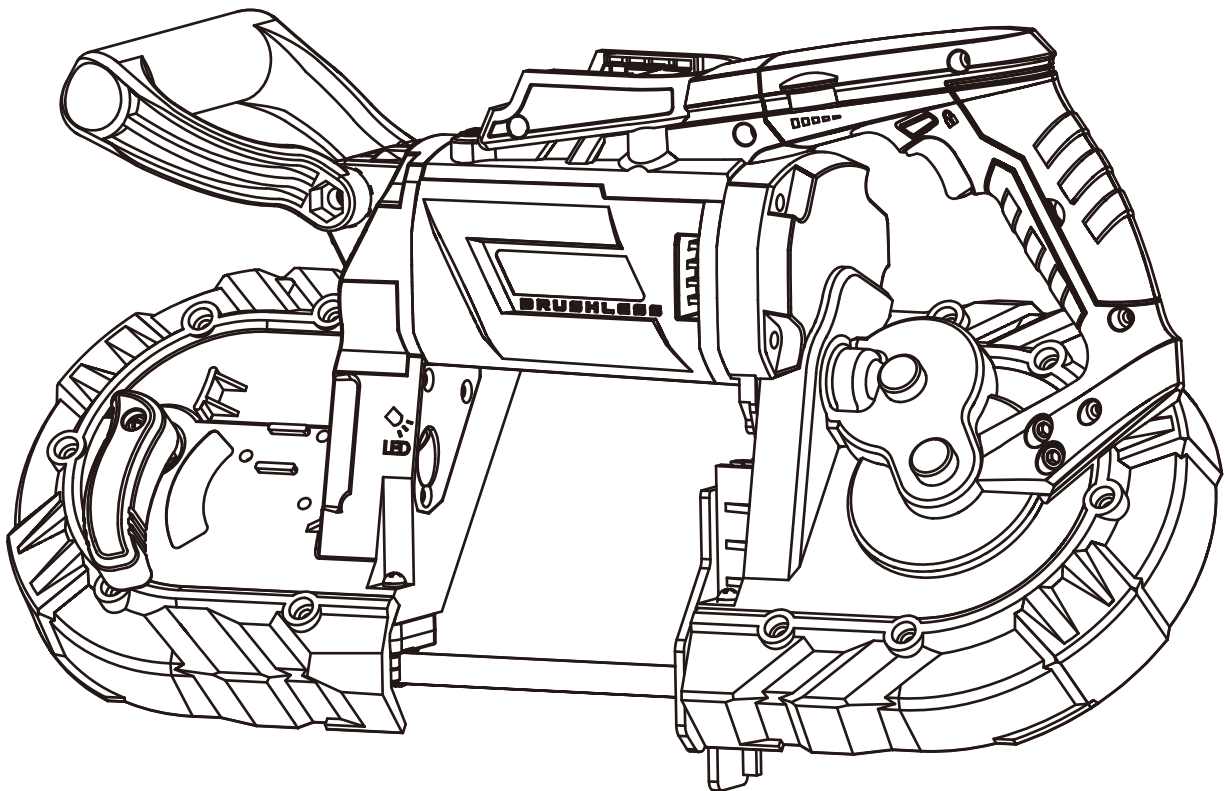


KLUTCH[®]

20V BRUSHLESS PORTABLE BAND SAW

Owner's Manual



For maximum performance,
use 4.0Ah battery or greater
(Sold Separately)

⚠ 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 # 611490

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: _____

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 20V Brushless Portable Band Saw designed for certain applications only. Northern Tool and 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 (800) 222-5381.

GENERAL POWER TOOL SAFETY INSTRUCTIONS

WARNING: Read all instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury. Retain this manual for future reference.

1. Work area safety

- a. Keep work area clean and well lit. Cluttered or dark areas invite accidents.
- b. 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.
- c. Keep children and bystanders away while operating a power tool. Distractions can cause you to lose control.

2. Electrical safety

- a. Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with grounded surfaces power tools. Unmodified plugs and matching outlets will reduce risk of electric shock.
- b. Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is grounded.
- c. Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.
- d. 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.
- e. When operating a power tool outdoors, use an extension cord suitable for outdoor use. Use of a cord suitable for outdoor use reduces the risk of electric shock.
- f. If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply. Use of an RCD reduces the risk of electric shock.

3. Personal safety

- a. Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use power tools while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating power tools may result in serious personal injury.
- b. Use personal protective equipment. Always wear eye protection. Protective equipment such as dust mask, nonskid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
- c. Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool. Carrying power tools with your finger on the switch or energizing power tools that have the switch on invites accidents.
- d. 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.
- e. Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.
- f. Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewellery or long hair can be caught in moving parts.
- g. 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.

