



Operator's Manual

DCS-2500T

Chainsaw

WARNING

Read and understand all provided literature before use. Failure to do so could result in serious injury.

In Canada, this chainsaw is designed especially for tree service by a trained operator.

WARNING

Cancer and Reproductive Harm
www.P65Warnings.ca.gov

Note: This product complies with CAN ICES-003(B) / NMB-003(B)

TABLE OF CONTENTS

Introduction	3
Important information.....	3
Parts and Serial Number	4
Service.....	5
ECHO Consumer Product Support.....	5
Product Registration	5
Additional Literature.....	5
Safety	6
For safe use of your product.....	6
International Symbols	7
Handling the Product	8
Chainsaw Safety Warnings.....	15
Causes and Operator Prevention of Kickback.....	16
Kickback Safety Precautions	17
General Precautions	18
Precautions for Use	19
Protective Gear	25
Description	27
Contents	29
Assembly.....	30
Assembly	30
Temperature Information	33
Battery Charging.....	33
Operation	39
Starting the Unit.....	39
Stopping the Unit.....	40
Before Use.....	41
Correct Use of Chain Brake.....	42
Tree Service Chainsaw.....	44
General Cutting Instructions - Ground Usage	47
Maintenance.....	52
Skill Levels.....	53
Servicing Guidelines	53
Saw Chain Maintenance	54
Maintenance and Care	57
Replacement Guide Bar and Chain.....	60
Troubleshooting.....	61
Storage.....	62
Storage	62
Disposal.....	63
Specifications	64
Product Registration.....	65
Warranty.....	67

INTRODUCTION

Important information

Specifications, descriptions, and illustrative material in this literature are as accurate as possible. Specifications are subject to change without notice. Illustrations might include optional equipment and accessories, and might not include all standard equipment. Your equipment might appear slightly different than pictured equipment.



Read and understand all provided literature. Literature contains specifications and information for safety, operation, maintenance, storage, and assembly specific to this product. Scan QR codes for more information.



For additional literature, including safety manuals where applicable, or questions regarding terms used in this manual, visit:

<https://www.echo-usa.com/manuals>



Read the operator's manual before using your product.

Intended use of this product

- This ECHO Chainsaw is designed for cutting wood or wood products.
- Do not use this tool for anything other than its intended purpose.

Users of the product

- You should not use this product until you have read the operator's manual carefully and fully understand its content.
- This product should not be used by anyone who has failed to read the operator's manual properly, is suffering from a cold, tiredness or otherwise in poor physical condition, or children.
- Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people or their property.

About your operator's manual

- This manual contains necessary information about the operation and maintenance of your product. Please read it carefully and understand its contents.
- Always keep your manual in a place where it is readily accessible.
- If you have lost your manual or it is damaged and no longer readable, please purchase a new one from your ECHO DEALER.
- The units used in this manual are SI units (International System of Units). Figures in parentheses are reference values, and there may be a slight conversion error in some cases.

Loaning or assigning your product

- When loaning the product described in this manual to another party, ensure that the person borrowing and working with the product receives the operator's manual along with the product. If you assign your product to another party, please include the operator's manual with the product when handing it over.

Inquiries

- Please contact your ECHO DEALER for requests regarding information about your product, the purchase of consumables, repairs, and other such inquiries.

Notices

- The content of this manual may be changed without notice for the purpose of upgrades to the product. Some of the illustrations used may differ from the product itself in order to make the explanations clearer.
- Please consult your ECHO DEALER if anything is unclear or of concern.

Parts and Serial Number

Genuine ECHO Parts and Assemblies for your ECHO products are available only from an Authorized ECHO Dealer. When you do need to buy parts always have the Model Number and Serial Number of the unit with you. For future reference write them in the space provided below.

Model No. _____ Serial No. _____

Service

Service of this product during the warranty period must be performed by an Authorized ECHO Service Dealer. For the name and address of the Authorized ECHO Service Dealer nearest you, ask your retailer or call: 1-800-432-ECHO (3246). Dealer information is also available on our Web Site www.echo-usa.com. When presenting your unit for Warranty service/repairs, proof of purchase is required.

ECHO Consumer Product Support

If you require assistance or have questions concerning the application, operation, or maintenance of this product, call the ECHO Consumer Product Support Department at 1-800-432-ECHO (3246) from 8:00 a.m. to 5:00 p.m. (Central Standard Time) Monday through Friday. Before calling, please know the model and serial number of your unit.

Product Registration

Register your ECHO equipment on-line at www.echo-usa.com or by filling out the product registration sheet included in this manual. Registering your product confirms warranty coverage and provides a direct link to ECHO if we find it necessary to contact you.

Additional Literature

In addition to finding information online, information is available from your Authorized ECHO Service Dealer, or by contacting ECHO Incorporated, 400 Oakwood Road, Lake Zurich, IL 60047, 1-800-432-ECHO (3246).

SAFETY

For safe use of your product

Read this section before using your product.

- The precautions described in this section contain important safety information. Please observe them carefully.
- You must also read the precautions that appear in the body of the manual itself.

Throughout this manual and on the product itself, you will find safety alerts and helpful, informational messages preceded by symbols or key words. The following is an explanation of those symbols and key words and what they mean to you.

DANGER

The safety alert symbol accompanied by the word “DANGER” calls attention to an act or condition which WILL lead to serious personal injury or death if not avoided.

WARNING

The safety alert symbol accompanied by the word “WARNING” calls attention to an act or condition which CAN lead to serious personal injury or death if not avoided.

CAUTION

The safety alert symbol accompanied by the word “CAUTION” calls attention to an act or condition which might lead to minor or moderate personal injury if not avoided.

NOTICE

The enclosed message provides information necessary for the protection of the unit.













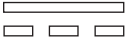

Note: This enclosed message provides tips for use, care and maintenance of the unit.



CIRCLE AND SLASH SYMBOL

This symbol means the specific action shown is prohibited. Ignoring these prohibitions can result in serious or fatal injury.

International Symbols

Symbol	Description	Symbol	Description
	WARNING! Read and follow all safety precautions in the instruction manual. Failure to follow instructions could result in serious personal injury.		Wear Eye, Ear, and Head Protection.
	Safety / Alert		Use appropriate protection for foot-leg and hand-arm.
	Volts		Beware of electric shocks
	Always operate unit with two hands.		Warning! Kickback may occur!
	Do not expose to rain / water		Chain Oil Fill
	Chain Brake Operation		Chain oiler adjustment
	Direct Current		Do not dispose in household trash

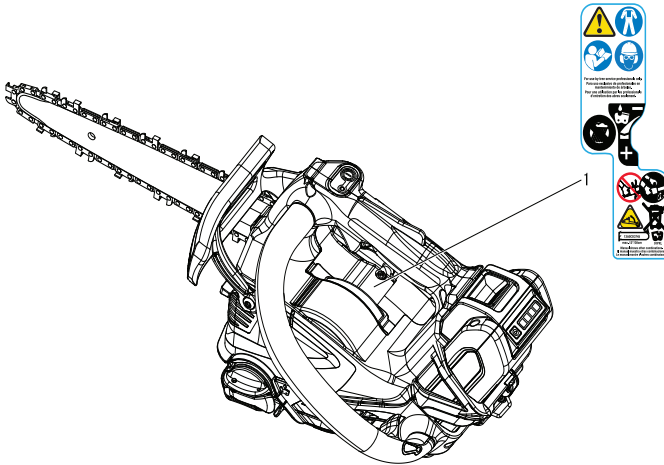
Note: Not all symbols will appear on your unit.

Safety decal location

- The safety decal shown below has been attached to the product described in this manual. Ensure that you understand what the decal means before using your product.

- If the decal becomes illegible due to wear and tear, damage, or peels off, please purchase a replacement decal from your dealer and attach it in the location shown in the illustration below. Ensure that the decal is readable at all times.

Note: The safety decal is for example only. Your label may appear slightly different



Handling the Product

General Safety Warnings and Instructions

This section contains the prescribed general safety warnings and instructions for battery-powered products contained in UL 2595 and for handheld tools, transportable tools and lawn and garden machinery contained in UL 62841-1. Additional important warnings and instructions are provided in subsequent sections of this manual.

Important Safety Instructions

WARNING

Read all safety warnings, instructions, illustrations, and specifications provided with this power tool. Failure to follow all instructions listed below may result in electric shock, fire, serious injury and/or property damage.

Save all warnings and instructions for future reference.

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

Work Area Safety

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

Electrical Safety

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

Personal Safety

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

- Use personal protective equipment. Always wear eye protection. *Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.*
- Wear ear protection. *Adequate protective equipment will reduce the risk of hearing loss.*
- Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery, picking up or carrying the tool. *Carrying power tools with your finger on the switch or energizing power tools that have the switch on invites accidents.*
- Disconnect the battery pack from the appliance before making any adjustments, changing accessories, or storing appliance. *Such preventive safety measures reduce the risk of starting the appliance accidentally.*
- Remove any adjusting key or wrench before turning the power tool on. *A wrench or a key left attached to a rotating part of the power tool may result in personal injury.*
- Do not overreach. Keep proper footing and balance at all times. *This enables better control of the power tool in unexpected situations.*
- Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts. *Loose clothes, jewelry or long hair can be caught in moving parts.*
- If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used. *Use of dust collection can reduce dust-related hazards.*
- Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles. *A careless action can cause severe injury within a fraction of a second.*

Proper Clothing

Wear snug-fitting, durable clothing:

- Pants should have long legs, shirts should have long sleeves.
- DO NOT WEAR SHORTS.
- DO NOT WEAR TIES, SCARVES, JEWELRY, or clothing with loose or hanging items that could become entangled in moving parts or surrounding growth.
- Keep clothing buttoned or zipped, and keep shirt tails tucked in.
- Wear sturdy work shoes with nonskid rubber soles.

- Wear sturdy, no-slip, rubber work gloves to improve your grip on the handles. Gloves also provide protection against cuts and scratches, cold environments, and reduce the transmission of machine vibration to your hands.
- DO NOT WEAR OPEN TOED SHOES.
- DO NOT OPERATE UNIT WITH BARE FEET.

Power Tool Use and Care

- Do not force the power tool. Use the correct power tool for your application. *The correct power tool will do the job better and safer at the rate for which it was designed.*
- Do not use the power tool if the switch does not turn it on and off. *Any power tool that cannot be controlled with the switch is dangerous and must be repaired.*
- Disconnect the plug from the power source and/or the battery from the power tool before making any adjustments, changing accessories, or storing power tools. *Such preventive safety measures reduce the risk of starting the power tool accidentally.*
- Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool. *Power tools are dangerous in the hands of untrained users.*
- Maintain power tools and accessories. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use. *Many accidents are caused by poorly maintained power tools.*
- Keep cutting tools sharp and clean. *Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.*
- Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed. *Use of the power tool for operations different from those intended could result in a hazardous situation.*
- Keep handles and grasping surfaces dry, clean, and free from oil and grease. *Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.*

Battery Tool Use and Care

- Recharge batteries only with ECHO eFORCE® 56V battery series chargers. *A charger that is suitable for one type of battery may create a risk of fire when used with another battery.*

- Use only with ECHO eFORCE® 56V battery series batteries. *Use of any other battery may create a risk of injury and fire.*
- When battery is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another. *Shorting the battery terminals together may cause burns or a fire.*
- Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help. *Liquid ejected from the battery may cause irritation or burns.*
- Do not open or destroy the battery. *Electrolytes contained within the battery are corrosive and may cause damage to eyes or skin if released. It may be toxic if swallowed.*
- Exercise care in handling batteries to avoid shorting the battery with conducting materials such as rings, bracelets, keys, etc. *The battery or conductor may overheat and cause burns if contact with said materials is made.*
- Do not use a battery or tool that is damaged or modified. *Damaged or modified batteries may exhibit unpredictable behavior resulting in fire, explosion or risk of injury.*
- Do not expose a battery or tool to fire or excessive temperature. *Exposure to fire or temperature above 130°C (265°F) may cause explosion.*
- Follow all charging instructions and do not charge the battery or tool outside the temperature range specified in the instructions. *Charging improperly or at temperatures outside the specified range may damage the battery and increase the risk of fire.*

Service

- Do not modify or attempt to repair the appliance or the battery pack (as applicable) except as indicated in the instructions for use and care.
- Have your power tool serviced by a qualified repair person using only identical replacement parts. *This will ensure that the safety of the power tool is maintained.*
- Never service damaged battery packs. *Service of battery packs should only be performed manufacturer or authorized service providers.*

Environmentally Safe Battery Disposal



Recycle your ECHO 56V Battery System battery **FOR FREE** at Rechargeable Battery Recycling Corporation (RBRC) recycling locations. Call 1-800-822-8837 or visit <https://www.call2recycle.org> for details.

