
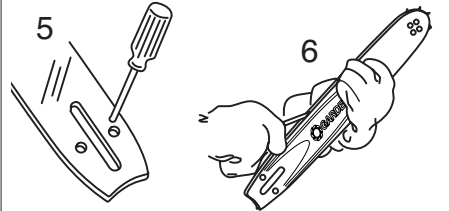
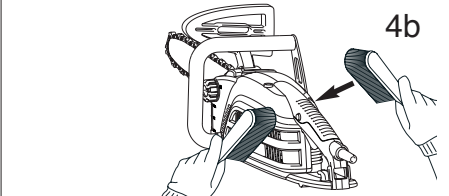
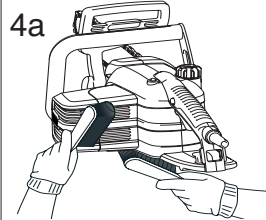
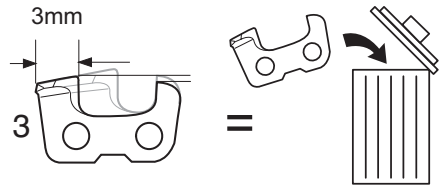
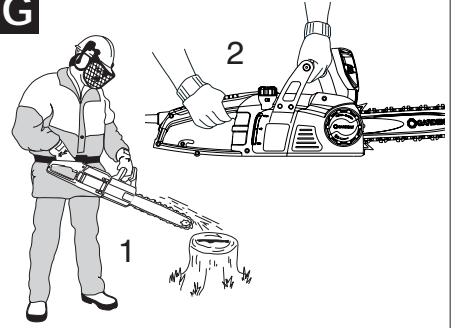
LT Eksploatavimo instrukcija
Elektriniai grandininiai pjūklai

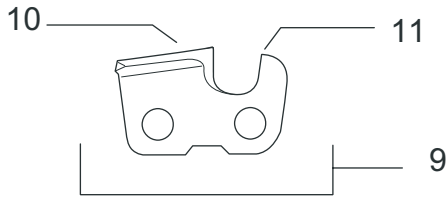
LV Lietošanas instrukcija
Elektriskais ķēdes zāģis

- D** **WICHTIGE INFORMATION**
Bitte vor dem Benutzen des Gerätes durchlesen und gut aufbewahren
- GB** **IMPORTANT INFORMATION**
Read before use and retain for future reference
- F** **RENSEIGNEMENTS IMPORTANTS**
A lire avant usage et à conserver pour référence ultérieure
- NL** **BELANGRIJKE INFORMATIE**
Leest u deze informatie voor het gebruik en bewaar ze voor toekomstige raadpleging
- S** **VIKTIG INFORMATION**
Läs anvisningarna före användningen och spara dem för framtida behov
- DK** **VIGTIGE OPLYSNINGER**
Du bør læse brugsanvisningen før brug og gemme til senere henvisning
- N** **VIKTIG INFORMASJON**
Les bruksanvisningen nøye før bruk og oppbevar den for senere bruk
- FIN** **VIGTIGE OPLYSNINGER**
Du bør læse brugsanvisningen før brug og gemme til senere henvisning
- I** **INFORMAZIONI IMPORTANTI**
Leggere prima dell'uso e conservare per ulteriore consultazione
- E** **INFORMACIÓN IMPORTANTE**
Léase antes de utilizar y consérvela como referencia en el futuro
- P** **INFORMAÇÕES IMPORTANTES**
Leia antes de utilizar e guarde para consulta futura
- PL** **UWAGA** Zapoznać się z treścią niniejszej instrukcji przed użyciem i zachować ją do dalszego użytkowania urządzenia
- H** **FONTOS INFORMÁCIÓ**
Használat előtt olvassa el, és tartsa meg későbbi felhasználásra
- CZ** **DŮLEŽITÁ INFORMACE**
Než začnete stroj používat, přečtěte si pozorně tento návod a uschovejte jej pro další použití v budoucnu
- SK** **DÔLEŽITÉ INFORMÁCIE**
Pred použitím si prečítajte nasledovné informácie a odložte si ich pre budúcu potrebu
- GR** **ΣΗΜΑΝΤΙΚΕΣ ΠΛΗΡΟΦΟΡΙΕΣ**
Διαβάστε αυτό το φυλλάδιο πριν από τη χρήση της συσκευής και φυλάξτε το για μελλοντική αναφορά
- RUS** **ВАЖНАЯ ИНФОРМАЦИЯ**
Прочитайте перед тем, как включить триммер, и сохраните для дальнейшего использования.
- SLO** **POMEMBNA INFORMACIJA**
Preberite pred uporabo in shranite za prihodnjo uporabo
- HR** **VAŽNE INFORMACIJE**
Pročitati prije upotrebe i sačuvati za buduće osvrte
- UA** **ВАЖЛИВА ІНФОРМАЦІЯ**
Прочитайте перед початком роботи і збережіть для подальшого використання
- RO** **Manual de instrucțiuni**
Înainte să folosiți fierastraul pentru prima oară, citiți cu atenție manualul de instrucțiuni pentru a-i înțelege conținutul.
- TR** **ÖNEMLİ BİLGİLER**
Kullanmadan önce okuyunuz ve ileride başvurmak üzere saklayınız.
- BG** **ВАЖНА ИНФОРМАЦИЯ**
Прочетете преди употреба и запазете за бъдещи справки
- EST** **OLULINE TEAVE**
Enne seadme kasutuselevõtmist lugege kasutusjuhend läbi ning säilitage see tuleviku tarbeks.
- LT** **Operatoriaus instrukcijų rinkinys**
Perskaitykite šį instrukcijų rinkinį labai atidžiai, kad pilnai suprastumėte turinį, prieš pradėdami naudoti vejos/ žolės pjovėją.
- LV** **ВАЖЛИВА ІНФОРМАЦІЯ**
Прочитайте перед початком роботи і збережіть для подальшого використання

