

# KLUTCH™

## 20V BRUSHLESS 8" MINI CHAINSAW

Owner's Manual



**⚠ WARNING:** Read carefully and understand all ASSEMBLY AND OPERATION INSTRUCTIONS before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury.

Item # 6151897

**READ & SAVE THESE INSTRUCTIONS**

Thank you very much for choosing a Klutch product!

For future reference, please complete the owner's record below:

Serial Number/Lot Date Code (if applicable): \_\_\_\_\_

Purchase Date: \_\_\_\_\_

Save the receipt, warranty, and this manual. It is important that you read the entire manual to become familiar with this product before you begin using it.

This product is designed for certain applications only. Northern Tool & Equipment is not responsible for issues arising from modification or improper use of this product such as an application for which it was not designed. We strongly recommend that this product not be modified and/or used for any application other than that for which it was designed.

For technical questions, please call **1-86-915-8626**.

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## Intended Use

The mini chainsaw is designed for cutting branches, trunks, logs, and beams of a diameter determined by the cutting length of the guide bar. It is only designed to cut wood. It is only to be used by adults who have received adequate training on the hazards and preventative measures/ actions to be taken while using the pruning saw.

Do not use the mini chainsaw for any purpose not listed in the specified conditions of use. It is not to be used for professional tree services. The mini chainsaw is not to be used by children or by persons not wearing adequate personal protective equipment and clothing.

## Packaging Contents

- 1pc mini 8" chainsaw,
- 1pc 4.0Ah 20V battery
- 1pc 2A charger

## Technical Specifications

VENDOR: Provide the technical specifications of the product. Replace the information in the table (example below) with the correct specifications. Add any additional information.

Property	Specification
Rated Voltage	20V Max
Motor Type	Brushless motor
No load speed	4600RPM
Chain speed	7m/s
Bar Length	8"
Chain Tension	Tool Free
Auto Lubricate	Yes

## Important Safety Information

### **⚠WARNING**

- Read and understand all instructions. Failure to follow all instructions may result in serious injury or property damage.
- The warnings, cautions, and instructions in this manual cannot cover all possible conditions or situations that could occur. Exercise common sense and caution when using this tool. Always be aware of the environment and ensure that the tool is used in a safe and responsible manner.
- Do not allow persons to operate or assemble the product until they have read this manual and have developed a thorough understanding of how it works.
- Do not modify this product in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the product. There are specific applications for which the product was designed.
- Use the right tool for the job. DO NOT attempt to force small equipment to do the work of larger industrial equipment. There are certain applications for which this equipment was designed. It will be a safer experience and do the job better at the capacity for which it was intended. DO NOT use this equipment for a purpose for which it was not intended.

- Industrial or commercial applications must follow OSHA requirements.

## **⚠WARNING**

### **PROP 65**

- This product can expose you to chemicals including lead, which is known to the State of California to cause cancer. For more information, go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).
- Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the state of California to cause cancer, birth defects, or other reproductive harm. Some examples of these chemicals are:
  - ☒ - lead from lead-based paints,
  - ☒ - crystalline silica from bricks and cement and other masonry products, and
  - ☒ - arsenic and chromium from chemically-treated lumber.
- Your risk from these exposures varies depending on how often you do this type of work. To reduce your exposure to these chemicals, work in a well-ventilated area, and work with approved safety equipment, such as dust masks that are specially designed to filter out microscopic particles.
- Handling power cords on corded products may expose you to lead, a chemical known to the state of California to cause cancer and birth defects or other reproductive harm. Wash your hands after handling.

## **⚠WARNING**

### **WORK AREA SAFETY**

- Inspect the work area before each use. Keep work area clean, dry, free of clutter, and well-lit. Cluttered, wet, or dark work areas can result in injury. Using the product in confined work areas may put you dangerously close to cutting tools and rotating parts.
- Do not use the product where there is a risk of causing a fire or an explosion; e.g., in the presence of flammable liquids, gases, or dust. The product can create sparks, which may ignite the flammable liquids, gases, or dust.
- Do not allow the product to come into contact with an electrical source. The tool is not insulated and contact will cause electrical shock.
- Keep children and bystanders away from the work area while operating the tool. Do not allow children to handle the product.
- Be aware of all power lines, electrical circuits, water pipes, and other mechanical hazards in your work area. Some of these hazards may be hidden from your view and may cause personal injury and/or property damage if contacted.

## **⚠️WARNING**

### **PERSONAL SAFETY**

- Stay alert, watch what you are doing, and use common sense when operating the tool. Do not use the tool while you are tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating the tool may result in serious personal injury.
- Dress properly. Do not wear loose clothing, dangling objects, or jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry, or long hair can be caught in moving parts. Air vents on the tool often cover moving parts and should be avoided.
- Wear the proper personal protective equipment when necessary. Use ANSI Z87.1 compliant safety goggles (not safety glasses) with side shields, or when needed, a face shield. Use a dust mask in dusty work conditions. Also use non-skid safety shoes, hardhat, gloves, dust collection systems, and hearing protection when appropriate. This applies to all persons in the work area.
- Do not overreach. Keep proper footing and balance at all times.

## **⚠️CAUTION**

### **PRODUCT USE AND CARE**

- Do not force the product. Products are safer and do a better job when used in the manner for which they are designed. Plan your work and use the correct product for the job.
- Check for damaged parts before each use. Carefully check that the product will operate properly and perform its intended function. Replace damaged or worn parts immediately. Never operate the product with a damaged part.
- Store the product when it is not in use. Store it in a dry, secure place out of the reach of children. Inspect the tool for good working condition prior to storage and before re-use.
- Use only accessories that are recommended by the manufacturer for use with your product. Accessories that may be suitable for one product may create a risk of injury when used with another tool. Never use an accessory that has a lower operating speed or operating pressure than the tool itself.
- Keep guards in place and in working order. Never operate the product without the guards in place.

## **Specific Operation Warnings**

## **⚠️WARNING**

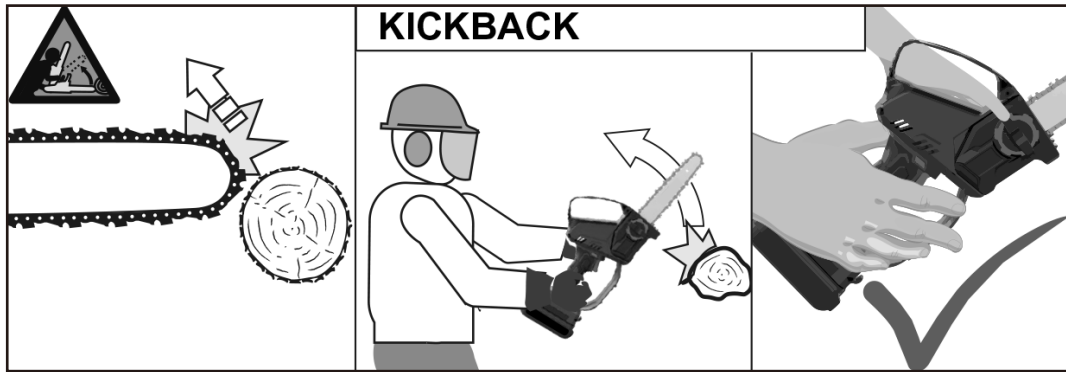
- Keep all parts of the body away from the saw chain when the chain saw is operating. Before you start the chain saw, make sure the saw chain is not contacting anything. A moment of inattention while operating mini chain saws may cause entanglement of your clothing or body with the saw

chain.