The toxic and corrosive materials below are in the batteries used in this machine: Lithium-Ion, a toxic material.

! WARNING

Discard all toxic materials in a specified manner to prevent contamination of the environment. Before discarding a damaged or worn out Lithium-ion battery, contact your local waste disposal agency, or the local Environmental Protection Agency for information and specific instructions. Take the batteries to a local recycling and/or disposal center, certified for Lithium-ion disposal.

! WARNING

If the battery cracks or breaks, with or without leaks, do not recharge it and do not use. Discard it and replace with a new battery. DO NOT TRY TO REPAIR IT! To prevent injury and risk of fire, explosion, or electric shock, and to avoid damage to the environment:

- Cover the terminals of the battery with heavy-duty adhesive tape.
- DO NOT try to remove or destroy any of the battery components.
- DO NOT try to open the battery.
- If a leak develops, the released electrolytes are corrosive and toxic. DO NOT get the solution in the eyes or on skin, and do not swallow it.

- DO NOT put these batteries in your regular household trash.
- DO NOT incinerate.
- DO NOT put them where they will become part of any waste landfill or municipal solid waste stream.
- Take them to a certified recycling or disposal center.

FCC Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

CAUTION

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate equipment.

NOTICE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio or television reception. The reception can be determined by turning the equipment off and on. The user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Chainsaw Safety Warnings

WARNING

- Keep all parts of the body away from the saw chain when the chainsaw is operating. Before you start the chainsaw, make sure the saw chain is not contacting anything. *A moment of inattention while operating chainsaws may cause entanglement of your clothing or body with the saw chain.*
- Always hold the chainsaw with your right hand on the rear handle and your left hand on the front handle. *Holding the chainsaw with a reversed hand configuration increases the risk of personal injury and should never be done.*
- Hold the power tool by insulated gripping surfaces only, because the saw chain may contact hidden wiring or its own cord. *Saw chains contacting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.*
- Wear safety glasses and hearing protection. Further protective equipment for head, hands, legs and feet is recommended. *Adequate protective clothing will reduce personal injury by flying debris or accidental contact with the saw chain.*
- Always keep proper footing and operate the chainsaw only when standing on fixed, secure and level surface. *Slippery or unstable surfaces such as ladders may cause a loss of balance or control of the chain saw.*
- When cutting a limb that is under tension be alert for spring back. *When the tension in the wood fibres is released the spring loaded limb may strike the operator and/or throw the chainsaw out of control.*
- Use extreme caution when cutting brush and saplings. *The slender material may catch the saw chain and be whipped toward you or pull you off balance.*
- Carry the chainsaw by the front handle with the chainsaw switched off and away from your body. When transporting or storing the chainsaw always fit the guide bar cover. *Proper handling of the chainsaw will reduce the likelihood of accidental contact with the moving saw chain.*
- Follow instructions for lubricating, chain tensioning and changing accessories. *Improperly tensioned or lubricated chain may either break or increase the chance for kickback.*
- Keep handles dry, clean, and free from oil and grease. *Greasy, oily handles are slippery causing loss of control.*

- Cut wood only. Do not use chainsaw for purposes not intended. For example: do not use chainsaw for cutting plastic, masonry or non-wood building materials. *Use of the chainsaw for operations different than intended could result in a hazardous situation.*

WARNING

Using improper replacement components or removing safety devices may result in serious or fatal injury.

Unit includes safety devices that reduce the likelihood of kickback:

- ◆ Chain brake - brake actuated by kickback energy, not manual activation.
- ◆ Reduced-kickback guide bar - reduced nose radius guide bar.
- ◆ Low-kickback saw chain - saw chain that meets ANSI kickback performance requirements when configured with the bar/chain recommendations in this manual.
- ◆ Front hand guard - a structural barrier between the front handle of a chain saw and the guide bar.

Causes and Operator Prevention of Kickback

DANGER

Kickback may occur when the nose or tip of the guide bar touches an object, or when the wood closes in and pinches the saw chain in the cut. Tip contact in some cases may cause a sudden reverse reaction, kicking the guide bar up and back towards the operator. Pinching the saw chain along the top of the guide bar may push the guide bar rapidly back towards the operator. Either of these reactions may cause you to lose control of the saw which could result in serious personal injury. Do not rely exclusively upon the safety devices built into your saw. As a chainsaw user, you should take several steps to keep your cutting jobs free from accident or injury. Kickback is the result of tool misuse and/or incorrect operating procedures or conditions and can be avoided by taking proper precautions as given below:

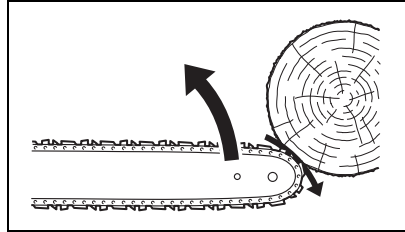
- Maintain a firm grip, with thumbs and fingers encircling the chainsaw handles, with both hands on the saw and position your body and arm to allow you to resist kickback forces. *Kickback forces can be controlled by the operator, if proper precautions are taken. Do not let go of the chainsaw.*

- Do not overreach and do not cut above shoulder height. *This helps prevent unintended tip contact and enables better control of the chainsaw in unexpected situations.*
- Only use replacement bars and chains specified by the manufacturer. *Incorrect replacement bars and chains may cause chain breakage and/or kickback.*
- Follow the manufacturer's sharpening and maintenance instructions for the saw chain. *Decreasing the depth gauge height can lead to increased kickback.*

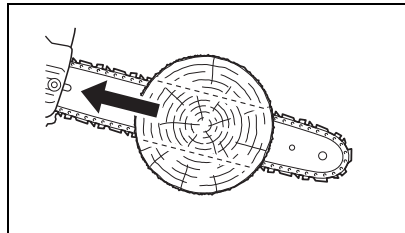
Kickback Safety Precautions

Kickback safety precaution for chainsaw users: kickback may occur when the nose or tip of the guide bar touches an object or when the wood closes in and pinches the saw chain in the cut.

- In some cases, tip contact may cause a lightning-fast reverse reaction, kicking the guide bar up and back toward the operator (this is called a rotational kickback). Pinching the saw chain along the top of the guide bar may push the guide bar rapidly back toward the operator (this is called a linear kickback).

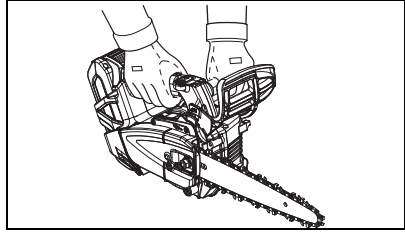


- Either or these reactions may cause you to lose control of the saw and come in contact with the moving chain, which could result in serious personal injury. As a chainsaw user, you should take several steps to keep your cutting jobs free from accident or injury.



- With a basic understanding of kickback, you can reduce or eliminate the element of surprise. Sudden surprise contributes to accidents. Understand that rotational kickback is preventable by keeping an unshielded bar nose from touching an object or the ground.
- Do not operate a chainsaw with one hand! Serious injury to the operator, helpers or bystanders may result from one-handed operation. For proper control, always use two hands when operating a chainsaw, one of which operates the trigger. Otherwise, this can result in the chain saw "skating" or skidding, which can result in personal injury due to loss of control.

- Keep a good firm grip on the saw which both hands, with the right hand on the rear handle and the left hand on the front handle, when the unit is running. Use a firm grip with thumbs and fingers encircling the chainsaw handles. A firm grip will help you reduce kickback and maintain control of the saw. Two hands must be used to control the saw at all times.



- Make sure that the area in which you are cutting is free from obstructions. Do not let the bar nose contact a log, branch, or any other obstruction which could be hit while you are operating the saw.
- Cutting at high speeds may reduce the likelihood of kickback. But cutting at part-throttle or low speeds may be preferable to control the chainsaw in tight situations and may also reduce the likelihood of kickback.

General Precautions

WARNING

Operator's Manual

Read the operator's manual before using your product in order to ensure correct operation. *Failure to do so could lead to an accident or serious injury.*



Do not use the product for anything other than its intended purpose.

You must not use the product for any purpose other than those described in the operator's manual. *To do so could lead to an accident or serious injury.*

Do not modify the product

You must not modify the product. *To do so could lead to an accident or serious injury. Any malfunction resulting from a modification to the product will not be covered by the manufacturer's warranty.*

Do not use the product unless it has been checked and maintained

You must not use the product unless it has been checked and maintained. Always ensure that the product is checked and maintained on a regular basis. *Failure to do so could lead to an accident or serious injury.*

Loaning or assigning your product

- When loaning your product to another party, ensure that the person borrowing the product receives the operator's manual along with it.
- If you assign your product to another party, please enclose the operator's manual with the product when handing it over. *Failure to do so could lead to an accident or serious injury.*

Being prepared in case of an injury

In the unlikely event of an accident or injury, please ensure that you are prepared.

- First aid kit
- Towels and wipes (to stop any bleeding)
- Whistle or mobile phone (for calling for outside help). *If you are unable to perform first aid or call for outside help, the injury could get worse.*

Precautions for Use

DANGER

Starting the unit: Never try to start the unit by positioning yourself on the saw chain side. Physical injury can occur if the saw chain suddenly starts to move.

WARNING

Users of the product

The product should not be used by:

- people who are tired

- people who have taken alcohol
- people who are on medication
- people who are pregnant
- people who are in poor physical condition
- people who have not read the operator's manual
- children
- *Failure to observe these instructions could lead to an accident.*

The components of this machine generate an electromagnetic field during operation, which may interfere with some pacemakers. To reduce health risks, we recommend that pacemaker users consult their physician and the pacemaker manufacturer before operating this product.

If you have any physical condition which strenuous work could worsen, check with your physician before using a chain saw.

Do not operate when ill or fatigued, or under the influence of any substance or medication which could affect your vision, dexterity or judgment.

Environment of Use and Operation

Do not use the product:

- in damp locations
- in the rain
- under poor weather conditions

To do so could lead to an accident or serious injury.

Do not use the product in places where there is no sure foothold, such as on steep slopes or after rainfall, as such places are slippery and dangerous. *A serious injury could result if you fall or slip, or fail to operate the product correctly.*

Vibration and Cold

It is believed that a condition called Raynaud's Phenomenon which affects the fingers of certain individuals may be brought about by exposure to vibration and cold. Exposure to vibration and cold may cause tingling and burning, followed by loss of color and numbness in the fingers.

The following precautions are strongly recommended because the minimum exposure which might trigger the ailment is unknown.

