

MSE 141 C

STIHL



2 - 35 Instruction Manual
35 - 74 Notice d'emploi



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1 Introduction

Thank you for your purchase. The information contained in this manual will help you receive maximum performance and satisfaction from your STIHL chain saw and, if followed, reduce the risk of injury from its use.

SAVE THIS MANUAL!



Because a chain saw is a high-speed wood-cutting tool, special safety precautions must be observed to reduce the risk of personal injury.



Read this instruction manual thoroughly before use and periodically thereafter. Follow all safety precautions. Careless or improper use of the chain saw can cause serious or fatal injury.

Observe all applicable federal, state and local safety regulations, standards and ordinances.

Do not lend or rent your chain saw without this instruction manual. Allow only persons who have the proper training and fully understand the information in this manual to operate the chain saw.

For further information, or if you do not understand any of the instructions in this manual,

please go to www.stihl.ca or contact your authorized STIHL servicing dealer.

2 Guide to Using this Manual

2.1 Signal Words

This manual contains safety information that requires your special attention. Such information is introduced with the following symbols and signal words:



DANGER

- Indicates a hazardous situation which, if not avoided, will result in death or serious injury.



WARNING

- Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

NOTICE

- Indicates a risk of property damage, including damage to the machine or its individual components.

2.2 Symbols in Text

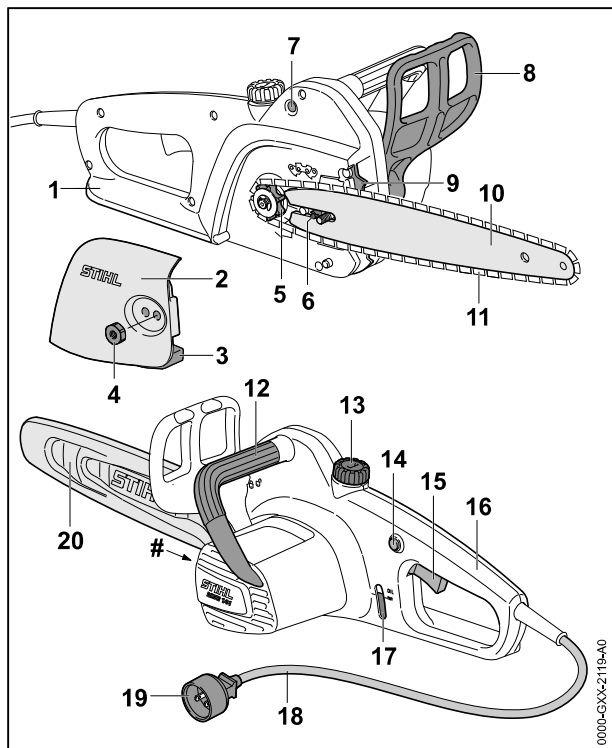
The following symbol is included to assist you with the use of the manual:



Refers to a designated chapter or sub-chapter in this instruction manual.

3 Main Parts

3.1 Chain Saw



- 1 Rear Hand Guard**
Helps protect the operator's right hand in the event the chain breaks or comes off the bar.
- 2 Chain Sprocket Cover**
Covers the chain sprocket.
- 3 Chain Catcher**
Helps contain the saw chain and reduce the risk of operator contact in the event the chain breaks or comes off the bar.
- 4 Nut**
Tightens the chain sprocket cover.
- 5 Chain Sprocket**
Drives the saw chain.
- 6 Side Chain Tensioner**
Permits precise adjustment of saw chain tension.
- 7 Reset Button for Overload Cutout**
Resets the overload circuit breaker.
- 8 Front Hand Guard**
Helps protect the operator's left hand from projecting branches and contact with the saw chain. Serves as the activation lever for the chain brake.
- 9 Bumper Spike**
Helps hold the saw steady against the wood during cutting.

- 10 Guide Bar**
Supports and guides the saw chain.
 - 11 Saw Chain**
Toothed cutting tool consisting of cutters, tie straps and drive links.
 - 12 Front Handle**
Handle for the operator's left hand.
 - 13 Oil Filler Cap**
For closing the bar and chain oil tank.
 - 14 Trigger Switch Lockout**
Prevents activation of the trigger switch until depressed.
 - 15 Trigger Switch**
Switches the motor on and off.
 - 16 Rear Handle**
Handle for the operator's right hand.
 - 17 Oil Sight Glass**
Shows the bar and chain oil level.
 - 18 Power Supply Cord**
Supplies the chain saw with electricity when connected to an electrical outlet (power supply).
 - 19 Plug**
Connects the power supply cord to an extension cord.
 - 20 Chain Scabbard**
Covers the guide bar and saw chain to reduce the risk of injury from inadvertent contact during transportation and storage.
- # Rating Plate**
Contains electrical information and the product's serial number.

4 Safety Symbols on the Products

4.1 Chain Saw

The following safety symbols are found on the chain saw:



To reduce the risk of injury, follow the specified safety precautions.



Read and follow all safety precautions in the instruction manual. Improper use can lead to serious or fatal personal injury or property damage.



To reduce the risk of eye, ear and head injury, always wear proper eye protection, hearing protection and an approved protective helmet,  5.3.



Avoid contact of the bar tip with any object. This can cause the bar to kick suddenly up and back, which may result in serious or fatal injury. Always use two hands to operate the saw, 6.



To reduce the risk of injury or property damage, immediately disconnect the chain saw from the power supply if the power supply cord or the extension cord is damaged, 5.6.



To reduce the risk of electric shock, do not expose the chain saw to rain, water or excessive moisture. Store it indoors. If it is exposed to rain or very damp conditions, take it to your authorized STIHL servicing dealer before further operation, 5.4.



Avoid contacting any object with the upper quadrant of the tip of the guide bar. Kickback may occur, 6.



To reduce the risk of serious or fatal injury to the operator or bystanders from loss of control, never use the chain saw with one hand, 5.6.2.



To reduce the risk of serious or fatal injury to the operator or bystanders from loss of control, always hold the chain saw firmly with both hands when you are working, 5.6.2.

5 IMPORTANT SAFETY INSTRUCTIONS

5.1 Intended Use

WARNING

- This chain saw is designed for cutting small diameter trees, branches and limbs around the home. It is not designed for felling large trees or cutting large diameter logs. Use of the chain saw for operations different than intended could result in serious injury or death.
 - ▶ Cut wood only. For example, do not use chain saw for cutting metal, plastic or masonry.
 - ▶ Use this chain saw only for light-duty cutting tasks around the home and garden.
 - ▶ Do not use it for any other purposes.
 - ▶ Read and follow the operating and use instructions in this manual for approved applications and recommended working techniques.
- Observe all applicable federal, state and local safety regulations, standards and ordinances.

- Improper use could result in personal injury or property damage, including damage to the chain saw.
 - ▶ Use the chain saw only as described in this manual.
 - ▶ Never attempt to modify or override the chain saw's controls or safety devices in any way.
 - ▶ Never use a chain saw that has been modified or altered from its original design.

5.2 Operator

WARNING

- Working with the chain saw can be strenuous. The operator must be in good physical condition and mental health. To reduce the risk of personal injury:
 - ▶ Check with your doctor before using the chain saw if you have any health condition that may be aggravated by strenuous work.
 - ▶ Do not operate the chain saw while under the influence of any substance (drug, alcohol or medication, etc.) that might impair vision, balance, dexterity or judgment.
 - ▶ Be alert. Do not operate the chain saw when you are tired. Take a break if you become tired.
 - ▶ Do not permit minors to use the chain saw.
 - ▶ Bystanders, especially children, and animals should not be allowed in the area where the chain saw is in use.
- Prolonged use of a chain saw (or other power tools) exposing the operator to vibration may produce white finger disease (Raynaud's phenomenon) or carpal tunnel syndrome. These conditions reduce the hand's ability to feel and regulate temperature. They produce numbness and burning sensations and may also cause nerve and circulation damage as well as tissue necrosis.
- All factors which contribute to white finger disease are not known. Cold weather, smoking and diseases or physical conditions that affect blood vessels and blood transport, as well as high vibration levels and long periods of exposure to vibration, are mentioned as factors in the development of white finger disease.
- To reduce the risk of white finger disease and carpal tunnel syndrome:
 - ▶ Wear gloves while working and keep your hands warm.
 - ▶ Keep the chain saw well maintained. An improperly maintained chain saw or one with loose components will tend to have higher vibration levels.

- ▶ Keep the saw chain sharp. A dull chain will increase cutting time, and pressing a dull chain through wood will increase the vibration transmitted to your hands.
- ▶ Maintain a firm grip at all times, but do not squeeze the handles with constant, excessive pressure. Take frequent breaks.
- These precautions do not guarantee that you will not sustain white finger disease or carpal tunnel syndrome.
 - ▶ Closely monitor the condition of your hands and fingers if you are a regular operator.
 - ▶ Seek medical advice immediately if any of the above symptoms appear.
- According to STIHL's current knowledge, the electric motor of this chain saw should not interfere with a pacemaker.
 - ▶ However, persons with a pacemaker or other implanted medical device should consult their physician and device manufacturer before operating this chain saw.

5.3 Personal Protective Equipment

⚠ WARNING

- To reduce the risk of personal injury:
 - ▶ Always wear proper clothing and protective apparel, including proper eye protection.
- Loss of control and severe cut injuries may result if hair, clothing or apparel make contact with the moving saw chain or otherwise become entangled in the components of the saw. To reduce the risk of severe personal injury:



- ▶ Wear sturdy and snug-fitting clothing that also allows complete freedom of movement.
- ▶ Wear the type of overalls, long pants or chaps that contain pads of cut-retardant material.
- ▶ Wear a long-sleeve shirt or jacket.
- ▶ Avoid loose-fitting jackets, scarves, neckties, flared or cuffed pants, jewelry and any other apparel that could be caught on branches, brush or the moving saw chain.
- ▶ Secure hair above shoulder level before starting work.
- To reduce the risk of eye injury:
 - ▶ Always wear goggles or close-fitting protective glasses with adequate side protection that are impact-rated and marked as complying with CSA Z94.
 - ▶ To reduce the risk of injury to your face, STIHL recommends that you also wear a face shield or face screen over your goggles or protective glasses.



- To reduce the risk of head injury from falling branches or other objects encountered during work:
 - ▶ Wear an approved protective helmet.
- Prolonged exposure to power tool noise may result in permanent hearing damage. To reduce the risk of hearing damage:



- ▶ Wear sound barriers (ear plugs or ear muffs).
- ▶ Regular operators should have their hearing checked periodically.
- ▶ Be particularly alert and cautious when using hearing protection. Your ability to hear shouts, alarms or other audible warnings is restricted.
- Good footing is very important. To help maintain a secure footing and reduce the risk of injury while working:



- ▶ Wear sturdy boots with non-slip soles. Steel-toed safety boots are recommended. Do not wear sandals, flip-flops, open-toed or similar footwear.
- To improve your grip and help protect your hands:



- ▶ Always wear heavy-duty non-slip work gloves made of leather or another wear-resistant material when handling the chain saw or its chain.

5.4 Chain Saw

⚠ WARNING

- The chain saw's electric motor is not waterproof. To reduce the risk of serious or fatal injury from electrocution or electric shock:



- ▶ Do not expose the chain saw to rain, water or excessive moisture.
- ▶ Never immerse the chain saw in water or other liquids.
- ▶ Store the chain saw indoors.
- ▶ Never use your chain saw if the casing around the motor is cracked or damaged.
- The saw chain has many sharp cutters. Contacting the cutters may result in serious laceration injuries, even if the chain is not moving. To reduce the risk of such injuries:
 - ▶ Keep hands, feet and other parts of your body away from the chain.
 - ▶ Wear heavy-duty work gloves when handling the chain saw or its chain.
 - ▶ Never touch a moving chain with your hand or any other part of your body.
 - ▶ Cover the guide bar with a chain scabbard before transporting or storing the chain saw to reduce the risk of injury from inadvertent contact.

- Reactive forces, including kickback, can be dangerous.
 - ▶ Pay special attention to the section of this instruction manual on "Kickback and Other Reactive Forces,"  6.
- This electric chain saw is intended only for light-duty garden and landscape maintenance around the home. Use for other purposes may increase the risk of personal injury and property damage.
 - ▶ Do not use the chain saw for felling large trees or cutting large diameter logs.
 - ▶ Read and follow the operating instructions in this manual for approved applications,  7.
- To reduce the risk of personal injury to the operator and bystanders:
 - ▶ Always release the trigger switch, engage the chain brake by moving the front hand guard to  and disconnect the chain saw from the power supply before assembling, transporting, adjusting, inspecting, cleaning, servicing, maintaining or storing the chain saw and any other time it is not in use.
- Although certain unauthorized attachments may fit your STIHL chain saw, their use may be extremely dangerous. Only attachments supplied by STIHL or expressly approved by STIHL for use with this specific model are recommended.
 - ▶ Use only attachments supplied or expressly approved by STIHL.
 - ▶ Never modify this chain saw in any way.
 - ▶ Never attempt to modify or override the chain saw's controls or safety devices in any way.
 - ▶ Never use a chain saw that has been modified or altered from its original design.
- If the chain saw is dropped or subjected to similar heavy impacts:
 - ▶ Check that it is undamaged, in good condition and functioning properly before continuing work.
 - ▶ Check that the controls and safety devices, including the chain brake, are working properly,  14.1.
 - ▶ Check that the power supply cord has not been damaged.
 - ▶ Never work with a damaged or malfunctioning battery or chain saw. In case of doubt, have the chain saw and battery checked by your authorized STIHL servicing dealer.
- If the chain saw is damaged, not working properly, has been left outdoors, exposed to rain or damp conditions or dropped into water or

other liquid, its components may no longer function properly and safety devices may be inoperative. To reduce the risk of personal injury and property damage:

- ▶ Take the chain saw to your authorized STIHL servicing dealer to be checked before further operation.
- Genuine STIHL replacement parts are specifically designed to match your chain saw and meet safety and performance requirements. Use of parts that are not authorized or approved by STIHL may cause serious or fatal injury or property damage.
 - ▶ STIHL recommends that only identical STIHL replacement parts be used.

5.5 Power Supply Cord and Extension Cord

WARNING

- Using a damaged power supply cord, plug, or extension cord may result in fire, electric shock and other personal injury or property damage. To reduce these risks:
 - ▶ Check the chain saw's power supply cord, plug and your extension cord regularly for damage. If it becomes damaged, immediately disconnect the chain saw from the power supply. Never use a damaged power supply cord, plug or extension cord.
- ▶ Do not abrade, crush, jerk, or otherwise abuse or misuse the power supply cord and extension cord. Protect them from heat, oil and sharp edges.
- ▶ If the power supply cord becomes damaged, have it replaced by an authorized STIHL servicing dealer before use. A damaged power supply cord must be replaced with an identical STIHL replacement part.
- ▶ Unplug the power supply cord and extension cord when the chain saw is not in use.
- ▶ Never yank or jerk the power supply cord or extension cord to disconnect. To unplug, grasp the plug, not the power supply cord or extension cord.
- ▶ Make sure the power supply cord and extension cord are positioned and secured or marked so that they will not be stepped on, tripped over, come in contact with sharp objects, moving parts, or otherwise be subjected to damage or stress.
- To reduce the risk of electric shock:
 - ▶ Use only extension cords that are intended for outdoor use, identified in the U.S. by the following marking: "Suitable for use with



outdoor appliances. Store indoors while not in use."