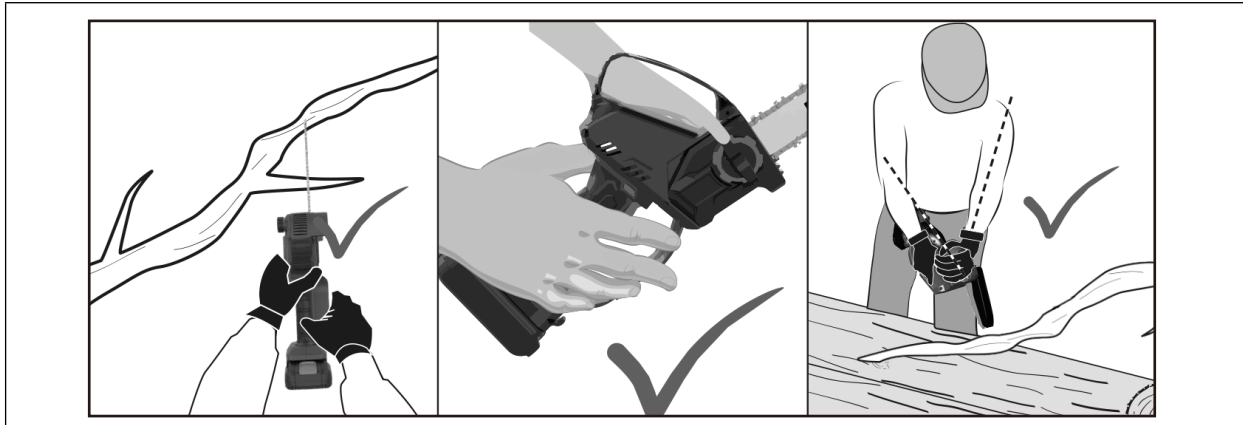
- Always hold the mini chain saw with your right hand on the rear handle and your left hand on the front handle. (Secondary handgrip) Holding the mini chain saw with a reversed hand configuration increases the risk of personal injury and should never be done.
- a) Hold the mini chain saw by insulated gripping surfaces only, because the saw chain may contact hidden wiring. Saw chains contacting a “live” wire may make exposed metal parts of the mini chain saw “live” and could give the operator an electric shock.
- b) Wear eye protection. Further protective equipment for hearing, head, hands, legs and feet is recommended. Adequate protective equipment will reduce personal injury from flying debris or accidental contact with the saw chain.
- c) Do not operate a mini chain saw in a tree, on a ladder, from a rooftop, or any unstable support. Operation of a mini chain saw in this manner could result in serious personal injury.
- d) Always keep proper footing and operate the mini chain saw only when standing on fixed, secure and level surface. Slippery or unstable surfaces may cause a loss of balance or control of the mini chain saw.
- e) When cutting a limb that is under tension, be alert for spring back. When the tension in the wood fibre is released the spring loaded limb may strike the operator and /or throw the mini chain saw out of control.
- f) 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.
- g) Carry the mini chain saw by the front handle with the mini chain saw switched off and away from your body. When transporting or storing the mini chain saw, always fit the guide bar cover. Proper handling of the mini chain saw will reduce the likelihood of accidental contact with the moving saw chain.
- h) Follow instructions for lubricating, chain tensioning and changing the bar and chain. Improperly tensioned or lubricated chain may either break or increase the chance for kickback.
- i) Keep handles dry, clean, and free from oil and grease. Greasy, oily handles are slippery causing loss of control.
- j) Cut wood only. Do not use mini chain saw for purposes not intended. For example: do not use mini chain saw for cutting metal, plastic, masonry or non-wood building materials. Use of the mini chain saw for operations different than intended could result in a hazardous situation.
- k) Follow all instructions when clearing jammed material, storing or servicing the mini chain saw. Make sure the switch is off and the battery pack is removed. Unexpected actuation of the chain saw while clearing jammed material or servicing may result in serious personal injury.

**⚠WARNING**

## CAUSES AND OPERATOR PREVENTION OF KICKBACK



- 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 mini chain saw user, you should take several steps to keep your cutting jobs free from accident or injury.
- Kickback is the result of mini chain saw 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 mini chain saw handles, with both hands on the saw and position your body and arm to allow you to resist kickback forces. Kickback forces can be controlled by the operator, if proper precautions are taken. Do not let go of the mini chain saw.
- Do not overreach and do not cut above shoulder height. This helps prevent unintended tip contact and enables better control of the chain saw in unexpected situations.
- Only use replacement bars and chains specified by the manufacturer. Incorrect replacement guide 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.



## Grounding

### ⚠️WARNING

- This machine must be grounded while in use to protect the operator from electrical shock. This unit is equipped with an electrical cord that has an equipment grounding conductor and a grounding plug. The plug **MUST** be plugged into a matching receptacle that is properly installed and grounded in accordance with ALL local codes and ordinances.
- **DO NOT MODIFY THE PROVIDED PLUG.** If it will not fit the receptacle, have the proper receptacle installed by a qualified electrician.

CHECK with a qualified electrician or service person if you do not completely understand the grounding instructions, or if you are not sure the tool is properly grounded.

### Grounded Tools: Tools with 3-Prong Plugs

Tools marked with **Grounding Required** have a 3-wire cord and 3-prong grounding plug. The plug must be connected to a properly grounded outlet. If the tool should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user, reducing the risk of electric shock. (See Figure A.)

The grounding prong in the plug is connected through the green wire inside the cord to the grounding system in the tool. The green wire in the cord must be the only wire connected to the tool's grounding system and must never be attached to an electrically live terminal.

Your tool must be plugged into an appropriate outlet, properly installed and grounded in accordance with all codes and ordinances. The plug and outlet should look like those in the following illustration.

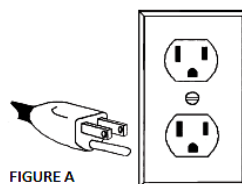


FIGURE A

### Double Insulated Tools: Tools with Two-Prong Plugs

Tools marked **Double Insulated** do not require grounding. They have a special double insulation system which satisfies OSHA requirements and complies with the applicable standards of

Underwriters Laboratories, Inc., the Canadian Standard Association, and the National Electrical Code. (See Figure B.)

Double insulated tools may be used in either of the 120 volt outlets shown in the following illustration.