- Keep your body warm, especially the head and neck, feet and ankles, and hands and wrists.
- Maintain good blood circulation by performing vigorous arm exercises during frequent work breaks.
- Limit the number of hours of operation. Try to fill each day with jobs where operating the chain saw or other hand-held power equipment is not required.
- If you experience discomfort redness and swelling of the fingers, followed by whitening and loss of feeling, consult your physician before exposing yourself further to cold and vibration.

Failure to observe these instructions could result in damage to your health.

Repetitive stress injuries

It is believed that over-using the muscles and tendons of the fingers, hands, arms and shoulders may cause soreness, swelling, numbness, weakness and extreme pain to the areas just mentioned. Certain repetitive hand activities may put you at a high risk for developing a repetitive stress injury (RSI).

To reduce the risk of RSI, do the following:

- Avoid using your wrist in a bent, extended or twisted position.
- Take periodic breaks to minimize repetition and rest your hands. Reduce the speed and force in which you do the repetitive movement.
- Do exercises to strengthen hand and arm muscles.
- See a doctor if you feel tingling, numbness or pain in your fingers, hands, wrists or arms. The sooner RSI is diagnosed, the more likely permanent nerve and muscle damage can be prevented.

Failure to observe these instructions could result in damage to your health.



Transport of the product

When transporting in the situations described below, turn off the unit and ensure that the saw chain has stopped moving, then fit the guide bar cover. Do not carry unit with the power indicator LED illuminated.

- Moving to the place where you are working
- Moving to another area while you are working
- Leaving the place where you have been working.

Failure to observe these precautions could cause serious injury.

Orient guide bar to the rear when carrying chainsaw.

When transporting the product by vehicle, fit the guide bar cover, and secure the product firmly in place to prevent it from moving around

Secure the unit against unintentional startup. Remove the battery from the unit before transporting or storing the unit. Do not use metal containers for transporting batteries.

Starting the unit

Be particularly careful to observe the following precautions when starting the unit:

- Always ensure all handles and guards are fitted. Keep the handles dry, clean, and free of oil.
- Check that none of the nuts and bolts are loose.
- Check that the guide bar is not damaged or excessively worn. If you find any abnormalities, do not use the product.
- Operate the chainsaw only in well-ventilated areas. Oil mist (from chain saw lubrication) or saw dust is harmful to health.
- Leave plenty of space around the product and do not allow people or animals near it.
- Never operate a chainsaw when you are alone. Arrange to have someone remain within calling distance in case you need help.
- Remove obstructions, if any.
- Make sure that the saw chain is not touching the ground or any obstacles.

Failure to observe the precautions could cause an accident or injury, or even lead to a fatality.

Once the unit has started, check for abnormal vibrations and sounds.

Check that there are no abnormal vibrations or sounds once the unit starts. Do not use the product if there are abnormal vibrations or sounds. Contact your dealer to have it repaired. *Accidents involving parts that fall or shatter off can cause wounds or serious injury.*

Disconnect the battery:

- whenever the machine is left by the user
- before clearing a blockage
- before checking, cleaning or working on the machine
- after striking a foreign object to inspect the machine for damage.

Accidents can occur if the product starts unexpectedly.

Do not touch high temperature or high voltage components while the product is running.

Do not touch the following high temperature or high voltage components while the product is running or for some time after it stops.

- High temperature components. *You could burn yourself if you touch a high temperature component.*
- High voltage components. *You could receive an electric shock if you touch a high voltage component while the product is running.*



Turn off the unit when checking or maintaining the product.

Observe the following precautions when checking and maintaining your product after use:

Turn the unit off and do not attempt to check or maintain the product until unit has cooled. *You could burn yourself on a hot unit.*

Turn off the unit immediately if anything goes wrong.

In the following situations, turn off the unit immediately and ensure that the cutting device has stopped before checking each area of the product. Replace any damaged parts.

- If the cutting device hits a rock, tree, post, or other such obstruction while you work.
- If the product suddenly starts to vibrate abnormally. *Continuing to use parts when they are damaged could lead to an accident or serious injury.*

A ten meter radius is a danger zone.

The area within a 10 m (33 ft.) radius of the product is a danger zone. Be careful to observe the following precautions while working with the product.

- If another person enters the danger zone, turn off the unit.
- Do not allow anyone to hold the material you are cutting. *Any contact with the saw chain could cause serious injury.*

Using the product.

When using the product, pay special attention to observe the following precautions.

- Do not operate a chainsaw that is damaged, improperly adjusted, or not completely and securely assembled.
- Do not cut solid metal, sheet metal, plastics or any non-wood materials.
- Cutting while on a ladder is extremely dangerous because the ladder can slip and your control of the chainsaw is limited.
- Stay on the uphill side when bucking or limbing logs which might roll when cut.
- Use extreme caution when cutting small-size brush and saplings because slender material may catch the saw chain and be whipped toward you or pull you off balance.
- When cutting a limb that is under tension, be alert for spring-back so that you will not be struck by the limb or chainsaw when the tension in the wood fibers is released.

Failure to observe these instructions will cause the product to be held unsteadily and could result in serious injury.

Make sure that the saw chain is stopped before putting the unit on the ground

When you turn off the unit, check to ensure the saw chain has stopped moving before you lower the product to the ground. *Even if the unit has been turned off, the saw chain can still cause an injury while free-wheeling.*

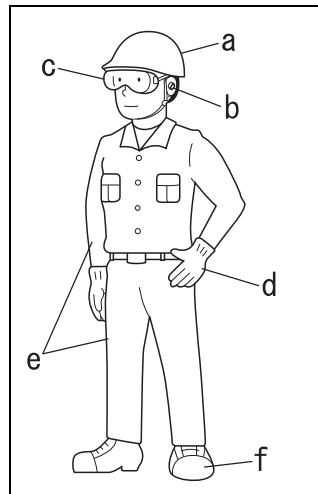
Protective Gear



Wear protective gear

Always wear the following protective gear when working with the chainsaw.

- a Head protection (cap, hat or helmet): *Protects the head*
- b Ear muffs or ear plugs: *Hearing protection*
- c Safety goggles: *Protect the eyes*
- d Safety gloves: *Protect the hands from cold and vibration*
- e Trim fitting clothes (long sleeves, long trousers): *Protect the body*
- f Safety tip shoes or boots with non-slip sole: *Protect the feet*



Failure to observe these precautions could result in damage to your sight or hearing, or lead to a serious injury.

When necessary, please use the protective gear below:

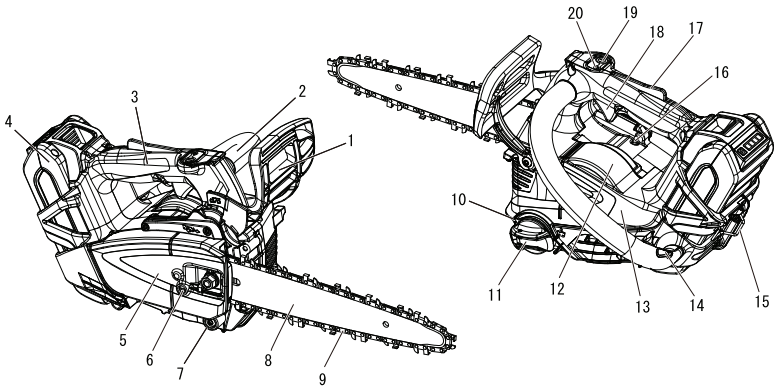
- Dust mask: *Breathing protection*
- Bee net: *Insect protection*

Wear proper clothing

Do not wear ties, jewelry, or loose, dangling clothing which could be caught in the unit. Do not wear open-toe footwear, or go bare foot or barelegged.

Failure to observe these precautions could result in an accident or lead to a serious injury.

DESCRIPTION

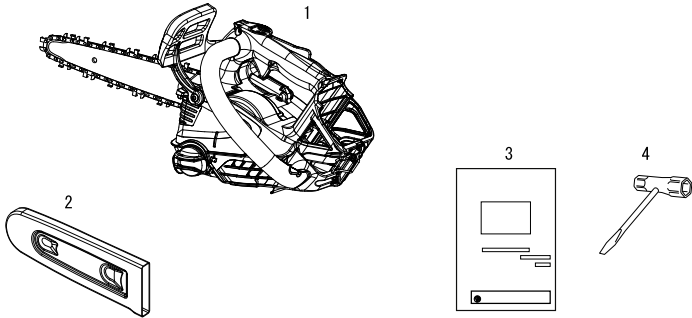


- 1. Front hand guard
- 2. Front handle (for the left hand)
- 3. Rear handle (for the right hand)
- 4. Battery
- 5. Sprocket cover
- 6. Chain tension adjuster
- 7. Chain catcher
- 8. Guide bar
- 9. Saw chain
- 10. Oil tank
- 11. Oil tank cap
- 12. Type and serial number
- 13. Cover
- 14. Hanging hook
- 15. Lifting hook

16. Oil adjusting screw
17. Trigger switch lockout
18. Trigger switch
19. Power button
20. Power indicator LED

CONTENTS

- The following parts are packed separately.
- Ensure that all parts are present.
- Contact your dealer if anything is missing or broken.



Number	Part Name	Quantity
1	Chainsaw	1
2	Guide Bar Cover	1
3	Operator's Manual	1
4	T wrench	1

NOTICE

For a complete list of compatible batteries for this and all ECHO 56V battery system tools, scan this code or visit <https://www.echo-usa.com/battery-information>



ASSEMBLY

Assembly**Mounting guide bar and chain****! WARNING**

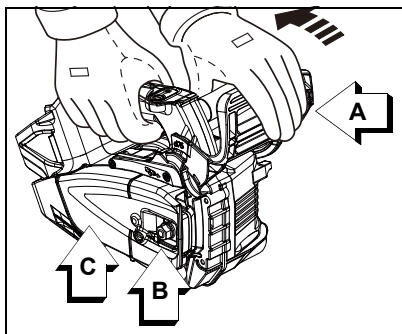
Always remove the battery before performing any of the following operations, otherwise serious personal injury might result.

! CAUTION

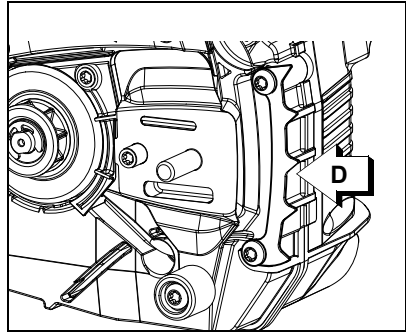
All adjustments should be made cold. Always wear gloves when working on a saw chain. Do not operate with a loose chain. Otherwise personal injury might result.

Note: Move the chain brake lever (Front hand guard) fully rearward to remove or install the guide bar cover to the chain saw.

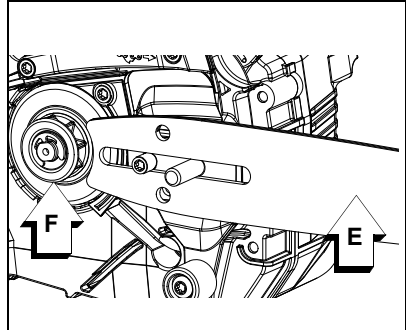
1. Release chain brake (A).
2. Loosen sprocket cover nut (B).
3. Remove sprocket cover (C).



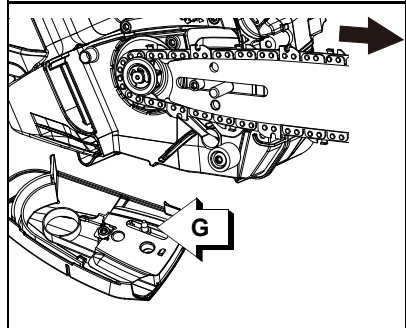
- 4. Install spiked bumper (D).
Secure with 2 bolts.