- ▶ The chain saw must be connected to an electrical outlet equipped with a Ground Fault Circuit Interruptor (GFCI) or Residual Current Device (RCD) with a maximum differential tripping current of 30 mA.
- This power tool has a polarized plug (one blade is wider than the other). This plug will fit in a polarized electrical outlet only one way. To reduce the risk of electric shock:
 - ▶ Do not change the plug in any way.
 - ▶ If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, use a different outlet or contact a qualified electrician to install the proper outlet.
- Overloading an extension cord can result in overheating and fire. To reduce these risks:
 - ▶ Be sure to use an extension cord heavy enough to carry the current your electric saw will draw. Read and follow the minimum wire size requirements for 120 Volt appliances set out in,  20.2.
 - ▶ Use of an extension cord not meeting the minimum wire size will cause a drop in wire voltage and result in a loss of power and overheating.
 - ▶ Never use an extension cord with a wattage or electrical rating lower than the wattage or electrical rating on your chain saw's rating plate.
 - ▶ Never use an extension cord if the blades on its plug are different from the blades on the power tool plug in number, size or shape.
 - ▶ Never connect more than one chain saw or other device to a single extension cord.
 - ▶ Do not link (chain) extension cords.

5.6 Using the Chain Saw

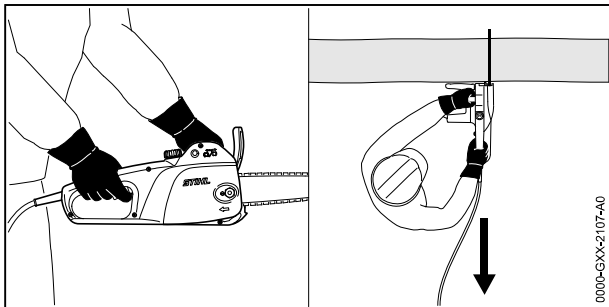
5.6.1 Before Operation

WARNING

- Misuse or unauthorized use may result in personal injury and property damage.
 - ▶ Use the chain saw only as described in this instruction manual.
- For proper assembly of the bar and chain:
 - ▶ Read and follow the instructions on mounting the guide bar and chain,  10.2.
- The chain, guide bar and sprocket must match each other in gauge and pitch. Before mounting or replacing:
 - ▶ Read the information on guide bar and chain combinations,  22.
- ▶ Read and follow the instructions on kick-back and other reactive forces,  6.
- ▶ Select the shortest bar that will meet your cutting needs. Longer bars add weight and may be more difficult to control.
- Proper tension of the chain is extremely important to maximize cutting performance and reduce the risk of personal injury from chain breakage, derailment or reactive forces:
 - ▶ Never cut with a loose chain. If the chain becomes loose while cutting, switch off the motor, engage the chain brake and disconnect the chain saw from the power supply before tightening the chain. Never attempt to adjust the chain while the chain saw is connected to the power supply.
 - ▶ Read and follow the chain tensioning instructions,  10.3.
 - ▶ Always make sure the chain sprocket cover is tightened securely after tensioning the chain in order to secure the bar. Never start the chain saw with the chain sprocket cover loose or missing.
 - ▶ Check chain tension once more after tightening the chain sprocket cover.
 - ▶ Check chain tension periodically thereafter at regular intervals (only after engaging the chain brake and disconnecting the chain saw from the power supply).
- Using a chain saw that is modified, damaged, improperly adjusted or maintained, or not completely and securely assembled can lead to a malfunction and increase the risk of serious personal injury or death.
 - ▶ Never operate a chain saw that is modified, damaged, improperly maintained or not completely and securely assembled.
 - ▶ Always check your chain saw for proper condition and operation before starting work, particularly the trigger switch, trigger switch lockout, front hand guard, chain brake and cutting attachment.
 - ▶ Ensure that the trigger switch and trigger switch lockout move freely and always spring back to the locked position when released. The trigger switch must not engage until the trigger switch lockout is depressed.
 - ▶ Never attempt to modify or override the controls or safety devices in any way.
 - ▶ If your saw or any part is damaged or does not function properly, take it to your authorized STIHL servicing dealer. Do not use the saw until the problem has been corrected.
- Before connecting the chain saw to the power supply:

- ▶ Read and follow the instructions on switching on the chain saw,  13.1.
- To help reduce the risk of serious personal injury or death from unintentional starting:
 - ▶ Be sure the trigger switch and trigger switch lockout are in the off position when connecting the chain saw to the power supply.
 - ▶ Never carry the chain saw with your finger on the trigger switch.
 - ▶ Release the trigger switch and trigger switch lockout and engage the chain brake before disconnecting the chain saw from the power supply.
 - ▶ Engage the chain brake and disconnect the chain saw from the power supply before assembling, transporting, adjusting, inspecting, cleaning, servicing, maintaining or storing the chain saw and any other time it is not in use.
 - ▶ Never leave the chain saw unattended when it is connected to the power supply.
- Before disengaging the chain brake and switching on your chain saw, take the following steps to reduce the risk of personal injury from reactive forces, loss of control or inadvertent contact with the chain:
 - ▶ Be sure that the guide bar and chain are clear of you and all other obstructions and objects, including the ground.
 - ▶ Never attempt to switch on the chain saw when the guide bar is in a cut or kerf. Doing so could lead to reactive forces and injury.
 - ▶ Read and follow the instructions on switching on the chain saw,  13.1.

5.6.2 Holding and Controlling the Chain Saw



WARNING

- To maintain a firm grip and properly control your chain saw:
 - ▶ Keep the handles clean and dry at all times. Keep them free of moisture, pitch, oil, grease and resin.
- To reduce the risk of serious or fatal injuries to the operator or bystanders from loss of control:

5 IMPORTANT SAFETY INSTRUCTIONS



- ▶ Avoid contacting any object with the upper quadrant of the tip of the guide bar. It may cause kickback to occur.



- ▶ Always hold the chain saw firmly with both hands when you are working.

- ▶ Place your left hand on the front handle and your right hand on the rear handle (see illustration). Left-handers must follow these instructions too.
- ▶ Wrap your fingers tightly around the handles, keeping the handles cradled between your thumb and forefinger.
- ▶ Position the chain saw in such a way that all parts of your body are clear of the cutting attachment whenever the extension cord is connected. Stand to the left of the cut while bucking, outside of the cutting plane (see illustration).
- ▶ Read and follow all warnings and instructions in the chapter Kickback and Other Reactive Forces,  6.
- ▶ Position the power supply cord and extension cord so that they will not be damaged while working with the saw.
- ▶ Always keep the power supply cord and extension cord behind the operator and away from the bar and chain. Always be sure that your cable does not become entangled with obstacles or objects.
- Operating the chain saw with one hand is extremely dangerous. One-handed operation makes it difficult to oppose and absorb reactive forces (pushback, pull-in, kickback) without losing control of the chain saw. It also makes it difficult to prevent the bar and chain from skating or bouncing along a limb or log. To reduce the risk of serious or fatal injury to the operator or bystanders from loss of control:
 - ▶ Never attempt to operate the chain saw with one hand.



- To reduce the risk of serious or fatal cut injuries to the operator or bystanders from loss of control, keep proper footing and balance at all times:
 - ▶ Take special care in overgrown or wet terrain and always watch for hidden obstacles such as tree stumps, roots, rocks, holes and ditches to avoid stumbling or falling.

- ▶ Know where the power supply cord and extension cord are at all times to avoid tripping or stumbling.
- ▶ Be extremely cautious when working on slopes or uneven ground.
- ▶ For better footing, always clear away fallen branches, scrub and cuttings. Freshly debarked logs and other material can increase the danger of slipping, tripping or falling.
- ▶ Use extreme caution when cutting small-size brush, branches and saplings because slender material may catch the chain and spring toward you or pull you off balance.
- To reduce the risk of injury from loss of control:



- ▶ Never work on a ladder, roof, in a tree or while standing on any other insecure support.
- ▶ Never operate the chain saw above shoulder height.
- ▶ Do not overreach. Keep proper footing and balance at all times.
- ▶ Never switch on the chain saw when the guide bar is in a cut or kerf. Doing so could lead to reactive forces and injury. Instead, remove the guide bar from the cut and re-enter at full speed, taking care to avoid contacting any object with the tip of the guide bar.
- The bumper spike is designed to provide greater control of the chain saw while cutting. If you work without the bumper spike, the chain saw may pull you forward suddenly. This could cause loss of control or, if the tip of the guide bar strikes an object, kickback.
 - ▶ Always work with the bumper spike to maintain better control of the saw.
- Applying pressure to the chain saw when reaching the end of a cut may cause the bar and rotating chain to accelerate out of the kerf, go out of control and strike the operator or some other object. To reduce the risk of injury:
 - ▶ Use caution when approaching the end of a cut.
 - ▶ Never put pressure on the chain saw when reaching the end of a cut.
 - ▶ STIHL recommends that first-time chain saw users cut logs on a sawhorse.
- ▶ Postpone the work if the weather is windy, foggy, rainy or inclement.
- ▶ Never cut near power lines.
- Your chain saw is a one-person machine.
 - ▶ Do not allow other persons in the general work area.
 - ▶ Bystanders, especially children, and animals should not be allowed in the area where it is in use.
 - ▶ Switch off the motor immediately if you are approached.
- To reduce the risk of injury to bystanders and unauthorized users:
 - ▶ Never leave the chain saw unattended when it is connected to the power supply.
 - ▶ Switch off the chain saw, engage the chain brake and disconnect from the power supply during work breaks and any other time the chain saw is not in use.
- Sparks generated from the operation of the chain saw may be capable of igniting combustible gases, liquids, vapors, dusts or other combustible materials and substances. To reduce the risk of fire and explosion:
 - ▶ Never operate the chain saw in a location where combustible gases, liquids, vapors, dusts or other combustible materials and substances are present.
 - ▶ Read and follow recommendations issued by government authorities (e.g., CCOHS) for identifying and avoiding the hazards of combustible gases, liquids, vapors, dusts or other combustible materials and substances.
- If a rotating saw chain strikes a rock or other hard object, sparks may be created, which can ignite flammable materials under certain circumstances. Flammable materials can include dry vegetation and brush, particularly when weather conditions are hot and dry.
 - ▶ When there is a risk of fire or wildfire, do not use your chain saw around flammable materials or around dry vegetation or brush.
 - ▶ Contact your local fire authorities or the U.S. Forest Service if you have any question about whether vegetation and weather conditions are suitable for the use of a chain saw.
- Use of this chain saw (including sharpening the saw chain) can generate dust, oil mist and other substances containing chemicals known to cause respiratory problems, cancer, birth defects and other reproductive harm.
 - ▶ Consult governmental agencies such as ECCC, CCOHS and PHAC and other authoritative sources on hazardous materi-

5.6.3 Working Conditions

⚠ WARNING

- Operate your chain saw only under good visibility during favorable daylight conditions.

als if you are unfamiliar with the risks associated with the particular substances you are cutting or with which you are working.

- Inhalation of certain dusts, especially organic dusts such as mold or pollen, can cause susceptible persons to have an allergic or asthmatic reaction. Substantial or repeated inhalation of dust or other airborne contaminants, especially those with a smaller particle size, may cause respiratory or other illnesses. This includes wood dust, especially from hardwoods, but also from some softwoods such as Western Red Cedar.
 - ▶ Control dust (such as saw dust) and mists (such as oil mist from chain lubrication) at the source where possible.
 - ▶ Always work with a properly sharpened saw chain, which produces wood chips rather than fine dust.
 - ▶ To the extent possible, operate the chain saw so that the wind or operating process directs any dust, mist or other particulate matter raised by the chain saw away from the operator.
 - ▶ When respirable dust or other particulate matter cannot be kept at or near background levels, always wear a respirator that is approved by PHAC and rated for work-site-specific conditions. Follow the recommendations of governmental authorities (e.g., CCOHS/PHAC) and occupational and trade associations.
- If the vegetation being cut or the surrounding ground is coated with a chemical substance, such as pesticide or herbicide:
 - ▶ Read and follow the instructions and warnings that accompanied the substance coating the vegetation or surrounding ground.
- Breathing asbestos dust is dangerous and can cause severe or fatal injury, respiratory illness or cancer, including mesothelioma. The use and disposal of asbestos-containing products is strictly regulated by CCOHS and the ECCC.
 - ▶ Do not use your chain saw to cut or disturb asbestos or asbestos-containing products.
 - ▶ Stop work immediately and contact the relevant state and local authorities and/or ECCC, your employer or local CCOHS representative if you have reason to believe that you might be disturbing asbestos.
- Repeated contact with waste oil can cause skin cancer and its use is harmful to the environment.
 - ▶ Do not use waste oil to lubricate the bar and chain of your STIHL chain saw.

5.6.4 Operating Instructions

⚠ WARNING

- To reduce the risk of severe personal injuries from unintentional starting:
 - ▶ Never touch a chain with your hand or any part of your body when the chain saw is connected to the power supply, even when the chain is not rotating.
- The chain continues to move for a short period after the trigger switch is fully released.
 - ▶ Wait for the chain to stop and engage the chain brake before walking with the chain saw or putting it down.
- In the event of an emergency:
 - ▶ Switch off the motor immediately, engage the chain brake and disconnect the chain saw from the power supply.
- Your chain saw is equipped with a chain catcher. It is designed to reduce the risk of personal injury in the event of a thrown or broken chain.
 - ▶ Never operate the chain saw with a damaged or missing chain catcher.
- Contacting foreign objects while sawing might cause the chain to break or be thrown, or cause the chain saw to propel dangerous debris or kick back in the direction of the operator. To reduce the risk of severe or fatal personal injury caused by contact with foreign objects:
 - ▶ Inspect the tree, log or branch before cutting.
 - ▶ Remove any foreign objects to ensure that the wood is free of materials such as nails, spikes, cables, or wires.
 - ▶ Before starting a cut, ensure that it can be completed without contacting surrounding objects or structures such as fencing or stonework.
- Check the chain and guide bar at regular short intervals during operation, or immediately if there is a change in cutting behavior:
 - ▶ Switch off the motor, activate the chain brake and disconnect the chain saw from the power supply.
 - ▶ Check the condition and tension of the chain. Look for damage to the chain or guide bar.
 - ▶ If the chain cannot be properly tensioned, or if other components of the saw are worn or damaged, stop work immediately and take your chain saw to an authorized STIHL servicing dealer for inspection, repair or maintenance.

⚠ DANGER

- To reduce the risk of electrocution:



- ▶ Never operate this chain saw in the vicinity of any wires or cables that may be carrying electric current.
- ▶ Never cut near power lines.
- ▶ Do not rely on the chain saw's insulation against electric shock.
- ▶ Never use your chain saw if the casing around the motor is cracked or damaged.
- ▶ Always use care to avoid contacting the power supply cord and extension cord with the chain.