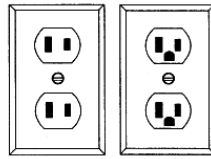


FIGURE B

## Extension Cords

### ⚠ WARNING

- **USE A PROPER EXTENSION CORD.** Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage, resulting in loss of power and cause overheating.
- Be sure your extension cord is properly wired and in good condition. Always replace a damaged extension cord or have it repaired by a qualified person before using it. Protect your extension cords from sharp objects, excessive heat and damp or wet areas.

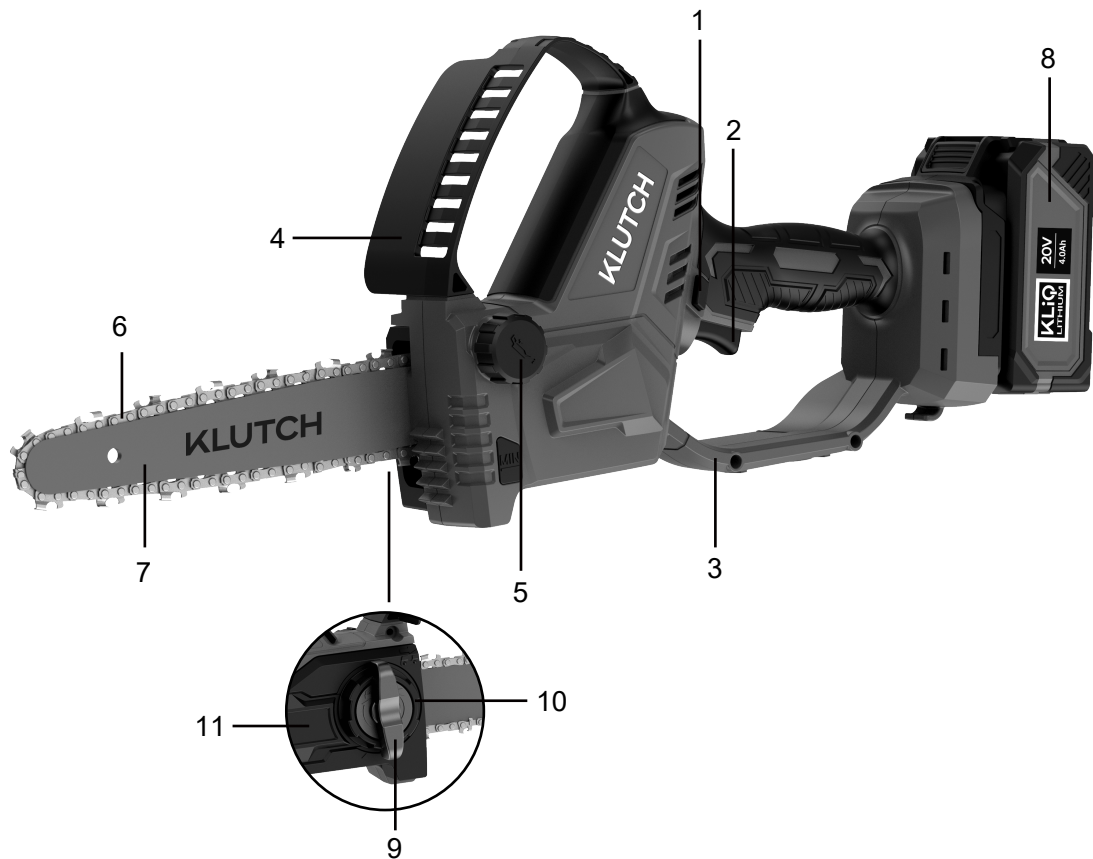
- Grounded tools require a 3-wire extension cord. Double Insulated tools can use either a 2- or 3-wire extension cord.
- As the distance from the supply outlet increases, you must use a heavier gauge extension cord. Using extension cords with inadequately sized wire causes a serious drop in voltage, resulting in loss of power and possible tool damage.
- The smaller the wire's gauge number, the greater the capacity of the cord. For example, a 14-gauge cord can carry a higher current than a 16-gauge cord. Minimum extension cord wire size is shown in the following table:

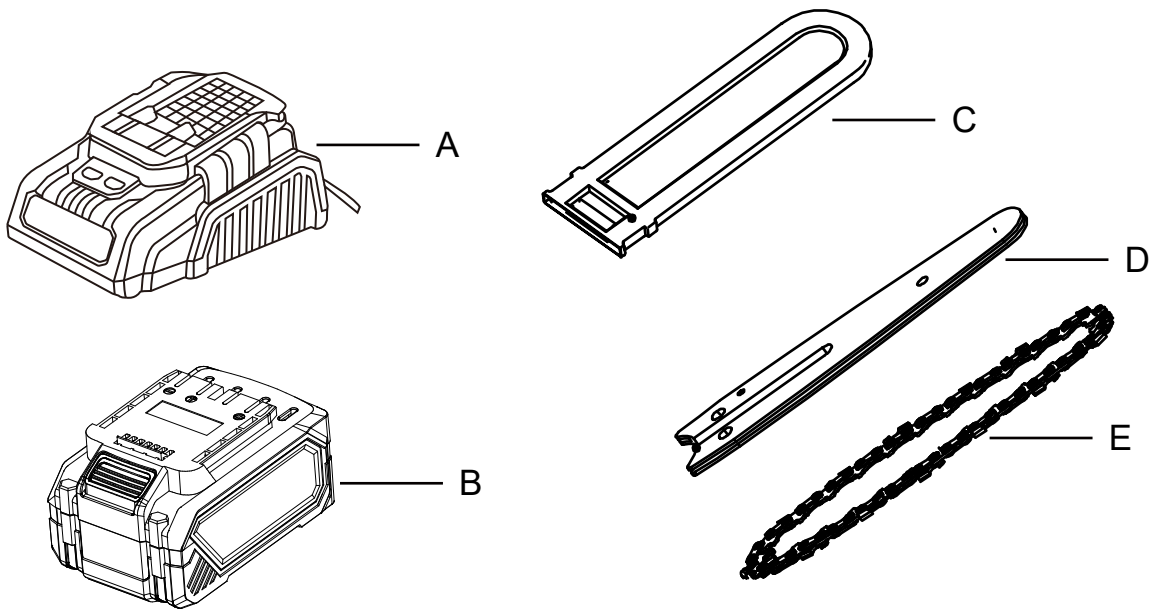
Minimum Wire Size Of Extension Cords				
Nameplate AMPS	Cord Length			
	25'	50'	100'	150'
0-6	18 AWG	16 AWG	16 AWG	14 AWG
6-10	18 AWG	16 AWG	14 AWG	12 AWG
10-12	16 AWG	16 AWG	14 AWG	12 AWG
12-16	14 AWG	12 AWG	NOT RECOMMENDED	

- When using more than one extension cord to make up the total length, make sure each cord contains at least the minimum wire size required.
- If you are using one extension cord for more than one tool, add the nameplate amperes and use the sum to determine the required minimum cord size.
- If you are using an extension cord outdoors, make sure it is marked with the suffix **W-A** (**W** in Canada) to indicate it is acceptable for outdoor use.
- Make sure your extension cord is properly wired and in good electrical condition. Always replace a damaged extension cord or have it repaired by a qualified electrician before using it.
- Protect your extension cords from sharp objects, excessive heat, and damp or wet areas.