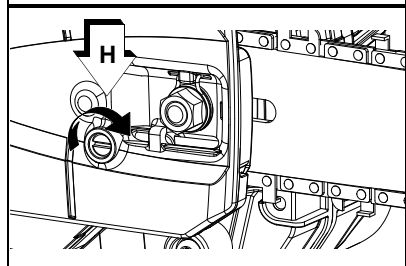
- 5. Mount guide bar (E) and slide toward sprocket (F) to make saw chain installation easier.



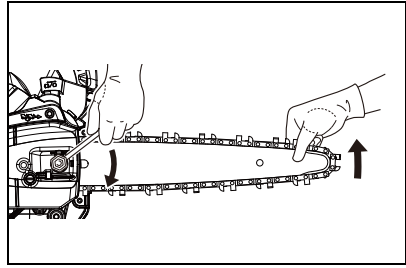
- 6. Install saw chain as shown.
(Ensure cutters are pointing in the right direction.)
- 7. Install the sprocket cover over the guide bar stud. Ensure that chain tension adjuster (G) fits into guide bar hole.



- 8. Tighten sprocket cover nut finger tight.
- 9. Hold the guide bar nose up and turn the adjuster (H) clockwise until the chain fits snugly against the underside of the bar.

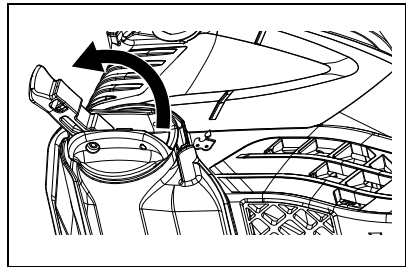


10. Tighten sprocket cover nut with bar nose held up.
11. Pull the chain around the guide bar by hand. Loosen the adjustment if you feel tight spots.



Chain Lubricant

Proper lubrication of the chain while in operation minimizes friction between the chain, the guide bar and sprocket. Use ECHO genuine chain oil or ECHO recommended chain oil specially formulated for bars and chains for proper lubrication. These oils contain tackifiers, anti-aging and anti-oxidizing agents.



Consult your ECHO dealer for the proper chain oil. Never use waste or reclaimed oil to avoid various malfunctions of the oil system, chain and guide bar. Lubrication problems caused by the use of improper oil will void the warranty.

Especially, vegetable based chain oil quickly turns to resin and adheres to oil pump, chain and guide bar. It causes malfunctions and shorten product life. Flush chain oil system with mineral or chemical based chain oil after use, if it is required to use vegetable oil due to local / municipal restrictions or any other reason.

For a short time of emergency operation, fresh SAE 10W-30 motor oil can be used.

Temperature Information

Recommended Ambient Temperatures:

	Charging		Usage/Discharge		Storage	
	Low	High	Low	High	Low	High
Product (1)	Not Applicable		32°F (0°C)	113°F (45°C)	32°F (0°C)	113°F (45°C)
Battery (2)(3)	39°F (4°C)	104°F (40°C)	32°F (0°C)	113°F (45°C)	32°F (0°C)	113°F (45°C)
Charger	39°F (4°C)	104°F (40°C)	Not Applicable		32°F (0°C)	113°F (45°C)

(1) Assumes the battery is just off the charger or stored at the temperature range noted for charger usage (39° F (4°C)) - 104°F (40°C)).

(2) Hot batteries in high ambient temperatures require longer charge times.

(3) To maximize life of batteries being stored more than 3 months, ECHO recommends batteries being stored at 3 green lights on the battery capacity indicator (BCI) at an ambient temperature of 60°F (16°C) - 80°F (27°C), and not in direct sunlight.

Note: Long term storage of batteries in conditions or charge levels on the battery capacity indicator (BCI) other than noted above could reduce the performance and runtime of the battery.

Battery Charging

NOTICE

See separate operator's manuals packaged with battery and charger.

WARNING

- ◆ Use only with ECHO eFORCE® 56V battery series batteries and chargers.
- ◆ Keep charger and battery away from damp conditions and all liquids.
- ◆ Do not operate the charger on an easily combustible surface (e.g. paper, textiles) or in an environment with a high risk of fire.

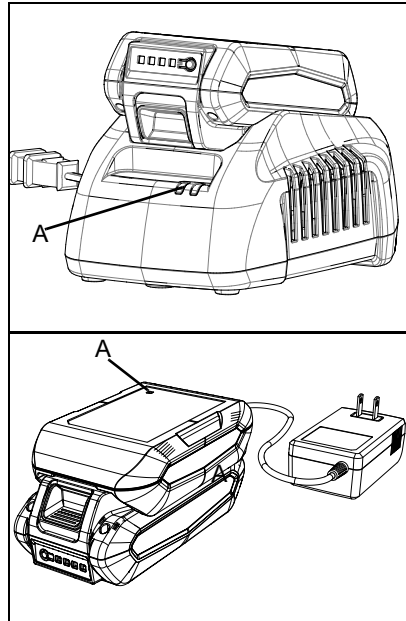
- ◆ Do not cover the charger. Covering the charger will prevent it from cooling.
- ◆ Do not operate the charger in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. Charger can produce sparks which may ignite the dust or fumes - there is a risk of explosion.
- ◆ Connect the charger only to the mains of voltage and frequency specified on the rating plate.
- ◆ Connect the charger only to an easily accessible wall outlet.
- ◆ Never insert objects in the battery's or charger's cooling slots.
- ◆ Do not charge or use a defective, damaged or deformed battery and charger.
- ◆ Do not open, damage or drop the battery or the charger.
- ◆ Fluid may leak from the battery if it is damaged or not used properly; avoid contact with the skin. In the event of accidental contact, wash the affected areas of the skin with plenty of water and soap. If fluid gets in the eyes, do not rub. Rinse the eyes with plenty of water for at least 15 minutes. Also seek medical assistance.
- ◆ Never bridge (short circuit) the battery contacts or the charger's terminals with metallic objects.
- ◆ Protect from direct sunlight, heat and open flames and never throw battery into fire; there is a risk of explosion.
- ◆ In the event of smoke or fire in the charger, disconnect it from the wall outlet immediately.
- ◆ If the connecting cord is damaged, immediately disconnect the plug from the power supply to avoid the risk of electric shock.
- ◆ Do not expose battery to microwaves or high pressure.
- ◆ To reduce the risk of stumbling, position and mark the connecting cord in such a way that it cannot be damaged or endanger others.

NOTICE

The battery comes partially charged from the factory and needs to be fully charged before first use. Charge the battery when it no longer produces sufficient power to operate the unit or when battery lights indicate that the battery is low.

Note: Your charger might look different from those pictured.

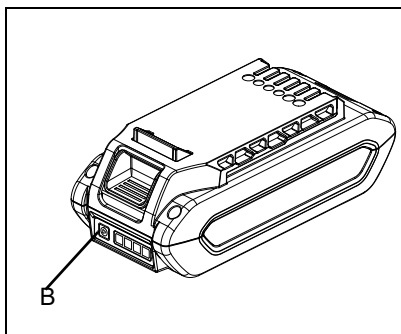
1. Plug charger AC cord in the wall outlet.
2. Align ridges on battery with grooves on charger, and slide battery into charger.
3. During normal charging, the charger LED (A) will blink GREEN.



NOTICE

If charger detects a problem, LED will blink RED. Remove battery from charger, clear obstructions from contacts and reinstall battery into charger. If battery is outside acceptable temperature range (See Recommended Ambient Temperature chart) LED will remain RED.

4. When charging is complete, LED will remain GREEN. See battery manual for charging time.
5. Verify battery is fully charged. Remove battery from charger, press battery charge status button (B), and check LED display.
 - One green light indicates that the battery has 1-24% charge.
 - Two green lights indicate that the battery has 25-54% charge.
 - Three green lights indicate that the battery has 55-79% charge.
 - Four green lights indicate that the battery has 80-100% charge.
6. Unplug charger AC cord from the wall outlet.



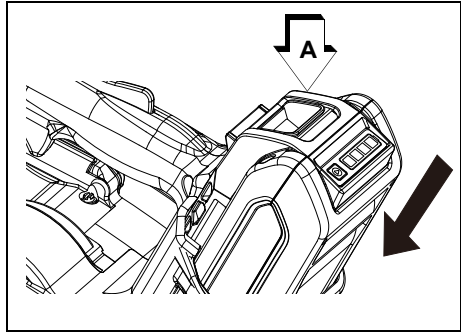
Installing the Battery

WARNING

The chainsaw will operate when the battery is installed, the power indicator LED is lit, and the trigger switch and trigger switch lockout are engaged. Make sure the chainsaw is properly positioned to prevent loss of control and possible serious injury. Keep movable parts of the chainsaw off the ground and away from objects that could become entangled.

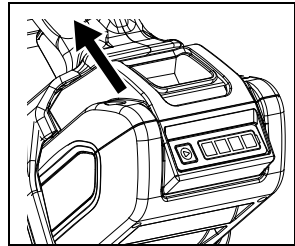
Note: The battery comes partially charged from the factory and needs to be fully charged before first use.

1. Push front hand guard forward. (Chain brake ACTIVATED position).
2. Make sure power indicator LED is turned off.
3. Align ridges on battery with groove on chainsaw, and insert battery until battery latch (A) is fully engaged, and a clicking sound is heard.



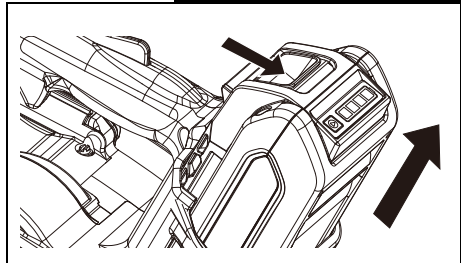
NOTICE

Before using the chainsaw, make sure that battery is installed correctly with battery latch in the fully engaged, upright position.



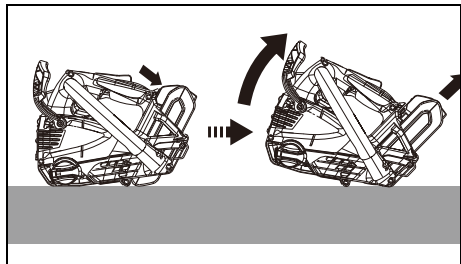
Removing the Battery

To remove battery, press battery latch, and slide battery out.



When the battery is difficult to remove:

1. Place saw on a hard flat surface.
2. Press battery latch and push bottom of battery against the hard surface.
3. Slide battery out of saw.



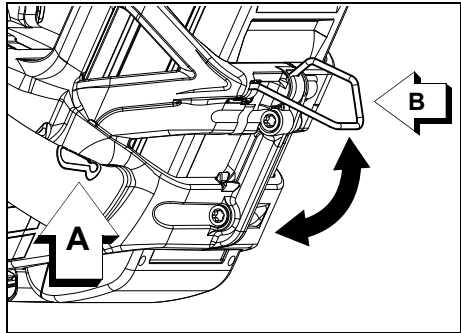
Hanging and Lifting Hooks

Hanging Hook (A):

Attach a rope or carabiner to prevent accidental dropping of saw while working in a tree.

Lifting Hook (B):

Use to hook and unhook from harness in one quick movement.



