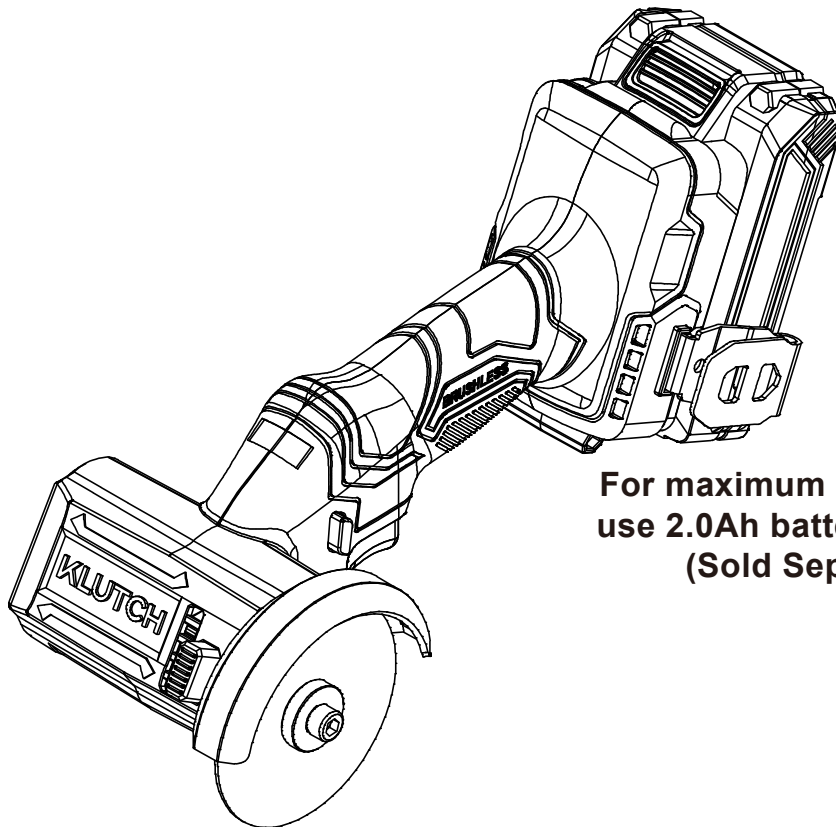


# KLUTCH™

## 20V 3IN. CUTOFF TOOL

### Owner's Manual



For maximum performance,  
use 2.0Ah 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 # 611473**

**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 3IN. Cutoff Tool is 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**.

# IMPORTANT SAFETY INSTRUCTIONS

## WARNING:

When using electric tools, machines or equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and personal injury.



## WORK AREA SAFETY

1. Keep the work area clean and well lit. Cluttered or dark areas invite accidents.
2. 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.
3. Keep children and bystanders away while operating a power tool. Distractions can cause you to lose control.

## ELECTRICAL SAFETY

1. Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with grounded power tools. Unmodified plugs and matching outlets will reduce risk of electric shock.
2. 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.
3. Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.
4. 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.
5. 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.
6. 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

1. Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating power tools may result in serious personal injury.
2. 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.
3. 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.
4. 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.
5. Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.
6. 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.
7. If devices are provided for the connection of dust extraction and collection facilities, ensure

# IMPORTANT SAFETY INSTRUCTIONS

that these are connected and properly used. Use of these devices can reduce dust-related hazards.

## POWER TOOL USE AND CARE

1. Do not force the power tool. Use the correct power tool for your application. The correct power tool will do the job better and more safely at the rate for which it was designed.
2. 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.
3. Disconnect the plug from the power source and/or the battery pack 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.
4. Store 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.
5. Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use. Many accidents are caused by poorly maintained power tools.
6. Keep cutting tools sharp and clean. Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
7. Use the power tool, accessories, 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.

## BATTERY TOOL USE AND CARE

1. 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.
2. Use power tools only with specifically designated battery packs. Use of any other battery packs may create a risk of injury and fire.
3. 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.
4. Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, also seek medical help. Liquid ejected from the battery may cause irritation or burns.