6 Kickback and Other Reactive Forces

6.1 Reactive Forces

⚠ WARNING

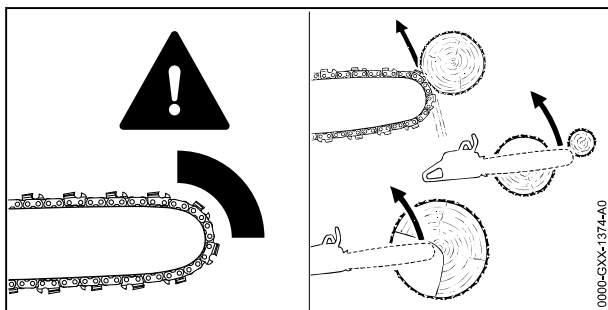
- Reactive forces may occur any time the chain is rotating. Reactive forces can cause serious or fatal personal injury.
- The powerful forces used to cut wood can be reversed and work against the operator. If the rotating saw chain is suddenly and significantly slowed or stopped by contact with any solid object such as a log or branch, or is pinched, the reactive forces may occur instantly.
- These reactive forces may result in loss of control, which, in turn, may cause serious or fatal injury.
 - ▶ An understanding of the causes of these reactive forces may help you avoid the element of surprise and loss of control. Surprise contributes to accidents.

The most common reactive forces are:

- Kickback
- Pull-in
- Pushback

6.2 Kickback

6.2.1 Kickback



⚠ WARNING



Kickback may occur when the moving chain near the upper quadrant of the bar nose contacts a solid object or is pinched.

- When this occurs, the energy driving the chain can create a force that moves the chain saw in a direction opposite to the chain movement at the point where the chain is slowed or stopped. This may fling the bar up and back in a lightning fast reaction mainly in the plane of the bar and can cause severe or fatal injury to the operator.
- Kickback may occur, for example, when the chain near the upper quadrant of the bar nose contacts the wood or is pinched during limbing, or when it is incorrectly used to begin a plunge or boring cut.
- The greater the force of the kickback reaction, the more difficult it becomes for the operator to control the chain saw. Many factors influence the occurrence and force of the kickback reaction. These include chain speed, the speed at which the bar and chain contact the object, the location and angle of contact, the condition of the chain, and how quickly the chain is slowed or stopped, among other factors.
 - ▶ The type of bar and chain you use is an important factor in the occurrence and force of the kickback reaction. Some STIHL bar and chain types are designed to reduce kickback forces.
 - ▶ STIHL recommends the use of reduced kickback bars and low kickback chains.

6.2.2 Chain Saw Kickback Standards

The following standards apply with respect to kickback:

- CSA Z62.1
- CSA Z62.3

These standards, referred to as "the chain saw kickback standards" in this chapter, set certain performance and design criteria related to chain saw kickback.

To comply with the chain saw kickback standards, electric chain saws:

- must, in their original condition, meet a 45° computer-derived kickback angle when equipped with certain cutting attachments; and
- must be equipped with at least two devices to reduce the risk of kickback injury, such as a chain brake, low kickback chain, reduced kickback bar, etc.

The computer-derived angles for electric chain saws are measured by applying a computer pro-

gram to test results from a kickback test machine.

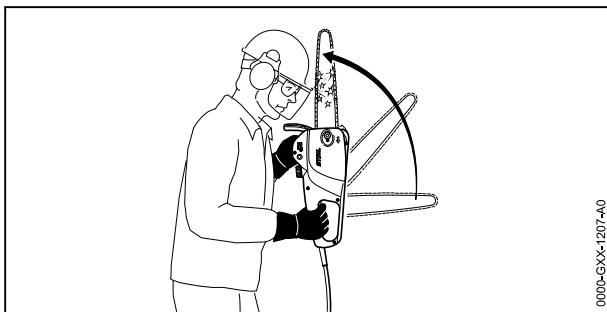
⚠ WARNING

- Compliance with the chain saw kickback standards does not mean that the bar and saw chain will rotate at most 45° in a real life kickback.
- The computer-derived angles of the chain saw standards may bear no relationship to actual kickback bar rotation angles that may occur in a real life cutting situation.
- Devices designed to reduce the risk of kickback injuries may lose some of their effectiveness when they are no longer in their original condition, especially if they have been improperly maintained.
 - ▶ Read and follow the safety precautions and instructions in this manual.
 - ▶ When working, always position the chain saw such that your body is clear of the cutting attachment and outside of the cutting plane.
 - ▶ Follow the maintenance and service instructions in this manual.
- For the chain saw to meet the chain saw kickback standards, use only the following cutting attachments:
 - ▶ Compliant bar and chain combinations listed in Combinations of Guide Bars and Saw Chains,  22;
 - ▶ Other replacement bar and saw chain combinations marked in accordance with the standards for use on the chain saw.

6.2.3 Devices for Reducing the Risk of Kickback Injury

The STIHL Quickstop chain brake and STIHL's green-labeled, reduced kickback bars and green-labeled, low kickback chains are designed to reduce the risk of kickback injury.

1. STIHL Quickstop Chain Brake



There are two mechanisms for activating the chain brake if it is in a properly maintained condition:

- Manual Activation: If a kickback occurs, the chain saw moves upwards toward the user in a rotating motion around the front handle. The brake is designed to engage if the left hand contacts the front hand guard, which is the activation lever for the brake, and pushes it forward.
- Inertia Activation: All STIHL chain saws are equipped with an inertia Quickstop chain brake. If the kickback impulse is strong enough, this alone is sufficient to engage the brake even without contacting the front hand guard.

⚠ WARNING

- To reduce the risk of kickback injury:
 - ▶ Never use a saw if the chain brake does not function properly.
 - ▶ When in doubt, take the saw to an authorized STIHL servicing dealer for inspection and/or repair.
 - ▶ Do not use the saw until the problem has been corrected.
- In a kickback situation, the front hand guard helps protect your left hand from contacting the chain. Removal of the front hand guard on a chain saw equipped with a Quickstop chain brake will reduce this protection and also disable the chain brake, increasing the risk of kickback injury.
 - ▶ Never operate your saw without a properly functioning front hand guard. If the front hand guard is missing, manual activation and inertia activation of the chain brake will be completely disabled.
 - ▶ Never attempt to remove, modify or disable the front hand guard or any other component of the chain brake.
- No Quickstop or other chain brake device prevents kickback. These devices are designed to reduce the risk of injury, if activated, in certain kickback situations. To reduce the risk of severe personal injury or death from kickback:
 - ▶ Always follow the instructions in this manual and follow good working technique. For example, position your body clear of the cutting attachment whenever the motor is running. Stand to the left of the cut while bucking, outside of the cutting plane. See chapter Holding and Controlling the Chain Saw,  5.6.2.

- ▶ Maintain as much distance as possible, and never less than 45 degrees, between the bar and your body to ensure that the Quickstop has sufficient time to activate and stop the chain before reaching any part of your body.
- ▶ Follow the other precautions provided in chapter  7.
- An improperly maintained chain brake may increase the time needed to stop the chain after activation, or may not activate at all. For the Quickstop to reduce the risk of kickback injury, it must be properly maintained and in good working order.
 - ▶ Read and follow the instructions on engaging and disengaging the chain brake,  11, and maintaining and repairing it,  11.3.

2. Low Kickback Saw Chain and Reduced Kickback Bars

STIHL offers a variety of guide bars and chains. STIHL reduced kickback bars and low kickback chains are designed to reduce the risk of kickback injury. Other chains are designed to achieve higher cutting performance or sharpening ease, but are more prone to kickback and may kick back with more energy, making it more difficult to control the chain saw.

STIHL has developed a color code system to help you identify the STIHL reduced kickback bars and low kickback chains.

- Cutting attachments with green labels on the packaging are designed to reduce the risk of kickback injury.
- Matching green-marked or labeled chain saws with green-labeled bars and green-labeled chains provides compliance with the computed kickback angle requirements of the chain saw standards when the products are in their original condition.
- Products with yellow labels are for users with extraordinary cutting needs, who have experience and specialized training for dealing with kickback.

STIHL recommends the use of its green-labeled reduced kickback bars, green-labeled low kickback chains and a chain saw equipped with a STIHL Quickstop chain brake for both experienced and inexperienced operators.

STIHL recommends green-labeled bars and chains for all chain saws. See your "STIHL Bar and Chain Information" leaflet for details.

New bar and chain combinations may be developed after publication of this literature, which will,

in combination with certain electric chain saws, comply with the chain saw standards as well.

WARNING

- Use of bar and chain combinations not listed in the STIHL Bar and Chain Information leaflet (or other combinations that do not comply with the chain saw standards) may increase kickback forces as well as the propensity for kickback, and increase the risk of kickback injury.
 - ▶ If you are unsure which bar and chain combination to select, ask your authorized STIHL servicing dealer to properly match your chain saw with the appropriate bar and chain combination to reduce the risk of kickback injury.
- Reduced kickback bars and low kickback chains do not prevent kickback, but they are designed to reduce the risk of kickback injury.
 - ▶ STIHL recommends green-labeled bars and green-labeled chains for all chain saws and all users.
- Even if your saw is equipped with a Quickstop chain brake, a reduced kickback bar and/or low kickback chain, this does not eliminate the risk of injury from kickback.
 - ▶ Observe all safety precautions discussed in this manual to avoid kickback situations.

a. Low Kickback Saw Chain

Some types of chain have specially designed components to reduce the propensity for kickback and the force of kickback if it occurs. STIHL has developed low kickback chain for your chain saw.

A "low kickback chain" is a chain that has met the kickback performance requirements of CSA Z62.3 when tested according to the provisions specified in CSA Z62.3.

WARNING

- Some low kickback chains have not been tested with all chain saw and bar combinations. There are potential saw, bar and low kickback chain combinations which have not been specifically certified to comply with the 45° computer-derived kickback angle of the chain saw standards.
 - ▶ STIHL recommends green-labeled bars and green-labeled chains for all chain saws and all users.
 - ▶ Please see your STIHL Bar and Chain Information leaflet for the appropriate bar and chain combinations for your saw.

- ▶ If you are unsure which bar and chain combination to select, ask your authorized STIHL servicing dealer to properly match your chain saw with the appropriate bar and chain combination to reduce the risk of kickback injury.
- A blunt or incorrectly sharpened chain may reduce or negate the effectiveness of design features intended to reduce kickback energy and the propensity for kickback. Improper lowering or sharpening of the depth gauges or changing the shape of the cutters may increase the risk and the energy of kickback.
 - ▶ Always cut with a properly sharpened chain.
 - ▶ Read and follow the instructions on sharpening a chain,  19.5.
- Any chain saw mounted with a bow guide is potentially very dangerous. The risk of kickback is increased with a bow guide because of the increased kickback contact area and because the design of bow guides places the upper portion of the bar closer to the operator's body. Using a low kickback chain will not significantly reduce the risk of kickback injury when used on a bow guide.
 - ▶ Never mount a bow guide on any STIHL chain saw.

b. Reduced Kickback Bars

STIHL green-labeled reduced kickback bars are designed to reduce the risk of kickback injury when used with STIHL green-labeled low kickback chains.

WARNING

- When used with other, more aggressive chains, green-labeled reduced kickback bars may be less effective in reducing kickback.
 - ▶ STIHL recommends green-labeled bars and green-labeled chains for all chain saws and all users.
- For proper balance and to comply with the chain saw standards:
 - ▶ Use only bar lengths listed in this manual,  22.

6.2.4 To Avoid Kickback

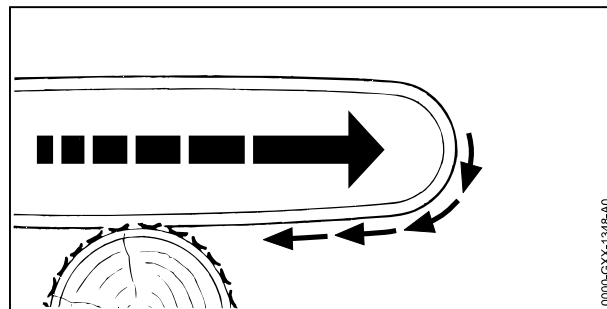
The best protection from personal injury that may result from kickback is to avoid kickback situations:

- 1) Hold the chain saw firmly and with both hands and maintain a secure grip, with your right hand on the rear handle and left hand on the front handle. Maintain a secure grip

with thumbs and fingers encircling the chain saw handles. Don't let go.

- 2) Make sure the area in which you are cutting is free from obstructions.
- 3) Be aware of the location of the guide bar nose at all times. Never let the nose of the guide bar unintentionally contact any object. Do not cut limbs with the nose of the guide bar. Be especially careful near wire fences and when cutting small, tough limbs, small size brush and saplings which may easily catch the saw chain.
- 4) Do not overreach.
- 5) Do not cut above shoulder height.
- 6) Begin cutting and continue at full speed.
- 7) Cut only one log at a time.
- 8) Use extreme caution when re-entering a previous cut.
- 9) Do not attempt to plunge cut if you are not experienced with this cutting technique.
- 10) Be alert for shifting of the log or other forces that may cause the cut to close and pinch the saw chain.
- 11) Maintain saw chain properly. Cut with a correctly sharpened, properly tensioned saw chain at all times.
- 12) Stand to the side of the cutting path of the chain saw.
- 13) Use only replacement bars and chains specified by STIHL, or the equivalent.

6.3 Pull-in

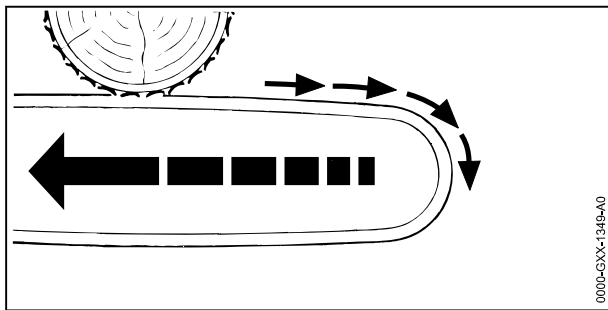


WARNING

- Pull-in occurs when the chain on the bottom of the bar is suddenly stopped or significantly slowed when it is pinched, caught or encounters a foreign object in the wood. The reaction of the chain pulls the saw forward and may cause the operator to lose control, which, in turn, may cause serious or fatal injury. If the tip contacts an object, kickback may occur.

- Pull-in usually occurs when the bumper spike of the saw is not held securely against the tree or limb and when the chain is not rotating at full speed before it contacts the wood.
- To reduce the risk of pull-in:
 - ▶ Cut with a sharp, properly tensioned chain.
 - ▶ Always start a cut with the chain rotating at full speed and with the bumper spike in contact with the wood.
 - ▶ Use wedges to open the kerf or cut, where possible.
 - ▶ Use extreme caution when cutting small-size brush and saplings which may easily catch the chain, spring towards you or pull you off balance.

6.4 Pushback



⚠ WARNING

- Pushback occurs when the chain on the top of the bar is suddenly stopped or significantly slowed when it is pinched, caught or encounters a foreign object in the wood. The reaction of the chain may drive the saw rapidly straight back toward the operator, causing loss of control which, in turn, may cause serious or fatal injury.
- Pushback usually occurs when the top of the bar is used for cutting.
- To reduce the risk of pushback:
 - ▶ Be alert to forces or situations that may cause material to pinch or bind the top of the chain.
 - ▶ Do not cut more than one log at a time.
 - ▶ Do not twist the chain saw when withdrawing the bar from an underbuck cut because the chain can pinch or bind.
 - ▶ Cut with a sharp, properly tensioned chain.