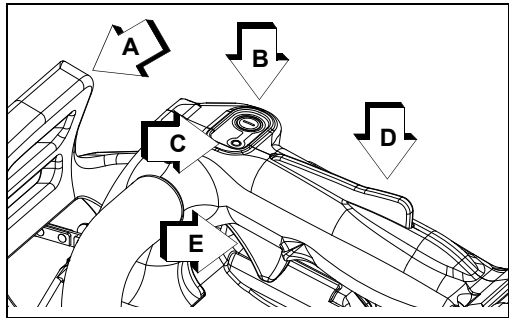
OPERATION

Starting the Unit

! WARNING

When starting the unit, observe the precautions described in the section "For safe use of your product" to ensure that you operate the product correctly. Failure to do so might cause serious personal injury.

1. Fill the chain oil tank with lubricant.
2. Remove the guide bar cover.
3. Make sure the guide bar and saw chain are not touching anything when starting the chainsaw.
4. Push front hand guard (A) forward to engage chain brake.



5. Push power button (B) once to turn on power to unit.

Note: Power indicator LED (C) blinks when power to unit is turned on with chain brake engaged.

6. Pull front hand guard rearward to disengage chain brake.

Note: Power indicator LED (C) remains lit when power to unit is turned on with chain brake disengaged.

7. Hold the chain saw by both handles.
8. Hold down the trigger switch lockout (D) and depress trigger switch (E) to increase saw chain speed. If you depress trigger switch with chain brake activated, the saw will not work.

NOTICE

When power to unit is turned on:

- After 90 seconds of inactivity, unit will power itself off.

- If the LED remains lit, operation is normal.
- If the LED flashes once per second, the battery needs to be charged.
- The LED flashes four times per second when the chain brake is ACTIVATED. To disengage the chain brake, pull front hand guard towards the operator to the chain brake RELEASED position. The saw will power itself off in about 5 minutes if the chain brake remains in the ACTIVATED position
- If the LED flashes four times per second when the chain brake is released, release the trigger switch and then re-engage it. This will reset the saw if it is overloaded. However, if the LED continues to flash four times per second, the saw might be overheated. Turn the power off to the saw, and allow it to cool, then turn the power back on. If the LED still flashes four times per second, consult your authorized service dealer.

Stopping the Unit

1. Release trigger switch and trigger switch lockout, and allow saw chain to stop.
2. Push power button to turn off power to unit.

Note: Power indicator LED (C) turns off when power to unit is turned off.

WARNING

- ◆ **When the trigger switch is released, the saw chain automatically stops. Motor control changes depending on temperature of the battery therefore stop time of the saw chain might not be consistent.**
- ◆ **If the power button does not stop the chain saw, remove the battery to stop the power supply to chain saw. Have your authorized servicing dealer repair power button before using chain saw again.**
- ◆ **If the saw chain does not stop when the trigger switch and trigger switch lockout are released, activate chain brake then remove battery to stop the power supply to chain saw. Have your authorized servicing dealer repair unit before using again.**

Before Use

Checking Chain Tension

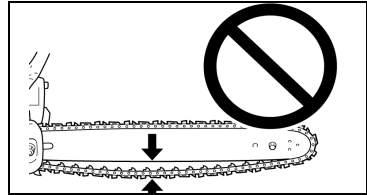
! WARNING

Remove battery from unit when checking chain tension.

NOTICE

Always loosen sprocket cover nut before turning the chain tension adjuster, otherwise damage can occur to the sprocket cover and tensioner.

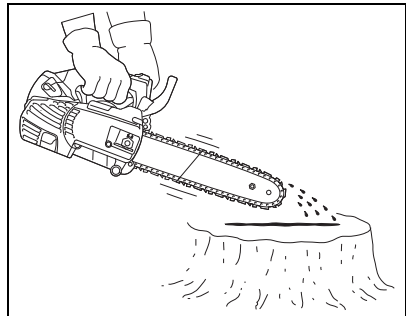
1. Chain tension should be checked frequently during work and adjusted if necessary.
2. Tension the chain as tight as possible, but so that it can still be pulled easily along the guide bar by hand.



Chain Lubrication Test

Hold the chain just above a dry surface and open the throttle to half speed for 30 seconds.

A thin line of "thrown" oil should be seen on the dry surface.



Pre Cutting Test

- Familiarize yourself with your chainsaw before you start actual cutting.
- For this purpose it may be wise to practice by cutting some small logs or limbs several times on a sawhorse or cradle.
- Do not allow either people or animals into the work area. Multiple operators - Keep a safe distance between two or more operators when working together simultaneously.

Correct Use of Chain Brake

DANGER

Kickback is very hazardous. If the tip of the bar touches wood or the like, the guide bar kicks back instantly. The chain brake reduces the possibility of injury due to kickback. Always check that the chain brake works properly before use. Otherwise serious personal injury can result.

CAUTION

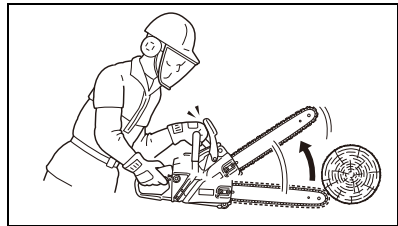
Be sure to install a guide bar and saw chain when performing a chain brake test.

Note:

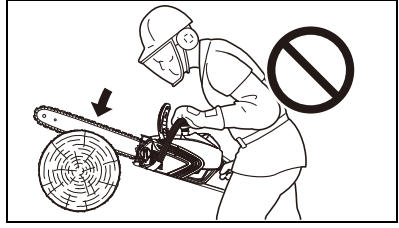
- For practice, while cutting a small tree, push the front hand guard forward to engage the brake.
- At all times, confirm whether the brake works properly before each task.
- If the chain brake is clogged with wood chips, function of the brake deteriorates a little. Always keep the device clean.
- Do not increase motor revolutions while the chain brake is engaged.
- Never test the brake in an area where petrol fumes are present.

Chain Brake

1. The chain brake's function is to stop chain rotation after a kickback.
2. It neither prevents nor reduces kickback.
3. Do not depend on the chain brake for protection against kickback.
4. Even with a chain brake, depend on your own good sense and proper cutting methods just as though there were no chain brake.
5. Even with normal use and proper maintenance, the response time of the brake may lengthen.
6. The following may interfere with the brake's ability to protect the operator:

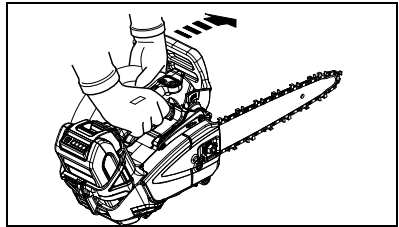


- Saw incorrectly held too close to operator's body. Kickback time may be too fast even for a perfectly maintained brake to work in time.
- The operator's hand may not be in position to contact the front hand guard. Brake will not be tripped.
- Lack of proper maintenance lengthens the brake's stopping time, making it less effective.
- Dirt, grease, oil, pitch, etc. getting into the working parts of the mechanism may lengthen the stopping time.
- Wear and fatigue of the activating brake spring, and wear of the brake / brake drum and pivot points may lengthen the brake's stopping time.
- A damaged front hand guard may render the brake inoperative.



Checking the Function of the Brake

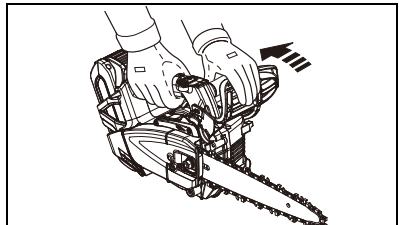
1. Place the chainsaw on the ground.
2. Hold the handle with both hands and accelerate the motor to high speed by using the trigger switch.
3. Operate the chain brake by turning your left wrist against the front hand guard while maintaining your grip.
4. The chain should stop immediately.
5. Release the trigger switch.



If the chain does not stop immediately, take the chain saw to your authorized dealer to repair.

Release the Chain Brake

When the hand guard is fully pulled rearward, the chain brake is released.



Tree Service Chainsaw

WARNING

- The saw is designed for off-ground working in trees, and when being used as such should only be used by trained operators. One handed operation of the saw can be dangerous.
- If working off the ground the operator must be trained in safe climbing techniques and use of all recommended safety equipment such as harness, loops, strops, ropes and carabiners for himself and for the saw.
- When hoisting a chainsaw using a rope tied to a lifting hook for operation on a tree, ensure that the lifting hook is not strained by excessive force

General Requirements

Operators of tree service chainsaws working at height from a rope and harness should never work alone. A ground worker trained in appropriate emergency procedures should assist them. Operators of tree service chainsaws for this work should be trained in general safe climbing and work positioning techniques and be properly equipped with harnesses, ropes, strops, carabiners and other equipment for maintaining secure and safe working positions for both themselves and the saw.

Preparing to Use the Saw in a Tree

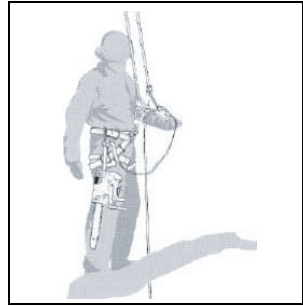
The chainsaw should be checked by the ground worker and then switched off before it is sent up to the operator in the tree. The chainsaw should be fitted with a suitable strop for attachment to the operator's harness.

Example of attaching chainsaw to operator's harness:

- secure the strop around the attachment point on the rear of the saw;
- provide suitable carabiners to allow indirect (i.e. via the strop) and direct attachment (i.e. at the attachment point on the saw) of the saw to the operator's harness;
- ensure the saw is securely attached when it is being sent up to the operator;

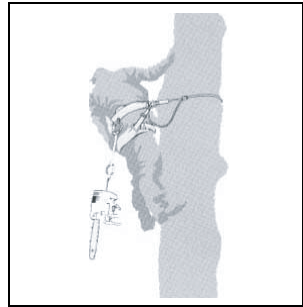
- ensure the saw is secured to the harness before it is disconnected from the means of ascent.

The ability to directly attach the saw to the harness reduces the risk of damage to equipment when moving around the tree. Always switch the saw off when it is directly attached to the harness.



Example of attachment of chainsaw to center rear mid-point on harness:

The saw should only be attached to the recommended attachment points on the harness. These may be at mid-point (front or rear) or at the sides. Where possible, attach the saw to center rear mid-point to keep it clear of climbing lines and to support its weight centrally down the operator's spine. When moving the saw from any one attachment point to another, operators should ensure it is secured in the new position before releasing it from the previous attachment point.



Using The Chainsaw In a Tree

An analysis of accidents with these saws during tree service operations shows the primary cause as being one-handed use of the saw. In the vast majority of accidents, operators fail to adopt a secure work position that allows them to hold both handles of the saw. This results in an increased risk of injury due to:

- not having a firm grip on the saw if it kicks back,
- a lack of control of the saw such that it is more likely to come into contact with climbing lines and the operator's body (particularly the left hand and arm), and
- loss of control owing to an insecure work position and resulting in contact with the saw (unexpected movement during operation of the saw).

1. Securing the work position for two-handed use

In order to allow the saw to be held with both hands, as a general rule operators should aim for a secure work position in which they operate the saw at:

- hip level, when cutting horizontal sections, and
- solar plexus level, when cutting vertical sections.

Example of redirection of the main line via supplementary anchor point:

Where the operator is working close into vertical stems with low lateral forces on the work position, then a good footing could be all that is needed to maintain a secure work position. However, as operators move away from the stem, they will need to take steps to remove or counteract the increasing lateral forces by, for example, a redirect of the main line via a supplementary anchor point or using an adjustable strop direct from the harness to a supplementary anchor point.