## CUT-OFF MACHINE SAFETY WARNINGS

1. The guard provided with the tool must be securely attached to the power tool and positioned for maximum safety, so the least amount of wheel is exposed towards the operator. Position yourself and bystanders away from the plane of the rotating wheel. The guard helps to protect operator from broken wheel fragments and accidental contact with wheel.
2. Use only bonded reinforced or diamond cut-off wheels for your power tool. Just because an accessory can be attached to your power tool, it does not assure safe operation.
3. The rated speed of the accessory must be at least equal to the maximum speed marked on the power tool. Accessories running faster than their rated speed can break and fly apart.
4. Wheels must be used only for recommended applications. For example: do not grind with the side of cut-off wheel. Abrasive cut-off wheels are intended for peripheral grinding, side forces applied to these wheels may cause them to shatter.

# IMPORTANT SAFETY INSTRUCTIONS

5. Always use undamaged wheel flanges that are of correct diameter for your selected wheel. Proper wheel flanges support the wheel thus reducing the possibility of wheel breakage.

6. Do not use worn down reinforced wheels from larger power tools. Wheels intended for a larger power tool are not suitable for the higher speed of a smaller tool and may burst.

7. The outside diameter and the thickness of your accessory must be within the capacity rating of your power tool. Incorrectly sized accessories cannot be adequately guarded or controlled.

8. The arbor size of wheels and flanges must properly fit the spindle of the power tool. Wheels and flanges with arbor holes that do not match the mounting hardware of the power tool will run out of balance, vibrate excessively and may cause loss of control.

Do not use damaged wheels. Before each use, inspect the wheels for chips and cracks. If power tool or wheel is dropped, inspect for damage or install an undamaged wheel. After inspecting and installing the wheel, position yourself and bystanders away from the plane of the rotating wheel and run the power tool at maximum no load speed for one minute. Damaged wheels will normally break apart during this test time.

10. Wear personal protective equipment. Depending on application, use face shield, safety goggles or safety glasses. As appropriate, wear dust mask, hearing protectors, gloves and shop apron capable of stopping small abrasive or workpiece fragments. The eye protection must be capable of stopping flying debris generated by various operations. The dust mask or respirator must be capable of filtering particles generated by your operation. Prolonged exposure to high intensity noise may cause hearing loss.

11. Keep bystanders a safe distance away from work area. Anyone entering the work area must wear personal protective equipment. Fragments of workpiece or of a broken wheel may fly away and cause injury beyond immediate area of operation.

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

13. Never lay the power tool down until the accessory has come to a complete stop.

The spinning wheel may grab the surface and pull the power tool out of your control.

14. Do not run the power tool while carrying it at your side. Accidental contact with the spinning accessory could snag your clothing, pulling the accessory into your body.

15. Regularly clean the power tool's air vents.

The motor's fan will draw the dust inside the housing and excessive accumulation of powdered metal may cause electrical hazards.

16. Do not operate the power tool near flammable materials. Sparks could ignite these materials.

17. Do not use accessories that require liquid coolants. Using water or other liquid coolants may result in electrocution or shock.

## SERVICE

1. 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.

2. Never service damaged BATTERY packs.

Service of BATTERY packs should only be performed by the manufacturer or authorized service providers.

3. Maintain labels and nameplates on the tool. These carry important safety information.

If unreadable or missing, contact Northern Tool for a replacement.

# IMPORTANT SAFETY INSTRUCTIONS

## KICKBACK AND RELATED WARNINGS

Kickback is a sudden reaction to a pinched or snagged rotating wheel, backing pad, brush or any other accessory. Pinching or snagging causes rapid stalling of the rotating accessory which in turn causes the uncontrolled power tool to be forced in the direction opposite of the accessory's rotation at the point of the binding.

For example, if an abrasive wheel is snagged or pinched by the workpiece, the edge of the wheel that is entering into the pinch point can dig into the surface of the material causing the wheel to climb out or kick out. The wheel may either jump toward or away from the operator, depending on direction of the wheel's movement at the point of pinching. Abrasive wheels may also break under these conditions.

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

1. Maintain a firm grip on the power tool and position your body and arm to allow you to resist kickback forces.

Always use auxiliary handle, if provided, for maximum control over kickback or torque reaction during start-up.

The operator can control torque reactions or kickback forces, if proper precautions are taken.

2. Never place your hand near the rotating accessory. Accessory may kickback over your hand.

3. Do not position your body in line with the rotating wheel. Kickback will propel the tool in direction opposite to the wheel's movement at the point of snagging.