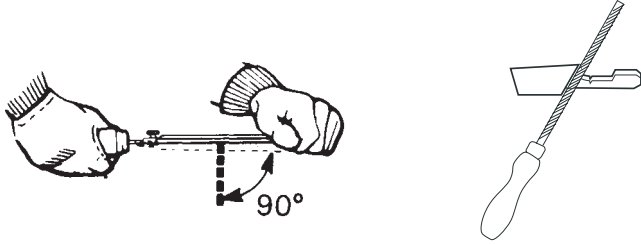


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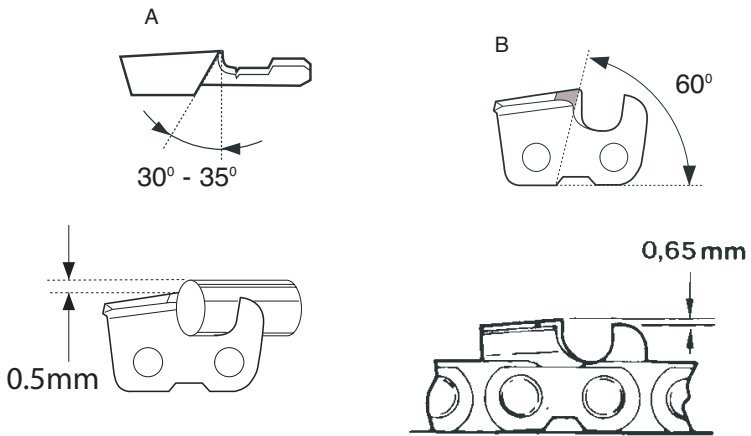
E**F****G**

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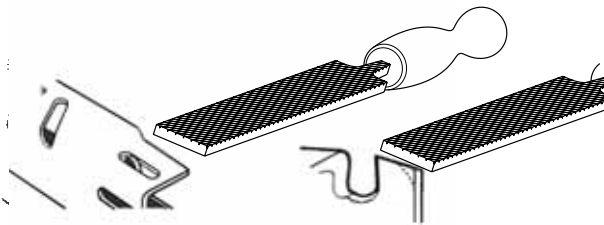
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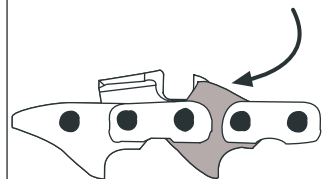
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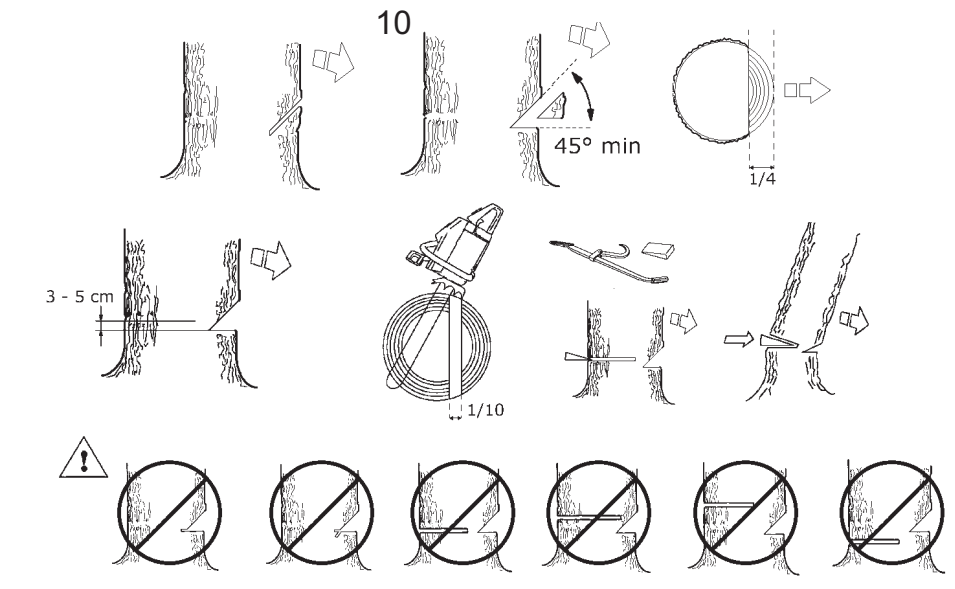
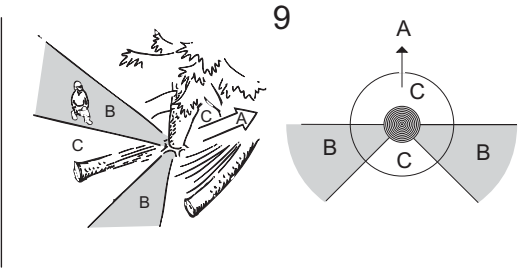
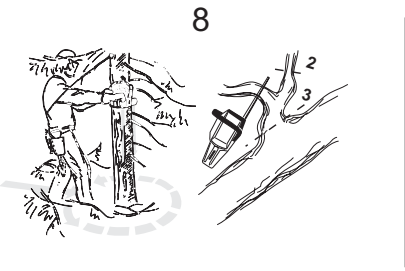
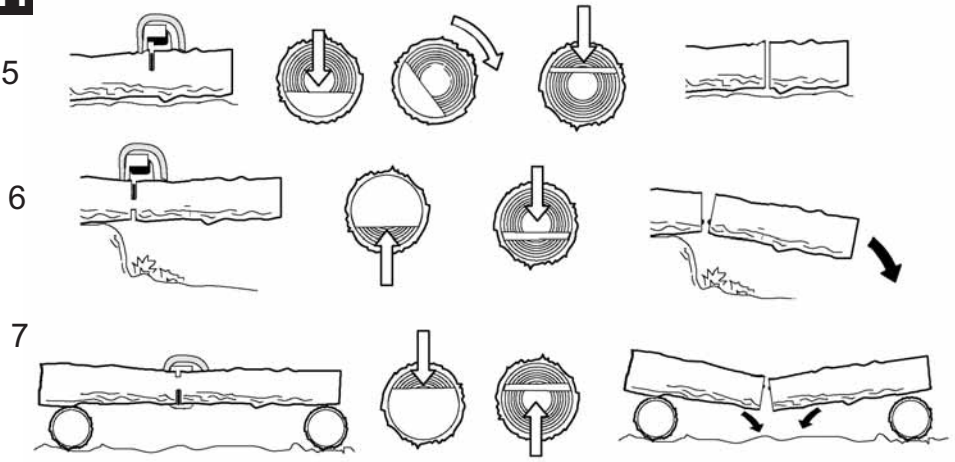
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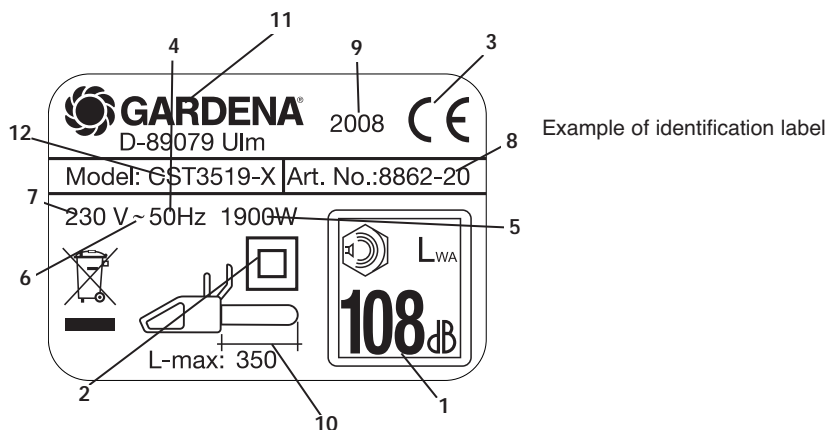