4. Personal protection

- a. Risk of eye injury. Wear safety glasses or similar eye protection. Use a face or dust mask whenever the operations may produce dust or flying particles.
- b. Wear ear protection whenever the sound level seems uncomfortable.
- c. Do not overreach
- d. Keep proper footing and balance at all times.

GENERAL POWER TOOL SAFETY INSTRUCTIONS

5. Use the appropriate tool

- a. The intended use is described in this instruction manual. Do not force small tools or attachments to do the job of a heavy-duty tool.
- b. The tool will do the job better and safer at the rate for which it was intended. The use of any accessory or attachment or performance of any operation with this tool other than those recommended in this instruction manual may present a risk of personal injury. Do not force the tool.

6. Maintain tools with care

- a. Keep cutting tools sharp and clean for better and safer performance.
- b. Follow the instructions for maintenance and changing accessories.
- c. Keep handles and switches dry, clean, and free from oil and grease.

7. Check for damaged parts

- a. Before using the tool, carefully check it for damage to ensure that it will operate properly and perform its intended function.
- b. Check for misalignment and seizure of moving parts, breakage of parts and any other conditions that may effect its operation.
- c. Have any defective parts repaired or replaced by an authorized repair agent. Do not use the tool if any part is defective.
- d. Never attempt any repairs yourself.

8. Battery tool use and care

- a. Recharge only with the charger specified by the manufacturer. A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.
- b. Use power tools only with specifically designated battery packs. Use of any other battery packs may create a risk of injury and fire.
- c. When battery pack 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.
- d. 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.

9. Remove the battery

- a. Reduce the risk of injury to persons. Remove the battery pack when the tool is not in use, before changing any parts of the tool, accessories or attachments, and before cleaning or servicing.
- b. Avoid unintentional starting
- c. Do not carry the tool with a finger on the on/off switch.

10. Battery

- a. Do not use a battery pack or tool that is damaged or modified. Damaged or modified batteries may exhibit unpredictable behaviour resulting in fire, explosion or risk of injury.
- b. Do not expose a battery pack or tool to fire or excessive temperature. Exposure to fire or temperature above 130 °C(266°F) may cause explosion.
- c. Follow all charging instructions and do not charge the battery pack 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.

11. Never carry the charger by its cord or pull it to disconnect from the socket. Keep the cord away from heat, oil, and sharp edges.

12. Service

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.

IMPORTANT SAFETY INSTRUCTIONS FOR ALL BATTERY CHARGERS

SAVE THESE INSTRUCTIONS: This manual contains important safety and operating instructions for compatible battery chargers (refer to Technical Data). Before using charger, read all instructions and cautionary markings on charger, battery pack, and product using battery pack.

WARNING: Shock hazard. Do not allow any liquid to get inside charger. Electric shock may result.

WARNING: We recommend the use of a residual current device with a residual current rating of 30mA or less.

CAUTION: Burn hazard. To reduce the risk of injury, charge only KLUTCH rechargeable batteries. Other types of batteries may burst causing personal injury and damage.

CAUTION: Children should be supervised to ensure that they do not play with the appliance.

NOTICE: Under certain conditions, with the charger plugged into the power supply, the exposed charging contacts inside the charger can be shorted by foreign material. Foreign materials of a conductive nature such as, but not limited to, steel wool, aluminum foil or any buildup of metallic particles should be kept away from charger cavities. Always unplug the charger from the power supply when there is no battery pack in the cavity. Unplug charger before attempting to clean .

DO NOT attempt to charge the battery pack with any chargers other than the ones in this manual. The charger and battery pack are specifically designed to work together

These chargers are not intended for any uses other than charging Our rechargeable batteries. Any other uses may result in risk of fire, electric shock or electrocution.

Do not expose charger to rain or snow.

Pull by plug rather than cord when disconnecting charger. This will reduce risk of damage to electric plug and cord.

Make sure that cord is located so that it will not be stepped on, tripped over, or otherwise subjected to damage or stress.

Do not use an extension cord unless it is absolutely necessary. Use of improper extension cord could result in risk of fire,electric shock, or electrocution.

Do not place any object on top of charger or place the charger on a soft surface that might block the ventilation slots and result in excessive internal heat. Place the charger in a position away from any heat source. The charger is ventilated through slots in the top and the bottom of the housing.

Do not operate charger with damaged cord or plug—have them replaced immediately.