4. Use special care when working corners, sharp edges etc. Avoid bouncing and snagging the accessory.

Corners, sharp edges or bouncing have a tendency to snag the rotating accessory and cause loss of control or kickback.

5. Do not attach a saw chain, woodcarving blade, segmented diamond wheel with a peripheral gap greater than 10mm or toothed saw blade. Such blades create frequent kickback and loss of control.

6. Do not "jam" the wheel or apply excessive pressure. Do not attempt to make an excessive depth of cut.

Overstressing the wheel increases the loading and susceptibility to twisting or binding of the wheel in the cut and the possibility of kickback or wheel breakage.

7. When wheel is binding or when interrupting a cut for any reason, switch off the power tool and hold the power tool motionless until the wheel comes to a complete stop. Never attempt to remove the wheel from the cut while the wheel is in motion otherwise kickback may occur. Investigate and take corrective action to eliminate the cause of wheel binding.

8. Do not restart the cutting operation in the workpiece. Let the wheel reach full speed and carefully re-enter the cut.

The wheel may bind, walk up or kickback if the power tool is restarted in the workpiece.

9. Use support panels on any oversized workpiece to minimize the risk of wheel pinching and kickback. Large workpieces tend to sag under their own weight. Supports must be placed under the workpiece near the line of cut and near the edge of the workpiece on both sides of the wheel.

10. Use extra caution when making a "pocket cut" into existing walls or other blind areas. The protruding wheel may cut gas or water pipes, electrical wiring or objects that can cause kickback.

## 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:

1. 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.

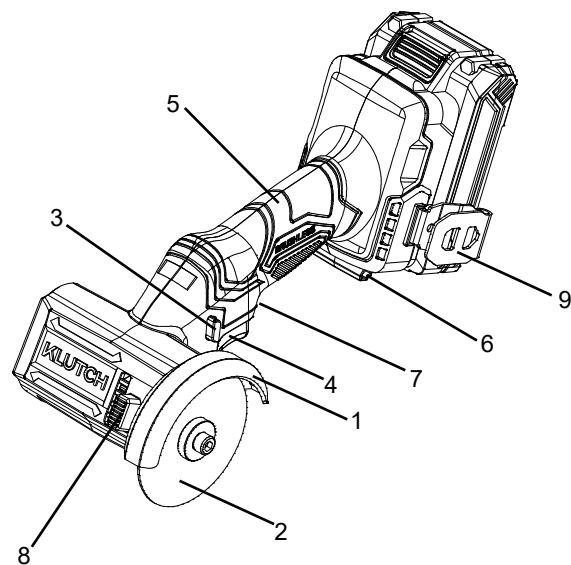
Pregnant women or people who have impaired blood circulation to the hand, past hand injuries, nervous system disorders, diabetes, or Raynaud's Disease should not use this tool. If you feel any medical or physical symptoms related to vibration (such as tingling, numbness, and white or blue fingers), seek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

## IMPORTANT SAFETY INSTRUCTIONS

2. Do not smoke during use. Nicotine reduces the blood supply to the hands and fingers, increasing the risk of vibration-related injury.
3. Wear suitable gloves to reduce the vibration effects on the user.
4. Use tools with the lowest vibration when there is a choice between different processes.
5. Include vibration-free periods each day of work.
6. Grip tool as lightly as possible (while still keeping safe control of it). Let the tool do the work.
7. To reduce vibration, maintain the tool as explained in this manual. If any abnormal vibration occurs, stop use immediately.

## FUNCTION

1. Wheel Guard
2. Cut-Off Wheel
3. Forward/Reverse Switch
4. Trigger
5. Handle
6. Onboard hex key storage
7. LED Light
8. Spindle Lock
9. Metal Belt Hook



## SPECIFICATION

- Voltage: 20V  
Disc dia: 3 in.  
No-load speed: 20,000 RPM  
Arbor size: 3/8" (Arbor with 7/16" adapter)

## ASSEMBLY

**WARNING:** If any part is broken or missing, DO NOT attempt to plug in the power cord, attach the battery, or operate the tool until the broken or missing part is replaced. Failure to do so could result in possible serious injury.



**WARNING:** Do not attempt to modify this tool or create accessories not recommended for use with this tool. Any such alteration or modification is misuse and could result in a hazardous condition leading to possible serious injury.