2. Freeing a trapped saw

If the saw become trapped during cutting, operators should:

- switch off the saw and attach it securely to the tree inboard (i.e. towards the trunk side) of the cut or to a separate tool line,
- pull the saw from the kerf while lifting the branch as necessary,
- if necessary, use a handsaw or second chainsaw to release the trapped saw by cutting a minimum of 30 cm away from the trapped saw.

Whether a handsaw or a chainsaw is used to free a trapped saw, the release cuts should always be outboard (toward the tips of the branch), in order to prevent the saw being taken with the section and further complicating the situation.

General Cutting Instructions - Ground Usage

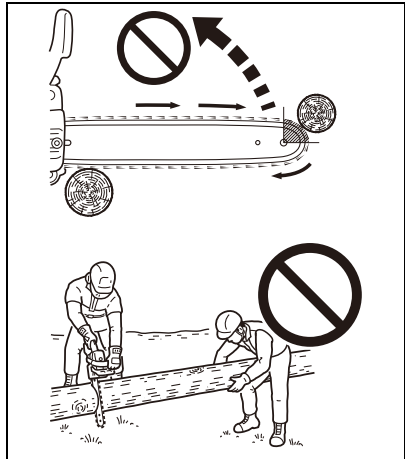
! DANGER

Do not let the nose or tip of the guide bar touch anything while unit is running to avoid kickback.

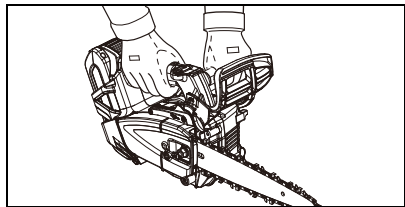
General

In all circumstances the operation of the chainsaw is a one-man job. It is difficult at times to take care for your own safety, so don't assume the responsibility for a helper as well. After you have learned the basic techniques of using the saw, your best aid will be your own good common sense.

The accepted way to hold the saw is to stand to the left of the saw with your left hand on the front handle and your right hand on the rear handle so you can operate the trigger switch with your right index finger. Before attempting to fell a tree, cut some small logs or limbs. Become thoroughly familiar with the controls and the responses of the saw.



Start the unit, see that it is running properly. Squeeze the trigger switch to open the throttle wide open and start the cut. If the chain is properly sharpened, the cutting should be relatively effortless. It is not necessary to press down hard to make the saw cut.



Some material may adversely affect the housing of your chainsaw. (Example: palm tree acid, fertilizer etc.) To avoid housing deterioration carefully remove all packed saw dust around sprocket and guide bar area and wash with water.

Felling a Tree

! WARNING

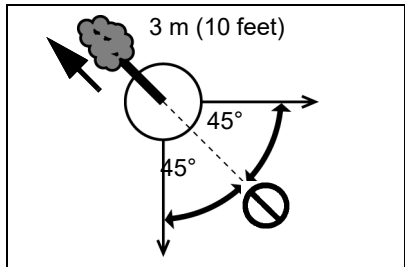
Do not attempt to fell a tree until you have an understanding of the risks and how to avoid them. Serious injury could occur to the operator or bystanders while felling a tree.

A falling tree can seriously damage anything it may hit - a car, a house, a fence, a power line, or another tree. There are ways to make a tree fall where you want it, so first decide where that is!



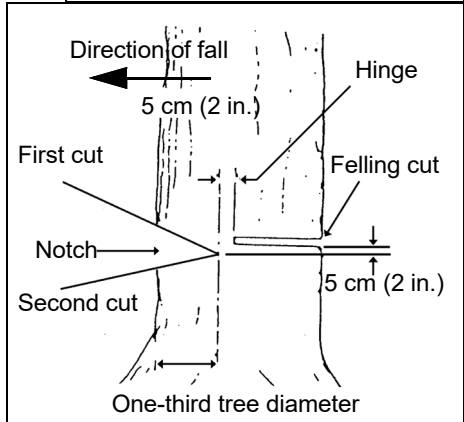
Before cutting, clear the area around the tree. You will need good footing while working and you should be able to work the saw without hitting any obstacles.

Next, select a path of retreat. When the tree begins to fall you should retreat away from the direction of fall at a 45-degree angle and at least 3 m (10 feet) from the trunk to avoid the trunk kicking back over the stump.

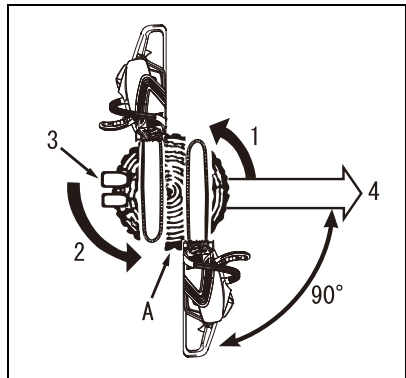


Begin the cut on the side to which the tree is to fall.

- Notch: 1/3 of diameter and 30° to 45° angle
- Back cut: 2.5 to 5 cm higher
- Uncut hinge wood: 1/10 of diameter



Begin the cut on the side to which the tree is to fall. Cut a notch about 1/3 of the way into the tree. The position of this notch is important since the tree will try to fall "into" the notch. The felling cut is made on the side opposite the notch and at a level about 5 cm (2 in.) above the bottom of the notch. Do not try to cut through to the notch with the felling cut. The remaining wood between the notch cut and felling cut about 5 cm (2 in.) will act as a hinge when the tree falls, guiding it in the desired direction. When the tree starts to fall, kill the engine, place the saw on the ground and make your retreat quickly.

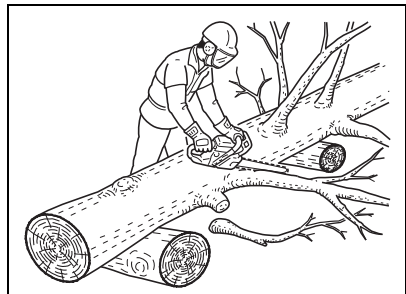


Limbing

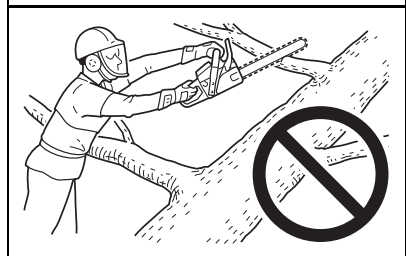
! CAUTION

Don't cut above chest height.

Limbing a fallen tree is much the same as bucking. Never stand on the tree that you are limbing. When limbing, caution is the word. Be careful of the tip touching other limbs. Always use both hands.



Don't cut with the saw overhead or aligned vertically with your body. If the saw should kick back, you may not have enough control to prevent possible injury.



Know how the limb is stressed.

If you have thick branches, work from the outside to the inside to avoid your bar and chain getting stuck. Even when limbing, use of the spiked bumper makes it easy to control the saw and lessens kickback.

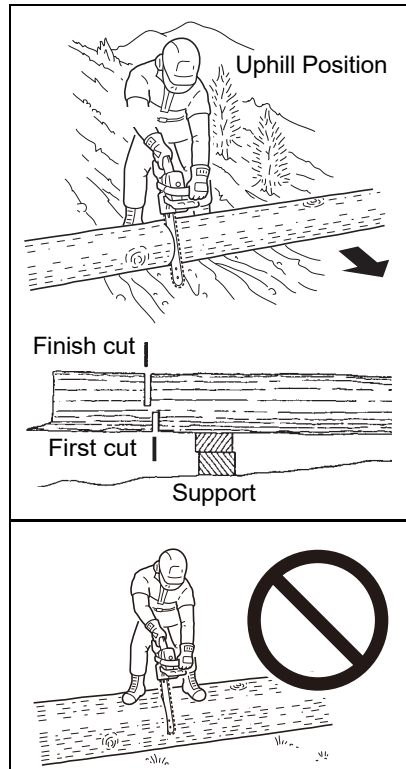
Bucking

Bucking is the sawing of a log or fallen tree into smaller pieces. There are a few basic rules which apply to all bucking operations.

- Keep both hands on the handles at all times.
- Support logs if possible.
- When cutting on a slope or hillside, always stand uphill.
- Never stand on the log.

Keep in mind that the wood is heavy and that it will bend and pinch the saw if improperly supported. The trunk will weaken at the point where you make the cut unless the tree is lying on perfectly flat ground or supported as shown. If you make the cut with the tree on the ground, don't let the saw's chain dig into the earth; it is harmful for the saw, and you stand a good chance of being struck by flying debris.

To cut the trunk, use the bucking and two-cut sequence shown. The first cut should be no deeper than one-third the trunk diameter.

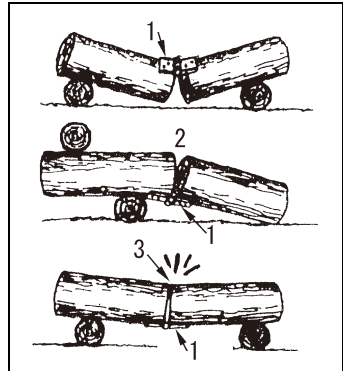


Tension and Compression in Timber


CAUTION

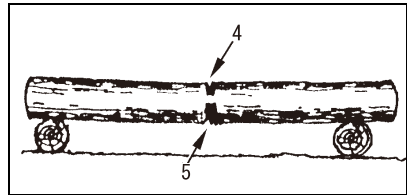
If you have misjudged the effects of tension and compression, and cut from the wrong side, the timber will pinch the guide bar and chain, trapping it. If the chain should become jammed and the saw can not be removed from the cut do not force it out. Stop the saw, force a wedge into the cut to open it up. Never force the saw when it is jammed. Do not force the saw into the cut. A dull chain is unsafe and will cause excessive wear to the cutting attachments. A good way to tell when the chain is dull is when fine saw dust comes out instead of chips.

A length of timber lying on the ground will be subject to tension and compression, depending at which points the major support is. When timber is supported at its ends the compression side is at the top and the tension side is at the bottom. To cut between these support points, make the first cut downwards approximately 1/3rd the timber diameter. The second cut is made upwards and should meet the first cut. (1. hinge, 2. open, 3. closed)

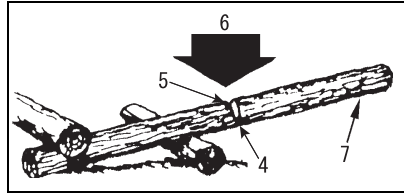


Heavy Stress

When the timber is supported at one end only, make the first cut upwards approximately 1/3rd the timber diameter. The second cut is made downwards and should meet the first cut. (4. 1/3 diameter to avoid split, 5. weakening cut to finish)



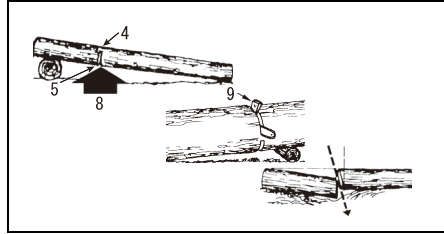
Overbuck (6. down, 7. unsupported end)



Underbuck

Make angled cut when one section may settle against the other.

(8. up, 9. wedge)



MAINTENANCE

! WARNING

Moving parts can amputate fingers or cause severe injuries. Keep hands, clothing and loose objects away from all openings. Always stop unit, disconnect spark plug or remove battery, and make sure all moving parts have come to a complete stop before removing obstructions, clearing debris, or servicing unit. Allow the unit to cool before performing maintenance or adjustments. Wear gloves to protect hands from sharp edges and hot surfaces.

! WARNING

Operating a poorly maintained unit can result in serious injuries to operator or bystanders. Always follow all maintenance instructions as written, otherwise serious personal injury can result.