## Main Parts of Mini Chainsaw

1. Lock-Off Switch
2. ON/OFF Switch Trigger
3. Hand Guard
4. Protective Cover
5. Oil Tank Cap
6. Chain
7. Guide Bar
8. Battery Pack
9. Chain Tension Adjustment Screw
10. Clamping Screw Guide Rail
11. Sprocket Cover





<b>Subassembly</b>
A. Battery
B. Charger
C. Guide plate cover
D. Guide Bar
E. Chain

## Assembly Instructions

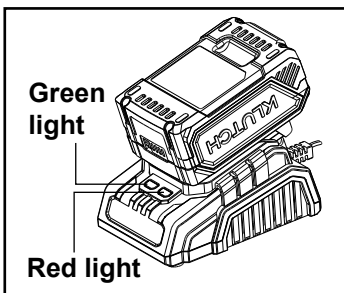
### ⚠WARNING

Before using the tool, read the instruction book carefully.

Do not let your acquaintance with the tool allow you to get injured.

## CHARGING BATTERIES

1. Place the Battery Pack on a dry fireproof surface in a room where the temperature is from 50° F to 104° F.  
Note: If recharging a newly spent Battery Pack, allow it to cool completely before charging.
2. Examine the Battery Pack. It must be an undamaged 20V lithium-ion type Battery Pack. Do not charge a cracked, open, or leaking Battery Pack, or charge a non-recommended type of Battery Pack.
3. The Battery Pack's terminals are designed to fit this Charger specifically. If the Battery Pack does not fit the Charger properly, do not try to insert it. Do not force a Battery Pack into the Charger.
4. Make sure the power supply is normal household voltage, 120 volts, AC only, 60 Hz.
5. Connect the charger to a power supply.
6. Slide the Battery Pack onto the Charger
7. The battery pack may become slightly warm to the touch while charging. This is normal and does not indicate a problem.
8. After charging is complete, the green LED will remain on while the charger is in Energy Save mode.
9. Charger will periodically wake from Energy Save mode to ensure the battery pack remains in a fully charged state.
10. To remove the battery pack from the charger, depress the latches on the top of the battery pack and separate battery from charger.



## CHARGING A HOT BATTERY PACK

When using a tool continuously, the battery pack may become hot. A hot battery pack may be placed directly onto the charger port but charging will not begin until the battery temperature cools to within acceptable temperature range. When a hot battery pack is placed on the charger, the red LED will begin flashing. When the battery pack cools, the charger will automatically begin charging.

The LED lights on charger show different status as below.

LED FUNCTIONS			
RED LED	GREEN LED	STATUS	ACTION
Off	On	Power	Ready to charge battery pack.
Off	Flashing	Charging	Battery is being charged.
Off	On	Fully charged	Disconnect charger from power supply and remove battery pack from charger.
Flashing	Off	Hot battery	The charger will recover to charge when the temperature drops to 104° F (40°C).
On	Off	Battery defective	Battery pack or charger is defective

### Caution

Fully charge battery before first use.

Avoid short periods of charging. Only charge battery pack when it completely runs out.

In order to extend the battery life, fully charge it after each use and ensure that it is charged every three months.

Avoid storing batteries in cold places as low temperatures may cause them to fail.

**NOTE:** Before using the tool, read the instruction book carefully.

**WARNING:** Do not let your acquaintance with the tool allow you to get injured.

**Adjusting the chain tension (Fig.1-3)**

Remove the battery pack before you do any work on the chain saw.

Loosen the clamping screw guide rail/sprocket cover with one turn counterclockwise.

To increase the chain tension, turn the chain tension adjustment screw clockwise using the combination spanner. Check the chain tension regularly. To reduce the chain tension, turn the chain tensioning screw counterclockwise and check the chain tension frequently.

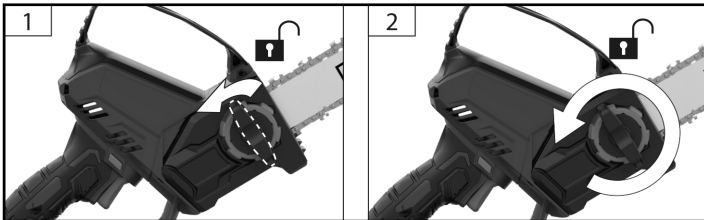


Fig.1

Then, tighten the clamping screw guide rail/sprocket cover clockwise. The chain tension is correctly adjusted when the distance between the teeth of the chain and the bar is approx. 2-3 mm. Pull the chain downwards (away from the bar) in the middle on the lower side of the bar, and then measure the gap between the bar and the chain.

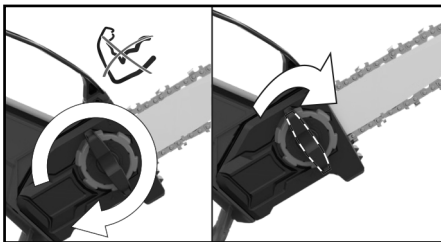


Fig.2

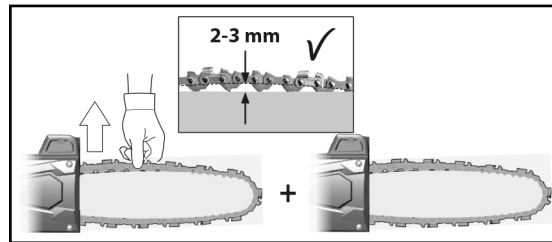


Fig.3

**Note:** Do not over-tension the chain - excess tension will cause excessive wear and will reduce the life of the chain and could damage the bar. New chains could stretch and loosen during initial use. Remove battery pack and check chain tension frequently during the first two hours of use. The temperature of the chain increases during normal operation causing the chain to stretch. Check the chain tension frequently and adjust as required. A chain tensioned while warm may be too tight upon cooling. Make sure that the chain tension is correctly adjusted as specified in these instructions.

**Adding the chain lubricating oil (Fig.4)**

Warning! Never work without chain lubricant. If the saw chain is running without lubricant, the guide bar and the saw chain can be damaged. Oil after approx. five sawing operations.

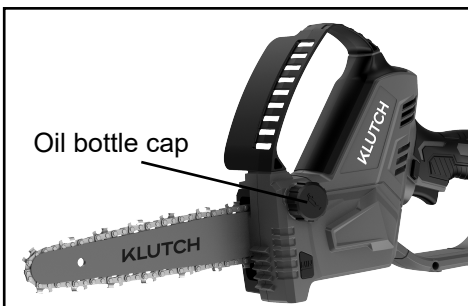


Fig.4

## To attach the battery pack (Fig.5)

Before starting the mini chain saw, you should install the battery pack in the mini chain saw.

**WARNING!** To avoid the possibility of accidental starting, always take care not to activate the trigger switch when you are attaching the battery pack or performing other adjustments to the tool.

Align the raised rib on the battery pack with the grooves on the bottom of the tool. and then attach the battery pack to the chain saw.