**WARNING:** Your tool should never be connected to the power source when you are assembling parts, making adjustments, installing or removing application tools, cleaning, or when it is not in use. Disconnecting the tool will prevent accidental starting, which could cause serious personal injury.



### UNPACKING

1. Carefully remove the tool and any accessories from the box. Make sure that all items listed in the packing list are included.
2. Inspect the tool carefully to make sure that no breakage or damage occurred during shipping.
3. Do not discard the packing material until you have carefully inspected and satisfactorily operated the tool.

## OPERATION

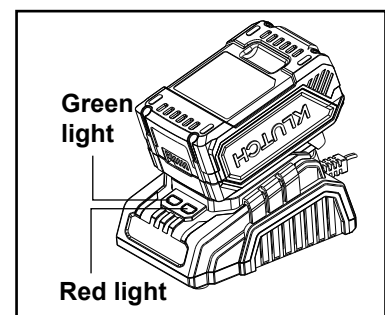
### How to charge the battery pack ?

#### 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 Maintenance mode.
9. Charger will periodically wake from Energy Save mode to ensure the battery pack remains in a fully charged state.



# OPERATION

- 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

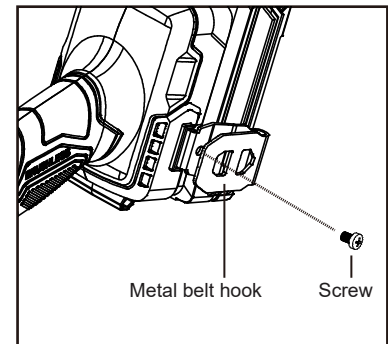
## Caution

- 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.

## TO INSTALL/REMOVE METAL BELT HOOK

Attach metal belt hook to Handle using supplied Screw:

- Clockwise is to tighten.
- Counterclockwise is to loosen.
- Metal belt hook may be attached to either side.



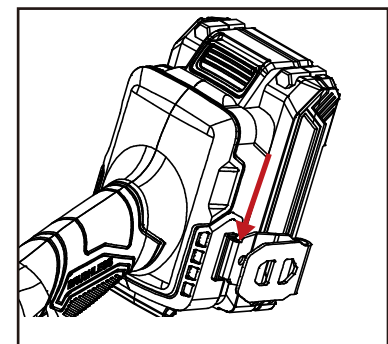
## TO ATTACH THE BATTERY PACK

**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.



- Make sure that the cutoff tool is turned off.
- 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 cutoff tool.

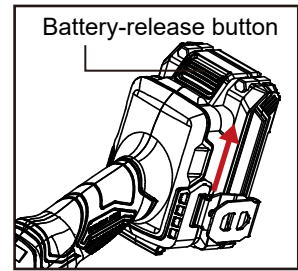
**NOTICE:** When attaching the battery pack to the tool, make sure that the raised platform on the pack aligns with the grooves on the bottom of the tool and that the latches snap properly into place. Improper assembly of the battery pack can cause damage to internal components.



# OPERATION

## TO DETACH BATTERY PACK

1. Make sure that the cutoff tool is turned off.
2. Depress the battery-release button located on the front of the battery pack to release the battery pack.
3. Pull the battery pack forward to remove it from the tool.



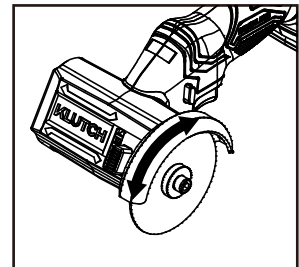
## ADJUSTING THE WHEEL GUARD

**WARNING!** TO PREVENT SERIOUS INJURY: Do not operate this tool without the Wheel Guard properly installed. The wheel guard is pre-assembled on the product on delivery, remains on the product and must not be removed.



Follow the steps described below if you want to change the position of the wheel guard to adjust it to working conditions:

- Switch the product off and remove the battery from the cutoff tool.
- Rotate the wheel guard until you feel it engage in one of the 5 possible positions.



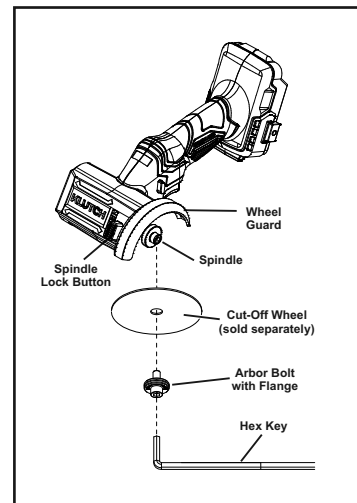
**WARNING!** Only use the product when the wheel guard is properly engaged.