7 Proper Techniques for Basic Bucking, Limbing, Pruning and Felling

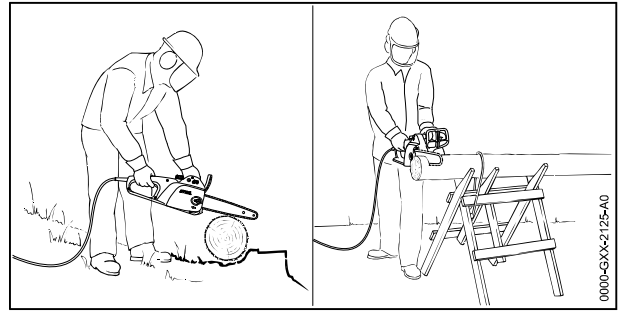
7.1 Intended Uses

⚠ WARNING

- This chain saw is not designed for felling large trees or cutting large diameter logs.
- Position the chain saw in such a way that your body is clear of the cutting attachment and the extension cord whenever the motor is running. Stand to the left of the cut while bucking, outside of the cutting plane.

7.2 Bucking

Bucking is cutting a log into sections.



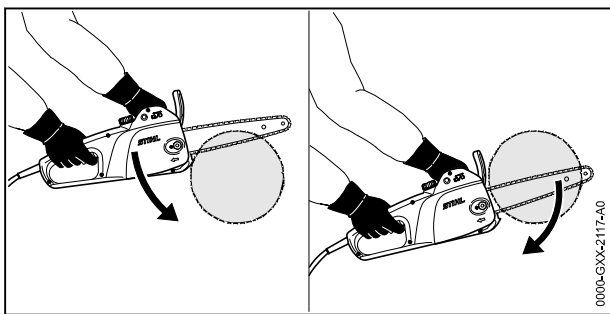
⚠ WARNING

- Be aware of rolling logs. Rolling logs can cause serious or fatal personal injury. To prevent a log from rolling while bucking:
 - ▶ Make sure the log is secure and will not roll downhill before starting your cut. If necessary, use sturdy wedges, shims or chocks.
 - ▶ If on a slope, always stand on the uphill side of the log.
 - ▶ Never stand on the log.
- To reduce the risk of kickback caused by contacting the nose of the guide bar with other logs or limbs:
 - ▶ Cut only one log at a time.
 - ▶ Do not cut logs in a pile.
- When cutting splintered wood, sharp splinters of wood may be caught and flung in the direction of the operator of the saw or bystanders.
 - ▶ Use caution when cutting splintered wood and always wear appropriate apparel and personal protective equipment, including eye protection.
 - ▶ Keep bystanders out of the work area.
- When cutting smaller logs, make sure the log is properly supported to reduce the risk of personal injury from loss of control of the chain

saw or movement of the log. Small logs can move when contacted by the teeth of the chain:

- ▶ Place logs through "V-shaped" supports on top of a sawhorse whenever possible.
- ▶ Never permit another person to hold the log.
- ▶ Never stabilize the log with your leg or foot.
- Failing to control the saw at the bottom of a bucking cut can cause severe personal injury or death.
 - ▶ Prepare the saw to exit the bottom of the cut by reducing the feed force you exert on the saw.
 - ▶ Cushion the weight of the saw so that the bar and chain are not thrust downward into your lower body and legs as the bar/chain exits the cut.

When bucking:



- ▶ Position the bumper spike of the saw against the log and use it as a fulcrum.
- ▶ Continually reposition the bumper spike while pushing the guide bar completely through the log.

7.3 Limbing

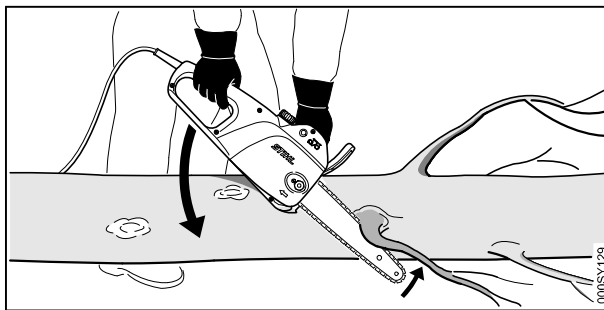
Limbing is removing the branches from a fallen tree.

⚠ WARNING

- To prevent a log from rolling while limbing:
 - ▶ Start limbing by leaving the limbs on the lower, downhill side of the log to hold the log off the ground.
 - ▶ Stabilize the log with sturdy wedges, shims or chocks, if necessary.
 - ▶ Never stand on a log while limbing it.
- There is an increased danger of kickback during limbing operations, as limbs, leaves, stems and other material can entangle (bind) the cutters of the chain in the upper quadrant of the bar nose, causing the chain to slow or stop suddenly.
 - ▶ Do not use the nose of the bar to cut limbs.

- ▶ Be extremely cautious and avoid contacting the log, the ground, other limbs and any leafy materials with the nose of the guide bar.
- When underbucking freely hanging limbs, a pinch may result or the limb may fall, hitting the operator or the chain saw and causing loss of control.
 - ▶ If a pinch occurs that traps or holds the bar or chain, switch off the motor, activate the chain brake and disconnect the saw from the power supply before attempting to remove the saw from the cut, exercising caution that the limb does not suddenly snap or release.
- Limbs or logs under tension (spring poles) can spring back toward you with great force, striking you or causing you to lose control of the saw, resulting in severe or fatal injury.
 - ▶ Be extremely cautious when cutting limbs or logs that may be under tension.
 - ▶ Read and follow the warnings and instructions on cutting logs under tension, 7.5.

When limbing:



- ▶ Rest the chain saw on the log.
- ▶ Stand on the side of the log opposite the limb to be cut if it can be done safely.
- ▶ Push the guide bar at full throttle with a hinge motion against the branch.
- ▶ Cut the branch with the top or the bottom side of the guide bar, keeping the tip of the bar free of the log, the ground, other limbs and any leafy materials.

7.4 Pruning

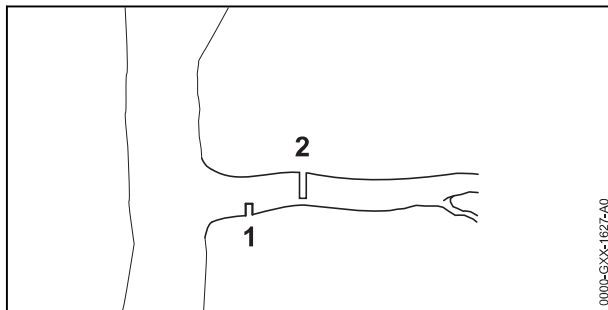
Pruning is selectively removing branches from a standing tree.

⚠ WARNING

- To reduce the risk of injury from loss of control:
 - ▶ Do not use the chain saw one-handed.
 - ▶ Never work on a ladder, on a roof, in a tree or while standing on any other insecure support.

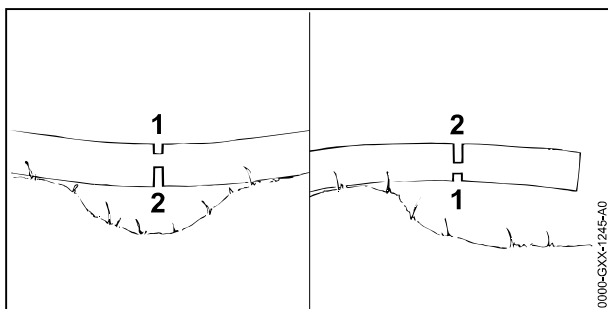
- ▶ Never operate the chain saw above shoulder height or cut overhead.
- ▶ Do not overreach.
- ▶ If you are unable to follow these instructions, you must use a different tool, such as a pole pruner, or have the work performed by a reputable tree service.
- To reduce the risk of injury:
 - ▶ Never stand directly underneath the branch you are cutting.
 - ▶ Watch for falling branches. As soon as the branch starts to fall, step aside and keep a sufficient distance away from the falling wood. A branch may spring back at you after it hits the ground.
 - ▶ Prior to beginning work, clear the work area of limbs and brush to reduce the risk of tripping and losing control of the chain saw.

To cut branches from a standing tree:



- ▶ Make the first cut (1) on the underside of the branch, approximately 2 in. (5 cm) from the trunk. Cut through approximately 1/4 of the diameter of the branch. This will help prevent the branch from splintering after it is cut.
- ▶ Make the second cut (2) on the top side of the branch, approximately 2 in. (5 cm) from the first cut.
- ▶ As soon as the branch starts to fall, withdraw the chain saw and let the branch fall to the ground.

7.5 Cutting Logs Under Tension



! WARNING

- There is an increased danger of pinching the chain saw when cutting logs under tension.

The tension in wood can also release suddenly and with great force, propelling the log, limb or chain saw into the saw operator, causing injury or loss of control.

- To reduce the risk of severe or fatal personal injury from reactive forces, including kickback, or loss of control when cutting wood under tension:
 - ▶ Always start with a relieving cut (1) at the compression side of the log, and then make a bucking cut (2) at the tension side.
 - ▶ If a pinch occurs that traps the bar/chain, switch off the motor, activate the chain brake and disconnect the saw from the power supply before attempting to remove the saw from the log, exercising caution that the limb does not suddenly snap or release.
- Working in areas where logs, limbs and roots are tangled is extremely dangerous.
 - ▶ Drag the logs, limbs and other material to be cut into a clear area before cutting. Pull out exposed and cleared logs first. Do not cut where the tip of the bar may come into contact with other logs, limbs or leafy material.

7.6 Felling

7.6.1 Felling Conditions

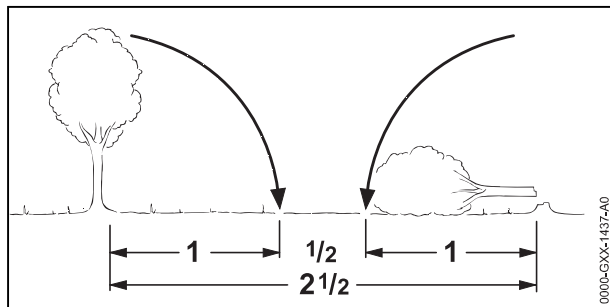
Felling is cutting down a tree. Before felling a tree, carefully consider all of the conditions that may affect the direction of fall.

! WARNING

- This chain saw is not designed for felling large trees, and using it to cut large trees could result in an inability to control the fall of the tree or limb, and can lead to serious or fatal personal injury.
- Before starting the felling operation, make sure the saw you are using has sufficient size, power and run time to complete the felling operation efficiently.
- There are a number of factors that may affect and change the intended direction of fall, e.g. wind direction and speed, lean of tree, surrounding trees and obstacles, sloping ground, one-sided limb or foliage structure, wood structure, decay, snow load, etc.
 - ▶ To reduce the risk of severe or fatal injury to yourself or others, look for, analyze and plan for these conditions prior to beginning the cut, and be alert for a change in direction while the tree is falling.

- Felling a tree that has a diameter greater than twice the effective cutting length of the guide bar requires use of either the sectioning felling back cut or plunge-cut method. Neither of these cutting techniques is recommended for this model chain saw. These methods can be extremely dangerous because they involve the use of the nose of the guide bar and can result in kickback. Only properly trained professionals should attempt these techniques. If you are inexperienced with a chain saw, plunge-cutting should not be attempted. Seek the help of a qualified professional.
- Never attempt to cut a large diameter tree with a chain saw that lacks sufficient size, power or run-time to complete the task efficiently.
- Trees that are split, decayed or rotted inside or that are leaning or otherwise under tension are more likely to snap or split while being cut, causing serious or fatal injury to the operator or bystanders.
 - ▶ Always observe and be aware of the general condition of the tree.
 - ▶ Inexperienced users should never attempt to cut such trees.
 - ▶ Also look for broken or dead branches which could vibrate loose and fall on the operator during the felling operation. Certain types of trees are more susceptible to this condition, such as Douglas firs. You should check with a reputable tree service if you have questions about the stability of the trees you will be cutting.
 - ▶ When felling on a slope, the operator should stand on the uphill side if possible.

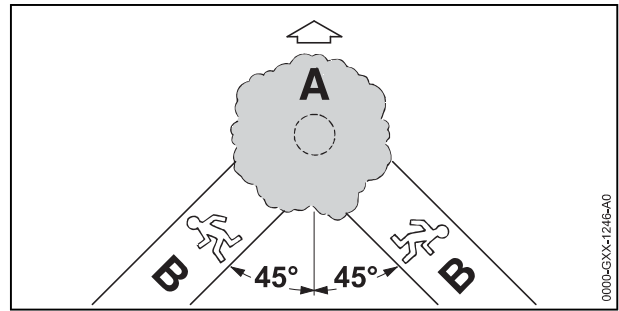
When felling:



- ▶ Maintain a distance of at least 2 1/2 tree lengths from the nearest person or structure.
- ▶ Take extra precautions in the vicinity of roads, railways and power lines. Inform the police, utility company or railway authority before beginning to cut.

7.6.2 Escape Path

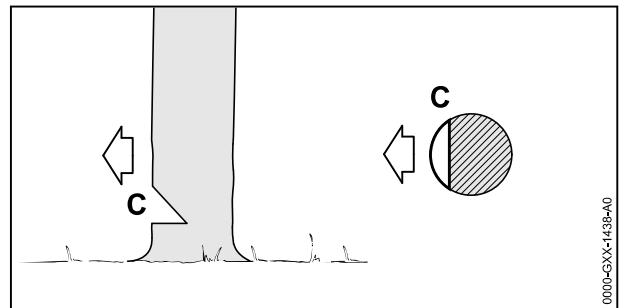
Before making your first cut, prepare an escape path:



- ▶ First clear limbs and brush from the area around the base of the tree. Remove vegetation from the lower portion of the tree with an axe.
- ▶ Next, establish at least two clear paths of escape (B) and remove any obstacles such as brush, small trees and other vegetation. These paths should lead away from the planned direction of the tree's fall (A) at a 45° angle from the expected fall line. Place all tools and equipment a safe distance away from the tree, but not on the escape paths.

7.6.3 Conventional Notch

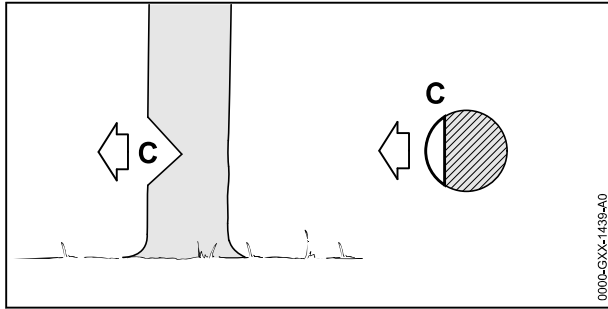
For a conventional notch:



- ▶ The felling notch determines the direction of the tree's fall. Make the felling notch perpendicular to the line of fall you have determined, close to the ground.
- ▶ Be aware of conditions such as wind, limb and foliage structure, tree lean, the slope of the terrain and other factors that could alter the direction of fall.
- ▶ Cut down at a 45° angle to a depth of approximately 1/5 to 1/4 of the trunk diameter.
- ▶ Make a horizontal cut that meets the bottom of the first cut.
- ▶ Remove the resulting 45° piece. The size of the wedge will vary by tree size. The larger the tree, the larger the wedge. This model chain saw is not intended for felling large diameter trees.