Your unit is designed to provide many hours of trouble-free service. Regular scheduled maintenance will help your unit achieve that goal. If you are unsure or are not equipped with the necessary tools, we recommend that you take your unit to a Servicing Dealer for maintenance. To help you decide whether you want to do it yourself or have the dealer do it, each maintenance task has been graded. If the task is not listed, see your Dealer for repairs.

NOTICE

The use of emission control components other than those specifically designed for this unit is a violation of federal law.

Skill Levels

Level 1 = Easy to do. Common tools may be required.

Level 2 = Moderate difficulty. Some specialized tools may be required.

Level 3 = See your dealer.

Click [HERE](#) or go to <http://www.echo-usa.com/products/maintenance-kit>
or

<https://www.shindaiwa-usa.com/you-can.aspx>

Servicing Guidelines

COMPONENT OR SYSTEM	MAINTENANCE PROCEDURE	Skill Level
Daily Or Before Use		
Saw Chain	Inspect / Sharpen / Replace / Clean	2
Battery / Battery Compartment	Inspect / Clean / Charge	1
Guide Bar	Inspect / Clean	1
Cooling System / Air Filter	Inspect / Clean / Replace	2
Chain Brake	Inspect / Clean / Replace	2
Screws / Nuts / Bolts	Inspect / Tighten / Replace	1

COMPONENT OR SYSTEM	MAINTENANCE PROCEDURE	Skill Level
Monthly		
Oil Filter / Oil Tank	Inspect / Clean / Replace	1
Sprocket	Inspect / Replace	2

! WARNING

If not maintained properly, the product may pose a serious risk to physical health.

NOTICE

If not maintained properly, the product's performance may deteriorate. Time intervals shown are maximum. Actual use and your experience will determine the frequency of required maintenance. When you find anything wrong, ask your ECHO dealer for repair.

Saw Chain Maintenance

! WARNING

Remove the battery before sharpening chain. Always wear gloves when working on chain. Otherwise serious personal injury may result.

! CAUTION

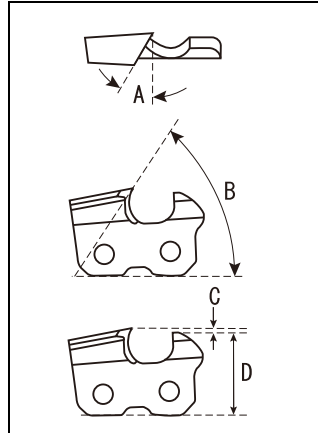
The following factors will increase the risk of kickback:

- ◆ Top plate angle too large
- ◆ File diameter too small
- ◆ Depth gauge too large

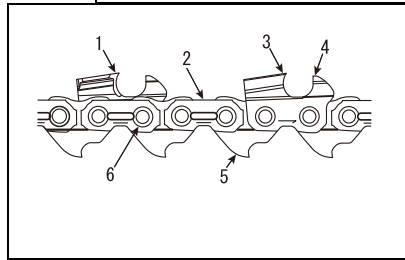
Note: These angles are referred to as 91PXL. For chains of other brands, follow manufacturers instructions.

Properly filed cutters are shown below.

- A. Top plate angle 91PXL 30°
- B. Top plate cutting angle 91PXL; 55°
- C. Depth gauge 91PXL; 0.65 mm
- D. Parallel

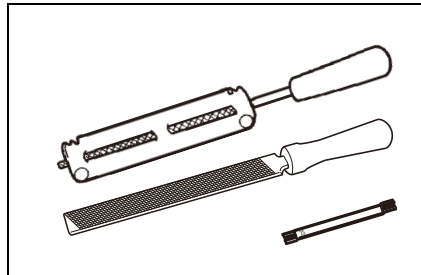


Never operate a chainsaw with a dull or damaged chain. If the chain requires excessive pressure to cut or produces dust instead of wood chips then inspect the cutters for damage. When sharpening the chain the objective will be to maintain the same angles and profiles throughout its life as when it was new. Inspect the chain for damage or wear every time you refuel your chainsaw.



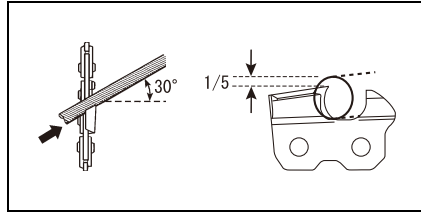
Sharpening

In order to file the chain correctly you need: round file and file holder, flat file and a depth gauge tool. By using the correct file size (91PXL; 4.0 mm Round file) and a file holder, it is easier to receive a good result.



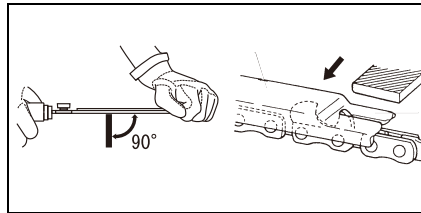
Consult your ECHO dealer for correct sharpening tools and sizes

1. Lock the chain - push the front hand guard forward. To rotate the chain - pull the front hand guard against front handle.



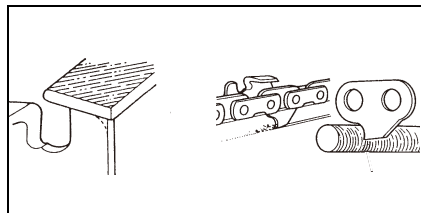
2. Your chain will have alternative left and right hand cutters. Always sharpen from the inside out.
3. Keep the angle lines of the file holder parallel to the line of the chain and file the cutter back until the damaged area (side plate and top plate) has been removed.

4. Hold the file horizontally.
5. Avoid touching the tie straps with the file.
6. Sharpen the most damaged cutter first and then take all the other cutters back to the same length.



7. The depth control determines the thickness of wood chip produced and must be maintained correctly throughout the chain life.

8. As the cutter length is reduced, the depth control height is altered and must be reduced.
9. Position the depth gauge, and file off any of the depth control which protrudes.



10. Round off the front of the depth control to allow smooth cutting.
11. Drive link serves to remove sawdust from the groove of the guide bar. Therefore, keep the lower edge of the drive link sharp.

Maintenance and Care

! WARNING

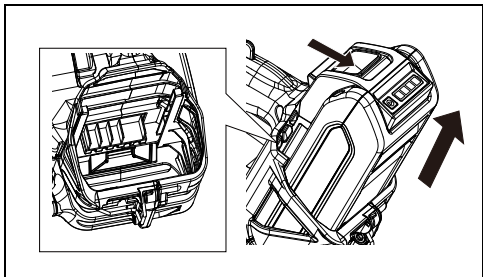
Remove battery before performing maintenance procedures.

Cleaning battery and battery compartment

! WARNING

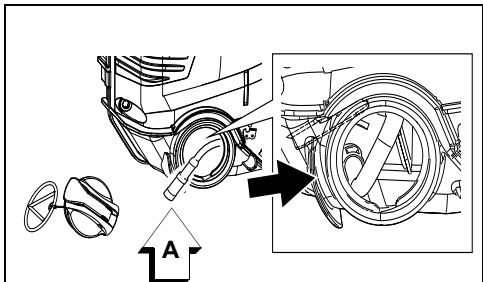
Risk of electric shock or fire. Do not use conducting materials to clean battery or battery compartment. Otherwise serious personal injury may result.

- 1. Depress battery latch release slide battery out of saw.
- 2. Use compressed air or a soft bristle brush to remove debris from battery and battery compartment.



Oil Filter

- 1. Do not allow dust to enter oil tank
- 2. A clogged oil filter will affect the normal lubricating system.
- 3. Remove filter (A) through oil filling hole with a piece of steel wire or the like.
- 4. If the oil filter is dirty, clean it with gasoline or replace it.
- 5. Install the oil filter as shown.
- 6. When the inside of the tank gets dirty, rinse the tank out with gasoline to clean it.
- 7. Remove debris from O ring and thread of oil tank cap.

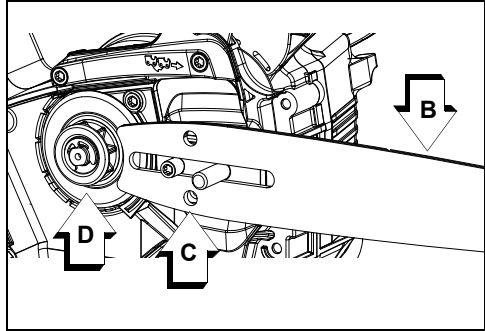


Guide Bar

NOTICE

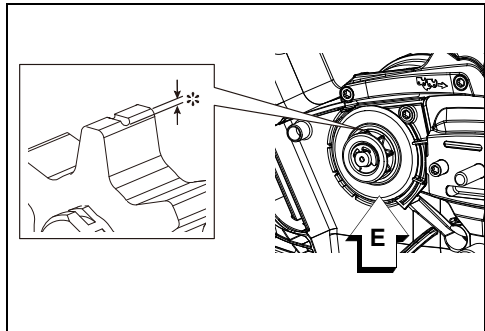
Do not degrease brake drums and brake bands. After cleaning, apply a thin oil between the brake drum and the brake band.

1. Clean before using. Use a small screwdriver or wire to clean the guide bar groove (B). Clean oil holes (C) with a wire.
2. Reverse the bar periodically.
3. Check sprocket (D) and clean the bar mount area before installation of the guide bar. Replace either if worn. Replace either if worn.



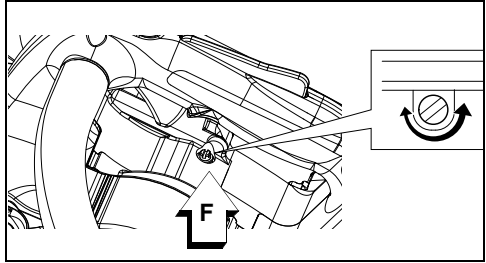
Sprocket

1. A damaged sprocket can cause premature damage or wear to saw chain.
2. Check sprocket when you install new chain. Replace if worn 0.5 mm or more.
3. Check brake drum (E). If it will not rotate by hand, see your authorized dealer for repair.



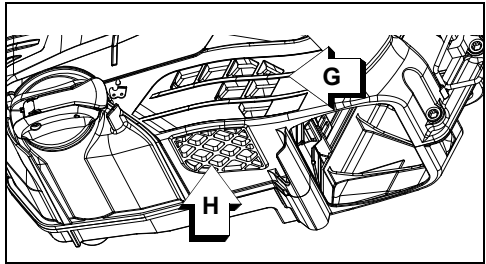
Automatic Oiler

1. The discharge volume of the automatic oiler is adjusted to 7 mL/min approximately at 7000 r/min, prior to shipment from factory.
2. To increase the delivery volume, turn the adjusting screw (F) counterclockwise.
3. When adjusting screw touches stops, it has reached maximum discharge volume. (13 mL/min at 7000 r/min).
4. Do not turn the adjusting screw beyond the maximum or minimum limit of volume adjustment.



Cooling System

1. Check periodically.
2. Remove debris blocking air inlet (G) and outlet (H).

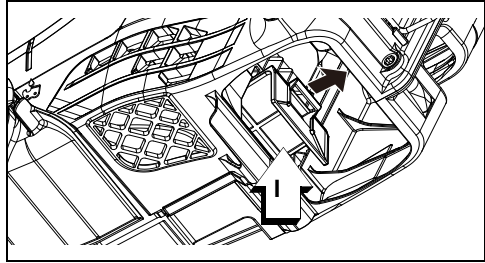


NOTICE

Clean the unit with the air filter attached to it in order to prevent trash from entering inside.

Air Filter

1. Remove battery.
2. Remove air filter (I).
3. Clean air filter area with compressed air.
4. Brush debris from filter. If filter is excessively dirty or no longer fits properly, replace it.
5. Dry filter completely.
6. Reinstall filter.