Do not use force to rotate the wheel guard. If you cannot rotate the wheel guard further, push it towards the product and carefully continue to rotate it until it engages.



## CUT-OFF WHEEL INSTALLATION

1. The Cut-Off Wheel MUST be:
  - rated to at least 20,000 RPM
  - 3" (76 mm) in diameter
  - fitted with a 3/8" round arbor hole
  - from 0.030"– 0.125" thick
  - suitable for edge grinding, not surface grinding
  - dry and clean
  - proven undamaged by visual inspection
2. Press in and hold the Spindle Lock Button to prevent the Spindle from turning.
3. Loosen the Arbor Bolt by turning COUNTERCLOCKWISE using the supplied Hex Key and remove the Arbor Bolt with Flange.



**WARNING!** TO PREVENT SERIOUS INJURY: Do not use worn or damaged wheels.



4. Place the Cut-Off Wheel onto the Spindle.
5. Press in and hold the Spindle Lock Button. Insert Arbor Bolt with Flange through the Wheel into Spindle and tighten securely by turning CLOCKWISE.

# OPERATION

**WARNING!** TO PREVENT SERIOUS INJURY, do not overtighten Arbor Bolt. Overtightening can damage the wheel, causing wheel failure.



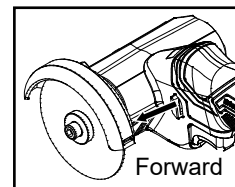
Read the ENTIRE IMPORTANT SAFETY INFORMATION section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

## FORWARD/REVERSE SWITCH & TRIGGER LOCK

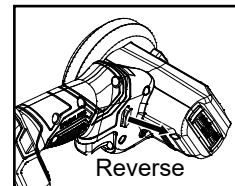
After tool use, lock trigger in “OFF” position to help prevent accidental starts and accidental discharge.



For forward rotation, press the forward/reverse switch to the far left.



For reverse rotation, press the forward/reverse switch to the far right.



To activate trigger lock move forward/reverse switch to the center off position.

Do not change direction of rotation until the tool comes to a complete stop. Shifting during rotation of the wheel can cause damage to the tool.



## GENERAL OPERATION

1. Make sure that the Forward / Reverse switch is in the center position. Insert a fully charged 20V KLUTCH Battery Pack (sold separately) into the Battery Receptacle, making sure it clicks in place securely.
2. Select forward or reverse rotation, grip the tool firmly, then press the Trigger to start the tool.
3. Allow the tool to come up to full speed before touching the work material.
4. Apply the Cut-Off Wheel straight into the work material using only the edge of the Wheel, allowing the Tool to operate at full speed. If the Tool bogs down, use lighter pressure.

**WARNING!** TO PREVENT SERIOUS INJURY: Do not grind with the side of the Cut-Off Wheel. Abrasive cut-off wheels are intended for peripheral grinding; side forces applied to these wheels may cause them to shatter.



5. Avoid contact with foreign objects such as metal screws and nails when cutting.

6. Do not apply excessive pressure on the Tool. Allow the Tool to do the work.

**Note:** Use caution to avoid overheating the cut-off wheel. If cutting plastic, cut at an even pace to avoid melting it.

7. When finished, release the the Trigger and move forward/reverse switch to the center off position.

8. TO PREVENT ACCIDENTS, AFTER USE: Turn off the Tool.

**WARNING!** TO PREVENT SERIOUS INJURY:

Allow the Tool to come to a complete stop before setting it down.

Remove the tool's Battery Pack. Clean, then store the Tool indoors out of children's reach.



# MAINTENANCE AND SERVICING



Procedures not specifically explained in this manual must be performed only by a qualified technician.

## **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.

### **TO PREVENT SERIOUS INJURY FROM TOOL FAILURE:**

Do not use damaged equipment. If abnormal noise or vibration occurs, have the problem corrected before further use.

## **CLEANING, MAINTENANCE, AND LUBRICATION**

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

- leaking, swollen, or cracked battery pack
- loose hardware
- misalignment or binding of moving parts
- cracked or broken parts
- damaged electrical wiring
- any other condition that may affect its safe operation.