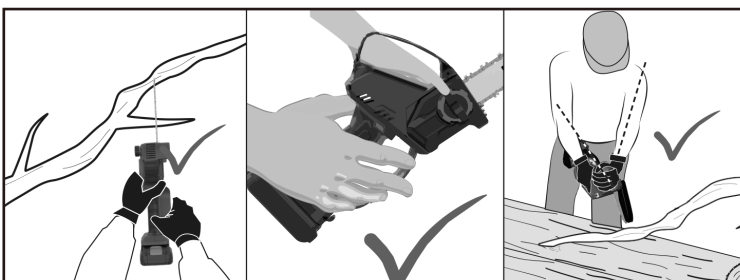
**NOTICE:** When attaching the battery pack to the tool, make sure that the raised platform on the pack aligns with the grooves on the bottom of the tool and that the latches snap properly into place. Improper assembly of the battery pack can cause damage to internal components.



Fig.5

## Before Each Use

- 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 mini chain saw user, you should take several steps to keep your cutting jobs free from accident or injury.
- Kickback is the result of mini chain saw 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 mini chain saw handles, with both hands on the saw and position your body and arm to allow you to resist kickback forces. Kickback forces can be controlled by the operator, if proper precautions are taken. Do not let go of the mini chain saw.
- Do not overreach and do not cut above shoulder height. This helps prevent unintended tip contact and enables better control of the chain saw in unexpected situations.
- Only use replacement bars and chains specified by the manufacturer. Incorrect replacement guide 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.



Ensure all guards, handles, and spiked bumper are properly fitted and are in good condition.

Persons using the mini chain saw should be in good health.

The operator should be alert, have a good vision, mobility, balance, and manual dexterity. If there is any doubt, do not operate the mini chain saw.

Wear a mask or respirator, if required.

Do not cut vines and/or small undergrowth.

Always hold the mini chain saw with both hands during operation. Use a firm grip with thumbs and fingers encircling the mini chain saw handles. Right hand must be on the rear handle and left hand on the front handle.

(Auxiliary handle)

Before starting the mini chain saw, make sure the saw chain is not contacting any object.

Do not modify the mini chain saw in any way or use it to power any attachments or devices not recommended by the manufacturer for your mini chain saw.

There should be a first-aid kit containing large wound dressings and a means to summon attention (e.g., whistle) close to the operator. A larger more comprehensive kit should be reasonably nearby.

An incorrectly tensioned chain can jump off the guide bar and could result in serious injury or fatality. The length of the chain depends on the temperature. Check the tension frequently.

You should get used to your new mini chain saw by making simple cuts on securely supported wood. Do this whenever you have not operated the saw for some time.

To reduce the risk of injury associated with contacting moving parts, always stop the motor, apply the chain brake, remove the battery pack and make sure all moving parts have come to a stop before: blockage, leaving the machine unattended, conducting maintenance or working on the machine installing or removing attachments.

The size of the work area depends on the job being performed as well as the size of the tree or work piece involved.

The operator needs to be aware and in control of everything happening in the work area.

Do not cut with your body in line with the guide bar and chain. If you experience kickback, this will help prevent the chain coming into contact with your head or body.

Do not use a back-and-forward sawing motion, let the chain do the work. Keep the chain sharp and do not try to push the chain through the cut.

Do not put pressure on the saw at the end of the cut. Be ready to take on the weight of the saw as it cuts free from the wood. Failure to do so could result in possible serious personal injury.

Do not stop the saw in the middle of a cutting operation.

Keep the saw running until it is already removed from the cut. Do not fix the on/off switch in the "on" position when using the saw hand-held.

Remove the battery pack before starting any work on the appliance.

**WARNING!** To reduce the risk of fire, personal injury, and product damage due to a short circuit, never immerse your device, battery pack or charger in fluid or allow a fluid to flow inside them. Corrosive or conductive fluids, such as seawater, certain industrial chemicals, and bleach or bleach containing products, etc., can cause a short circuit.

Never break open battery packs and chargers. Store only in dry rooms. Keep dry at all times.

### Push and pull

The reaction force is always opposite to the direction the chain is moving. Thus, the operator must be ready to control the tendency for the machine to pull away (forward motion) when cutting on the bottom edge of the bar and the push backwards (towards the operator) when cutting along the top edge.

### Saw jammed in the cut

Stop the mini chain saw and secure the saw by removing the battery. Do not try to force the chain and bar out of the cut as this is likely to break the chain, which may swing back and strike the operator. This situation normally occurs because the wood is incorrectly supported which forces the cut to close under compression, thereby pinching the blade. If adjusting the support does not release the bar and chain, use wooden wedges or a lever to open the cut and release the saw. Never try to start the mini chain saw when the guide bar is already in a cut or kerf.

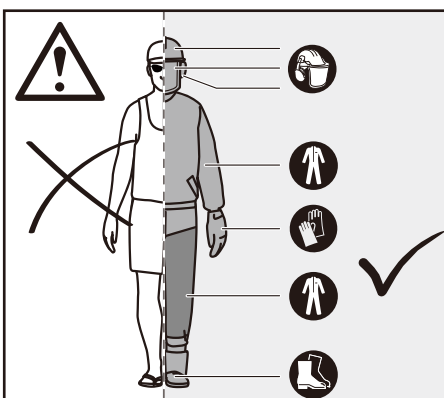
### Skating / Bouncing

When the mini chain saw fails to dig in during a cut, the guide bar can begin hopping or dangerously skidding along the surface of the log or branch, possibly resulting in the loss of control of the mini chain saw. To prevent or reduce skating or bouncing, always use the saw with both hands make sure the saw chain establishes a groove for cutting. Never cut small, flexible branches or brushes with both hands, make sure. Their size and flexibility can easily cause the saw to bounce towards you or bind up with enough force to cause a kickback. The best tool for that kind of work is a hand saw, pruning shears, an axe or other hand tools.

### Personal protective equipment

Wear a helmet at all times when operating the machine. A helmet, equipped with mesh visor, can help reduce the risk of injury to the face and the head if kickback occurs. Wear ear protectors. Exposure to noise can cause hearing loss.

Good quality personal protective equipment, as used by professionals, will help reduce the risk of injury to the operator. The following items should be used when operating the machine:



### Guide Bar

Generally, guide bars with small radius tips have somewhat lower potential for kick-back. You should use a guide bar and matching chain which is just long enough for the job. Longer bars increase the risk of loss of control during sawing. Regularly check the chain tension. When cutting smaller branches (less than the full length of the guide bar) the chain is more likely to be thrown off if the tension is not correct.

## **Working Instructions**

### **Understanding the forces within the wood**

When you understand the directional pressures and stresses inside the wood you can reduce the “pinches” or at least expect them during your cutting. Tension in the wood means the fibers are being pulled apart and if you cut in this area, the “kerf” or cut will tend to open as the saw goes through. If a log is being supported on a saw horse and the end is hanging unsupported over the end, tension is created on the upper surface due to the weight of the overhanging log stretching the fibers. Likewise, the underside of the log will be in compression and the fibers are being pushed together. If a cut is made in this area, the kerf will have the tendency to close up during the cut. This would pinch the blade.