H



A. GENERAL DESCRIPTION

- | | |
|---|---|
| <ol style="list-style-type: none"> 1) Cable 2) Rear handle 3) Rear hand guard 4) Oil tank inspection gauge 5) Air vents 6) Switch 7) Oil tank cap 8) Front handle 9) Front hand guard/chain brake lever 10) Spiked bumper 11) Chain tensioner knob 12) Chain catcher 13) Drive sprocket cover 14) Lubrication hole 15) Guide bar groove 16) Guide bar | <ol style="list-style-type: none"> 17) Nose sprocket 18) Chain tensioning mechanism 19) Switch block 20) Guide bar cover 21) Chain 22) Manual 23) Cutting tooth 24) Cutting depth gauge 25) Drive tooth 26) Cutting link 27) Drive sprocket 28) Bar retaining screw 29) Cable strain relief 30) Magnet 31) Thermal Cut-Out 32) Oil Bottle |
|---|---|



- 1) Guaranteed sound power according to directive 2000/14/EC
- 2) Class II tool
- 3) CE marking of conformity
- 4) Rated frequency
- 5) Rated power
- 6) Alternating current
- 7) Rated voltage
- 8) Product code
- 9) Year of manufacture
- 10) Maximum length of guide bar
- 11) Manufacturer's name and address
- 12) Model

B. SAFETY PRECAUTIONS

MEANING OF SYMBOLS



Warning!



Read the instruction manual carefully



Protective boots



Protective goggles or visor, protective helmet and hearing protection



Protective cut-proof gloves



Protective long, cut-proof trousers



Chain brake: deactivated, activated



Remove plug from the mains immediately if the cable is damaged or cut



Keep bystanders away



Correct direction of the cutting teeth.



Always grip the machine with two hands



Kickback danger



Do not expose to rain or moisture.



Chain oil



Refrain from



Turn the machine off



Disconnect the plug before adjusting or cleaning.



Risk of electric shock

General Power Tool Safety Warnings

⚠ WARNING Read all safety warnings and all instructions. *Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.*

Save all warnings and instructions for future reference.

The term "power tool" in the warnings refers to your mains-operated (corded) power tool.