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

**3. PERIODICALLY**, wear ANSI-approved safety goggles and NIOSH-approved breathing protection and blow dust and grit out of the motor vents using dry compressed air.

### **4. Li-Ion BATTERY MUST BE RECYCLED OR DISPOSED OF PROPERLY.**

Do not short, incinerate or open battery.

5. 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.

## **ACCESSORY STORAGE AND HANDLING**

1. Handle accessories carefully to prevent dropping or bumping. Do not use wheels that have been dropped or bumped.

2. Store accessories in shelves, racks, boxes, or drawers. Keep storage area dry and above freezing.

Any cut-off wheels exposed to humidity or freezing temperatures must not be used.

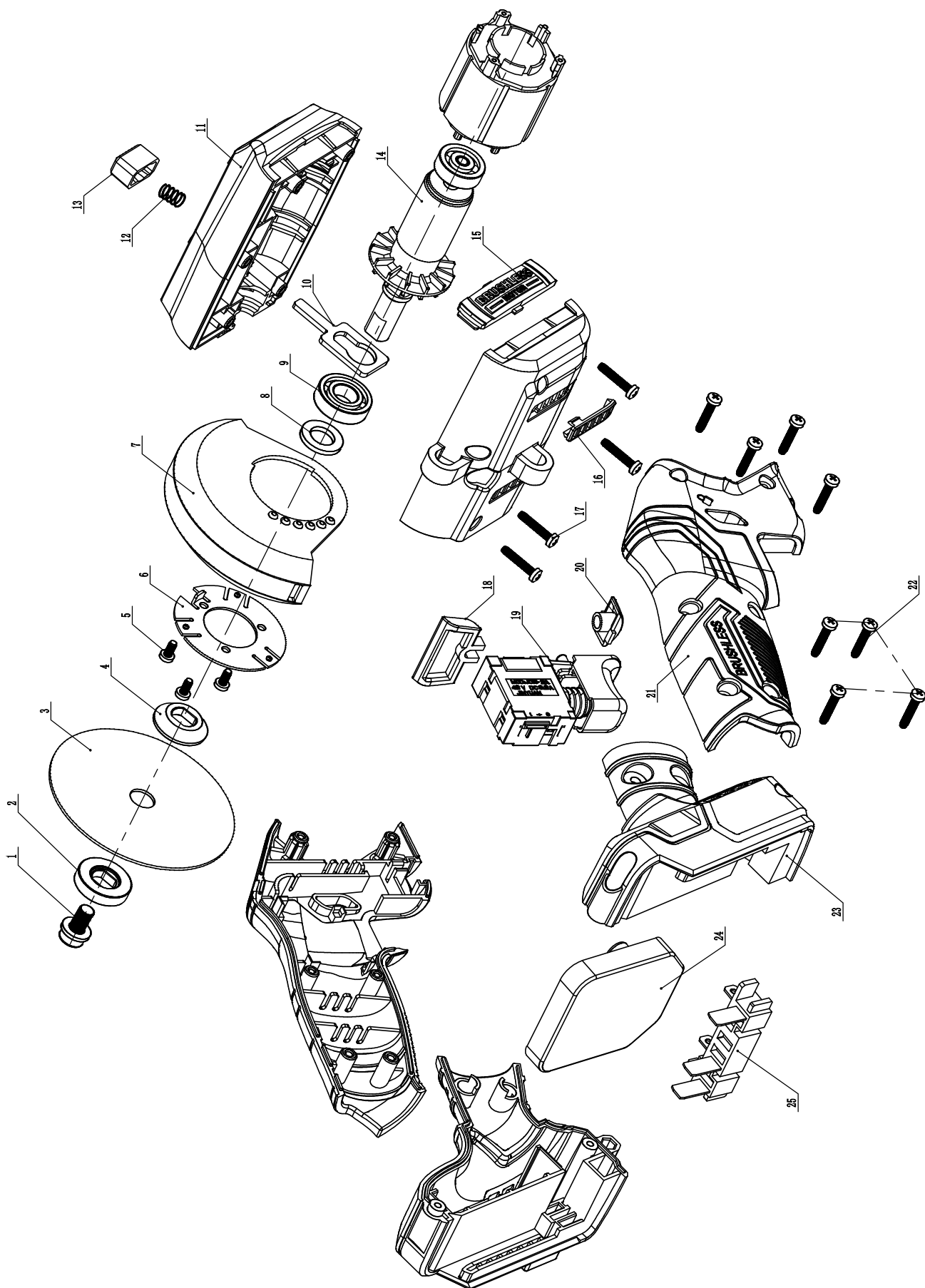
# TROUBLESHOOTING

Problem	Possible Causes	Likely Solutions
Tool will not start.	<ol style="list-style-type: none"> <li>1. Battery Pack not properly connected.</li> <li>2. Battery Pack not properly charged.</li> <li>3. Battery Pack stopped working.</li> <li>4. Tool's thermal reset breaker tripped (if equipped).</li> <li>5. Internal damage or wear. (Carbon brushes or power switch, for example.)</li> </ol>	<ol style="list-style-type: none"> <li>1. Remove Battery Pack, make sure there are no obstructions, reinsert the Battery Pack according to its shape (it should only fit one way), and press firmly until the Battery Pack locks in place.</li> <li>2. Make sure Charger is connected and operating properly. Give enough time for Battery Pack to recharge properly.</li> <li>3. Dispose of old Battery Pack properly or recycle. Replace Battery Pack.</li> <li>4. Turn off tool and allow to cool. Press reset button on tool.</li> <li>5. Have technician service tool.</li> </ol>
Tool operates slowly.	<ol style="list-style-type: none"> <li>1. Excess pressure applied to workpiece.</li> <li>2. Battery Pack power low.</li> <li>3. Battery Pack wearing out.</li> </ol>	<ol style="list-style-type: none"> <li>1. Decrease pressure, allow tool to do the work.</li> <li>2. Recharge Battery Pack.</li> <li>3. Dispose of old Battery Pack properly or recycle. Replace Battery Pack.</li> </ol>