Do not operate charger if it has received a sharp blow,been dropped, or otherwise damaged in any way. Take it to an authorised service center.

Do not disassemble charger; take it to an authorised service center when service or repair is required.

Incorrect reassembly may result in a risk of electric shock, electrocution or fire.

In case of damaged power supply cord the supply cord must be replaced immediately by the manufacturer, its service agent or similar qualified person to prevent any hazard.

Disconnect the charger from the outlet before attempting any cleaning. This will reduce the risk of electric shock. Removing the battery pack will not reduce this risk.

NEVER attempt to connect two chargers together.

The charger is designed to operate on standard household electrical power.

Do not attempt to use it on any other voltage. This does not apply to the vehicular charger.

SAFETY INSTRUCTIONS FOR PORTABLE BAND SAW

Hold power tool by insulated gripping surfaces, when performing an operation where the cutting accessory may contact hidden wiring. Cutting accessories contacting a “live” wire may make exposed metal parts of the power tool “live” and could give the operator an electric shock.

Never leave the band saw unattended while it is running. Do not put the band saw down until the blade comes to a complete stop.

Before each use, make sure the Tension Handle is in the tightened position (making the blade taut).

Cutting Material. Make sure cutting material is securely fastened down before operating the band saw. Work slowly and carefully when cutting corners, sharp edges, ragged welds, etc., to avoid snagging.

Cutting material and the motor housing can get very hot during operation. Stop work until unit cools down to safe temperature. Spray a coolant or water onto the blade.

Maintain labels and nameplates on the tool. These carry important safety information. If unreadable or missing, contact us for a replacement.

Avoid unintentional starting. Prepare to begin work before turning on the tool.

Do not lay the tool down until it has come to a complete stop. Moving parts can grab the surface and pull the tool out of your control.

When using a handheld power tool, maintain a firm grip on the tool with both hands to resist start torque.

This product is not a toy. Keep it out of reach of children.

People with pacemakers should consult their physician(s) before use. Electromagnetic fields in close proximity to heart pacemaker could cause pacemaker interference or pacemaker failure. In addition, people with pacemakers should: Avoid operating alone.

WARNING: Some dust created by power sanding, sawing, grinding, drilling, and other construction activities, contains chemicals to cause cancer and birth defects or other reproductive harm. Some examples of these chemicals are: Lead from lead-based paints. Crystalline silica from bricks and cement or other masonry products, 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 those dust masks that are specially designed to filter out microscopic particles.

The warnings, precautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

Vibration Safety

This tool vibrates during use. Repeated or long-term exposure to vibration may cause temporary or permanent physical injury, particularly to the hands, arms and shoulders. To reduce the risk of vibration-related injury:

Anyone using vibrating tools regularly or for an extended period should first be examined by a doctor and then have regular medical check-ups to ensure medical problems are not being caused or worsened from use.

Pregnant women or people who have impaired blood circulation to the hand, past hand injuries, nervous system disorders, diabetes, or Raynaud's Disease should not use this tool. If you feel any symptoms related to vibration (such as tingling, numbness, and white or blue fingers), seek medical advice as soon as possible.

Do not smoke during use. Nicotine reduces the blood supply to the hands and fingers, increasing the risk of vibration-related injury.

Wear suitable gloves to reduce the vibration effects on the user.

Use tools with the lowest vibration when there is a choice.

Include vibration-free periods each day of work.

Grip tool as lightly as possible (while still keeping safe control of it). Let the tool do the work.

SAFETY INSTRUCTIONS FOR PORTABLE BAND SAW









To reduce vibration, maintain the tool as explained in this manual. If any abnormal vibration occurs, stop use immediately.

GENERAL

- This tool should not be used by people under the age of 16 years
- This tool is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the tool by a person responsible for their safety
- Ensure that children do not play with the tool
- Always disconnect plug from power source before making any adjustment or changing any accessory

Symbols

On the product, the rating label and within these instructions you will find among others the following symbols and abbreviations. Familiarize yourself with them to reduce hazards like personal injuries and damage to property.

	Please read the instructions carefully before starting the machine.
	Wear safety goggles.
	Wear protective gloves
	Switch the product off and disconnect it from the power supply before assembly, cleaning, adjustments, maintenance, storage and transportation.
	Wear ear protectors.
	Wear a dust mask.
	Wear safety cut through resistant shoes with safety sole and steel toe.
	Any damaged or disposed devices must be delivered to appropriate collection centers.