1) Work area safety

- Keep work area clean and well lit. *Cluttered or dark areas invite accidents.*
- Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. *Power tools create sparks which may ignite the dust or fumes.*
- Keep children and bystanders away while operating a power tool. *Distractions can cause you to lose control.*

2) Electrical safety

- Power tool plugs must match the outlet. **Never modify the plug in any way. Do not use any adaptor plugs with earthed (grounded) power tools. Unmodified plugs and matching outlets will reduce risk of electric shock.**
- Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators.** *There is an increased risk of electric shock if your body is earthed or grounded.*
- Do not expose power tools to rain or wet conditions.** *Water entering a power tool will increase the risk electric shock.*
- Do not abuse the cord.** *Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.*
- When operating a power tool outdoors, use an extension cord suitable for outdoor use.** *Use of a cord suitable for outdoor use reduces the risk of electric shock.*

- f) If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply. *Use of an RCD reduces the risk of electric shock.*
- 3) Personal safety
- a) Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication. *A moment of inattention while operating power tools may result in serious personal injury.*
- b) Use personal protective equipment. Always wear eye protection. *Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries. Obtainable from a workwear supplier.*
- c) Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool. *Carrying power tools with your finger on the switch or energising power tools that have the switch on invites accidents.*
- d) Do not overreach. Keep proper footing and balance at all times. *This enables better control of the power tool in unexpected situations.*
- e) Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts. *Loose clothes, jewellery or long hair can be caught in moving parts.*
- 4) Power tool use and care
- a) Do not force the power tool. Use the correct power tool for your application. *The correct power tool will do the job better and safer at the rate for which it was designed.*
- b) Do not use the power tool if the switch does not turn it on and off. *Any power tool that cannot be controlled with the switch is dangerous and must be repaired.*
- c) Disconnect the plug from the power source before making any adjustments, changing accessories, or storing power tools. *Such preventive safety measures reduce the risk of starting the power tool accidentally.*
- d) Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool. *Power tools are dangerous in the hands of untrained users.*
- e) Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use. *Many accidents are caused by poorly maintained power tools.*
- f) Keep cutting tools sharp and clean. *Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.*
- g) Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed. *Use of the power tool for operations different from those intended could result in a hazardous situation.*
5. Service
- a) Have your power tool serviced by a qualified repair person using only identical replacement parts. *This will ensure that the safety of the power tool is maintained.*
- Chain saw safety warnings:
- Keep all parts of the body away from the saw chain when the chain saw is operating. Before you start the chain saw, make sure the saw chain is not contacting anything. *A moment of inattention while operating chain saws may cause entanglement of your clothing or body with the saw chain.*
 - Always hold the chain saw with your right hand on the rear handle and your left hand on the front handle. *Holding the chain saw with a reversed hand configuration increases the risk of personal injury and should never be done.*
 - Wear safety glasses and hearing protection. Further protective equipment for head, hands, legs and feet is recommended. *Adequate protective clothing will reduce personal injury by flying debris or accidental contact with the saw chain. Obtainable from a workwear supplier.*
 - Do not operate a chain saw in a tree. *Operation of chain saw while up a tree may result in personal injury.*
 - Always keep proper footing and operate the chain saw only when standing on fixed, secure and level surface. *Slippery or unstable surfaces such as ladders may cause a loss of balance or control of the chain saw.*
 - When cutting a limb that is under tension be alert for spring back. *When the tension in the wood fibres is released the spring loaded limb may strike the operator and/or throw the chain saw out of control.*
 - Use extreme caution when cutting brush and saplings. *The slender material may catch the saw chain and be whipped forward toward you or pull you off balance.*
 - Carry the chain saw by the front handle with the chain saw switched off and away from your body. When transporting or storing the chain saw always fit the guide bar cover. *Proper handling of the chain saw will reduce the likelihood of accidental contact with the moving saw chain.*
 - Follow instructions for lubricating, chain tensioning and changing accessories. *Improperly tensioned or lubricated chain may either break or increase the chance for kickback.*
 - Keep handles dry, clean and free from oil and grease. *Greasy, oily handles are slippery causing loss of control.*
 - Cut wood only. Do not use chain saw for purposes not intended. For example: do not use chain saw for cutting plastic, masonry or non-wood building materials. *Use of the chain saw for operations different than intended could result in a hazardous situation.*

Causes and operator prevention of kickback:

Kickback may occur when the nose or tip of the guide bar touches an object (**Fig B3**), or when the wood closes in and pinches the saw chain in the cut.

Tip contact in some cases may cause a sudden reverse reaction, kicking the guide bar up and back towards the operator.

Pinching the saw chain along the top of the guide bar may push the guide bar rapidly back towards the operator.

Either of these reactions may cause you to lose control of the saw which could result in serious personal injury. Do not rely exclusively upon the safety devices built into your saw. As a chain saw user, you should take several steps to keep your cutting jobs free from accident or injury.

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

- **Maintain a firm grip, with thumbs and fingers encircling the chain saw handles, with both hands on the saw and position your body and arm to allow you to resist kickback forces.** *Kickback forces can be controlled by the operator, if proper precautions are taken. Do not let go of the chain saw.*
- **Do not overreach and do not cut above shoulder height.** *This helps prevent unintended tip contact and enables better control of the chain saw in unexpected situations.*
- **Only use replacement bars and chains specified by the manufacturer.** *Incorrect replacement bars and chains may cause chain breakage and/or kickback.*
- **Follow the manufacturer's sharpening and maintenance instructions for the saw chain.** *Decreasing the depth gauge height can lead to increased kickback.*

Additional Safety Recommendations

1. **Manual use.** All persons using this machine must read the user manual completely with extreme care. The user manual must be included with the machine in the case of sale or loan to another person.
2. **Precautions prior to machine use.** Never permit this machine to be used by any persons who are not perfectly familiar with the manual instructions. Inexperienced persons must follow a training period operating on a saw horse only.
3. **Control checks.** Check the machine with care before use each time, especially if it has been subject to strong impact, or if it shows any signs of malfunction. Perform all operations described in the chapter "Maintenance & Storage – Before each use".
4. **Repairs and Maintenance.** All the machine parts that can be replaced personally, are clearly explained in the "Assembly / disassembly" instructions chapter. Where necessary, all other machine parts must be replaced exclusively by an Authorised Service Centre.