### **Limbing a tree**

Limbing is removing the branches from a fallen tree. When limbing, leave larger lower limbs to support the log off the ground. Remove the small limbs in one cut. Branches under tension should be cut from the bottom up to avoid binding the chain saw.

### **Cutting spring poles**

A spring pole is any log, branch, rooted stump, or sapling which is bent under tension by other wood so that it springs back if the wood holding it is cut or removed. Warning! Spring poles are dangerous and could strike the operator, causing the operator to lose control of the chain saw. This could result in severe or fatal injury to the operator. This should be done by trained users.

## **Residual Risk**

Even when the product is used as prescribed, it is still impossible to completely eliminate certain residual risk factors. The following hazards may arise in use and the operator should pay special attention to avoid the following:

- Injury caused by vibration. Always Always use the right tool for the job. Use designated handles. Restrict working time and exposure.
- Damage to hearing due to exposure to noise. Wear hearing protection and limit exposure.
- Injury caused by contact with exposed saw teeth of the chain
- Injury caused by thrown-out pieces of the workpiece (wood chips, splinters)
- Injury caused by dust and particles
- Injury to the skin caused by contact with lubricants
- Parts ejected from the saw chain (cutting/injection hazards)
- Unforeseen, abrupt movement, or kickback of the guide bar (cutting hazards)

## **Risk Reduction**

It has been reported that vibrations from handheld tools may contribute to a condition called Raynaud's Syndrome in certain individuals. Symptoms may include tingling, numbness, and blanching of the fingers, usually apparent upon exposure to cold. Hereditary factors, exposure to cold and dampness, diet, smoking and work practices are all thought to contribute to the development of these symptoms. There are measures that can be taken by the operator to possibly reduce the effects of vibration:

- Keep your body warm in cold weather. When operating the unit wear gloves to keep the hands and wrists warm.
- After each period of operation, exercise to increase blood circulation.
- Take frequent work breaks. Limit the amount of exposure per day.
- Protective gloves available from professional chain saw retailers are designed specifically for chain saw use which give protection, good grip and also reduce the effect of handle vibration.

If you experience any of the symptoms of this condition, immediately discontinue use and see your doctor.

**Warning!** Injuries may be caused, or aggravated, by prolonged use of a tool. When using any tool for prolonged periods, ensure you take regular breaks.

### **Specified Conditions of Use**

The mini chain saw is to be used as a branch saw. The cordless mini chain saw is only intended for use outdoors. For safety reasons, the mini chain saw must be adequately controlled by using two-handed operation at all times. The mini chain saw is designed for cutting branches, trunks, logs, and beams of a diameter determined by the cutting length of the guide bar. It is only designed to cut wood. It is only to be used by adults who have received adequate training on the hazards and preventative measures/ actions to be taken while using the mini chain saw.

Do not use the mini chain saw for any purpose not listed in the specified conditions of use. It is not to be used for professional tree services. The mini chain saw is not to be used by children or by persons not wearing adequate personal protective equipment and clothing.

**Warning!** When using the mini chain saw, the safety rules must be followed. For your own safety and that of bystanders, you must read and fully understand these instructions before operating the mini chain saw. You should attend a professionally organized safety course in the use, preventative actions, first-aid, and maintenance of mini chain saws. Please keep these instructions safe for later use.

**Warning!** mini chain saws are potentially dangerous tools. Accidents involving the use of mini chain saws often result in loss of limbs or death. It is not just the mini chain saw that is the hazard. Falling branches, toppling trees, and rolling logs can all kill. Diseased or rotting timber poses additional hazards. You should assess your capability of completing the task safely. If there is any doubt, leave it to a professional tree surgeon.

Do not use this product in any other way. Only use this saw as stated in this manual.

## Operating Instructions

### ⚠WARNING

Make sure the saw chain is not yet applied to the cut and that no other objects are touched. Risk of injury!

#### Operate (Fig.6-7)

**WARNING!** Make sure the saw chain is not yet applied to the cut and that no other objects are touched. Risk of injury!

Press the lock switch and then press the on/off switch trigger to start the machine(Fig.6).



Fig.6

**Caution:** In an emergency, stop the machine by releasing the on/off switch trigger.

Always hold the chain saw with your right hand on the rear handle and your left hand on the front handle. Grip both handles with the thumbs and fingers encircling the handles.

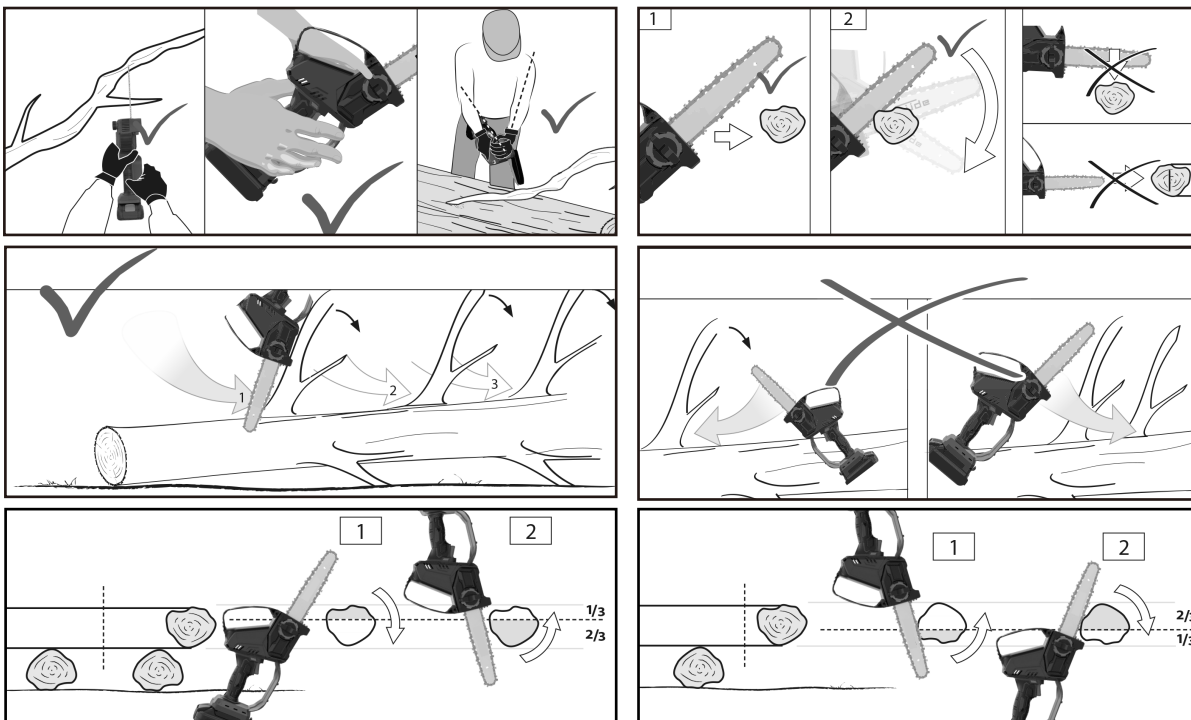


Fig.7

## Replacing the guide bar and saw chain (Fig.8)

### Wear protective gloves.

- 1) Remove the battery.
- 2) Remove the sprocket cover.
- 3) Remove the old chain with the guide bar
- 4) Put the new chain in the correct direction onto the bar and make sure that the drive links are aligned in the bar groove.
- 5) Attach the bar to the chain saw and loop the chain around the drive sprocket.
- 6) Put on the sprocket cover and screw the guide rail/ sprocket cover clamping screw back on (hand-tight).
- 7) Tighten the guide rail/chain disc cover clamping screw only hand-tight. The guide bar must be able to move freely for adjusting the chain tension.
- 8) Adjust the chain tension using the combination spanner. See section Adjusting chain tension.
- 9) Then tighten the clamping screw guide rail/ sprocket cover clockwise again.