SPECIFICATION

Voltage: 20V Max

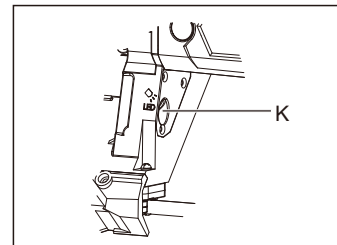
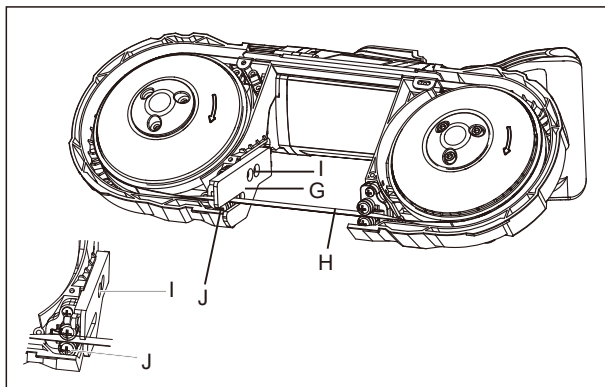
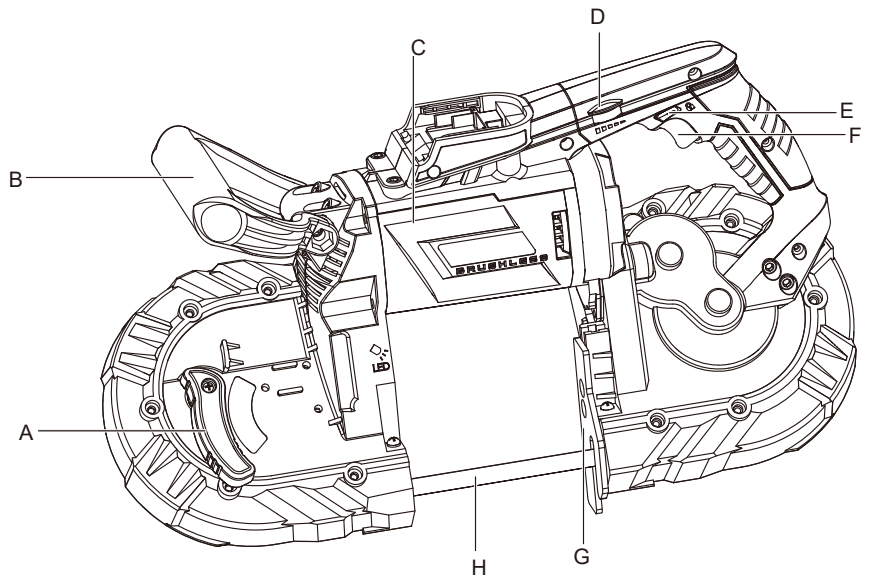
No loading speed: 0-420SFPM

Max cutting size: 5"

Blade Dimensions: 44-7/8"x1/2"

FUNCTION

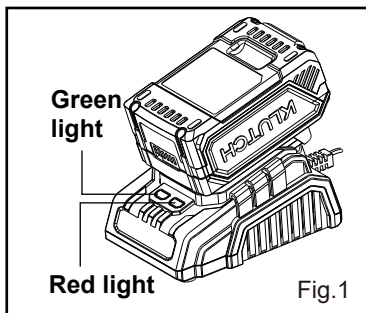
- A. Tension handle
- B. Auxiliary handle
- C. Motor housing
- D. Speed dial
- E. Safety lock button
- F. On/Off switch
- G. Guide bar
- H. Blade
- I. Screw
- J. Guide Bearing
- K. LED light



OPERATION

CHARGING BATTERIES(SOLD SEPARATELY)

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.

OPERATION

Blade installation and replacement

Turn the Tension Handle(A) clockwise to release Blade tension

Set the blade into both Guide Bearings(J), making sure the Blade is centered on them

Hold the blade on the guides and push in. Make sure the blade evenly fits around the wheels.

Turn the Tension Handle(A) until the blade is taut and the handle "Tight".

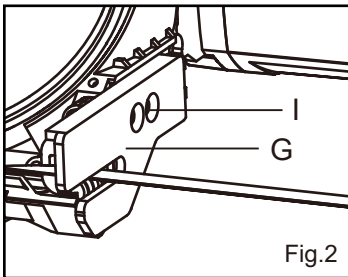
Plug in the tool and put on your ear/eye protection, and turn on the tool. Inspect the blade and make sure it runs steady and evenly around the wheels, and that the teeth are pointed in the correct direction.

Guide bar assembly

Assemble the Guide Bar(G) to the band saw before operation

Release the Screws (I) on the Frame.