5. **Clothing. (fig B1)** When using this machine the user must wear the following approved individual protective clothing : close-fitting protective clothing, safety boots with non-slip soles, crush-proof toe protectors and cut-proof protection, cut-proof vibration-proof gloves, protective goggles or safety visor, ear protection muffs and helmet (if there is any danger of falling objects). Obtainable from a workwear supplier

6. **Health precautions – Vibrations and Noise levels.** Please be aware of noise restrictions in the immediate area. Prolonged machine use exposes the user to vibrations that can generate "white finger phenomenon" (Raynaud's Phenomenon), carpal tunnel syndrome and similar disturbances.
7. **Health precautions – Chemical agents.** Use oil which is approved by the manufacturer.
8. **Health precautions - Heat.** During use, sprocket and chain reach very high temperatures, take care not to touch these parts while hot.

Transport and storage precautions. (fig B2) Each time the work area is changed to another location, disconnect the machine from the mains supply and activate the chain brake lever. Mount the guide bar cover guard each time before transporting or storage. Always carry the machine by hand with the bar facing backwards, or when transporting the machine in a vehicle, always attach it securely to prevent damage.

Kickback reaction. (fig B3) The kickback reaction consists of a violent upwards-reverse action of the bar towards the user. This generally occurs if the upper part of the bar nose (called the "kickback danger zone") (see red marking on the Guide Bar) comes into contact with some object, or if the chain is blocked in the wood. Kickback can make the user lose control of the machine provoking dangerous and even fatal accidents. The chain brake lever and other safety devices are not sufficient to protect the user against injury: the user must be well aware of the conditions that can provoke the reaction, and prevent them by paying very close attention according to experience, together with prudent and correct machine handling (for example: never cut several branches at a time because this can cause accidental impact on the "kickback danger zone")

Work area safety

1. Never allow children or people unfamiliar with these instructions to use the product. Local regulations may restrict the age of the operator.
2. Only use the product in the manner and for the functions described in these instructions.
3. Check the whole work area carefully to check for any danger source (e.g.: roads, paths, electric cables, dangerous trees, etc)
4. Keep all bystanders and animals well clear of the work area (where necessary, fence off the area and use warning signs) at a minimum distance of 2.5 x the trunk height; in any case no less than ten metres.
5. The operator or user is responsible for accidents or hazards occurring to other people or their property.

Electrical safety

1. It is recommended that you use a Residual Current Device (R.C.D.) with a tripping current of not more than 30mA. Even with a R.C.D. installed 100% safety cannot be guaranteed and safe working practice must be followed at all times. Check your R.C.D. every time you use it.
2. Before use, examine cable for damage, replace it if there are signs of damage or ageing.
3. Do not use the product if the electric cables are damaged or worn.
4. Immediately disconnect from the mains electricity supply if the cable is cut, or the insulation is damaged. Do not touch the electric cable until the electrical supply has been disconnected. Do not repair a cut or damaged cable. Take the product to an Authorised Service Centre and have the cable replaced.
5. Always make sure that the cable/ extension cord is kept behind the user, ensuring that it does not create a source of danger for the user or for other persons, and check that it cannot be damaged (by heat, sharp objects, sharp edges, oil, etc);
6. Position the cable so that it will not be caught on branches and the like, during cutting.
7. Always switch off at the mains before disconnecting any plug, cable connector or extension cable.

8. Switch off, remove plug from mains and examine electric supply cable for damage or ageing **before** winding cable for storage. Do not repair a damaged cable. Take the product to an Authorised Service Centre and have the cable replaced.
9. Remove the plug from the mains before leaving the product unattended for any period.
10. Always wind cable carefully, avoiding kinking.
11. Use only on AC mains supply voltage shown on the product rating label.
12. The chainsaw is double insulated to EN60745-1 & 2-13.

Cables

1. Mains cables and extensions are available from your local Approved service centre
2. Only use approved extension cables
3. Extension cables and leads should only be used if they are designed for outdoor use and comply with H07 RN-F or IEC 60245 designation 66.

Use only 1.0mm² size cable up to 40m in length maximum

C. SAFETY EQUIPMENT DESCRIPTION

SWITCH BLOCK

Your machine is equipped with a device (fig.1a, 2a) that when deactivated, stops the switch from being pressed thus preventing accidental start-up.

CHAIN BRAKE ACTION ON SWITCH RELEASE

Your machine is equipped with a device that blocks the chain immediately as soon as the switch is released; If this device should not work at any time, the machine must NOT be used and must be taken to an Authorised Service Centre.

FRONT HAND GUARD / CHAIN BRAKE LEVER

The front hand guard (fig.1b, 2b) is designed to prevent your left hand from coming into contact with the chain (on condition that the machine is held correctly according to instructions). The front hand guard also acts as a chain brake, including a device that stops the chain in less than 0.15 of a second in the case of kickback. The chain brake is released when the front hand guard is pulled backwards and clicked in position (fig.3a, 3b). The chain brake is activated when the front hand guard is pushed forward and the chain is stopped (see ON-STOP indication) (fig.4a, 4b). The chain brake can be activated using the left wrist by pushing forwards, or when the wrist comes into contact with the front hand guard as a result of kickback.

When the machine is used with the bar in horizontal position, for example during tree felling, the chain brake offers less protection.(fig.5).

N.B.: When the chain brake is activated, a safety switch cuts off all current to the motor.

⚠ Releasing the chain brake whilst the switch is held will start the product.