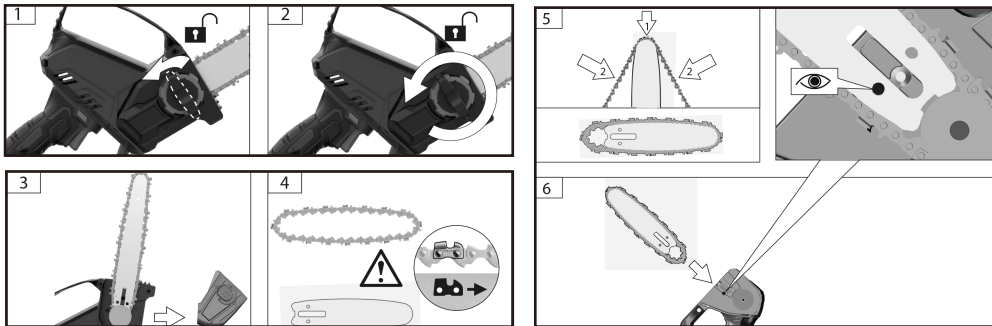


Fig.8

**Warning!** A dull or improperly sharpened chain can cause excessive motor speed during cutting which may result in severe motor damage.

**Warning!** Improper chain sharpening increases the potential of kickback.

**Warning!** Failure to replace or repair a damaged chain can cause serious injury.

**Warning!** The saw chain is sharp. Always wear protective gloves when performing maintenance to the chain.

## After Each Use

### ⚠WARNING

TO PREVENT SERIOUS INJURY FROM ACCIDENTAL OPERATION: Make sure that the Trigger is in the off-position and remove the Battery Pack before performing any procedure in this section.

After use, wipe the outside surface of the chainsaw with a clean, dry cloth. If necessary use a mild detergent. Do not use solvents. Do not immerse this tool in liquid.

Li-ion battery must be recycled or disposed of properly. Do not short, incinerate or open battery.

Disconnect battery pack and store battery pack, charger, and tool in dry, indoor area out of reach of children and away from metal objects (i.e., paperclips, coins) to prevent shorting.

## Maintenance

### Maintenance

Remove the battery pack before starting any adjustment, cleaning and maintenance work on the device.

Carry out a visual inspection before switching the appliance on.

The appliance must not be used if damaged or safety equipment is defective. Replace any worn-out and damaged parts.

If the device is defective, the repair has to be made exclusively by the customer service. Use only original accessories and original spare parts. Components for which there are no instructions for exchanging should be replaced by the manufacturer only.

Only a regularly maintained and treated appliance can serve as a satisfactory aid. Insufficient maintenance and care can lead to unforeseen accidents and injuries.

**Warning!** Servicing requires extreme care and knowledge and should be performed only by a qualified service technician. For service, we suggest you bring the machine to your nearest service station for repair. When servicing, use only identical replacement parts.

**Warning!** Remove the battery before adjustment, maintenance or cleaning. Failure to do so could result in serious personal injury. You may only make adjustments or repairs described in this manual.

Consequences of improper maintenance may cause the chain brake and other safety features to not function correctly, thus increasing the potential for serious injury.

Follow instructions for lubricating and chain tension checking and adjustment.

Check all nuts, bolts, and screws at frequent intervals for security to ensure the machine is in safe working condition.

### Transportation and Storage(Fig.9)

Always lightly oil the chain when storing to prevent rust. Always empty the oil tank when storing to prevent leakage.

Stop the machine, remove the battery, and allow it to cool before storing or transporting.

Clean all foreign materials from the machine. Store the machine in a cool, dry, and well-ventilated place that is inaccessible to children. Keep away from corrosive agents, such as garden chemicals and deicing salts. Do not store outdoors. Fit the guide bar cover before storing the machine or during transportation.

For transportation in vehicles, secure the machine against movement or falling to prevent injury to persons or damage to the machine.