7.6.4 Open-faced Notch

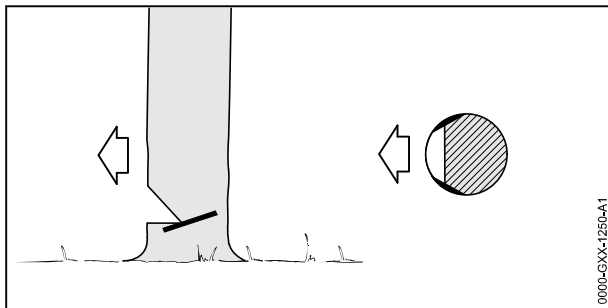
For an open-faced notch:



- ▶ The felling notch determines the direction of the tree's fall. Make the felling notch perpendicular to the line of fall you have determined, close to the ground.
- ▶ Be aware of conditions such as wind, limb and foliage structure, tree lean, slope of the terrain and other factors that could alter the direction of fall.
- ▶ Cut down at a 50° angle to a depth of approximately 1/5 to 1/4 of the trunk diameter.
- ▶ Make a second cut that meets the bottom of the first cut from below at a 40° angle.
- ▶ Remove the resulting 90° piece. The size of the wedge will vary by tree size. The larger the tree, the larger the wedge. This model chain saw is not intended for felling large diameter trees.

7.6.5 Sapwood Cuts

Sapwood cuts help prevent soft woods in summer from splintering when they fall:



- ▶ Make cuts at both sides of the trunk, at the same height as the subsequent felling back cut.
- ▶ Cut no more than the width of guide bar.

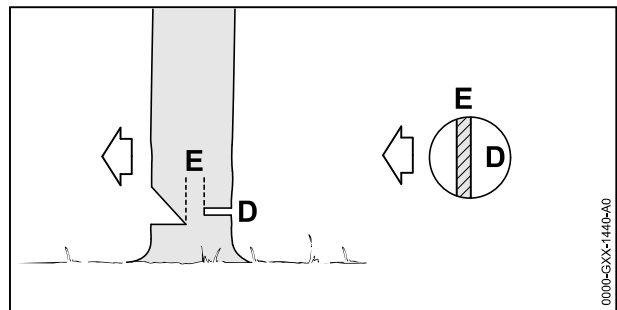
7.6.6 Felling Back Cut

⚠ WARNING

- If the tip of the bar contacts a wedge that has been used to help keep the kerf or cut open, it may cause kickback. Wedges should be of wood or plastic and never steel, which can damage the chain.

- Whichever felling method you select, never cut through the hinge when making your felling back cut. The hinge helps control the fall of the tree. Cutting through the hinge will eliminate the feller's ability to control the tree's fall and may result in serious or fatal personal injury or property damage.
- In order to reduce the risk of personal injury, never stand directly behind the tree when it is about to fall, since part of the trunk may split and come back towards the operator (barber-chairing), or the tree may jump backwards off the stump.
- Always keep to the side of the falling tree. When the tree starts to fall, withdraw the bar, release the trigger switch, engage the chain brake and walk away briskly on the pre-planned escape path.
- Watch out for limbs falling from the felled tree.
- Be extremely careful with partially fallen trees. When the tree hangs or for some other reason does not fall completely, set the saw aside and pull the tree to the ground with a cable winch, block and tackle or tractor. Trying to cut it down with your saw is extremely dangerous and may result in serious or fatal injury. Trees of this nature can fall suddenly and often are under tension.

The tree is brought down with the felling back cut (D).



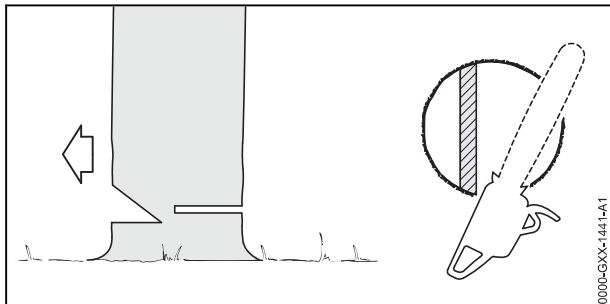
For both conventional and open-faced notches:

- ▶ Begin 1 to 2 in. (2.5 to 5 cm) higher than the bottom of the felling notch.
- ▶ Cut horizontally toward the felling notch.
- ▶ Leave approximately 1/10 of the diameter of the tree uncut. This is the hinge (E) that will help control the fall of the tree.
- ▶ Do not cut through the hinge because you could lose control of the direction of the fall.
- ▶ If necessary, wedges can be driven into the felling back cut to keep the cut open and to help control the direction of the fall. For example, if a tree tends to "sit back," causing a bind of the saw, wedges can be used to re-position it.

This model chain saw is not intended for felling large diameter trees.

7.6.7 Fan Cut

Use the simple fan cut for making the felling back cut on trees with a diameter less than the effective cutting length of the guide bar.



- ▶ After creating the felling notch, engage the bumper spikes of the chain saw directly behind the location of the intended hinge and 1 to 2 in. (2.5 to 5 cm) higher than the bottom of the felling notch. Pivot the saw around this point only as far as the back of the hinge. Do not cut through the hinge. The bumper spike should roll against the trunk until the back cut is complete.

8 Maintenance, Repair and Storage

8.1 Warnings and Instructions

⚠ WARNING

- There are no user-authorized repairs for the chain saw. To reduce the risk of fire, electric shock or other personal injury and property damage:
 - ▶ Users may carry out only the cleaning and maintenance operations described in this manual.
 - ▶ Strictly follow the cleaning and maintenance instructions in the appropriate sections of this instruction manual.
 - ▶ STIHL recommends that all repair work be performed by authorized STIHL servicing dealers.
- Unintentional starting may result in personal injury or property damage. To reduce the risk of personal injury and property damage from unintentional starting:
 - ▶ Engage the chain brake by moving the front hand guard forward to  and disconnect the chain saw from the power supply before inspecting it or carrying out any cleaning, maintenance or repair work, before storing, and any other time it is not in use.
- The bar and chain are the only user-serviceable parts of the chain saw. Proper maintenance will help maintain cutting performance and reduce the risk of personal injury caused by chain derailment and reactive forces.
 - ▶ Wear gloves when handling the saw chain.
 - ▶ Keep the chain, guide bar and sprocket clean.
 - ▶ Replace the chain and guide bar when they become worn or damaged.
 - ▶ Keep the chain sharp and at proper tension.
 - ▶ Tighten all nuts, bolts and screws after each use.
- Like an automobile brake, the chain brake on your chain saw incurs wear each time it is engaged. In order for the chain brake on your STIHL chain saw to function properly, it must be properly maintained. Return the chain saw to your STIHL servicing dealer for periodic inspection and servicing of the brake system according to the following schedule:
 - Heavy Usage: every 3 months
 - Moderate Usage: every 6 months
 - Occasional Usage: every 12 months
- Return the chain saw immediately for maintenance whenever the brake system cannot be thoroughly cleaned or there is a change in its operating characteristics.
- This electric chain saw is double-insulated. In such an appliance, two systems of insulation are provided as protection against electric shock. No grounding means are provided, nor should means for grounding be added to the appliance. Servicing a double-insulated appliance requires extreme care and knowledge of the system, and should be done only by qualified service personnel.
- Use of parts that are not authorized or approved by STIHL may cause serious or fatal injury or property damage.
 - ▶ STIHL recommends that only identical STIHL replacement parts be used for repair or maintenance.
- To reduce the risk of electric shock:
 - ▶ Ensure that the insulation of the power supply cord, extension cord and plug are in good condition and show no signs of aging (brittleness), wear or damage.
 - ▶ Never use your chain saw if the casing around the motor is cracked or damaged.
- Improper storage can result in unauthorized use, damage to the chain saw and an increased risk of fire, electric shock and other personal injury or property damage.

- ▶ Engage the chain brake by moving the front hand guard forward to  and disconnect the chain saw from the power supply before storing.
- ▶ Never store the chain saw with the plug of the power supply cord connected to an extension cord or an electrical outlet.
- ▶ Store the chain saw indoors in a dry, secure place that cannot be accessed by children or other unauthorized users.

NOTICE

- Always release tension on the chain after finishing work. The chain contracts as it cools down. If it is not slackened, it can damage the drive shaft and bearings. Properly re-tension the chain before using the saw again.

9 Before Starting Work

9.1 Preparing the Chain Saw for Operation

Before starting work:

- ▶ Mount the guide bar and saw chain,  10.2.1.
- ▶ Tension the chain,  10.3.
- ▶ Fill the chain oil tank,  10.4.2.
- ▶ Check the chain brake,  14.1.
- ▶ Insert the power supply cord into a properly rated extension cord.
- ▶ Connect the extension cord to a properly installed GFCI electrical outlet that matches the voltage and electrical frequency stated on the chain saw's rating plate.
- ▶ Check the controls for proper function and condition,  14.2.
- ▶ Check the chain oil flow rate,  14.3.

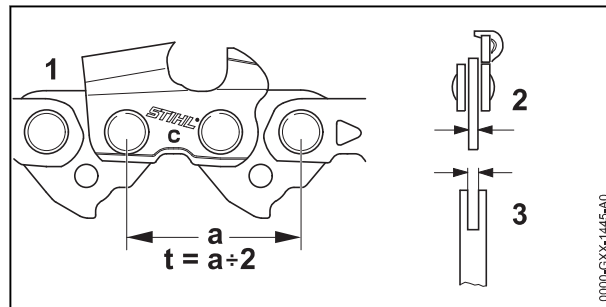
10 Assembling the Chain Saw

10.1 Cutting Attachment

**WARNING**

- If non-matching components are used, the cutting attachment will be damaged beyond repair after a short period of operation, and the chain could de-rail, resulting in serious or fatal personal injury.

A cutting attachment consists of the chain, guide bar and chain sprocket.



- The pitch (t) of the chain (1), chain sprocket and, if using a Rollomatic guide bar, nose sprocket must match.
- The drive link gauge (2) of the chain must match the groove width of the guide bar (3).

10.2 Mounting and Removing the Guide Bar and Chain

10.2.1 Mounting the Guide Bar and Chain

**WARNING**

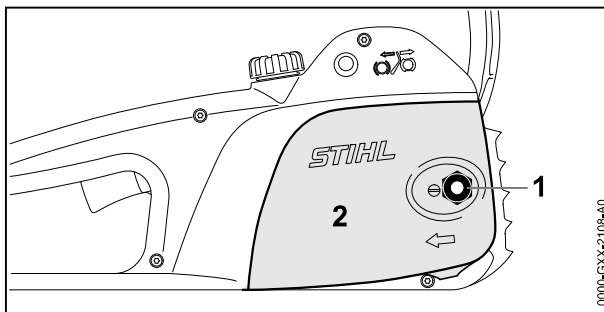
- Make sure the chain saw is disconnected from the power supply and the chain brake is engaged before starting assembly. Never operate your chain saw without a properly mounted guide bar and chain,  5.6. Use only guide bar and chain combinations expressly recommended or approved by STIHL,  5.4.

**WARNING**

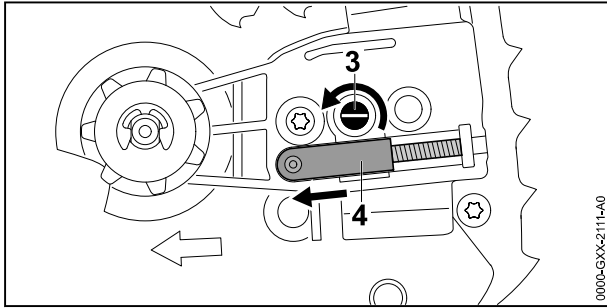
- The chain has many sharp cutters. If they contact your flesh, they will cut you, even if the chain is not moving,  5.4. Always wear heavy-duty work gloves when mounting or otherwise handling the chain,  5.3.

To mount the guide bar and chain:

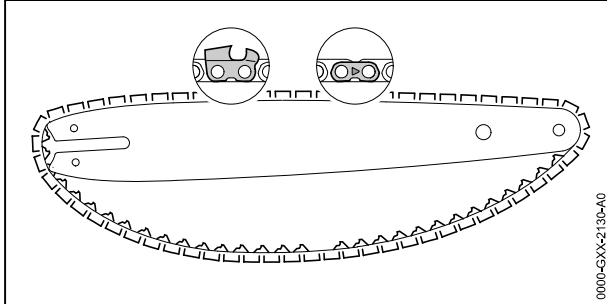
- ▶ Switch off the chain saw,  13.2.
- ▶ Engage the chain brake,  11.1.
- ▶ Disconnect the chain saw from the power supply.



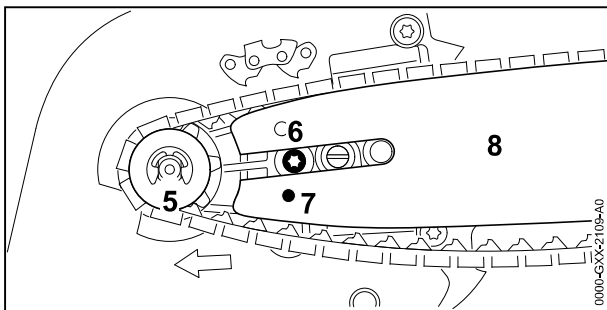
- ▶ Unscrew the nut (1).
- ▶ Remove the chain sprocket cover (2).



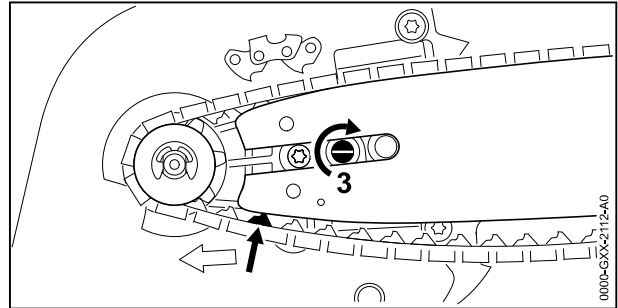
- ▶ Turn the side chain tensioner (3) counterclockwise until the tensioning gear (4) sits flush against the housing.



- ▶ Position the chain in the groove of the guide bar, starting at the tip.
- ▶ Make sure that the cutters in the groove on the top side of the guide bar face the tip of the bar. STIHL chains are manufactured with arrows on the tie straps to help the operator determine the proper direction of the chain. Arrows on the tie straps on the top of the bar must point toward the bar tip.



- ▶ Point the guide bar tip away from the chain sprocket (5).
- ▶ Place the chain around the chain sprocket.
- ▶ Slide the guide bar (8) over the collar screw (6). The head of the collar screw must protrude into the oblong hole.
- ▶ Fit the pin of the tensioning gear in the hole (7) of the guide bar.
- ▶ Disengage the chain brake, [11.2](#).