Install the Guide Bar (G) around the blade, then lock the screws.



Blade Selection

Select the proper Blade according to the cutting material and the diameter or size of the workpiece.

This Band Saw accepts 44-7/8" x 1/2" x .025" Blades. (Blade sold separately.)

NOTICE: Never use the band saw to cut resin materials which are subject to melting. Melting of resin material caused by high heat generated during cutting may cause the band saw blade to become bound to the material, possibly resulting in overload and burn-out of the motor.

The following table is intended as a general guide only.

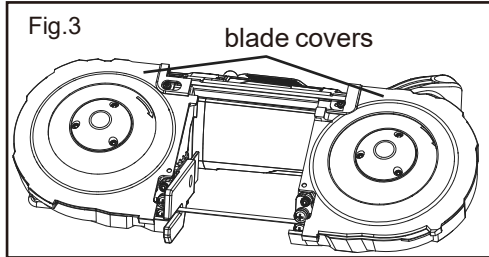
Common Blade Applications	
3-4	Wood, resawing (ripping).
10-14	Stainless steel, angle iron, pipe, tubing, plastic, wood 1/4" or thicker.
14-18	Stainless steel, angle iron, pipe, tubing, plastic, wood 1/8" to 1/4".
24	Stainless steel, angle iron, pipe, tubing, plastic, wood 1/8" and under

OPERATION

Blade installation and replacement

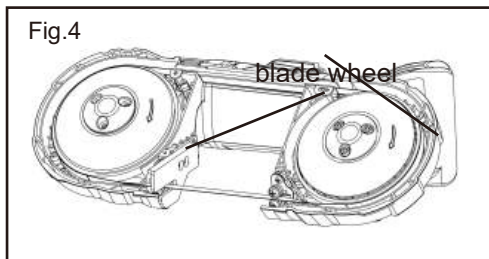
WARNING! To prevent serious injury from accidental operation: Make sure that the Trigger is in the off position and remove its Battery Pack before installing or removing a saw Blade.

1. Remove the Blade Covers(Fig.3).

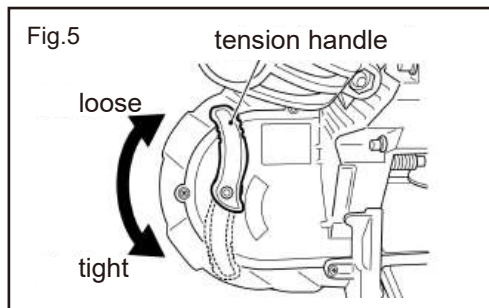


2. Orientate the unit so that the blade wheels are facing up and the edge of the used blade is pointing away from you(Fig.4).

WARNING! Once Blade tension is released, it may spring off quickly.

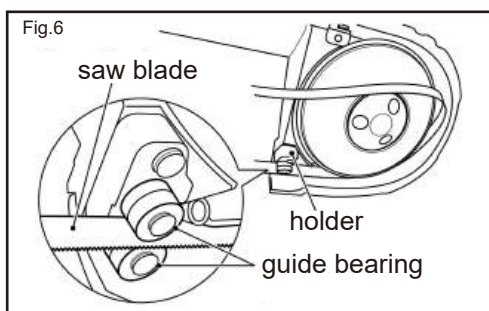


3. Turn the tension handle(A) clockwise to release blade tension. Remove the old blade from the blade wheel(Fig.5)



4. Set the blade into both guide bearings and center it on them. Make sure the blade is centered on the guide bearings and fits evenly around the blade wheels.

Note: Install blade with teeth pointing upward, facing you.



5. Turn the tension lever counter-clockwise until the blade is taut and the handle tight(Fig.3).

6. Installing the blade cover.

7. Installing the Battery Pack. Inspect the Blade and make sure it runs steadily and evenly around the Blade Wheels, and that the teeth are pointed in the correct direction.

OPERATION

Guide bar adjustment (Fig.7)

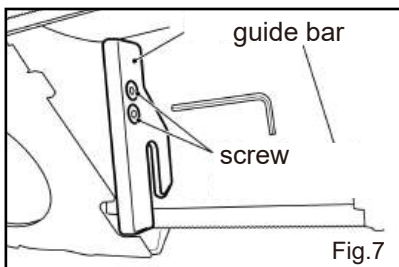
Adjust the lower limit position of the cutting edge of the saw blade so that the cut material is not left uncut when it is carried and used.

When working normally, adjust the Guide bar to the lower limit position.

- Loosen the screws(l) on the guide bar with the included hex wrench (S4).
- Lower the guide bar to the lower limit position.