CHAIN CATCHER

This machine is equipped with a chain catcher (fig.6a, 6b) located under the sprocket. This mechanism is designed to stop the backward chain movement in the case of chain breaking or derailing. These situations can be avoided by ensuring correct chain tension (Refer to chapter "D. Assembly/disassembly").

REAR HAND GUARD

This acts to protect (fig.7a, 7b) the hand in the case of chain breaking or derailing.

THERMAL CUT-OUT

The Motor is protected by a Thermal Cut-Out Switch (fig 1c, 2c) which is activated when the chain becomes jammed or if the motor is overloaded. When this occurs, stop and remove the plug from the power supply, clear any obstruction and wait for a few minutes for the product to cool down. Reset by pushing back in the Thermal Cut-Out Switch.

⚠ Resetting the Thermal Cut-out Switch with the chain brake released and the switch held will start the product.

D. ASSEMBLY / DISASSEMBLY

BAR AND CHAIN ASSEMBLY

Take great care when assembling to ensure this is performed correctly.

Remove the plug from the power supply before working on the product.

1a & 1b. Check that the chain brake is not activated. If so, deactivate it.

2a & 2b. Unscrew the chain tensioning knob and rotate in an anti-clockwise direction to remove the drive sprocket cover.

Wear Gloves.

3 Position the chain over the bar, starting at the nose sprocket, fitting it into the guide bar groove. Ensure that the sharp side of the cutting teeth face in a forward direction on the upper part of the bar. (see markings on the bar)

4. Rotate the chain tensioning mechanism anti-clockwise as far as possible.

5a & 5b. Mount the bar on the bar retaining screw and it will attach to the magnet. Position the chain over the drive sprocket.

6a & 6b. Replace the drive sprocket cover, ensuring the drive teeth of the chain are engaged in the drive sprocket and in the bar guide groove.

7a & b. To tension the chain, turn the chain tensioner knob in a clockwise direction until securely tightened. The chain is now tensioned correctly for use.

Tensioning the chain too tightly will overload the motor and cause damage. Insufficient tension can provoke chain derailing, whereas a chain tightened correctly provides the best cutting characteristics and prolonged work life. Check the tension regularly because the chain length tends to stretch with use (especially when the chain is new; after the first assembly, the chain tension must be checked after a few minutes machine operation); in any case do not tighten the chain immediately after use, but wait until it cools down. In cases where the loosened chain needs to be adjusted, always unscrew the chain tensioning knob 2 turns and then securely tighten again leaving the chain tensioned for use.

Warning:- The chain and guide bar can become very hot

E. START-UP AND STOPPING

Start-up: grip both handles firmly, release the chain brake lever whilst ensuring hand is still on front handle, press and maintain the switch block (fig E1) pressed in, then press the switch (fig E2) (at this point the switch block can be released).

Stopping: The machine will stop whenever the switch is released or by activating the chain brake.

F. BAR AND CHAIN LUBRICATION

ATTENTION! Insufficient lubrication will provoke chain breaking and can cause serious injury.

Refer to "Maintenance & Storage" for indications on ensuring that the chain oil is sufficiently distributed.

Choice of chain oil

Use oil which is approved by the manufacturer.

We advise the use of bio chain oil which is biologically degradable.

Filling oil tank

Unscrew the oil tank cap, and fill the tank taking care not to spill any oil (if this occurs clean the machine carefully) and then screw the cap back on tightly.

G. MAINTENANCE AND STORAGE

⚠ Before performing any maintenance or cleaning, remove the plug from the mains.

⚠ **ATTENTION!** In cases where work environments are particularly dirty or dusty, the operations described must be performed more frequently than mentioned in the instructions.

Before each use

Check that the chain oil pump functions correctly: direct the bar towards a clear surface at a distance of about 20 centimetres; after the machine has run for about a minute, the surface should show clear traces of oil (fig.1).

Check that excessive strength is not needed for activating and deactivating the chain brake. Also check that it is not activated too easily and that it is not blocked. Then check chain brake function as follows: release the chain brake, grip the machine correctly and start up the machine, activate the chain brake by pushing the front hand guard forward with the left wrist or arm but without removing the hand from the handle (fig.2). If the chain brake is working correctly, the chain should be stopped immediately.

Check that the chain is sharpened correctly, in good working condition and that the tension is correct. If the chain is irregularly worn, or if the cutting teeth are only 3 mm long, the chain must be replaced (fig.3).

Clean the air vents regularly to prevent motor overheating (fig 4a, 4b).

Check that the switch and switch block function correctly (to be performed with the chain brake released): press the switch and the switch block and ensure that they return to idle position as soon as they are released; check that it is impossible to press the switch without activating the switch block.

Check that the chain catcher and the right hand guard are in correct condition without any visible faults such as damaged material.

Every 2-3 hours of use

Check the bar condition, if necessary clean the lubrication holes (fig.5) and the guide grooves (fig.6) carefully; If the groove is worn or shows signs of deep notching, it must be replaced. Clean the drive sprocket regularly and check that it has not been subject to excess wear (fig.7). Lubricate the nose sprocket with bearing grease through the hole shown in the illustration (fig.8).

Chain sharpening

Contact an Authorised Service Centre regarding any problems with sharpening the chain.

⚠ **The chain needs to be correctly sharpened. A wrongly sharpened chain can cause kickback and a high risk of injury.**

If the chain does not cut correctly, or requires hard bar pressure against the wood, and if the sawdust is very fine, this is a sign that it is not sharpened correctly. If the cutting action produces no sawdust, this means the cutting edge has been worn completely and the chain is pulverising the wood during cutting. A well-sharpened chain crosses through the wood without effort or pressure and produces large long wood shavings.