Replacement Guide Bar and Chain

NOTICE

Only use replacement bars and chains specified by the manufacture or the equivalent. Otherwise, there may be a risk of accidents and damage to the machine.

Bars and Chains

Guide Bar		Saw Chain		
Length mm (in)	Echo Part No.	Pitch mm (in)	Type	Links
305 (12)	12A0CD3745	9.53 (3/8)	91PXL45	45

TROUBLESHOOTING

Trouble	Cause	Solution
Red Charger LED flashes or does not light up	Plug not connected to power outlet	Plug in the charger
	Battery not installed properly	Check the battery installation
	Obstructed connection	Reinstall battery again after remove obstructions from connection
	Fault in the charger	Consult your dealer
	Fault in the battery	Consult your dealer
Unit will not turn on	Battery not installed properly	Check the battery installation
Unit does not run when turned on	Battery discharged	Charge the battery
	Battery outside acceptable temperature range	Remove the battery and allow to cool
Running time is too short	Battery outside acceptable temperature range	Remove the battery and allow to cool
	Unit electronics too hot	Turn unit off and allow to cool
	Battery discharged	Charge the battery
	Cutting attachment dirty	Clean the cutting attachment
	Chain tension too high	Readjust chain tension
Chain oil does not come out	No oil in the oil tank	Fill the chain oil
	Clogged chain oil pipe or oil filter	Clean the chain oil pipe and oil filter
	Fault in the oil passage	Consult your dealer
Unit vibrates excessively	Fault in internal parts	Consult your dealer

Checking and maintenance requires specialist knowledge. If you are unable to check and maintain the product or deal with a fault yourself, consult your dealer. Do not attempt to dismantle the product. Consult your dealer in the event of a problem that is not covered in the table above, or other such concerns. For spare parts and consumables, please use only genuine parts and designated products and components. Using parts from other manufacturers or non-designated components may result in a malfunction.

STORAGE

Storage



Do Not Store In An Enclosure Where Combustible Fumes May Accumulate. Fire May Result.

When storing the product for long periods of time, ensure that the following preparations for storage are carried out.

Chain Saw

Do not store your unit without performing protective storage maintenance which includes the following:

1. Turn power to unit off.
2. Remove Battery.
3. Remove accumulation of dirt and debris from exterior of unit.
4. Tighten all screws and nuts.
5. Install guide bar cover.
6. Cover battery compartment of chain saw.
7. Store unit in a dry, dust-free place out of the reach of children.

Battery

1. Remove battery from chainsaw.
2. Store in a dry, dust-free place, out of the reach of children.
3. Store in temperatures consistent with recommended ambient temperature chart.
4. Charge battery according to ambient temperature chart.

Charger

1. Remove battery from charger.
2. Disconnect charger from power supply.
3. Store in a dry, dust-free place, out of the reach of children.

Disposal



Major plastic parts making up the product have codes showing their materials. The codes refer to the following materials; dispose of those plastic parts in accordance with local regulations.

Materials

Mark	Material
>PA6-GF<	Nylon 6 - Glass fiber
>PA66-GF<	Nylon 66 - Glass fiber
>PP-GF<	Polypropylene - Glass fiber
>PE-HD<	Polyethylene
>POM<	Polyoxymethylene

- Battery contains lithium. Dispose of only at a designated collection point.
- Lithium-ion batteries must be disposed of properly.
- Please contact your dealer in case you do not know how to dispose of or recycle waste plastic parts.

PRODUCT REGISTRATION

Thank you for choosing ECHO Power Equipment

Please go to <http://www.echo-usa.com/Warranty/Register-Your-ECHO> to register your new product on-line. It's **FAST** and **EASY!** NOTE: Your information will never be sold or misused by ECHO Incorporated. Registering your purchase enables us to contact you in the unlikely event of a service update or product recall, and verifies your ownership for warranty consideration.

If you do not have access to the Internet, you can complete the form below and mail to:

***ECHO Incorporated, Product Registration, PO Box 1139,
Lake Zurich, IL 60047.***



PRODUCT REGISTRATION CARD : TARJETA DE REGISTRO : CARTE D'ENREGISTREMENT DU PRODUIT

ONLINE OPTION: Register online and save a stamp! You will be alerted of product updates and/or be sent new ECHO product information and special offers. Simply go to: www.echo-usa.com

OPCIÓN POR INTERNET: Regístrese en la página web y ahorra una estampita para el registro. Serás alertado de actualizaciones de productos ECHO y las ofertas especiales. Simplemente visite: www.echo-usa.com

OPTION EN LIGNE: Enregistrer en ligne et épargner un timbre! Vous serez informé sur les nouveaux produits ECHO et les mises à jour de produit ainsi que les offres spéciales. Simplemente visitez: www.echo-usa.com

Please Print : Por Favor Escribe Con Letra De Molde : En Lettre Carré S.V.P.

Confidential: Information provided will not be shared or sold

Purchaser's Name : Nombre del Comprador : Nom de l'acheteur	
Address : Dirección : Adresse	
City : Ciudad : Ville	State : Estado : Province
Zip Code - Código Postal : Code Postal	
E-Mail Address : Dirección De Correo Electrónico : Courriel Electronique	
Phone Number : Número De Teléfono : Téléphone	Date of Purchase : Fecha de la Compra : Date de l'achat
Where Purchased : Nombre del Almacén donde fue Comprado : Lieu d'achat	
Model Number : Numero del Modelo : No. de modèle	Serial Number : Numero de Serie : No. de série

Register your purchases online at the contact you in the unlikely event of a service update for product recall and verify your ownership of the event of loss. El registrar sus compras nos permite estar en contacto con usted en caso de cualquier evento como el aviso de tiempo de servicio o la revocación del producto y verificación de propiedad en caso de robo o pérdida. L'enregistrement de votre achat nous permettra de vous contacter dans le cas improbable de modifications des instructions d'utilisation ou de rappel du produit et vérifier que vous êtes le propriétaire en cas de vol ou de perte.

Primary use of tool: Professional Homeowner Rental Equip.
 Uso primario de la herramienta: Profesional Dueño de casa Alquiler
 Usage principal: Professional Residential Location
 Do you wish to receive periodic ECHO product information and special offers by e-mail? Yes No
 ¿Desea usted recibir información periódica y ofertas especiales por correo electrónico sobre el producto ECHO? Yes No
 Souhaitez-vous recevoir périodiquement de l'information sur les produits ECHO et les offres spéciales par courrier électronique? Oui Non
 Did you visit the ECHO website before purchasing your product? Yes No
 Visité usted la página web ECHO antes de comprar su producto? Si No
 Avez-vous visité le site d'ECHO avant de procurer votre produit? Oui Non

What factor(s) most influenced your purchase?
 Performance Price Dealer
 Reliability Prior Experience Quality Warranty
 Friend/Family Brand Distributor
 Functionality Precio Experiencia Anterior Calidad
 Confiabilidad Marca Garantía
 Amigo/Familia Marchand Qualité
 Performance Prix Garantie
 Fiabilité Expérience Marché
 Ami/Famille Marque

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 1.800.432.ECHO WWW.ECHO-USA.COM

X7572720206 02-2012



WARRANTY

WARRANTY

Limited Warranty Statement for ECHO 56 Volt Handheld Products and Walk Behind Mowers sold in USA and Canada

ECHO Incorporated warrants to the original retail purchaser that this ECHO brand 56 Volt outdoor product is free from defects in material and workmanship and agrees to repair or replace, at ECHO Incorporated's discretion, any defective product free of charge within these time periods from the date of purchase:

- If the product is for homeowner use:
 - Units and Bare Tool – 5 Years
 - Battery or charger – 2 years
- If the product is for commercial use:
 - Units and Bare Tool – 2 years
 - Battery or charger – 2 years
- If the product is for rental use: 90 days for all units, batteries, and chargers.
- Cutting attachments such as, but not limited to, bars, chains, sprockets, blades, tines, belts, PowerBroom™ and nylon trimmer heads for homeowner or non-income producing use will be covered for failures due to defects in material or workmanship for a period of 60 days from original product purchase date and 30 days for commercial / rental use. Any misuse from contact with concrete, rocks, or other structures is not covered by this warranty.

This warranty extends to the original retail purchaser only and commences on the date of the original retail purchase.

Any part of this product found in the reasonable judgment of ECHO Incorporated, to be defective in material or workmanship will be repaired or replaced without charge for parts and labor by an authorized ECHO dealer. Units, repair parts and accessories replaced under this warranty are warranted only for the balance of the original warranty period.

The product, including any defective part, must be returned to an authorized ECHO dealer within the warranty period. The expense of delivering the product to the service center for warranty work and the expense of returning it back to the owner after repair or replacement will be paid by the owner. ECHO Incorporated's, responsibility in respect to claims is limited to making the required repairs or replacements and no claim of breach of purchase shall be cause for cancellation or rescission of the contract of sale of any ECHO brand 56 Volt outdoor product. Proof of purchase will be required by the dealer to substantiate any warranty claim. All warranty work must be performed by an authorized ECHO dealer.

This warranty does not cover any units, battery or charger that has been subject to misuse, neglect, negligence, or accident, or that has been operated in any way contrary to the operating instructions as specified in the Operator's Manual. This warranty does not cover normal deterioration due to the use or exposure, and any repairs made necessary by normal wear, improper maintenance, improper lubrication, improper storage, dirt, abrasives, impact, moisture, water, rain, snow, rust, corrosion, varnish, or other similar conditions.

This warranty does not cover damage to chargers or batteries by improper charging voltage and batteries that have been exposed to temperatures beyond those specified in the Operator's Manual, batteries that have not been properly charged or batteries that have reached their useful life.

This warranty does not apply to any damage to the product that is the result of improper maintenance or to any product that has been altered or modified. The warranty does not extend to repairs made necessary by normal wear or by the use of parts or accessories which are either incompatible with the ECHO brand 56 Volt outdoor product or adversely affect its operation, performance, or durability. In addition, this warranty does not cover wear to normal items such as, but not limited to:

Wear items – Bump Knobs, Outer Spools, Cutting Lines, Inner Reels, Felt Washers, Hitch Pins, Mulching Blades, Blower Fans, Blower and Vacuum Tubes, Vacuum Bag and Straps, Guide Bars, Saw Chains, Grass Catch Bag, Hedge Trimmer Blades, and Wheels

ECHO Incorporated, reserves the right to change or improve the design of this product without assuming any obligation to modify any product previously manufactured.

All implied warranties are limited in duration to the stated warranty period. Accordingly, any such implied warranties including merchantability, fitness for a particular purpose, or otherwise, are disclaimed in their entirety after the expiration of the appropriate five-year, two-year, one-year, 90-day, 60-day, or 30-day warranty period. ECHO Incorporated's obligation under this warranty is strictly and exclusively limited to the repair or replacement of defective parts. ECHO Incorporated, does not assume or authorize anyone to assume for them any other obligation. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. ECHO Incorporated, assumes no responsibility for incidental, consequential, or other damages including, but not limited to, expense of returning the product to an authorized dealer for ECHO brand 56 Volt outdoor products and expense of delivering it back to the owner, mechanic's travel time, telephone charges, rental of a like product during the time warranty service is being performed, travel, loss or damage to personal property, loss of revenue, loss of use of the product, loss of time, or inconvenience. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

This warranty applies to all ECHO brand 56 Volt outdoor products manufactured by or for ECHO Incorporated, and sold in the United States and Canada.

To locate your nearest authorized ECHO dealer, visit www.ECHO-usa.com or dial 1-800-432-ECHO (3246).

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