Performance decreases over time.	<ol style="list-style-type: none"> <li>1. Carbon brushes worn or damaged.</li> <li>2. Battery Pack wearing out.</li> </ol>	<ol style="list-style-type: none"> <li>1. Have qualified technician replace brushes.</li> <li>2. Battery Pack capacity will gradually decrease through use. If symptoms are severe, recycle old Battery Pack (or dispose of properly) and replace it.</li> </ol>
Excessive noise or rattling.	Internal damage or wear. (Carbon brushes or bearings, for example.)	Have technician service tool.
Overheating.	<ol style="list-style-type: none"> <li>1. Forcing tool to work too fast.</li> <li>2. Blocked motor housing vents.</li> </ol>	<ol style="list-style-type: none"> <li>1. Allow tool to work at its own rate.</li> <li>2. Wear ANSI-approved safety goggles and NIOSH-approved dust mask/ respirator while blowing dust out of motor using compressed air.</li> </ol>
Tool does not grind effectively.	<ol style="list-style-type: none"> <li>1. Accessory loose.</li> <li>2. Accessory damaged, worn or wrong type for the material.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm accessory arbor is correct and Arbor Bolt is tight.</li> <li>2. Check condition and type of disc accessory. Use only proper type of disc accessory in good condition.</li> </ol>
<b>Follow all safety precautions whenever diagnosing or servicing the tool. Disconnect power supply before service.</b>		

# PARTS LIST

No.	Description	Qty.	No.	Description	Qty.
1	Screw M6×10 φ12	1	14	Brushless Motor	1
2	Upper flange	1	15	Brushless Label	1
3	Disc	1	16	Air Inlet Trim Cover	1
4	Lower flange	1	17	Screw ST2.9×14-F	8
5	Screw ST2.9×7-F	3	18	Forward / Reverse switch	1
6	Lower Guard	1	19	Switch	1
7	Disc Guard	1	20	LED Transparent Cover	1
8	Wool Felt Seal	1	21	Handle	1
9	Bearing(6900-2Z)	1	22	Screw ST3.5×14-F	4
10	Shaft Lock	1	23	Foot	1
11	Housing	1	24	Controller	1
12	Spring	1	25	Battery Clip Assembly	1
13	Spindle Lock Button	1			

# 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

### 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 (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.

# LIMITED WARRANTY

## **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 instruction 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.

# **KLUTCH™**

Distributed by:

Northern Tool & Equipment Company, Inc.

Burnsville, Minnesota 55306

[www.northerntool.com](http://www.northerntool.com)

Made in China