The cutting side of the chain is composed of the cutting link (fig.9) with a cutting tooth (fig.10) and a cutting limit gauge (fig.11). The difference between these determines the cutting depth; a file guide and a 4mm diameter round file are needed to obtain good sharpening results; Follow the instructions below: Once the chain has been mounted and the tension is correctly adjusted, and the chain brake is activated, position the file guide perpendicular to the bar as shown in the illustration (fig.12), filing the cutting teeth at the angle shown (fig.13A, 13B), always working from the interior towards the exterior, lessening the pressure during the return stage (it is very important to follow the instructions perfectly: excessive or insufficient sharpening angles or an incorrect file diameter will increase the risk of kickback.) To obtain higher precision on side angles, it is advisable to position the file so that it exceeds the upper cutter by about 0.5 mm. File all the teeth on one side first, then turn the machine over and repeat the operation. Make sure that after sharpening operations, all teeth are the same length and that the height of the depth gauge is 0.6 mm lower than the upper cutter: check the height using a proper template and file (with a flat file) all protruding parts, rounding off the front part of the depth gauge (fig.14), paying attention to not file the kickback protection tooth (fig.15)

Every 30 hours use.

Take the machine to the Authorised Service Centre
Storage/Transport

Allow the product to cool down and place the cover over the bar and chain.

Store the product in a cool, dry, place and out of reach of children. Do not store outdoors.

Ensure the oil does not leak out from the product.

H. CUTTING TECHNIQUES

(fig.1) When using the machine, prevent:

- cutting in conditions where the trunk could split during cutting (wood under pressure, dry dead trees, etc): sudden splitting can be very dangerous.
 - the bar or the chain from becoming blocked in the cutting notch: if this should occur, disconnect the machine from the main electricity supply and try to raise the trunk using an appropriate tool as a lever; do not attempt to free the machine by shaking or pulling as this could cause damage or injury.
 - situations that can lead to kickback reactions.
 - using the product above shoulder height
 - cutting wood with foreign objects e.g. nails
- Never use the machine in earth or stones, this leads to immediate wear of the chain.

(fig.1) During machine use:

- When cutting on sloping ground, always work uphill of the trunk to avoid being hit if the trunk should roll downhill.
- When felling trees, always finish the job: a partially cut tree could break and fall.
- At the end of each cutting operation the user will notice a considerable change in the strength necessary for controlling the machine. Great care must be taken not to loose control.

Below is a description of two different types of cutting operation:

Cutting action by pulling the chain (from top to bottom) (fig.2) can lead to dangerous sudden movement of the machine towards the trunk with consequential loss of control. Where possible, use the spiked bumper during cutting operations.

Cutting action pushing the chain (from bottom to top) (fig.3) will lead to the danger of a sudden movement of the machine in the direction of the user, with the risk of hitting the user, or an impact of the "kickback danger zone" on the trunk resulting in strong kickback; extreme care must be taken when cutting in this manner.

The safest method for using the machine, is to block the log on a sawhorse, cutting from top to bottom, on the portion outside the sawhorse. (fig.4)

Spiked bumper use.

Where possible, use the spiked bumper to ensure safer cutting action: plant it in the bark or surface of the trunk in order to maintain more control over the machine.

Below are descriptions of typical cutting procedure to be adopted for specific situations. However, these should be assessed each time to calculate whether the method is most suitable or not. In order to use a method with the least possible risk.

Trunk on the ground. (Risk of touching the ground with the chain once the bar has passed through the trunk). (fig.5)

Cut from top to bottom through the whole trunk. Towards the end of the cut, proceed very carefully to prevent the chain from hitting the ground. If it is possible, cut 2/3 of the trunk, roll it over, and cut the remaining third from top to bottom to limit the risk of the chain touching the ground.

Trunk supported at one end only (Risk of trunk breaking during cutting action). (fig.6)

Begin the cut from underneath for about 1/3 of the diameter, and then finish the cutting action from the top to meet the undercut.

Trunk supported at both ends. (Risk of pinching the chain). (fig.7)

Begin the cut from above for about 1/3 of the diameter, and then continue from underneath to meet the overcut.

Trunk laying on a slope. Always stand on the uphill side of the log. When 'cutting through', to maintain complete control, release the cutting pressure near the end of the cut without relaxing your grip on the chainsaw handles. Do not let the chain contact the ground.

Tree felling.

ATTENTION!: Never attempt to fell a tree if you do not have the necessary experience, and in any case never fell trees that have trunks with a diameter larger than the length of the bar! This operation is reserved for expert machine users with adequate equipment.

When felling a tree, the aim is to have the tree fall in the most convenient position for the following limbing and bucking operations. (Avoid trees falling on top of other trees: Felling trees that are entangled with other trees is a very dangerous operation).

First of all decide which is the best direction for the tree to fall by evaluating the following: objects or other plants around the tree, the inclination, the curve, wind direction, and greatest branch concentration. Take into account dead or broken branches that may break off during felling creating a further danger risk.

ATTENTION! During tree felling operations in critical conditions, always remove ear protection immediately after cutting operations to be able to listen for unusual noises and any warning signals.

Preliminary cutting operations and identifying the retreat path.

Eliminate any branches that interfere with the job (fig.8), starting from top to bottom, and then, always keeping the trunk between the user and the machine eliminate the more difficult branches afterwards, piece by piece. Eliminate all plants that interfere with work operations and control the area for possible obstacles (rocks, roots, ditches, etc.) when planning the retreat path (to follow during tree fall); Refer to the illustration (fig.9) for the directions to be maintained (A. predicted tree fall direction. B. Retreat path. C. Danger zone).