- ▶ Direct the drive links into the groove of the guide bar (arrow) while turning the side chain tensioner (3) clockwise until it stops. The guide bar and chain must be firmly and securely mounted on the saw.
- ▶ Fit the sprocket cover on the saw so that it is flush with the housing.
- ▶ Turn the nut clockwise until the chain sprocket cover is firmly attached to the saw.

10.2.2 Removing the Guide Bar and Chain

- ▶ Unscrew the nut securing the chain sprocket cover.
- ▶ Remove the chain sprocket cover.
- ▶ Turn the side chain tensioner counterclockwise until it stops and the chain is loose.
- ▶ Remove the guide bar and chain.

NOTICE

- The top and bottom of the guide bar are symmetrical, and the bar may be mounted with the printing facing up or down. Flipping the guide bar each time the chain is sharpened or changed will help reduce uneven wear and improve its service life.

10.3 Tensioning the Chain

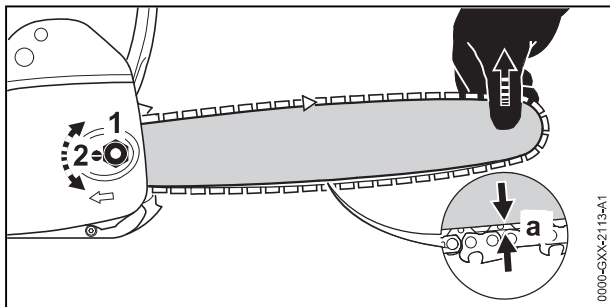


WARNING

- To reduce the risk of severe personal injury from chain derailment, check chain tension frequently, [10.3](#). At operating temperatures, the chain stretches and sags. New chain tends to stretch more than used chain. Tension the chain so that the drive links cannot come out of the groove on the underside of the guide bar.

To properly tension the chain:

- ▶ Switch off the chain saw, [13.2](#).
- ▶ Engage the chain brake, [11.1](#).
- ▶ Disconnect the chain saw from the power supply.



- ▶ Loosen the nut (1).
- ▶ Disengage the chain brake, 11.2.
- ▶ Lift the guide bar tip.
- ▶ Turn the side chain tensioner (2) clockwise to tighten the chain.
The chain is properly adjusted when the distance (a) between the underside of the guide bar and the chain is within 0.04 in. (1 mm) and 0.08 in. (2 mm).
- ▶ Pull the front hand guard against the front handle and hold it in this position.
- ▶ Pull the chain along the guide bar by hand.
A properly adjusted chain can still be pulled easily along the bar. Always wear gloves when handling the chain.
- ▶ If the chain cannot be moved along the guide bar, it is too tight.
 - Reduce the tension by turning the side chain tensioner counterclockwise until the chain can move freely along the guide bar.
 - Ensure that the drive links remain in the groove and that the distance (a) between the underside of the guide bar and the chain is within 0.04 in. (1 mm) and 0.08 in. (2 mm).
- ▶ Once the chain is properly tensioned, lift the guide bar tip and tighten the nut to secure the chain sprocket cover.
- ▶ Finally, ensure that the distance a between the underside of the guide bar and the chain is within 0.04 in. (1 mm) and 0.08 in. (2 mm).

NOTICE

- Always release tension on the chain after finishing work. The chain contracts as it cools down. If it is not slackened, it can damage the drive shaft and bearings. Properly re-tension the chain before using the saw again.

10.4 Lubricating the Saw Chain and Guide Bar

10.4.1 Bar and Chain Lubricant

**WARNING**

- Never operate your saw without bar and chain lubrication. If the chain runs dry, the cutting attachment will be damaged beyond repair within a very short time. A damaged chain may break, resulting in severe or fatal personal injury. Always check chain lubrication and the oil level in the tank before starting work and periodically during work.

**WARNING**

- Never use waste oil to lubricate your STIHL saw chain and guide bar. Repeated contact with waste oil can cause skin cancer. Moreover, waste oil is environmentally harmful.

Bar and chain oil lubricates and cools the rotating saw chain. The service life of the chain and guide bar depends on the quality of the lubricant. It is therefore essential to use only a specially formulated chain lubricant.

- ▶ For automatic and reliable lubrication of the chain and guide bar, use only an environmentally compatible quality chain and bar lubricant. STIHL recommends using rapidly biodegradable STIHL BioPlus.

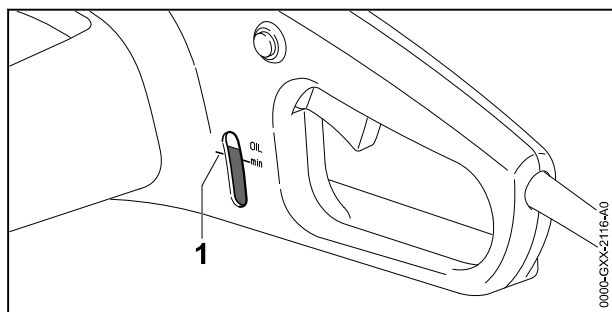
NOTICE

- Biodegradable chain oil must be resistant to aging, since it will otherwise quickly turn to resin. This results in hard deposits that are difficult to remove, especially in the area of the chain drive and chain. It may even cause the oil pump to seize.

NOTICE

- Waste oil does not have the necessary lubricating properties and is unsuitable for chain lubrication.

10.4.2 Filling the Chain Oil Tank



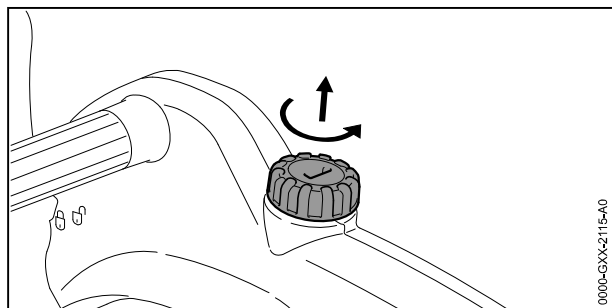
- ▶ Refill the oil tank when the oil level reaches the "OIL min" mark (1).

If the oil level in the tank does not go down, there may be a problem in the oil supply system.

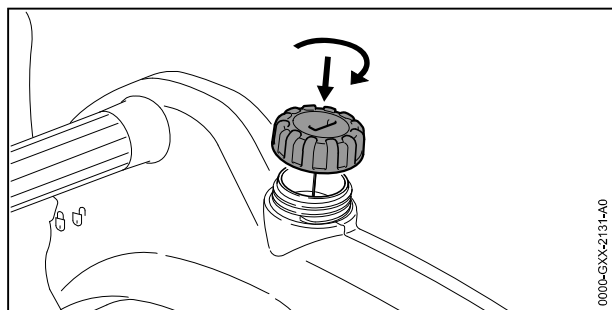
- ▶ Have the oil supply system checked by an authorized STIHL servicing dealer before further use.

To fill the chain oil tank:

- ▶ Switch off the chain saw, 13.2.
- ▶ Engage the chain brake, 11.1.
- ▶ Disconnect the chain saw from the power supply.
- ▶ Position the chain saw on a level surface with the oil filler cap facing upwards.
- ▶ Clean the area around the oil filler cap with a slightly dampened cloth.



- ▶ Turn the oil filler cap counterclockwise until it can be removed.
- ▶ Remove the oil filler cap and fill the tank with chain oil.
- ▶ Take care not to spill chain oil while refilling the tank.
- ▶ Do not overfill the tank. Leave approximately 0.5 in. (13 mm) of air space.



To close the tank:

- ▶ Position the oil filler cap on the oil tank filler neck and press it down while turning it clockwise until it is tight.

11 The Chain Brake

11.1 Engaging the Chain Brake



WARNING

- The chain brake will operate only if it has been properly maintained and the front hand guard has not been modified, 6.2.



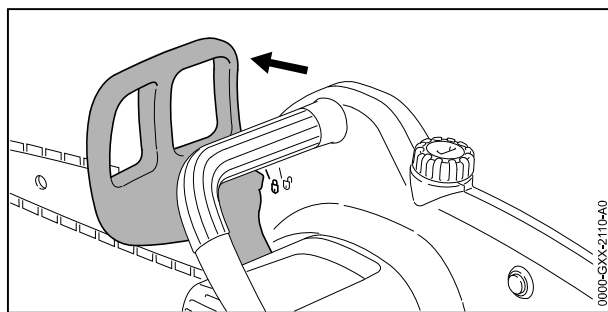
WARNING

- No chain brake device prevents kickback. This device is designed to reduce the risk of kickback injury, if activated, in certain kickback situations. For the chain brake to remain in good working order, it must be properly maintained, 6.2.

In the event of a kickback, the chain brake is designed to engage if the left hand contacts the front hand guard and pushes it forward.

The chain brake is also designed to be activated by the inertia of the front hand guard if the forces are sufficiently high. When the brake is activated by inertia, the hand guard accelerates toward the bar nose, even if your hand is not behind the hand guard, e.g., during a felling back cut.

Engaging the chain brake locks the chain. To manually engage the chain brake:



- ▶ Push the front hand guard to the position, away from the front handle.

You will hear an audible click when the front hand guard reaches the locked position.

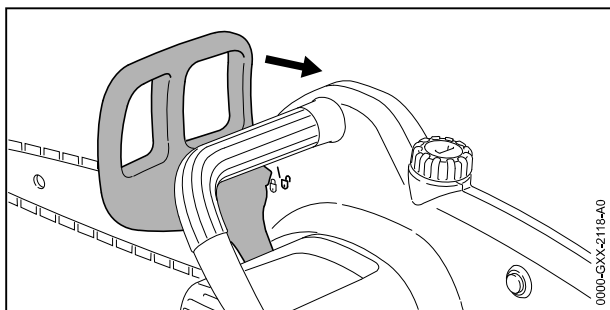
11.2 Disengaging the Chain Brake



WARNING

- Before disengaging the chain brake and switching on your chain saw, be sure that the guide bar and saw chain are clear of you and all other obstructions and objects, including the ground, 5.6.

Disengaging the chain brake unlocks the chain. To disengage the chain brake:



- Pull the front hand guard to the position, toward the front handle.

You will hear an audible click when the front hand guard reaches the unlocked position. In this position, the chain brake is disengaged and the saw can be switched on.

11.3 Maintaining the Chain Brake



WARNING

- An improperly maintained chain brake may increase the time needed to stop the saw chain after activation, or it may not activate or stop the chain at all, 6.2. The chain brake is subject to wear, depending on the amount of usage, conditions under which the saw is used and other factors. Excessive wear will reduce the effectiveness of the chain brake and can render it inoperable.
- Your chain saw should be returned to your authorized STIHL servicing dealer for periodic inspection and servicing of the brake system according to the following schedule:
 - Heavy Usage: every 3 months
 - Part-Time Usage: every 6 months
 - Occasional Usage: every 12 months

12 Overload Cutout

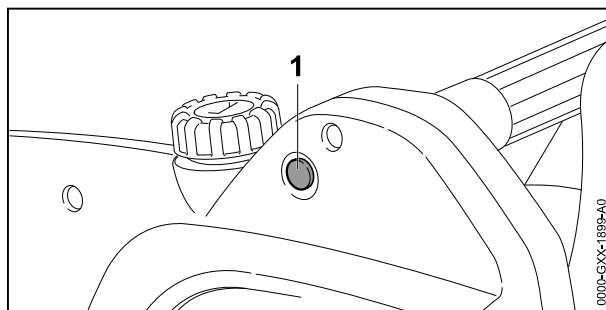
12.1 Resetting the Overload Cutout

The chain saw has an electrical overload protection mechanism. If the chain saw is subject to mechanical overload due to excessive feed force

or pinching the saw chain in the cut, for example, the overload cutout interrupts the electric current to the saw. Activation of the overload cutout thus helps protect the chain saw from an over-supply of electrical current.

To reset the overload cutout:

- Pull the guide bar out of the cut and engage the chain brake.
- Wait a few minutes until the overload cutout mechanism has cooled down.



- Depress the reset button (1).
If the reset button engages, the electric circuit is no longer interrupted and the chain saw can be switched on again once the chain brake is released.
- If the reset button doesn't engage, it hasn't sufficiently cooled down. Wait a few minutes and then press the button again.
- Switch on the chain saw and let the saw chain rotate at maximum speed for about 15 seconds. This will help cool the overload cutout mechanism.

13 Switching the Chain Saw On and Off

13.1 Switching On



WARNING

- Never operate your chain saw if it is damaged, improperly adjusted or maintained, not completely and securely assembled or not functioning properly, 5.4. To reduce the risk of personal injury, always wear proper clothing and protective apparel, including proper eye protection, when operating your chain saw, 5.3.

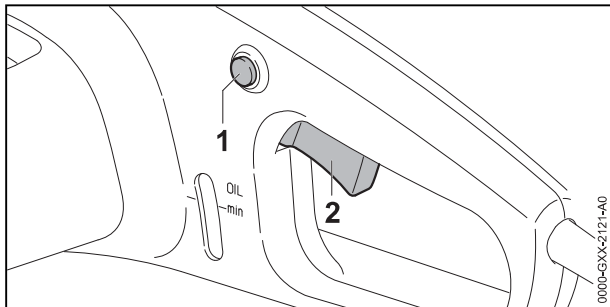
Before switching on:

- Make sure you have a secure and firm footing.
- Stand upright.

- ▶ Always hold and operate the chain saw with your right hand firmly on the rear or control handle and your left hand firmly on the front handle. Always hold the chain saw with two hands in this manner, whether you are right-handed or left-handed.

To switch the chain saw on:

- ▶ Disengage the chain brake,  11.2.



- ▶ Depress and hold the trigger switch lockout (1) with your thumb.
 - ▶ While holding the trigger switch lockout, squeeze the trigger switch (2) with your index finger.
- The saw chain will start rotating.

The motor will not switch on unless the hand guard is set to the  position and the trigger switch lockout and trigger switch are pressed at the same time. Once the trigger switch is activated and the saw is running, the operator need not continue to hold down the trigger switch lockout.

13.2 Switching Off



WARNING

- The saw chain will continue to rotate for a short while after the trigger switch is released. To avoid serious or fatal injury, avoid contact with the moving saw chain. To reduce the risk of personal injury from unintended activation or unauthorized use, switch off the motor, ensure the chain has stopped, engage the chain brake and disconnect the chain saw from the power supply before transporting or putting the chain saw down.

To switch the chain saw off:

- ▶ Release the trigger switch and trigger switch lockout so that they spring back to the locked position. In the locked position, activation of the trigger switch is once again blocked by the trigger switch lockout.

14 Checking the Chain Saw

14.1 Checking the Operation of the Chain Brake



WARNING

- Operating the saw with a missing, damaged, modified or improperly maintained chain brake increases the risk of severe or fatal injury from kickback. Never attempt to modify or disable the chain brake. Never operate a saw if the chain brake has been modified or does not function properly. If you detect a change in the operating characteristics of the chain brake, have your saw serviced immediately by an authorized STIHL servicing dealer.