IMPORTANT! When cutting the material, if there is any uncut part, adjust the guide bar to the upper side of the lower limit position again.

- After adjusting the position of the guide bar, tighten the screws(l) of the guide bar with the attached hexagon wrench(S4).

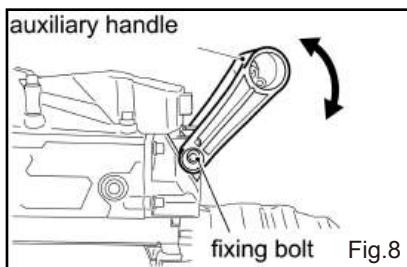


Auxiliary handle adjustment (Fig.8)

Use the included hex wrench (S6) to adjust the auxiliary handle to any angle.

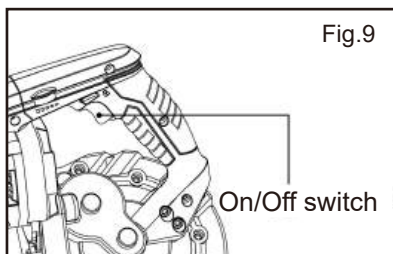
1. Use a S6 hex wrench to loosen the grip fixing bolts.
2. Adjust the grip to a suitable angle.
3. Tighten the grip fixing bolt with a 6mm hexagon wrench to fix the grip.

WARNING: Make sure the bail handle knob is tightened and bail handle is secure before using the saw.



Switching the machine on and off

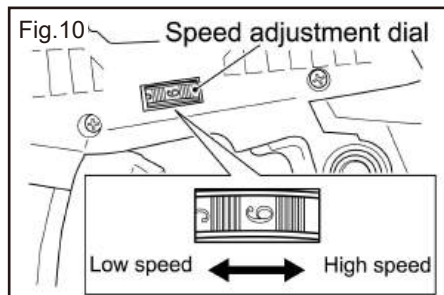
Push the safety lock button (E) to release the machine switch first, turn on the portable band saw using switch (F)(Fig.9).



OPERATION

Adjust the speed by turning the speed dial (D), user can choose different speed for different cutting materials(Fig.10).

Estimated speed adjustment dial position



Dial	Material
1	Stainless steel, alloy
2	Stainless steel, alloy
3	Stainless steel, alloy
4	Carbon steel
5	Carbon steel
6	Aluminum alloy, Resin products(plastic)

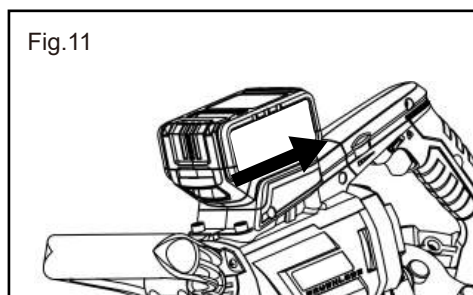
WARNING! The adjustment range of the speed adjustment dial is "1 to 6 steps" Do not force the dial beyond "1" or "6". It may cause damage to the dial. Do not change the rotation speed while cutting the material. It may cause the bandsaw to malfunction or the saw blade to be damaged.

Cutting operations

Make sure that the Switch is in the off-position, then plug in the tool.

Secure your workpiece to a workbench or other solid surface.

Installing the Battery Pack: align the battery pack with the rails inside the tool's handle and slide it into the handle until the battery pack is firmly seated in the tool and ensure that it does not disengage(Fig.11).



NOTE: For best results, make sure your battery pack is fully charged.

Set the Guide Bar against the workpiece, keeping blade at a slight angle to the workpiece. Turn on the Band saw and allow it to come up to full speed before starting the cut.

Adjust speed by turning the speed dial (E).

Tilt the unit so that the blade is vertical. To start a cut, use minimal force to start a groove. Once groove is started, allow the rest of the blade to cut into workpiece. Doing this will prevent blade from moving from side-to-side during cutting.

CAUTION! TO PREVENT PROPERTY DAMAGE AND INJURY: Do not apply force to the tool by pressing too hard with your hands or leaning into it. The tool's own weight provides the most efficient downward cutting pressure. Forcing or leaning on the tool may twist or break the Blade, damaging the saw and possibly causing injury.

NOTICE: During cutting, if the band saw becomes locked or jammed in the workpiece material, release the switch immediately to avoid damage to the band saw blade and motor.

WARNING! Whenever possible, hold the saw firmly in both hands. DO NOT MAKE ANY SPEED CHANGES UNLESS TOOL HAS BEEN TURNED OFF.