FELLING CUTS (fig.10)

In order to ensure that the user has complete control over the tree fall, the cutting instructions are as follows:

The cut that controls the fall direction of the tree is to be executed first: First of all cut the UPPER PART of the directional notch on the side the tree must fall. Remain on the right hand side of the tree and cut using the chain pull method; then cut the LOWER PART that must meet the end of the upper part. The depth of the directional notch must be $\frac{1}{4}$ of the trunk diameter, with an angle of at least 45° between upper and lower cut. The meeting point between the two sides of the notch is called "directional cut line" This line must be perfectly horizontal at right angles (90°) to the felling direction.

The felling cut that provokes the tree fall, is performed at 3 to 5cm above the lower part of the directional felling cut line, finishing at a distance of 1/10 of the trunk from the notch. Remain on the left hand side of the tree and cut using the chain pulling method and the spiked bumper. Check that the tree does not move in a direction other than that predicted for the fall. As soon as possible insert a felling lever or wedge into the cut. The uncut part of the trunk is called the "hinge", as it is intended to guide the tree as it falls; in cases where the cuts are not sufficient, not straight, or have been cut through completely, the tree fall cannot be controlled (extremely dangerous!). For this reason the various cuts must be performed with great precision.

When cutting operations are completed the tree will begin to fall. Where necessary help tree fall using wedges or felling levers.

Limbing

Once the tree has been felled, the trunk must be limbed: in other words, the branches are removed from the trunk. Do not underestimate this operation because the large majority of kickback accidents occur during this stage. For this reason pay close attention to the position of the bar nose during cutting operations and always work on the left hand side of the trunk.

ENVIRONMENTAL INFORMATION


This section contains information useful for maintaining the characteristic of ecocompatibility included in the origin design of the machine, and as regards proper use and disposal of chain oil

USE OF THE MACHINE

The operations of filling the oil tank should be carried out in such a way as to avoid spilling oil and contaminating the soil and the environment.

DISPOSAL

Do not dispose of the machine inappropriately when it is no longer usable. Deliver it to an authorized organization for proper disposal in compliance with the regulation in force.

The symbol  on the product or on its packaging indicates that this product may not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. For more detailed information about recycling of this product, please contact your local council office, your household waste disposal service or the shop where you purchased the product.

The chain and chain guide are consumables and are not covered by the guarantee.

TROUBLESHOOTING TABLE

	Motor does not start	Motor turns with difficulty or loses power	The machine starts but does not cut properly	Motor turns improperly or at reduced speeds	Braking devices do not stop the chain properly
Make sure the main line is powered	●				
Make sure the machine is properly plugged in	●				
Make sure your cable/ext. cord is not damaged	●				
Make sure that chain brake is not activated	●				
Check that chain is properly assembled and tensioned		●	●		
Check chain lubrication as in chapters F and G		●	●		
Make sure that the chain is sharp			●		
Check Thermal cut-out switch is activated	●				
Contact your authorised centre	●	●		●	●

EU Certificate of Conformity

The undersigned GARDENA Manufacturing GmbH, Hans-Lorenser-Str. 40, D-89079 Ulm, hereby certifies that, when leaving our factory, the units indicated below are in accordance with the harmonised EU guidelines, EU standards of safety and product specific standards. This certificate becomes void if the units are modified without our approval.

Description of Unit.....**Electric Chainsaw**
 Type(s)**CST3519-X, CSI4020-X**
 Year of CE Marking.....**2009**

EU Directives:

98/37/EC, 2004/108/EC, 2000/14/EC

Harmonised EN:

EN60745-1, EN60745-2-13, EN50366, EN55014-1, EN61000-3-2, EN61000-3-11

Notified Body that carried out the EC type-examination

in accordance with article 8 section 2c..... MEEI Kft., 1007

Váci út 48/a-b
1132 Budapest
Hungary

Certificate no. **M3 2992559 (CST 3519-X)**

M3 2992560 (CST 4020-X)

Working area related emission characteristic **Level** L_{PA} according to ISO 22868 given in the table.

Vibrations **Value** a_n according to ISO 22868 given in the table.

The Noise Level L_{WA} values according to 2000/14/EC are given in the table.

Conformity Assessment Procedure..... Annex V

Ulm 16/07/2009

Peter Lameli

Technical Dept. Manager



Type	CST3519-X	CSI4020-X
Dry Weight (Kg)	5.6	5.5
Power (kW)	1.9	2.0
Oil tank volume (cm ³)	180	180
Chain pitch (inches)	3/8	3/8
Chain gauge (mm)	1.3	1.3
Maximum length of guide bar (mm)	350	400
Measured Sound Power L_{WA} (dB(A))	106	106
Guaranteed Sound Power L_{WA} (dB(A))	108	108
Sound pressure Level L_{PA} (dB(A))	95	95
Value a_n (m/s ²)	5.9	5.3
Uncertainty K of a_n (m/s ²)	1.5	1.5
Mains-Impedance Z_{max} (Ω)	0.310	0.314
Cutting Speed (m/s)	12	15

EN 61000-3-11 Compliance statement

Depending on the characteristics of the local electricity supply network, use of this product may result in short voltage drops at the instant of switching on. This may influence other electrical equipment e.g a momentary dimming of a lamp. If the **Mains impedance** Z_{max} of your electricity supply is less than the value shown in the table (applicable to your model) then these effects will not occur. The value of the network impedance may be determined by contacting your electricity supply authority

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