Before starting work, check the operation of the chain brake:

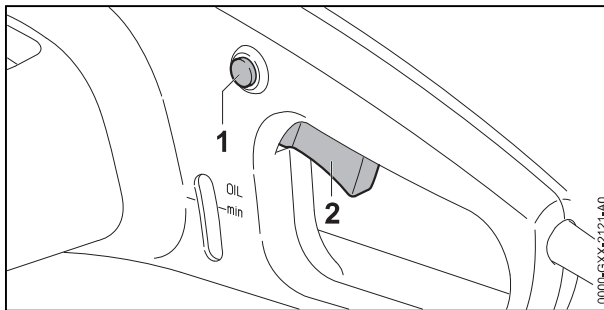
- ▶ Disengage the chain brake,  11.2.
- ▶ Switch on the chain saw,  13.1.
- ▶ Engage the chain brake by pushing the front hand guard to the  position, away from the front handle.

A properly functioning chain brake will stop the chain within fractions of a second.

- ▶ If the chain brake fails to stop the chain within fractions of a second, have the saw inspected and repaired by an authorized STIHL servicing dealer.

14.2 Testing the Controls

Before starting work, confirm that the trigger switch lockout (1) and the trigger switch (2) are undamaged and functioning properly.



Trigger Switch Lockout (1) and Trigger Switch (2)**WARNING**

- To reduce the risk of serious or fatal injuries, keep hands, feet and other parts of the body away from the chain. Do not touch the saw chain while the chain saw is connected to the power supply. Never touch a moving chain with your hand or any part of your body, 5.6.2. Keep bystanders out of the area while testing the controls.

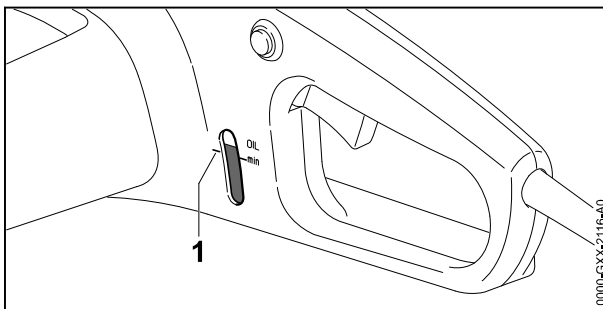
To test the controls:

- ▶ Disconnect the chain saw from the power supply.
- ▶ Attempt to depress the trigger switch. If the trigger can be depressed without first depressing the trigger switch lockout, take the chain saw to an authorized STIHL servicing dealer to be repaired before use.
- ▶ Connect the chain saw to the power supply and hold it firmly with both hands, your left hand on the front handle and your right hand on the rear handle. Release the chain brake and switch on the chain saw by depressing the trigger switch and trigger switch lockout. If the chain does not start rotating, engage the chain brake and disconnect the chain saw from the power supply. Take the chain saw to an authorized STIHL servicing dealer to be repaired before use.
- ▶ Connect the chain saw to the power supply and hold the chain saw firmly with both hands, your left hand on the front handle and your right hand on the rear handle. Release the chain brake and switch on the chain saw by depressing the trigger switch and trigger switch lockout. Then release the trigger switch. If the saw chain does not stop rotating after you release the trigger switch, engage the chain brake and disconnect the chain saw from the power supply. Take the chain saw to an authorized STIHL servicing dealer to be repaired before use.

14.3 Testing Chain Lubrication**WARNING**

- Never operate your saw without bar and chain lubrication. If the chain runs dry, the cutting attachment will be damaged beyond repair within a very short time. A damaged chain may break, resulting in severe or fatal personal injury. Always check chain lubrication and the oil level in the tank before starting work and periodically during work.

To confirm that the chain oil is flowing properly:



- ▶ Check the oil sight glass.
- ▶ If the oil level reads below the marking "OIL min" (1), refill the oil tank with chain oil.
- ▶ Connect the chain saw to the power supply.
- ▶ Disengage the chain brake, 11.2.
- ▶ Point the guide bar toward a bright surface.
- ▶ Switch on the chain saw, 13.1. The chain should throw off a small amount of oil. If the chain oil cannot be seen, check the oil level and refill the tank as necessary.
- ▶ Test the chain lubrication again.
- ▶ If chain lubrication oil is still not visible, the lubrication mechanism is not functioning. Take the saw to an authorized STIHL servicing dealer to be repaired before use.

15 After Finishing Work**15.1 Preparing for Transportation or Storage****WARNING**

- To reduce the risk of personal injury from unintended activation or unauthorized use, switch off the chain saw, engage the chain brake and remove it from the power supply before transporting or putting it down. To reduce the risk of injuries from the sharp cutters on the chain, always cover the guide bar with the chain scabbard before transporting or storing the saw.

To prepare the saw for transportation or storage:

- ▶ Switch off the chain saw,  13.2.
- ▶ Engage the chain brake,  11.1.
- ▶ Disconnect the chain saw from the power supply.
- ▶ Release the chain brake and loosen the chain.
- ▶ Re-engage the chain brake.
- ▶ Slide a chain scabbard over the guide bar so that it covers the entire guide bar.
- ▶ Before using the saw, remember to re-tension the chain.

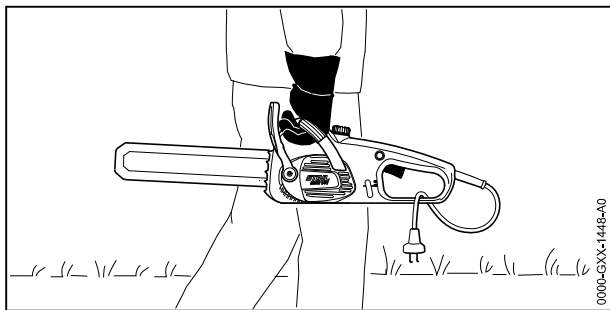
NOTICE

- The chain contracts as it cools down. Failing to loosen the chain after finishing work can damage the drive shaft and bearings.

16 Transporting

16.1 Transporting the Chain Saw

When transporting the chain saw:



- ▶ Slide a chain scabbard over the guide bar so that it covers the entire guide bar.
- ▶ When transporting the saw by hand, hold it by the front handle with the guide bar pointing backwards, opposite the direction in which you are walking. Never carry the chain saw by the power cord or allow the cord to drag on the ground.
- ▶ When transporting the saw in a vehicle, cover the guide bar with a chain scabbard. Secure and position the chain saw to prevent turnover, impact and damage.

Your saw comes standard with a chain scabbard that matches the cutting attachment. If you use guide bars of different lengths on the saw, the length of the chain scabbard must be matched to the guide bar to reduce the risk of injury. It should cover the full length of the guide bar.

17 Storing

17.1 Storing the Chain Saw



WARNING

- Store the chain saw indoors in a dry, secure place that cannot be accessed by children or other unauthorized users,  5.4. Improper storage can result in unauthorized use and damage to the chain saw,  5.4.

When storing the saw for thirty days or longer:

- ▶ Remove the chain and guide bar.
- ▶ Clean and spray the guide bar with a resin solvent, such as STIHL Resin Remover and Lubricant.
- ▶ Clean the saw,  18.
- ▶ Fill up the chain oil tank,  10.4.2.
- ▶ Secure and position the chain saw to prevent turnover, impact and damage.
- ▶ Store the saw indoors in a dry and secure location, out of the reach of children and other unauthorized persons.

18 Cleaning

18.1 Cleaning the Chain Saw



WARNING

- To reduce the risk of personal injury from unintended activation, disconnect the chain saw from the power supply and engage the chain brake before carrying out any cleaning work,  8. Users of this chain saw should carry out only the cleaning described in this manual.

To clean the chain saw:

- ▶ Clean the chain saw's polymer components with a slightly dampened cloth. Do not use detergents or solvents. They may damage the polymer components.
- ▶ Remove the sprocket cover and clean the area around the chain sprocket with a slightly dampened cloth or resin solvent, such as STIHL Resin Remover & Lubricant.
- ▶ Do not use a pressure washer to clean the chain saw or otherwise spray it with water or other liquids.

18.2 Cleaning the Guide Bar and Saw Chain



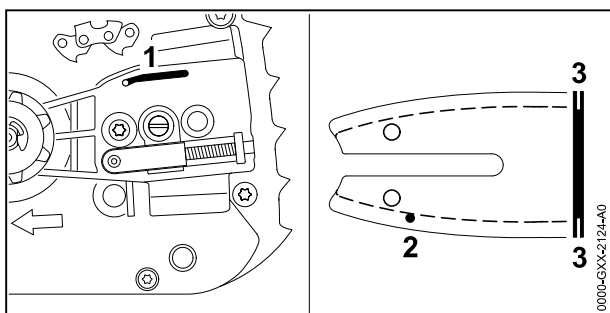
WARNING

- To reduce the risk of personal injury from unintended activation, disconnect the chain saw from the power supply and engage the chain brake before carrying out any cleaning work, 8. Users of this chain saw should carry out only the cleaning described in this manual. To help prevent injuries, always wear heavy-duty work gloves when handling the chain.

- Clean the oil outlet duct (1), oil inlet bore (2) and groove (3) with a brush, a slightly dampened cloth or resin solvent, such as STIHL Resin Remover & Lubricant. Do not use detergents.
- Clean the chain with a brush, a slightly dampened cloth or resin solvent. Do not use detergents.
- Do not use a pressure washer to clean the guide bar or chain or otherwise spray them with water or other liquids.

To properly clean the guide bar and chain:

- Remove the guide bar and the chain, 10.2.2.



19 Inspection and Maintenance

19.1 Inspection and Maintenance Chart

The following maintenance intervals are examples and apply for normal operating conditions. Actual use and your experience will determine the frequency of required inspection and maintenance.		Before starting work	After finishing work or daily	Weekly	Monthly	Relevant Chapter
Complete Machine	Visual inspection	X				
	Clean		X			18
Controls	Check function and condition	X				14.2
Chain Brake	Check function ¹⁾	X				14.1
Chain Oil Tank	Clean ¹⁾				X	
Chain Lubrication	Check chain oil flow rate	X				14.3
Saw Chain	Check chain tension	X				10.3
	Sharpen ¹⁾	X		X		19.5
Guide Bar	Inspect for proper groove depth and spread			X		19.4

The following maintenance intervals are examples and apply for normal operating conditions. Actual use and your experience will determine the frequency of required inspection and maintenance.		Before starting work	After finishing work or daily	Weekly	Monthly	Relevant Chapter
	Deburr			X		19.4
Chain Sprocket	Inspect			X		19.3
Chain catcher on sprocket cover	Inspect			X		
1)STIHL recommends a STIHL servicing dealer.						

19.2 Inspecting and Maintaining the Chain Saw



WARNING

- To reduce the risk of personal injury from unintended activation, disconnect the chain saw from the power supply and engage the chain brake before inspecting the chain saw or carrying out any maintenance, 8. Carry out only the maintenance operations described in this manual. There are no user-authorized repairs. STIHL recommends that repair work be performed by authorized STIHL servicing dealers.

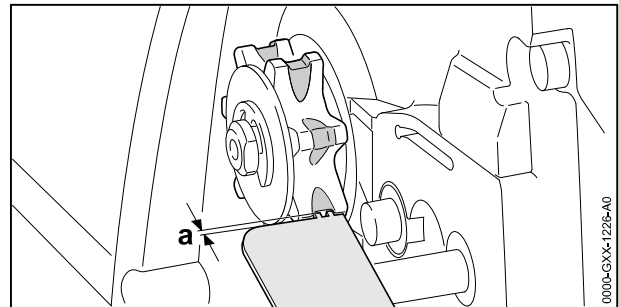
Proper maintenance of the chain saw includes the following activities:

- ▶ Inspecting the chain sprocket periodically and having a worn chain sprocket replaced by an authorized STIHL servicing dealer.
- ▶ Inspecting the guide bar for proper groove depth and spread and replacing the guide bar if it shows signs of excessive wear or damage.
- ▶ Periodically sharpening the chain, maintaining the depth limiting guides at the appropriate height and replacing the saw chain when indicated by the relevant wear marks or when the chain is damaged or shows signs of excessive wear.
- ▶ Having worn, missing or damaged safety labels replaced by an authorized STIHL servicing dealer.

19.3 Inspecting and Maintaining the Chain Sprocket

- ▶ Switch off the chain saw, engage the chain brake and disconnect the chain saw from the power supply.
- ▶ Disengage the chain brake, 11.2.

- ▶ Remove the chain sprocket cover, saw chain and guide bar.



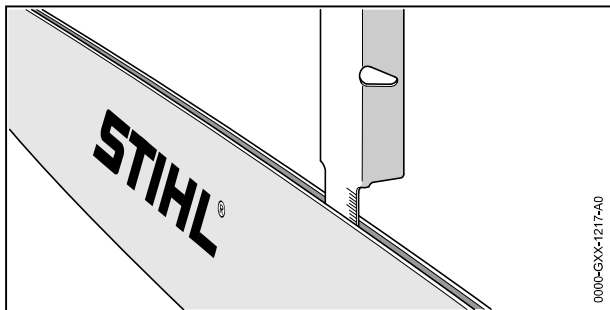
- ▶ Check the chain sprocket cover for wear marks.
- ▶ If the wear marks are deeper than $a = 0.020$ in. (0.5 mm), have the chain sprocket replaced.

STIHL recommends using genuine STIHL chain sprockets to ensure optimal functioning of the chain brake.

Alternating between two chains helps reduce wear to the chain sprocket.

19.4 Inspecting and Maintaining the Guide Bar

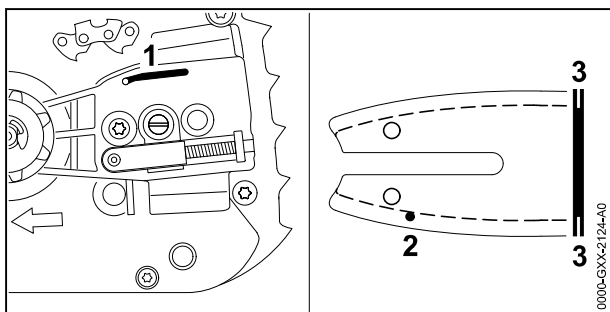
- ▶ Switch off the chain saw, engage the chain brake and disconnect the chain saw from the power supply.
- ▶ Remove the guide bar and saw chain, 10.2.2.



- ▶ Measure the depth of the guide bar groove in the area with the greatest wear using the measuring tool on the file gauge sold separately.
- ▶ Replace the guide bar if the measured depth is less than the required minimum depths stated in 20.4.
- ▶ Check the spread of the guide bar groove with the measuring tool on the file gauge.
- ▶ Replace the guide bar if the groove is narrowed, spread or shows other signs of substantial wear or damage.

To maintain the guide bar:

- ▶ Flip the guide bar after each sharpening and each time the chain is changed. This will help reduce uneven wear. There is no "top" or "bottom" of the bar. It may be used in either orientation, even though the printing on the bar may be upside down.



- ▶ Clean the oil outlet duct (1), oil inlet bore (2) and groove (3) with a brush, a slightly dampened cloth or resin solvent, such as STIHL Resin Remover & Lubricant. Do not use detergents.
- ▶ Periodically remove any metal burrs that develop along the guide bar with a flat file or a STIHL guide bar dressing tool.
- ▶ Replace the guide bar if the burrs cannot be filed or if the guide bar becomes damaged.