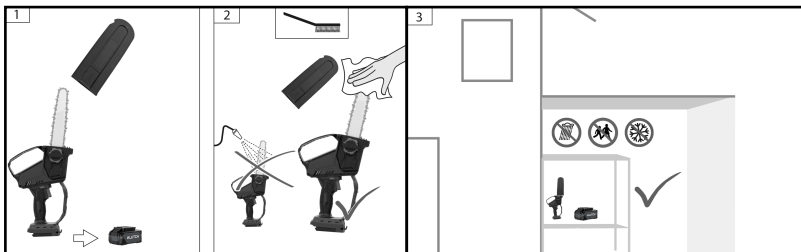
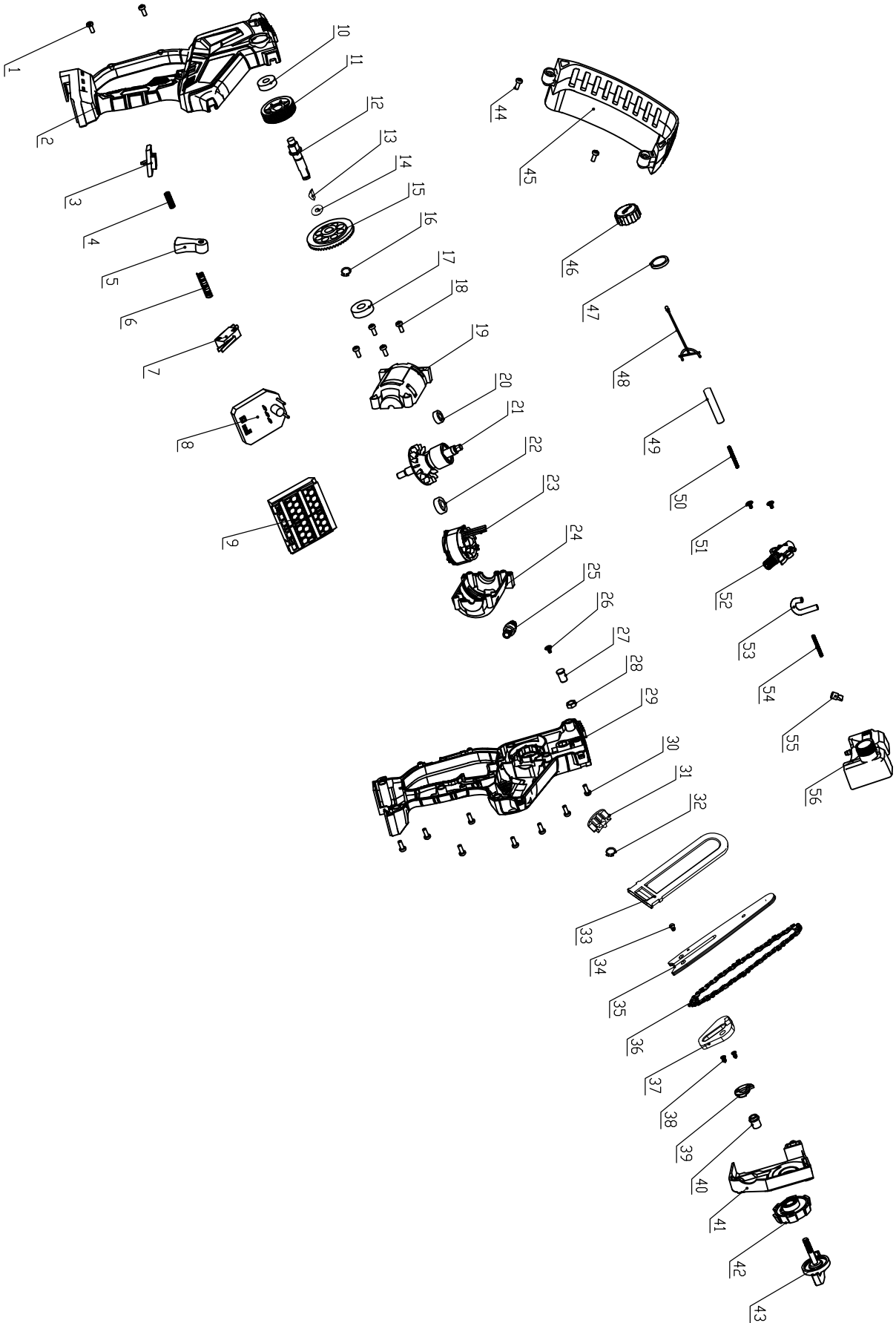


Fig.9

# Parts Diagram



## Parts List

Part Number	Part Description	Quantity
1	Self-Tapping Screw	2
2	Left Housing	1
3	Anti-Self-Locking Button	1
4	Spring	1
5	Trigger Switch	1
6	Spring	1
7	Micro Switch	1
8	Controller	1
9	Pin Socket	1
10	6800 Bearing	1
11	Worm	1
12	Output Shaft	1
13	Half Circle Key	1
14	Washer	1
15	Gear	1
16	Shaft Retaining Ring	1
17	6000 Bearing	1
18	Self-Tapping Screw	4
19	Motor Bracket	1
20	Deep Groove Ball Bearing	1
21	Rotor	1
22	Deep Groove Ball Bearing	1
23	Stator	1
24	Motor Lower Bracket	1
25	Gear	1
26	Flange Self-Tapping Screws	1
27	Pin	1
28	Nut	1

## Parts List

Part Number	Part Description	Quantity
29	Right Housing	1
30	Self-Tapping Screw	8
31	Sprocket	1
32	Shaft Ring	1
33	Guide Plate Cover	1
34	Guide Plate Screws	1
35	Guide Bar	1
36	Chain	1
37	Push Block	1
38	Self-Tapping Screw	2
39	Cam	1
40	Adjust The Lining	1
41	Small End Cap	1
42	Adjusting Knob	1
43	Tightening Knob	1
44	Self-Tapping Screw	2
45	Protective Plate	1
46	Can Top	1
47	Fuel Tank Cap Sealing Ring	1
48	Anti Loss Hook	1
49	Oil Outlet Pipe	1
50	Spring	1
51	Self-Tapping Screw	2
52	Oil Pump Assembly	1
53	Oil Outlet Pipe	1
54	Spring	1
55	Valve	1
56	Oil Tank	1

## Replacement Parts

- For replacement parts and technical questions, please call Customer Service at **1-800-222-5381**.
- Not all product components are available for replacement. The illustrations provided are a convenient reference to the location and position of parts in the assembly sequence.
- When ordering parts, the following information will be required: item description, item model number, item serial number/item lot date code, and the replacement part reference number.
- The distributor reserves the rights to make design changes and improvements to product lines and manuals without notice.

## Limited Warranty

Northern Tool and Equipment Company, Inc. ("We" or "Us") warrants to the original purchaser only ("You" or "Your") that the Klutch product purchased will be free from material defects in both materials and workmanship, normal wear and tear excepted, for a period of **one year** from date of purchase. The foregoing warranty is valid only if the installation and use of the product is strictly in accordance with product instructions. There are no other warranties, express or implied, including the warranty of merchantability or fitness for a particular purpose. If the product does not comply with this limited warranty, Your sole and exclusive remedy is that We will, at our sole option and within a commercially reasonable time, either replace the product or product component without charge to You or refund the purchase price (less shipping). This limited warranty is not transferable.

### Limitations on the Warranty

This limited warranty does not cover: (a) normal wear and tear; (b) damage through abuse, neglect, misuse, or as a result of any accident or in any other manner; (c) damage from misapplication, overloading, or improper installation; (d) improper maintenance and repair; and (e) product alteration in any manner by anyone other than Us, with the sole exception of alterations made pursuant to product instructions and in a workmanlike manner.

### Obligations of Purchaser

You must retain Your product purchase receipt to verify date of purchase and that You are the original purchaser. To make a warranty claim, contact Us at 1-800-222-5381, identify the product by make and model number, and follow the claim instructions that will be provided. The product and the purchase receipt must be provided to Us in order to process Your warranty claim. Any returned product that is replaced or refunded by Us becomes our property. You will be responsible for return shipping costs or costs related to Your return visit to a retail store.

### Remedy Limits

Product replacement or a refund of the purchase price is Your sole remedy under this limited warranty or any other warranty related to the product. We shall not be liable for: service or labor charges or damage to Your property incurred in removing or replacing the product; any damages, including, without limitation, damages to tangible personal property or personal injury, related to Your improper use, installation, or maintenance of the product or product component; or any indirect, incidental or consequential damages of any kind for any reason.

### Assumption of Risk

You acknowledge and agree that any use of the product for any purpose other than the specified use(s) stated in the product instructions is at Your own risk.

### Governing Law

This limited warranty gives You specific legal rights, and You also may have other rights which vary from state to state. Some states do not allow limitations or exclusions on implied warranties or incidental or consequential damages, so the above limitations may not apply to You. This limited warranty is governed by the laws of the State of Minnesota, without regard to rules pertaining to conflicts of law. The state courts located in Dakota County, Minnesota shall have exclusive jurisdiction for any disputes relating to this warranty.

# KLUTCH™

Distributed by:

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Burnsville, Minnesota 55306

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