As you reach the end of your workpiece, finish off the cut by slightly raising the unit slowly, bringing the blade up.

WARNING! The end pieces which would be heavy and cause injury when they fall after cutting. Safety shoes are strongly recommended. The end pieces would be hot and sharp.

To prevent accidents, turn off the tool and remove its Battery Pack after use. Clean, then store the tool indoors out of children's reach.

MAINTENANCE AND SERVICING

WARNING: Procedures not specifically explained in this manual must be performed only by a qualified technician. To reduce the risk of serious personal injury, turn tool off and remove the battery pack before making any adjustments or removing/installing attachments or accessories. An accidental start-up can cause injury.

BEFORE EACH USE, inspect the general condition of the tool. Check for:

- Whether the battery pack is damaged, such as: Leaking, swelling or cracking;
- Whether the parts are cracked or broken;
- Whether the fixed parts of the machine are loose;
- Whether the moving parts are misplaced or stuck;
- Whether the parts are cracked or broken;
- Whether the charger cable is damaged;
- Any other condition that may affect its safe operation.

AFTER USE, wipe external surfaces of the tool with clean cloth.

WARNING: Never use solvents or other harsh chemicals for cleaning the non-metallic parts of the tool. These chemicals may weaken the plastic materials used in these parts. Use a cloth dampened only with water and mild soap. Never let any liquid get inside the tool; never immerse any part of the tool into a liquid.

WARNING: Shock hazard. Disconnect the charger from the AC outlet before cleaning. Dirt and grease may be removed from the exterior of the charger using a cloth or soft non-metallic brush. Do not use water or any cleaning solutions.

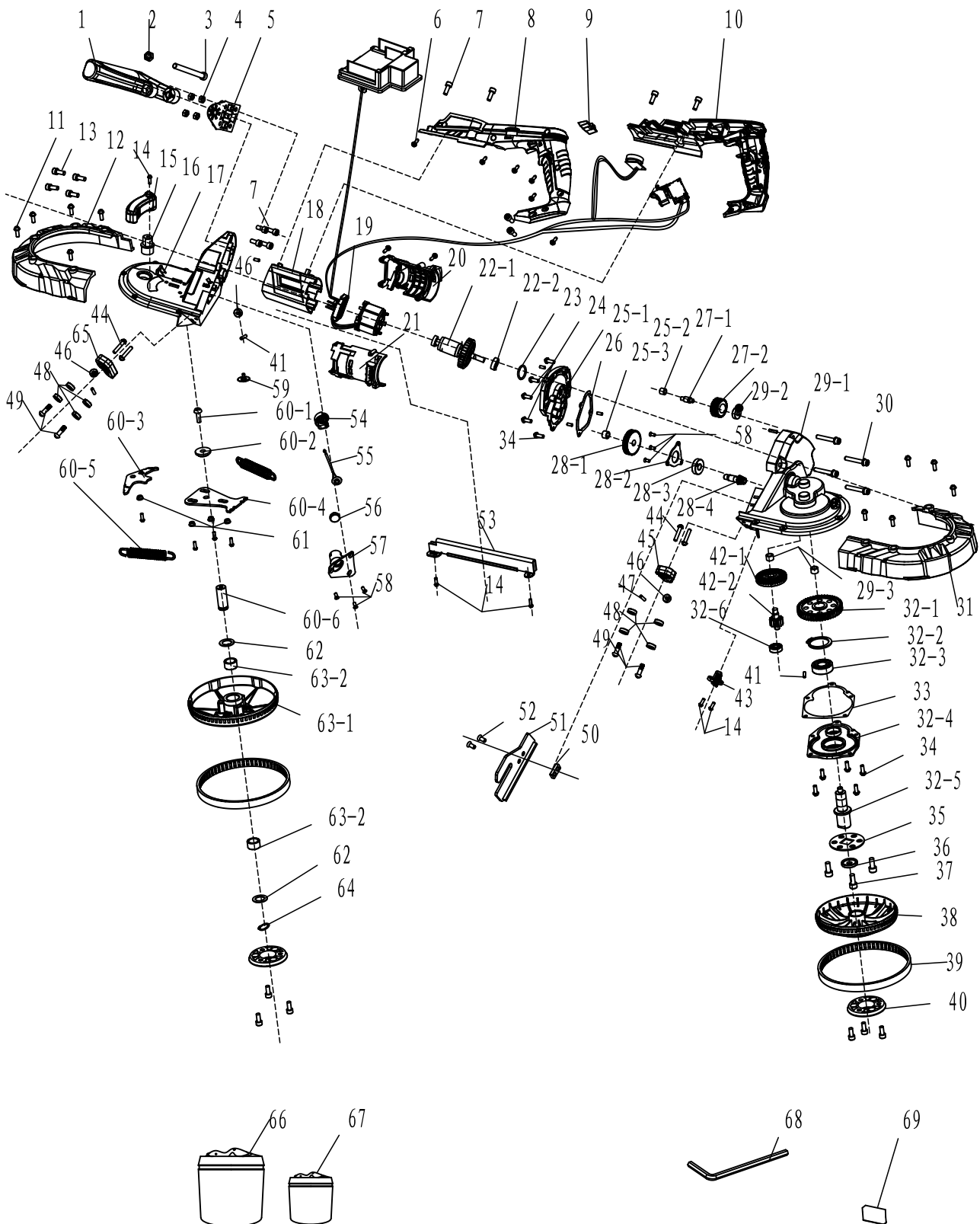
If not using the tool for long periods of time, remove the Blade.