19.5 Inspecting, Maintaining and Sharpening the Saw Chain



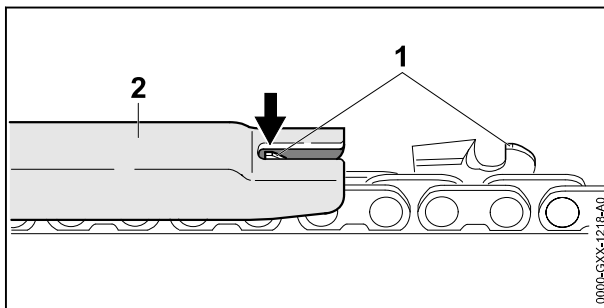
WARNING

- An improperly sharpened chain can increase the risk of kickback and other reactive forces, resulting in severe personal injury or death. For example, depth gauges that are too low or cutters that are filed incorrectly can increase the kickback tendency of the chain saw and can increase kickback forces, making it more difficult to control the saw. Always review and follow the sharpening angles and dimensions recommended by STIHL when checking or sharpening the chain.

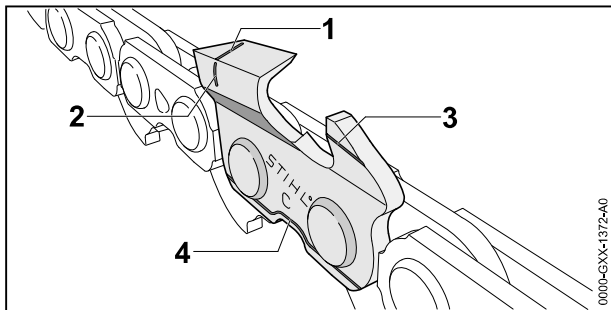


WARNING

- Never use a dull or damaged chain. This leads to increased physical strain, increased vibration load, unsatisfactory cutting results and increased wear. If the chips from cutting are fine, more like saw dust than wood chips, the chain likely is dull.
- ▶ Switch off the chain saw, engage the chain brake and disconnect the chain saw from the power supply.



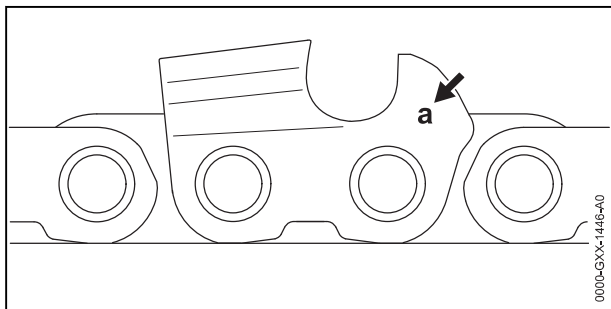
- ▶ Check the height of the depth gauge (1) with a STIHL file gauge (2) matching the pitch of the chain.
- ▶ If the depth gauge protrudes higher than the file gauge, file the depth gauge to the appropriate height.
- ▶ Work carefully. Do not file the depth gauge too low. A depth gauge that is too low must be replaced or sharpened by an authorized STIHL servicing dealer, as it can increase the kickback tendency of the chain saw and can increase kickback forces.



STIHL chain is manufactured with wear marks to help the operator identify excessive wear. The wear marks depicted above (1 - 4) must remain visible.

- ▶ Replace the chain if any wear marks are no longer visible.
- ▶ Check the 30° sharpening angle of the cutters with a STIHL file gauge matching the pitch of the chain.
- ▶ If the sharpening angle is incorrect, file the cutters to a 30° angle.
- ▶ If you are unable to achieve the proper angle, or suspect you have not achieved the proper angle, have the chain sharpened by an authorized STIHL servicing dealer.

An improperly filed chain can be very dangerous. It can increase the potential for reactive forces, including kickback, and also increase the magnitude of those reactive forces.



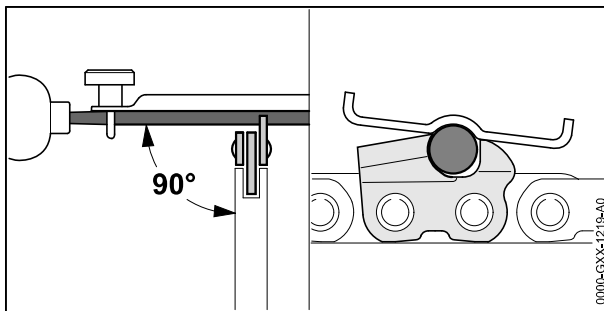
The chain pitch marking (a) is embossed in the area of the depth gauge of each cutter.

The markings mean the following:

Marking (a)	Saw Chain Pitch
1	1/4"
2	.325"
3	3/8"
4	.404"
6	3/8" PICCO
7	1/4" PICCO

To sharpen the chain:

- ▶ Switch off the chain saw, engage the chain brake and disconnect the saw from the power supply.
- ▶ Select a chain file with a diameter matching the pitch of the chain. Other files are unsuitable and can result in improperly filed chain, which can increase the potential and force of kickback and other reactive forces.
- ▶ Clamp the guide bar if necessary to make filing easier.
- ▶ To advance the chain, first disengage the chain brake, 11.2.
- ▶ Use a file holder. File holders have markings that indicate the proper sharpening angle.
- ▶ File all the cutters with an identical angle. Two or three strokes of the file are usually sufficient for simple reshaping. Remove a little material with each stroke. Sharpening at varying or inconsistent angles or heights can be very dangerous and may result in rough or uneven running of the chain and increased wear, even to the point of chain breakage. It also can increase the tendency and force of kickback and other reactive forces.



- ▶ Guide the file horizontally at a right angle to the side surface of the guide bar in accordance with the specified angle.
- ▶ File only from the inside of the cutter outward.
- ▶ Lift the file on the backstroke. The file only sharpens on the forward stroke.
- ▶ Do not file tie straps or drive links.
- ▶ Periodically rotate the file in order to avoid uneven wear.
- ▶ To remove a file burr from the cutter tooth, run the cutter across a piece of hardwood.
- ▶ Check the sharpening angle with a file gauge.

All cutters must be of equal length and filed down to the length of the shortest cutter. Otherwise, the tendency and force of kickback and other reactive forces will increase.

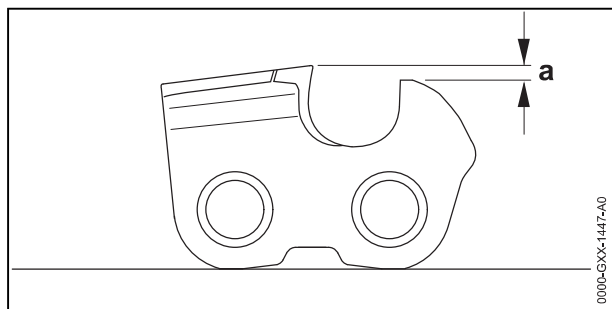
STIHL recommends having your chain sharpened by an authorized STIHL servicing dealer to

reduce the risk of severe or fatal injury from an improperly sharpened chain.



WARNING

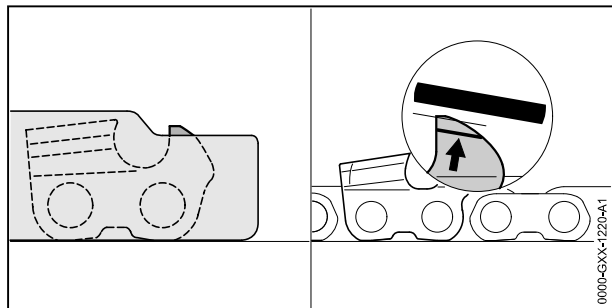
- Depth gauges that are too low increase the potential and force of kickback and other reactive forces, which can increase the risk of serious personal injury. Always maintain the proper distance (a) between the depth gauge and the top of the cutter.



The depth gauge determines the depth to which the cutter penetrates the wood and thus the chip thickness.

A depth gauge that is too low will increase the kickback tendency of the chain saw and can increase kickback forces.

A depth gauge that is too high will prevent the cutter from entering the workpiece and will lead to poor cutting performance. Always keep the required distance (a) between depth gauge and cutting edge, 20.5.



To properly lower the depth gauge:

- Lay the appropriate file gauge for the chain pitch on the chain and press it against the cutter to be checked. If the depth gauge protrudes past the file gauge, the depth gauge must be filed down.
- File the depth gauge so that it is flush with the top of the file gauge.
- Afterwards, remove the file gauge and file the leading edge of the depth gauge parallel to the service mark. When doing this, be careful not

to further lower the highest point of the depth gauge.

- Lay the file gauge on the chain to check the height of the file gauge. The highest point of the depth gauge must be flush with the top of the file gauge.
- After sharpening, clean the chain thoroughly, removing any filings or grinding dust.
- Oil the chain thoroughly.

20 Specifications

20.1 STIHL MSE 141 C

This chain saw is classified as Class 2A. Class 2A specifies a professional chain saw, intended for use by trained workers, where the operator is expected to use the chain saw for extended periods of time on a daily basis.

- Mains voltage: 120 V
- Rated current: 11.6 A
- Frequency: 60 Hz
- Rated power: 1400 W
- Insulation: Class II (Double Insulation)
- Weight without guide bar and saw chain: 8.2 lbs. (3.7 kg)
- Maximum oil tank volume: 7.3 oz. (0.215 l)

20.2 Extension Cords

Use an extension cord that is at least 35 ft. (10 m) long and meets the specifications below.

- Types: SJW or SJTW, round jacketed cords
- W marking on cable jacket must indicate that it is suitable for outdoor use

Minimum wire size for extension cords for 120 Volt appliances, using not more than 12 A:

- Cord length 35 ft. (10 m): AWG 16
- Cord length 50 ft. (15 m): AWG 14
- Cord length 100 ft. (30 m): AWG 12
- Cord length 150 ft. (46 m): AWG 10

Minimum wire size for extension cords for 120 Volt appliances, using not more than 15 A:

- Cord length 35 ft. (10 m): AWG 16
- Cord length 50 ft. (15 m): AWG 14
- Cord length 100 ft. (30 m): not recommended
- Cord length 150 ft. (46 m): not recommended

20.3 Chain Sprockets

The following chain sprockets are available for this model chain saw:

- 7-tooth for 3/8" PICCO pitch
 - Maximum chain speed : 14.6 m/s
- 8-tooth for 1/4" PICCO pitch
 - Maximum chain speed : 11.1 m/s

20.4 Minimum Groove Depth of Guide Bars

The minimum groove depth of a guide bar depends on the pitch of the guide bar.

- Minimum groove depth for 1/4" PICCO pitch guide bars : 0.157 in. (4 mm)
- Minimum groove depth for 3/8" PICCO pitch guide bars: 0.197 in. (5 mm)

20.5 Depth Gauge Setting

The depth gauge setting of a saw chain depends on the pitch of the chain.

- Depth gauge setting for 1/4" PICCO pitch chains: 0.018 in. (0.45 mm)
- Depth gauge setting for 3/8" PICCO pitch chains: 0.026 in. (0.65 mm)

20.6 Symbols on the Chain Saw

Symbol	Explanation
V	Volt
Hz	Hertz
A	Ampere



Maximum guide bar length



Saw chain



Maximum computed kickback angle without chain brake / Maximum computed kickback angle with chain brake



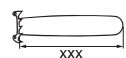
Engage and disengage the chain brake.



Chain Brake is disengaged.



Chain Brake is engaged.



Maximum guide bar length



Direction of saw chain rotation



STIHL products must not be disposed of in the household trash, but only in accordance with local, state and federal laws and regulations and as provided in this manual, 24.



Insulation: Class II (Double Insulation)

20.7 Engineering Improvements

STIHL's philosophy is to continually improve all of its products. As a result, engineering changes

and improvements are made from time to time. Therefore, some changes, modifications and improvements may not be covered in this manual. If the operating characteristics or the appearance of your machine differs from those described in this manual, please contact your STIHL dealer or the STIHL distributor in your area for assistance.

21 CSA Standard

21.1 Chain Saw Class

This electric powered chain saw is classified according to CSA Z62.1 as a class 2A saw.

21.2 Definition of the Chain Saw Classes according to CSA Z62.1

- **Class 1A:** A fuel powered professional chain saw, intended for use by trained workers, where the operator is expected to use the chain saw for extended periods of time on a daily basis
- **Class 1B:** A fuel powered professional chain saw for tree service, limited to a dry weight of 4.3 kg (9.5 lb), intended for use by trained workers, where the operator is expected to use the chain saw for extended periods of time on a daily basis
- **Class 1C:** A fuel powered consumer chain saw, intended for general use by homeowners, cottagers, campers, etc., and for general applications such as clearing, pruning and cutting firewood
- **Class 2A:** An electrically powered professional chain saw, intended for use by trained workers, where the operator is expected to use the chain saw for extended periods of time on a daily basis
- **Class 2B:** A battery powered professional chain saw, intended for use in tree service work, limited to a weight of 5 kg (11 lb) with battery
- **Chain saws according to CAN/CSA-C22.2 No. 60745-2-13:** An electrically powered consumer chain saw, intended for general use by homeowners, cottagers, campers, etc., and for general applications such as clearing, pruning, and cutting firewood

22 Combinations of Guide Bars and Saw Chains

22.1 STIHL MSE 141 C

Pitch	Drive link gauge/ Groove width	Length	Guide Bar	Number of teeth of sprocket nose	Drive link count	Saw chain
1/4" P	0.043 in. (1.1 mm)	10 in. (25 cm)	Rollomatic E Mini	8	56	71 PM3 (Type 3670)
		12 in. (30 cm)			64	
		14 in. (35 cm)			72	
3/8" P	0.043 in. (1.1 mm)	12 in. (30 cm)	Rollomatic E Mini	7	45	61 PMM3 (Type 3610)
		14 in. (35 cm)			50	
		16 in. (40 cm)			55	

The guide bar and chain combinations listed above meet the 45° computed kickback angle requirement of CSA Z 62.3 when used on this model chain saw with the matching chain sprocket listed above.

Use replacement guide bars or chains only as listed above or as listed elsewhere by STIHL as conforming with the 45° computed kickback angle requirement of CSA Z 62.3 when used on this model chain saw.

The listed guide bars are green-labeled reduced kickback STIHL guide bars. The listed chains are green-labeled low kickback STIHL chains.

Since new bar/chain combinations may be developed after publication of this manual, ask your authorized STIHL servicing dealer for the latest STIHL recommendations.

23 Replacement Parts and Equipment

23.1 Genuine STIHL Replacement Parts

STIHL recommends the use of genuine STIHL replacement parts. Genuine STIHL parts can be identified by the STIHL part number, the **STIHL** logo and, in some cases, by the STIHL parts symbol . The symbol may appear alone on small parts.

- Contact your authorized STIHL servicing dealer for the latest information on disposal and recycling.

25 Addresses

25.1 STIHL Limited

STIHL Limited
1515 Sise Road
London, ON. N6A 4L6
CANADA

24 Disposal

24.1 Disposal of the Power Tool

STIHL products must not be thrown in household trash or disposed of except as outlined in this manual.

- Take the power tool, accessories and packaging to an approved disposal site for environmentally friendly recycling.

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