Li-Ion BATTERY MUST BE RECYCLED OR DISPOSED OF PROPERLY. Do not short, incinerate or open battery.

PARTS LIST

No.	Description	Qty	No.	Description	Qty	No.	Description	Qty
1	Auxiliary Handle	1	28	Gear Shaft Assembly	1	47	Bearing	3
2	Nut M8X6	1	28-1	Gear	1	48	Bearing	8
3	Screw M8X70	1	28-2	Bearing Cover	1	49	Screw	4
4	Nut M6	4	28-3	Bearing	1	50	Sliding Block	1
5	Auxiliary Handle Seat	1	28-4	Gear	1	51	Block	1
6	Screw M4X16	12	29	Gearbox Assembly	1	52	Screw M6X16	2
7	Screw M6X14	16	29-1	Gearbox	1	53	Knife Guard Bracket	1
8	Left Handle	1	29-2	Bearing	1	54	Lamp Back Cover	1
9	Switch Lock Button	1	29-3	Needle Roller Bearing	2	55	Led Lamp Circuit Board	1
10	Right Handle	1	30	Screw M6X40	4	56	Transparent Reflector	1
11	Screw M5X12	10	31	Gearbox Cover	1	57	Lamp Holder	1
12	Bracket Sleeve	1	32	Gearbox Cover Assembly	1	58	Screw M4X8	6
13	Screw M6X20	4	32-1	Gear	1	59	Screw M4X8	1
14	Screw M4X12	9	32-2	Elastic Retaining Ring	1	60	Movable Bracket Assembly	1
15	Adjustment Wrench	1	32-3	Bearing	1	60-1	Screw M6X16	1
16	Adjustment Shaft	1	32-4	Gearbox Cover	1	60-2	Adjustment Swivel Wheel	1
17	Support Frame	1	32-5	Output Shaft	1	60-3	Adjustment Bracket	1
18	Housing	1	32-6	608 Z2 Bearing	1	60-4	Movable Bracket	1
19	Stator Assembly	1	33	Paper Pad	1	60-5	Tension Spring	2
20	Motor Fixed Left Shell	1	34	Screw M5X14	6	60-6	Drive Shaft	1
21	Motor Fixed Right Shell	1	35	Coupling	1	61	Positioning Sleeve	4
22	Rotor Assembly	1	36	Plate	1	62	Dust Pad	2
22-1	Rotor	1	37	Screw M8X14	4	63	Drive Plate Assembly	1
22-2	Bearing	1	38	Drive Plate	1	63-1	Drive Plate	1
23	O-Ring	1	39	Anti-Slip Belt	2	63-2	Steel Sleeve	2
24	Screw M4X16	4	40	Drive Plate Cover	2	64	Elastic Retaining Ring	1
25	Middle Cover Assembly	1	41	Cylindrical Pin	4	65	Positioning Block	1
25-1	Middle Cover	1	42	Gear Shaft Assembly	1	66	Hexagon Wrench	1
25-2	Needle Bearing	1	42-1	Big Gear	1	67	Label	1
25-3	Needle Roller Bearing	1	42-2	Gear Shaft	1			
26	Middle Cover Paper Pad	1	43	Brush	1			
27	Bridge Gear Assembly	1	44	Screw M5X25	4			
27-1	Gear Core Shaft	1	45	Positioning Block	1			
27-2	Bridge Gear	1	46	Cylindrical Pin	5			

SCHEMATIC DRAWING



REPLACEMENT PARTS

- For replacement parts and technical questions, please call Customer Service at (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 two years 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 (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.

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